

Global monthly E-magazine for Drones



DRONES

WORLD

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Vice President
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CEO
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DRONES WORLD

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DRONES WORLD is published by - B. Kartikeya



B. KARTIKEYA

Unmanned aerial vehicles (UAV), sometimes known as “drones,” have emerged as a promising new technology that has the potential to define the 21st century. Potential uses for drones include everything from passenger transportation to new kinds of logistics and surveillance/sensing missions.

Greetings and welcome to the latest issue of Drones World. You may read the most recent news on drones in this issue. Beginning with the information that the pioneer of GIS software VertiGIS has acquired ibR, a competitor in the field of location intelligence, in the Acquisition section, through the specific event, all the details are shown.

Pay close attention to the Drones News section of the magazine for the most recent information, such as how the collaboration between STRADAAi and Dimetor raises the bar for Italian drone technology, how Ondas Holdings’ Airobotics Optimus 1-EX Drone has received historic U.S. FAA-type certification, and how DARPA is looking for technological solutions to enable commercial drones to fly autonomously.

Mr. Geva Telem, Director of Marketing at Percepto, talks about the many products that Percepto offers in one of the unique interviews. The CEO of Ondas Holdings, Mr Eric Brock, was also interviewed on the benefits of multirotor UAVs against fixed-wing UAVs. The last interview is with Thomas Pils Frequentis, vice president of New Market Solutions, who discusses Frequentis’ solutions for uncrewed traffic management (UTM).

Remember to look at the Defense section for more information regarding Elbit Systems’ plan to provide the IDF with the Advanced Skylark small UAS system. Additionally, you will learn in the GIS section that PDRL and multiplex drones have partnered to develop expertise on the Aeromegh platform.

This magazine’s editorial team covers a wide range of topics that are significant to operators and owners of aircraft. Prior to the arrival of our next issue, keep yourself busy with the content in the BVLOS, Counter Drones, and other magazine areas.

Kartikeya B.



FAA Extends Remote ID Enforcement Date Six Months

Drone pilots who are unable to comply with the broadcast requirement of the Remote ID Rule will now have until March 16, 2024, to equip their aircraft. After that date, operators could face fines and suspension or revocation of pilot certificates.

In making this decision, the FAA recognizes the unanticipated issues that some operators are experiencing finding some remote identification broadcast modules.

Drone pilots can meet this deadline by purchasing a standard Remote ID equipped drone from a manufacturer or purchasing a Remote ID broadcast module which can be affixed to existing drones that do not have Remote ID equipment.

Remote ID acts like a digital license plate and will help the FAA, law enforcement, and other federal agencies find the control station when a drone appears to be flying in an unsafe manner or where it is not allowed to fly.

[Learn more here.](#)

FAA Revises UAS Safety Risk Management Policy

The FAA has revised its national policy order that manages applicants' requests to operate unmanned aircraft systems (UAS) and how safety risk management (SRM) assessments are performed. It also defines the roles of agency personnel responsible for UAS safety management and includes an outline for documenting the steps in the SRM

program. Additionally, the order describes the duties of the FAA's air traffic organization (ATO) when handling waivers.

In explaining the need for an SRM, the order notes that the UAS industry has "experienced exponential growth" as demonstrated by the number of drone registrations, airspace authorizations, waivers, and remote pilot certificates. "The regulatory system is striving to keep up with the pace of UAS technology. Thus, this order establishes the SRM process for



UAS requests and provides a generalized list of common hazards and possible mitigations that should be considered with each assessment."

Specific updates include the cancellation of the previous national policy order published in October 2019. The revision also adds and clarifies general terms and definitions; updates recommended training required before an FAA official is permitted to be on a UAS safety panel; modifies descriptions for the severity level of UAS safety occurrences; adds a safety matrix focused on quantitative assessments; clarifies safety action triggers, governance, and triage steps; and updated roles and responsibilities between the FAA's aviation safety office and ATO.

AirSentinel Collaborates with DRONERESPONDERS to Enhance Public Safety through Remote Drone Identification

AirSentinel, a leading company specializing in remote identification technology, has officially partnered with DRONERESPONDERS, a globally recognized program dedicated to promoting the use of small, uncrewed aircraft systems (sUAS) in public safety and emergency response sectors.

This groundbreaking collaboration involves AirSentinel providing complimentary access to its public safety application for public safety agencies nationwide. This access includes their proprietary Android drone detection application and cloud-based services. The integration of these services will offer first responders and public safety officials real-time access to crucial remote identification data, thereby improving safety measures, ensuring compliance,



and fostering shared situational awareness across their jurisdictions.

Alan Erickson, Co-Founder and Co-CEO of AirSentinel, emphasized the critical significance of this partnership, stating, "At AirSentinel, safety

has always been our top priority. By offering free access to our suite of services, we empower those using drones in emergency response and mission-critical scenarios to enhance safety and situational awareness. This initiative goes beyond technological advancement; it is a dedicated effort to tangibly enhance safety and positively impact lives."

Chief Charles Werner (Ret.), Director of DRONERESPONDERS, commented, "This collaboration with AirSentinel to provide a no-cost remote identification tool is an exciting development. It will significantly contribute to safety measures by enabling public safety agencies to detect remote ID-compliant drones and share this vital information through cloud technology."

Aloft Crosses 1M Airspace Authorizations

In the ever-evolving landscape of drone technology and airspace management, Aloft Technologies, Inc. (Aloft) has steadfastly been at the forefront, spearheading innovations and setting unparalleled standards in the industry. Today, we are ecstatic to celebrate not one but two monumental milestones that mark our journey so far.

As we cross 1 million LAANC airspace authorizations and 30 million B4UFLY airspace safety searches, we find this an opportune moment to delve deep into the intricate dynamics of LAANC analysis and share the latest updates. Ultimately, you - the mass Aloft network of recreational, commercial, government, and public safety pilots - that use Aloft daily led us to achieve these historic milestones. So, let's embark on this reflective journey!

Milestone Celebration: 1 Million LAANC & 30 Million B4UFLY Airspace Safety Searches

From our humble beginnings in 2015, we've always envisioned a sky that's safer and more accessible for drone enthusiasts and professionals alike. Today, that vision is embodied in the mammoth 1 million LAANC airspace authorizations and 30 million B4UFLY safety search milestones we have achieved. This accomplishment signifies our growth and represents the burgeoning interest and reliance on drone technology across major commercial sectors and industries.

To date, the FAA has processed 1.6 million total LAANC requests, so the crossing of 1 million on the Aloft platform is noteworthy, and we can't thank our loyal and committed pilots enough.

LAANC Analysis: A Focus on Growth Trends for Commercial and Recreational Operations

The growth trajectory that has led us to this moment has been nothing short of remarkable. Diving into the LAANC analysis, we observe a significant uptick in commercial operations on Aloft - both Automatic Approvals (AA) and Further Coordination (FC) requests.

When looking at Part 107 authorizations, year-to-date (Jan-Aug 2023 versus Jan-Aug-2022), the trends are mixed across the whole of LAANC and up on the Aloft platform:



- Part 107 AA authorizations are up 19% across LAANC and 35% on Aloft.
- Part 107 FC authorization requests are down 4% across LAANC and up 16% on Aloft.

Compared to Part 107 commercial pilots, recreational use of LAANC continues to decrease. Regarding 44809 LAANC authorizations, year-to-date (Jan-Aug 2023 versus Jan-Aug-2022), usage is down 20% across all of LAANC and 11% on Aloft.

Recreational drone pilots remain one of the largest representatives of airspace users, so this trend will be important to watch going forward.

Update on Further Coordination LAANC Trends

As we move forward, keeping a keen eye on the emerging trends in FC within the LAANC is imperative.

Diving further into FC, there has been a lot of focus and attention on FC's utility and air traffic personnel's role in reviewing and responding to these manual requests. When we reported on the state of LAANC last year, we noted that over 200 airports had a 0% approval rate. Today, the number of non-responsive airports is down to 131. While some heavily trafficked Class B airports like San Francisco or Denver have started to approve a few FC requests, there are many high-performing

airports, such as Austin, which approves over 80% of the FC requests it receives.

The FAA continues to take steps to help give airports the tools, notice, and technology they need to service these requests. In just the last 60 days, we've seen the approval rate increase to 67% from a historic average of 45%.

The Future of Aloft's UTM Mission

Our efforts aim to facilitate a seamless flow of information and airspace coordination, fostering an environment where safety and compliance are paramount. In the coming months, we plan further to enhance the capabilities of our patented dynamic airspace platform to accommodate the burgeoning needs of the industry and to stay ahead of the curve in offering solutions that are not only innovative but also practical, user-friendly, and overall increase the safety of the NAS.

In conclusion, as we celebrate these significant milestones, we reaffirm our commitment to pushing the boundaries of what's possible in the drone airspace management domain. Stay tuned for more updates as we continue to soar to new heights for the benefit of all our stakeholders - from the recreational pilot conducting her first flight to our AAM partners embarking on new modes of transportation and delivery.

STRADAai and Dimetor Partnership Elevates Italian Drone Technology Standards

The Italian Advanced Air Mobility (AAM) market is estimated to reach €1.8 billion by 2030, according to a research study conducted by PwC and presented at the Roma Drone Conference in November 2022. The research showed that, in Italy, there are five main mission clusters, also known as use cases that have been identified as key contributors to market expansion: (1) passenger transport, (2) goods transport, (3) image and data acquisition, (4) aerial work and (5) defense.

This is in line with the findings of another study conducted by the European Union Aviation Safety Agency (EASA), which reported that Urban Air Mobility (UAM) services are currently gaining widespread public acceptance in Europe, with Italian cities leading the way. Two of the top ten European cities where the public most accept future drone transport methods are in Italy (Rome and Milan), which aligns the findings of both studies.

However, the research has also highlighted a different fact, which is that Italy is currently at the beginning of unlocking this market potential. The ecosystem needs new organizations to step in and support governments to provide the infrastructure that will allow these innovative new technologies to serve the people waiting for them. This is why Dimetor and Strada AI have entered into a collaboration to support the implementation of drone services at scale and enable commercial BVLOS operations by 2030, by supporting the commercial drone roadmap published by ENAC.

STRADAai, an Italian organization pioneering a cutting-edge drone data network and a Patent Pending Enterprise Drone Planning Platform, is actively working towards establishing itself as a recognized U-space Service Provider (USSP). At the core of STRADAai's offerings lies the robust Aloft Air Control Platform, developed by their official partner, Aloft Inc, known for their exceptional UTM platforms and drone technologies. With a strategic collaboration with Dimetor, STRADAai will leverage the AirborneRF software within their Enterprise Drone Planning to ensure pilot-



We are thrilled about our partnership with Dimetor for the Italian market. By synergizing Dimetor's capabilities with our Enterprise Drone Planning Solution, we aim to deliver an integrated software system that empowers organizations to seamlessly manage all drone-related processes, from data handling and workflows to resource management and airspace safety. This collaboration marks a significant stride towards providing comprehensive UTM services throughout the EMEA region.

Giulio Segurini, CEO and Co-founder of STRADAai.



drone connectivity by seamlessly connecting to the telecommunications infrastructure. This crucial partnership lays the foundation for Dimetor and STRADAai market launch in Italy.

Once the system for the go-to-market

strategy is established, the two organizations will begin offering BVLOS solutions to the drone market in Italy through the development and launch of a new integrated software that will function as a unified solution. The service will be offered to relevant authorities, telecommunications organizations, drone operators and digital infrastructure service providers for drones. Stakeholder of the partnership could be local representatives and actors directly involved in the drone ecosystem in Italy.

The system will feature end-to-end data encryption to support use cases such as industrial inspections, precision agriculture, delivery, law enforcement, security and surveillance, and emergency response.

Thomas Wana, CTO and co-founder of Dimetor, said, "The partnership will bring some of the most advanced software technologies on the market to Italy, enabling stakeholders to have end-to-end connectivity at a level rarely seen in the industry, which has the potential to make Italy one of the most technologically advanced drone industry players in the European Union."

Ondas Holdings' Airobotics Optimus 1-EX Drone Receives Historic U.S. FAA Type Certification

Ondas Holdings Inc. a leading provider of private industrial wireless networks, commercial drones and automated data solutions, announced that the U.S. Federal Aviation Administration (FAA) has granted the Optimus-1EX system a Type Certificate that will streamline operational approvals for broad flight operations over people and infrastructure. The certification verifies the compliance of the system's design with the required FAA airworthiness and noise standards, ensuring safe operation within the National Airspace System (NAS) thereby significantly broadening the range of operational scenarios and scaling up of operations for automated Uncrewed Aircraft (UAs). David Boulter, the FAA's Associate Administrator for Aviation Safety, is expected to announce the Type Certificate award during the keynote session Wednesday morning at the Commercial UAV Expo being held in Las Vegas.

The first-of-its-kind certification for a non-air carrier UA was achieved after four years of intensive engineering and operational review processes conducted by the FAA. The Optimus System is already operating regularly in urban environments in the United Arab Emirates (UAE). Ondas plans to leverage their experience in the UAE, and their newly type-certificated vehicle, to conduct similar operations in urban environments across the U.S., aligning with the Company's vision of deploying fleets of Optimus Systems as a permanent drone infrastructure. This infrastructure aims to provide Smart City solutions, enhance public safety, enable Drone as a First Responder (DFR) capabilities, and offer various commercial and industrial aerial data services.

"We are thrilled to announce that our Optimus



System has met all of the specific airworthiness and noise standards set by the FAA," said Eric Brock, Chairman and CEO of Ondas. "Now available in the United States through American Robotics, we extend a warm welcome to visionary municipalities and public safety departments, as well as commercial and industrial entities eager to harness this certified technology for taking drone aerial security and data to the next level of automation for digital transformation within a wide variety of environments. We invite you to join us in embracing a new era of autonomous drone operations."

Type Certificates hold significant importance and value in the aviation industry. The certification process is designed to ensure that aircraft and components meet specific airworthiness standards set by the regulatory authority. The FAA initially began working with leading commercial drone manufacturers, including Airobotics, on the type certification process in 2019. Airobotics, focused on data capturing in urban environments, stands as the first non-air carrier vehicle to achieve it among numerous companies pursuing UAS type certification with the FAA. The Optimus System ranks among the most mature

automated drone platforms in the market in terms of proven reliability, safety, and value. Ondas believes the Type Certificate presents a game-changing solution for local governments and commercial entities seeking to streamline aerial data capture using a safe and certified airworthy UAS.

"Obtaining a Type Certificate brings major benefits for Airobotics as a drone manufacturer," said Meir Kliner, Airobotics' CEO. "The current drone operations under Part 107 waivers allow certain deviations from applicable regulations for specific drone operations. However, UAs without an airworthiness certificate face great obstacles in obtaining waivers to operate over people. This market advantage instills confidence in potential customers and regulatory agencies regarding Optimus' safety and compliance. Type certified Optimus-1EX drones will soon be operated in a broader range of scenarios, including safely over human beings. We believe the market potential for Urban Drone Infrastructure, featuring Smart City and DFR use cases, is immense, and we are enthusiastic about driving the adoption of our platform solutions across the U.S."

"The FAA evaluated the Optimus System through comprehensive flight testing, conformity inspections, design reviews, and the submission of detailed documentation and manuals," said Niv Russo, Airobotics' VP of Aviation & Regulation. "We have completed this pioneering process, which was previously unavailable for uncrewed aircraft, in collaboration with a dedicated FAA team. I wish to extend our appreciation and gratitude to the skilled FAA professionals whose contributions have significantly enriched our journey of growth and learning."

Simulating Safety and Efficiency Impacts of Airspace Constraints in U-Space Airspace

This paper demonstrates the use of simulation to quantify the safety and efficiency implications of airspace restrictions on Uncrewed Aircraft System (UAS) operations in U-space airspace.

We simulate package delivery type operations across the city of Riga, Latvia with and without strategic deconfliction based on volumetric operational intent. Three scenarios were simulated across a range of demand levels: (1) a baseline in which no airspace restrictions are in place; (2) a scenario in which a small number of airspace restrictions are in place associated with air risk; and (3) a scenario in which a larger number of airspace restrictions are in place associated with



both air risk and ground risk.

The simulation results suggest that the probability of mid-air collisions (MAC) increases with increasingly

complex airspace restrictions, but that the effectiveness of strategic deconfliction based on volumetric intent to ensure operational safety by reducing the probability of MAC remains approximately constant. Results are also presented for average throughput and delay, which suggest that, when applying strategic deconfliction, operational restrictions limit throughput and lead to increases in delay - at all the demand levels simulated.

This paper demonstrates the value of simulation to support airspace assessment, which is required by European Member States in order to meet the requirements of the European U-space regulation.

[Access the paper here](#)

DARPA Seeks Tech Solutions to Create Autonomous Capabilities for Commercial Drones

Commercial drone technology is advancing rapidly, providing cost-effective and robust capabilities for a variety of civil and military missions. As small aerial vehicles play increasingly important military roles on the battlefield, adversaries are developing electromagnetic countermeasures to disrupt communication links between operator and drone, forcing the vehicle to abort mission, return to its starting point, or crash.

DARPA's Rapid Experimental Missionized Autonomy (REMA) program aims to enable a drone to autonomously continue its predefined mission when connection to the operator is lost. To achieve this goal, REMA tasks performers with building a subsystem that allows autonomous operation of a variety of commercially available small drones without being tied to a specific drone design. The program also seeks to create mission-specific autonomy software through rapid, monthly spirals of development.

"REMA is focused on creating autonomous solutions to maximize effectiveness of stock commercial and small military drones on the battlefield," said Lael Rudd, program manager in DARPA's Tactical Technology Office. "Through creating an autonomy adapter that works with all commercial drones, regardless of manufacturer, and by developing mission-specific autonomy software that is constantly refreshed and easy to upload prior to a mission, we aim to give drone operators the advantage in fast-paced combat operations. Speed in tech development and on the battlefield is key, and REMA aims to deliver."

The 18-month, single-phase program is divided into two technical areas: 1) A drone-autonomy adapter interface and 2) mission-specific autonomy software that runs on the adapter. The autonomy adapter will be designed to agnostically detect the drone type and adjust operational parameters to enable the drone to receive mission-specific autonomy software. The autonomy software will be completed in development cycles starting at three-month intervals and accelerating to one-month intervals, to repeatedly provide new and improved autonomy capabilities.

For technical details and proposal instructions visit the REMA program solicitation at [SAM.gov: sam.gov/opp/7738334d62074883b03f5c4293e38315/view](https://sam.gov/opp/7738334d62074883b03f5c4293e38315/view)



Kongsberg Geospatial Integrates uAvionix FlightLine truSky™ ADS-B Data for IRIS Terminal Customers

Kongsberg Geospatial and uAvionix, each leading providers of software services for UAS Command and Control (C2) and Uncrewed Air Traffic Management (UTM) systems respectively, announced today, the planned availability of uAvionix's validated FlightLine ADS-B data from cooperative aircraft as an optional sensor feed for Kongsberg Geospatial IRIS Terminal users. The collaboration will provide enhanced situational awareness to Uncrewed Aircraft System (UAS) operators by visualizing and deconflicting the airspace around their flights. Reliable and trusted traffic feeds, from both cooperative and non-cooperative aircraft, are key inputs that enable the replacement of Visual Observers with Electronic Observers in the ongoing pursuit of safe and scalable BVLOS operations.

Thomas Jimenez, Market Director for UAS at Kongsberg Geospatial says, "Adding FlightLine to the suite of tools available to IRIS Terminal users provides an entirely new level of versatility and airspace information. The FlightLine system is increasingly being used in airspaces throughout North America and this new integration allows for a seamless 'plug and play' visualization for our IRIS Terminal users. We couldn't be happier about deepening our relationship with the aviation professionals at uAvionix to benefit our clients."

The uAvionix FlightLine service provides validated ADS-B track data from a first-of-its-kind high integrity surveillance network of dual-band ADS-B receivers. FlightLine's truSky™ validation score provides UAS operators confidence in the track data for key Detect and Avoid (DAA) functions. The cloud-based system performs at low latencies with redundancy to ensure timely and reliable delivery of ADS-B data from cooperative aircraft. With traceability to certified avionics for ADS-B, the FlightLine surveillance-as-a-service network is a trusted data feed for Beyond Visual Line of Sight (BVLOS) operations. As with other air-traffic data feeds in the IRIS Terminal, FlightLine tracks will enjoy the same track correlation functionality available to other sensors feeds to ensure a clutter-free user interface and a reduction in cognitive load on the operator or airspace manager.

Interested clients should contact Thomas Jimenez of Kongsberg Geospatial for further information on the benefits of and how to add FlightLine to your IRIS Terminal.



Drones World Editor Kartikeya
in Conversation with

Mr. Geva Telem

Director of Marketing, Percepto.



Q Tell us about your experience in the field of UAVs and what your fields were of expertise before venturing into UAVs?

A Percepto is the leading autonomous inspection and monitoring solution provider, revolutionizing how industrial sites monitor and inspect their critical infrastructure and assets. The company has been active in the UAV field since it was founded in 2014 with the vision of providing software-driven, drone-based autonomous solutions for industrial sites. Our solution is the most-deployed drone-in-a-box solution in the market.

Q Can you brief us about Percepto Autonomous Inspection & Monitoring (AIM)?

A Percepto AIM is our cloud software solution. All the visual data that is collected using our drones is automatically uploaded and geo-tagged into AIM. Our customers can connect to AIM from anywhere and get a real-time view of what is happening on their site, review the latest reports and issues, follow inspection missions in real time and review past data, geo-tagged by asset for easier data management. All the data is stored and managed for archival uses. We also offer AIM as a standalone product for customers who already have their own drone program and are looking for a data management and analysis solution for their visual data. The software can use any high-quality visual data collected, including thermal data from Flyer cameras, and



others.

Q What are the other various Products that you are offering at Percepto?

A We focus more on the value and less on the products. Our portfolio consists of a drone-in-a-box with two different payloads: one for general inspections and security, running an RGB and Radiometric payload; and our latest offering, the OGI (Optical Gas Imaging) payload for emissions detection. Our OGI solution allows Oil & Gas facilities to fly a drone over their site and pinpoint gas leaks at the click of a button. Having our drone-in-a-box onsite allows them to run inspections at no extra cost and with high frequency. This enables remote operations, leads to reductions in product loss and regulatory fines, keeps employees safer, and most of all, helps keep our planet and community safer.

Q What are the various industries Percepto is serving?

A Percepto provides value for oil & gas (All streams)

electric utilities, solar energy mining,, ports and terminals, and heavy industrial sites.

Q How are you going to utilise the recently raised 67M\$? Where is your major revenue coming from? If possible Share your future projections?

A Our focus is further expansion in North America and Europe while continuing to invest in product and R&D innovation.

Q What is a remote ID? How Percepto is ensuring compliance with the remote ID regulation?

A Remote ID is the ability of a UAV to broadcast its location, altitude, and take-off location information with other relevant parties, enabling regulatory bodies to identify the drones and their operators while in flight. Both the USA and Europe have recently enacted Remote ID regulations, requiring Remote

ID-compliant drone flights by this past September 16, 2023 in the US, and as of January 1, 2024 in Europe. Percepto is making compliance simple by including internal WiFi antennas, which broadcast the drone ID, location, altitude, and velocity, in all new Percepto drones shipped since last December 16, 2022. A second channel interface (e.g., cell phone, tablet) broadcasts the RPIC location, and the operator must approve the location request sent in order to take off. We instituted an operational process to ensure all Percepto Air systems already deployed at customer sites were equipped with the needed modifications by the September 16, 2023 deadline. To prepare for the upcoming European regulation, Percepto's is implementing remote ID broadcasting capabilities into its drones. As of January 1, 2024, all new Percepto Air drones will be compliant with the new regulatory requirements. In addition, all Percepto Air systems already deployed at EU customer sites will be equipped by Percepto with remote ID broadcasting capabilities by January 1, 2024.

Percepto Receives FAA Waiver to Scale Shielded BVLOS Commercial Drone Operations, How it is economically helpful for the company? What are the other support



customers, as they no longer need to pay for complex and expensive equipment to run remote operations in critical infrastructure sites anywhere in the US.

We received this waiver from the FAA after years of maintaining a close relationship with the FAA. Throughout, we have shared our knowledge and data gathered from thousands of flight hours and missions to help build a mainframe for safety and regulation. We are delighted that the FAA sees Percepto as an industry leader, as we hope this leads to even more groundbreaking waivers that move the industry forward.

you are expecting from the government in future?

Percepto is currently the only drone-in-a-box company to have received this waiver, and that's a big milestone not only for us, but for the entire industry, as it helps other companies follow in our footsteps. This new waiver primarily benefits our

Q What are your predictions about the future of the drone industry and the advent of disruptive technologies?

A I think artificial intelligence (AI) and machine learning (ML) will drive drone innovation further. Inspection robots and drones will continue to leverage AI and ML algorithms to enhance their capabilities. AI-powered systems will enable robots to analyze vast amounts of data collected during inspections, detect patterns, and make real-time decisions. ML algorithms will enable robots to improve their performance through continuous learning and adaptation.





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SkyDrive Receives Pre-Order of up to 50 eVTOL Aircraft from an Aircraft Leasing Company Solyu in Korea

SkyDrive Inc the leading eVTOL aircraft manufacturer based in Japan, and Solyu Company, Ltd. (hereinafter "Solyu"), an aircraft leasing company specializing in zero-emission in Korea, announced that they had signed a Memorandum of Understanding (MOU) and Solyu has agreed to pre-order of up to 50 SkyDrive eVTOL aircraft "SKYDRIVE".

SkyDrive is currently developing a three-seater electric, vertical takeoff and landing aircraft called "SKYDRIVE." Its eVTOL is in the process of acquiring its Japan Civil Aviation Bureau (JCAB) certification.

Solyu is a lessor based in Korea run by team with decades of experience in the aircraft leasing and finance industry with a focus on providing customers with zero emissions vehicles such as eVTOL, eCTOL, and eSTOL.

In Korea, the metropolitan area faces a problem of severe traffic congestion, and the Korean government formed the Korea Urban Air Mobility (K-UAM) Roadmap, expecting that the time and social costs can be reduced by 70%. The government also promotes the plan for public-private joint demonstration project, the K-UAM Grand Challenge.

Solyu believes it is important to promote the use of electric, zero-emission vehicles in Korea to accelerate the K-UAM goal and agreed on the pre-



order of SkyDrive eVTOL. SkyDrive and Solyu continue to evaluate commercial eVTOL considerations such as vertiports, routes, infrastructure requirements, and ecosystems with the Korean government and other interested stakeholders to launch new mobility solutions in Korea.

Comment by Mr. Andrew Claerbout, Solyu Company, Ltd. President- "The eVTOL market will bring opportunities for reducing global emissions and increasing traveller convenience. We're honored to work with SkyDrive and the award-winning SD-05 to

develop this global market."

Comment by Tomohiro Fukuzawa, SkyDrive Inc. CEO - "We are pleased to announce that we received a pre-order in Korea following Vietnam and the U.S. This is the first preorder from a leasing company, and we are very grateful to be able to proceed with the Solyu team with extensive experience in the aircraft leasing industry. We look forward to working with Solyu to open up the Korean market and contribute to achieve the goal of reducing CO2 emissions in the Korean aviation sector."

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Bristow and Volocopter to Bring UAM Services to U.S. and U.K.

Bristow Group Inc. the leading global provider of innovative and sustainable vertical flight solutions, and Volocopter, the pioneer of Urban Air Mobility (UAM), have signed an agreement to explore and develop passenger and cargo services for electric vertical takeoff and landing (eVTOL) aircraft in the U.S. and U.K.

As part of this collaboration, Bristow has placed a firm order for two VoloCity aircraft to be delivered after certification with an option to purchase a further 78 vehicles in the future. Both parties will begin immediate cooperation to build a UAM ecosystem that includes regulatory discussions, infrastructure exploration, and local partnership building.

The joint development agreement covers the exploration of commercial, operational, and eVTOL aircraft maintenance services, including adaptation of the VoloIQ, Volocopter's proprietary digital platform, to ensure Bristow's efficient future operations. This collaboration brings forth a wealth of aviation expertise - Bristow's reliable vertical flight operations and an existing global service network, as well as Volocopter's dedicated development and certification of a safe, quiet, and sustainable eVTOL aircraft.

The eVTOL is a rapidly growing segment of electric aviation. With no emissions in flight and an ultra-low noise signature, the addition of the VoloCity to Bristow's operational fleet opens doors to new routes and service opportunities within urban environments. Volocopter expects to receive final certification from the European Union Aviation Safety Agency (EASA) in 2024, while concurrent certification from the Federal Aviation Administration (FAA) could enable the Company to start commercial services in the U.S. shortly thereafter.

Dave Stepanek, Executive Vice President, and Chief Transformation Officer for Bristow said: "Launching this collaborative effort with Volocopter marks a major milestone in Bristow's effort to usher in a new era of vertical transportation solutions. Volocopter has taken a pragmatic approach to certification with a simple and elegant initial aircraft design and is leading the pack in its efforts to bring their aircraft to market. We are looking forward to lending our 75+ years of innovation and expertise in bringing new aircraft into service and developing new markets side-by-side Volocopter."

Christian Bauer, CFO & CCO of Volocopter, added: "Our partnership with Bristow and the firm VoloCity orders received propels us forward as we unlock new markets. With this collaboration, Volocopter surpassed 500 pre-orders accumulated including nearly 30 firm orders from reputational partners. I am filled with excitement toward the vast potential of the U.S. and U.K. markets and looking forward to working with Bristow's experienced team as we prepare for operations."

ParaZero Develops New AI-Based Safety and Awareness System for Commercial Drones and Urban Air Mobility Aircraft

ParaZero Technologies Ltd. an aerospace company focused on advanced safety systems for commercial drones and urban air mobility (UAM) aircraft announced its next-generation safety product development, SmartAir Trinity, an AI-based avionics system, which utilizes a new, leading-edge sensor array with advanced capabilities, designed to detect malfunctions of UAS and eVTOL in real-time, and provide deep analytics for mission debriefings.

The SmartAir Trinity system is comprised of sophisticated visual awareness cameras and an advanced sensor suite that enables UAS and eVTOL aircraft to understand their surroundings using artificial intelligence and machine learning technological capabilities. Its AI-embedded approach supports safety and risk mitigation in addition to over-the-air (OTA) firmware and configuration updates, keeping every platform up to date with the latest and most accurate algorithms and features.

Among a host of new safety capabilities, the SmartAir Trinity offers an optimized parachute deployment algorithm to enhance operational containment capabilities, detection and identification of safe landing zone and delivery site areas, GNSS-free navigation and redundancy system for onboard GPS, and monitoring the aircraft's behavior with great operational insight.

"The commercial UAS and UAM markets continue to gain momentum, with ongoing technology releases, new aircraft development, and supportive global regulatory frameworks. In order for organizations to meet performance-based safety requirements and cut time-to-market, they look to leverage the most robust and effective safety systems and technologies; in those cases, legacy safety systems often won't cut it," said ParaZero Chief Product Officer, Yuval Gilad. "ParaZero's safety product portfolio has played a critical role in ensuring the safety of urban air mobility and commercial drone flight operations around the world for many years. We are looking forward to offering our next generation safety technology to the industry at a pivotal time to address both integration needs from original equipment manufacturers and regulatory requirements, to enable every platform to reach its full potential."



VX4 Programme Moves to the Next Phase



Vertical Aerospace a global aerospace and technology company that is pioneering zero-emissions aviation provides an update on its overall programme.

Flight Test Update

Vertical concluded its remote thrustborne flight test campaign in July 2023, as the first full-scale VX4 prototype reached its target speed of 40kts (70 kmph), demonstrating exceptional overall stability and control. Performance targets were generally exceeded by 10-30% during hover and low speed flights. The prototype performed especially well in sustained hover, typically the most challenging regime for a VTOL aircraft, where it maintained level flight for longer than anticipated. The aim of these thrustborne flight tests was to verify acceptable stability, battery efficiency and control characteristics, aerodynamics, structural loads, performance and vibration throughout this speed range - all of which were achieved.

Incident Update

Vertical continued further uncrewed flight tests following the completion of the remote thrustborne flight test campaign. The purpose of these was to understand how the aircraft performed outside of its expected operating conditions before the

aircraft's planned retirement.

During one of these test flights, an unexpected fault occurred causing the aircraft to enter a stable descent, before being damaged on impact with the ground. Vertical completed a swift and thorough investigation and submitted a report to the Air Accidents Investigation Branch (AAIB). Vertical's investigation identified the root cause to be a fault with a propeller. This early generation propeller had already been redesigned prior to the incident, with the issue fully resolved ahead of the next phase of testing. Further recommendations by the investigation are being implemented by Vertical.

Vertical believes transparency and openness is fundamental to the safety of aerospace. It therefore intends to provide a further full update to the industry on the incident once the AAIB's investigation has concluded.

VX4 Programme Update

Supported by the learnings from the completed thrustborne campaign, the VX4 and its certification programme remains on track with no changes to timelines. The assembly of a second significantly more advanced full-scale VX4 prototype is underway at GKN Aerospace's Global Technology Centre. This demonstrator is expected to be ready

to fly early next year. Its components will include technology from most of Vertical's certification partners: Honeywell, GKN Aerospace, Hanwha, Solvay, Leonardo and Molice. An additional, identical full-scale aircraft has also now been approved and is expected to be flying in the second half of 2024.

These upgraded full-scale aircrafts' structures and subsystems will be tested in line with certification standards. Both will require rigorous regulatory oversight, including a Permit to fly from the UK Civil Aviation Authority, to progress to piloted flying.

Stephen Fitzpatrick, Vertical Founder and CEO, commented: "We are pleased with our flight test progress to date and the data, insights and invaluable learnings we have collected. While a fault of any sort is disappointing, it is not wholly unexpected at this stage of testing a novel aircraft. I am pleased that as a result of our expert team we have isolated the cause of the fault and been able to provide the AAIB with our report within 14 days of the incident. Our planned second upgraded prototype, which will include most of our top tier partners' technology, will have us in the air early next year and we remain on track for our certification timelines".

Lilium Marks Significant Milestone with the Commencement of Fuselage Assembly for its Lilium Jet



Lilium N.V. developer of the first all-electric vertical take-off and landing (“eVTOL”) jet, announced that it has achieved a significant development milestone with the commencement of fuselage assembly for the Lilium Jet, which remains on track for expected first manned flight planned in late 2024. The start of fuselage assembly serves as another tangible manifestation of Lilium’s strategic roadmap, demonstrating Lilium’s ability to progress from vision to execution. This is the first of seven fuselages for the seven aircraft Lilium will use to achieve type-certification of the Lilium Jet.

Yves Yemsi, COO of Lilium said: “We’re delighted to kick off assembly of the first Lilium Jet fuselage at Aciturri, bringing us one step closer to reshaping sustainable regional air mobility. We see this as further evidence that our approach of teaming with proven aerospace suppliers to bring our cutting edge eVTOL aircraft to market is the optimal strategy as we advance along a path to certification and entry into service of the Lilium Jet.”

The fuselage was developed in collaboration

with, and is being built by, tier one aerospace supplier and strategic partner Aciturri at its facilities in Valladolid, Spain. The fuselage is planned for delivery to Lilium facilities in Wessling, Germany in the fourth quarter 2023, prior to planned start of assembly of the first Lilium Jet by year end.

Klaus Roewe, CEO of Lilium, commented: “This phase is more than just a technical step – it’s a clear signal to all Lilium stakeholders of our commitment to making regional air mobility more efficient, enjoyable, and sustainable. As we assemble the fuselage, we are also crafting a transformative flying experience while upholding our promise of unparalleled efficiency, comfort, and safety.”

Strategic Partnership with Aciturri this latest phase of Lilium’s program demonstrates the success of the strategic supplier partnership between Lilium and Aciturri, leveraging Aciturri’s proficiency in design and manufacturing of high-quality Aerostructures. It follows a comprehensive industrial program review conducted in late-August

2023 in which leadership from Lilium and Aciturri reviewed and greenlighted the initial industrial production components and process.

Aciturri, who is a Lilium investor, is an established aerospace supplier with nearly 50 years of experience in commercial aircraft programs, including the design and manufacturing of major airframe components for Airbus A350, A320, A400M, Boeing 787 and Embraer KC390 programs, amongst others. As well as supporting industrialization of the Lilium Jet, Aciturri will continue to support the Lilium Jet’s design optimization and certification in the years ahead.

Maria Eugenia Clemente, CEO of Aciturri Aerostructures: “Aciturri is committed to playing a leading role in the transformation of sustainable regional air mobility, which supports Europe’s goal of achieving climate neutrality. We are fully aligned with Lilium’s vision and design, and we are delighted to have evolved our partnership to such a foundational stage towards the birth of the Lilium Jet.”



Q Frequentis has recently completed 75th Anniversary. Can you discuss about the origins of the company and how it has developed over the years?

A Frequentis, is headquartered in Vienna, Austria, and began its work in high-frequency technology to support the country's reconstruction after the end of the second world war. But it wasn't until the 1980's that we began a rapid rise to a communication technology market-leader, after its purchase by Hannes Bardach in 1986. This is when the family-owned company changed its focus to air traffic control technology and expanded beyond Austria.

Since 2019 Frequentis is a stock listed company with Hannes Bardach as majority shareholder and chairman of the Executive Board.

Q Given the success that Frequentis already had in the Air Traffic Space, why did the company to decide to diversify into Uncrewed Traffic space?

A Technology must support changing needs and we champion the research, development, and advancement of innovative solutions to solve industry challenges. Our experience in Air Traffic Management (ATM), understanding airspace regulations, standards, and systems, of course made it a

Drones World Editor Kartikeya in Conversation with

Mr. Thomas Pils

Frequentis Vice President, New Market Solutions

natural step to support the integration of uncrewed traffic management (UTM). We also have long relationships with air navigation customers who trust and value our technology, as a market-leader in communication and provider of safety-critical solutions.

Q What would you say are the key differences between ATM & UTM?

A ATM is long established with strict regulations and standards whereas the UTM space is just maturing but growing rapidly. However, many of the principles of current ATM systems apply to UTM services, including safety and operational standards, flight planning, data sharing, separation requirements, and contingency planning. Both the aviation industry and drone users must adopt innovative technologies to ensure safe and fair access to the skies.

Q What has been your biggest UTM Contract so far? What are the challenges you have faced while implementing them? How do you overcome them?

A the Nordics and Baltics we have the biggest footprint of projects including Estonia, Norway, Lithuania, as well as work since 2018 on two SESAR Gulf of Finland (GOF) U-space research projects. Our launching project for Avinor in 2020 in Norway is nationwide, 17 airports while our more recent project in Austria for Austro Control will span 10-years. From our very first project we realised the



importance of clearly defined regulatory requirements at the beginning to avoid needing to be iteratively shaped and developed during project execution

Q Can you brief us on the solutions provided by Frequentis related to UTM?

A The Frequentis UTM suite is available as a user-

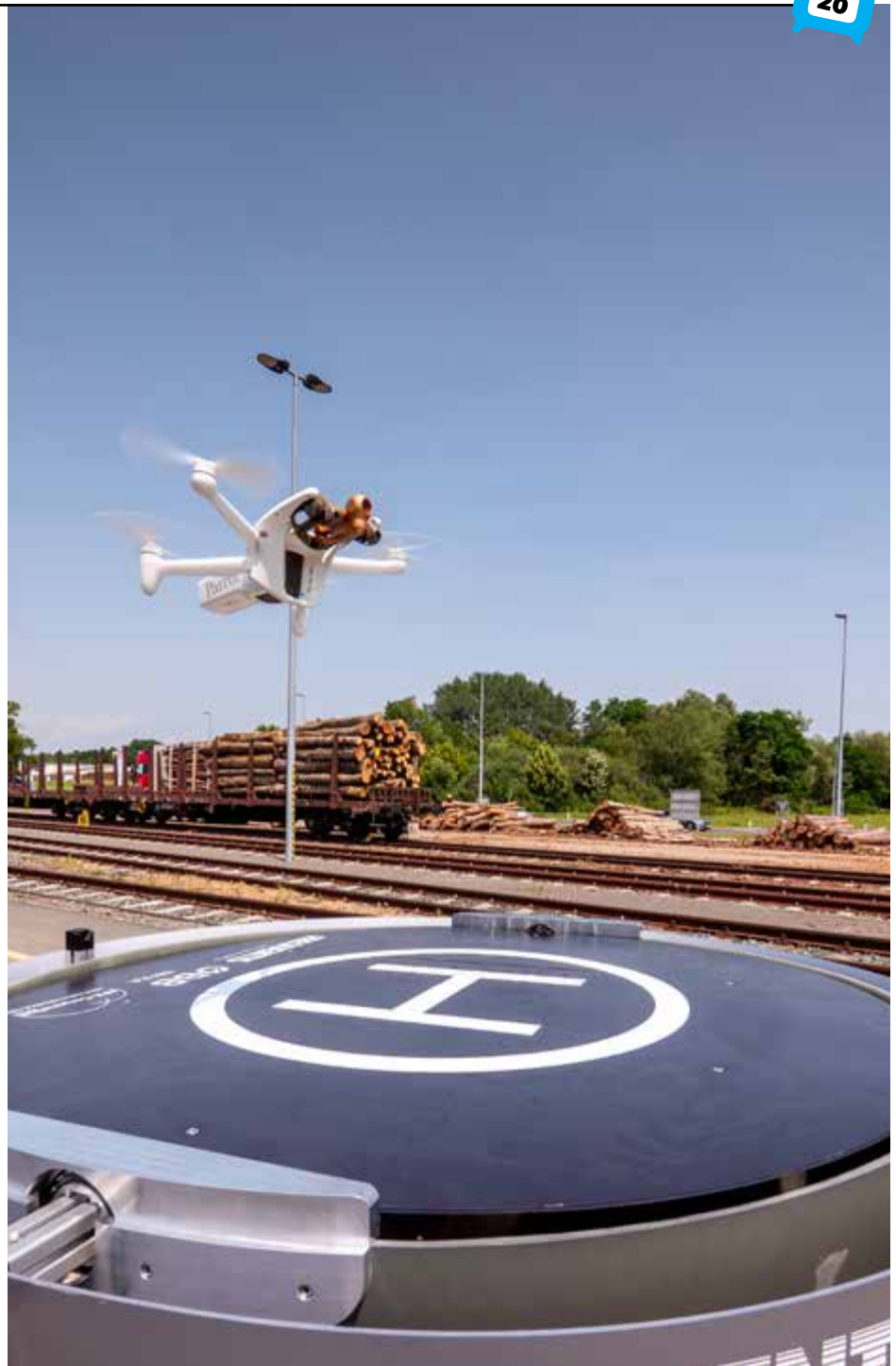
friendly and interactive mobile app and web portal, consisting of the UTM Operation Manager and the UTM Airspace Manager applications. UTM Operation Manager caters to both business and private drone operators, providing a comprehensive suite of features designed to enhance airspace safety, and efficiency. The UTM Airspace Manager is

the application used by Air Traffic Controllers (ATCO) to manage drone traffic within their area of responsibility. The UTM suite includes Common Information Services (CIS) functionality for real-time, shared situational awareness and information exchange – a prerequisite for safe integration of drones. The UTM solution is fully compliant with the U-space regulation by covering the U-space services and an extended set of additional UTM services.

Users with the system have access to up-to-date drone flight information, can register themselves as operators and securely exchange data, monitor airspace conditions, file flight plans and even apply for take-off clearance. Important is also the system's ability to support police and military drone operations.

With a secure open protocol, seamless data exchange between all relevant stakeholders, including government authorities, entrepreneurs, ATCOs, and drone operators can be ensured. A standout feature of the system is the drone map, which provides valuable insights into permanent and temporary flight restriction zones, permitted flight altitudes, flight registrations, airspace monitoring, and the ability to request flight plan approvals and take-off clearance.

The interactive tools, accessible through the website and mobile app, ensure that drone operators have a comprehensive understanding of their operating environment,



further enhancing safety and situational awareness.

Q Can you share us details about the currently ongoing projects with different countries/ Airports? What's the expectation from Airports Perspective?

A We have worked with Nordics and Baltics stakeholders on the SESAR Gulf of Finland (GOF) U-space and GOF 2 projects since 2018, trialling and validating use cases in line with U-space regulatory framework.

In 2020, Norway's Avinor, the air navigation service provider (ANSP) for the country, selected the Frequentis UTM system for 17 airport towers nationwide. This was the launching customer for the Frequentis UTM system; it was also the first UTM system to go live in the Nordics. The system was later extended for an authorised third-party operator in Norway to support drone traffic around its offshore platforms. It was also extended to support common situational awareness for drones and emergency medical helicopters. This was successfully tested among selected users in June 2022, whereby our UTM system permits data sharing between drone and helicopter pilots, to ensure both parties could see the other and be alerted of potential collisions. In March 2023 this project was awarded the Overall Excellence ATM Award at Airspace World in Geneva.

Most recently, in June 2023, Oro Navigacija, the ANSP of Lithuania, procured our UTM suite. And in September 2023 our UTM suite was implemented and put into operation for Estonian Air Navigation Services (EANS) in just seven months. And with the ANSP of Austria, Austro Control we have also jointly developed and just launched (10 October 2023) Dronespace, to safely integrate drones into the Austrian airspace, with both desktop and mobile app. It allows flight plans to be filed, clearances to be approved, and air traffic control and drone pilots to see drones on the move. Since November 2022 in Austria we

have also been researching the operational feasibility of hangar-based automated drone flights for automated rail track maintenance checks with the Austrian national railway operator, OBB.

We are also working on the new SESAR operate anywhere project (OperA) to validate complex Innovative Air Mobility (IAM) - piloted air taxi and unmanned cargo - in order to accelerate it by addressing necessary standardisation, regulation and roadmaps.

Expectation at and around airports is visibility, and awareness, and minimum control. Restrictions should be in place only when necessary.

Q Which of the two sectors (Civilian/Defense) is more risk averse when it comes to the adoption of new technology? Who is your major targeted customers?

A The experience from our engagement with customers in these domains has shown that UTM solutions provide value to both civil and defence organisations. Especially in geographic areas where responsibility of an airspace is shared. Currently there are still more commercial contracts with civil customers, but we do see a constantly rising interest and demand from defence organisations.

Q Finally brief us about the importance of implementation of UTM in all Airports? How do you see the future of UTM in all

aspects?

A The uncrewed airspace is set to become more crowded than the crewed airspace, thanks to the rapid growth in drone use cases, from emergency or disaster intelligence to agriculture or industry monitoring, and parcel delivery. The primary concern is the safe integration of drones with civil airspace users. This is why it is so important that technology supports the safe integration, and that clear regulations and standards are set to enable interoperability.

The backbone for the integration of ATM and UTM is common information services (CIS). Important is the seamless information exchange between all stakeholders and procedures to ensure safe separation between drones and manned aircraft. For this, organisations must enhance their technological capabilities so that they can introduce drones both safely and efficiently.

The airspace is a limited resource and we see the future of UTM consisting of the convergence of ATM and UTM. Strict separation is not sustainable. We are assisting organisations in enhancing their technological capabilities as well as closing the gap between the well-established technologies and working practices of ATM and those that are emerging to support UTM. The UTM system will support air traffic controllers with the management of drones and drone requests in the vicinity of an airport.



Anduril Unveils ‘Ghost-X’ Autonomous Drone for Greater Mission Flexibility in Challenging Environments

Anduril Industries is excited to unveil Ghost-X, the newest and most capable variant of its Ghost autonomous uncrewed aircraft system. It incorporates operational feedback from over 1,000 Ghost flight hours with a wide range of customers, including the UK Ministry of Defence, and across diverse environments, including multiple combat theaters.

A highly modular, flexible, and expeditionary UAS, Ghost-X is purpose-built for reconnaissance, security, and force protection. The system leverages Anduril’s Lattice software platform to automate mission planning, airspace management, and flight operations to reduce the cognitive load and training burden for operators. The Ghost platform was designed to adapt to user needs with a flexible and rail-centric design and Ghost-X embodies this vision with the integration of new propulsion, payloads, and software to meet the needs of operators in challenging environments around the world.

Ghost-X expanded capabilities include:

Enhanced Flight Performance Ghost-X’s upgraded propulsion system enables a dual battery configuration to extend flight time to 75 minutes and doubles Ghost’s total payload capacity to 9 kg (20 lbs). Ghost-X extends operational range up to 25 kilometers with an optional long-range communications kit.

Modular, Multi-Payload Carriage Ghost-X builds on the Ghost platform’s modular architecture to provide additional payload configurations. This includes new electro-optic and infrared gimbals, encoded laser options from leading industry suppliers and a vision-based navigation module for flight capability without reference to Global Navigation Satellite System (GNSS).

Ghost-X can host multi-payload configurations, with enhanced flight efficiency and endurance at higher take-off weights. Its ability to incorporate new sensors, communications, navigation, and other modular mission payloads make it a powerful baseline asset for integrating rapidly-evolving technologies.

Resilience in challenging operational environments Ghost-X incorporates a range of new technologies including vision-based navigation and automated frequency switching. These new capabilities contribute to a layered system of hardened navigation and communications to maximize resiliency in low-connectivity and denied environments.

Anduril Industries rapidly iterates based on the capabilities operators require in the most challenging environments. The Ghost platform was built to adapt capabilities from a flexible baseline airframe to address changing requirements. Ghost-X is the next step in the platform’s evolution to deliver autonomy for every mission.

Red Cat Signs Contract with US CBP for 106 Teal 2 Drone Systems

Red Cat Holdings, Inc. a drone technology company integrating robotic hardware and software for military, government and commercial operations announces that subsidiary Teal Drones has signed \$1.8 million in contracts with U.S. Customs and Border Protection (CBP) to provide Teal 2 systems to U.S. Border Patrol. Teal will deliver 106 Teal 2 drones plus spare parts and training. Border Patrol is using the Teal 2 to provide supplemental airborne reconnaissance, surveillance and tracking capability, enhancing situational awareness for U.S. field commanders and agents.

The single-source contract is part of a Blanket Purchase Agreement (BPA) between CBP and five drone companies, announced in December 2021, with a total estimated value of \$90 million over a five-year period. Last October, CBP had initially ordered 54 Teal drones for U.S. Border Patrol in a contract worth just over \$1 million.

“We are honored to provide this important U.S. agency with drones that help enable their mission,” said Red Cat CEO Jeff Thompson. “The Border Patrol pilots are some of the best and their feedback has been instrumental in Teal 2 enhancements. This brings our current backlog to over \$7.5 million as the Teal 2 revenue continues to accelerate. Red Cat has invested in a manufacturing facility in Salt Lake City, Utah, and we’re confident in our ability to meet order delivery deadlines for military, government and commercial customers.”

Approved by the U.S. Department of Defense as Blue UAS and available to purchase through the federal government’s GSA Advantage website, the Teal 2 is designed to dominate the Night™ as the world’s leading small drone for night operations. The Teal 2 is the first sUAS to be equipped with Teledyne FLIR’s new Hadron 640R sensor, providing end users with the highest-resolution thermal imaging in a small form factor.

The Teal 2 also features the latest intelligence, surveillance and reconnaissance technology, delivering time-critical information and enabling operators to make faster, smarter decisions. The system offers multi-vehicle control and artificial intelligence capabilities.



Elbit Systems to Supply the Advanced Skylark mini UAS System to the IDF



Elbit Systems Ltd will produce and provide the Artillery Corps of the Israeli Defense Forces (IDF) with the SkylarkTM 1 Transitional Vertical Take-Off and Landing Small Tactical Unmanned Aerial Systems (Skylark 1 eVTOL), combined with through-life maintenance services for all the IDF Ground Force's STUAS systems (Skylark 1 & Skylark 3).

Weighing up to 20kg, the new Skylark 1 eVTOL is a man-packed or vehicle-based platform offering the endurance and range of a fixed-wing STUAS with the capability to hover, take-off and land vertically. Combined with onboard analytical capabilities, the Skylark 1 eVTOL significantly expands the operations of tactical forces and enables fast deployment in order to organically perform Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR) missions. Under the contract, Elbit Systems will replace the Skylark 1 with the new system that will be integrated with the currently operational fleet used by the IDF Ground forces.

STUAS from the Skylark family are in operational use in a dozens of countries around the globe.

Insitu Announces Kinetic Capability for the Integrator Uncrewed Aircraft System (UAS)

Insitu, A Boeing Company, announced a munitions program for its Integrator UAS, which adds a highly sought-after strike capability to the platform's unmatched payload portfolio and class-leading 24-hour flight endurance.

Insitu collaborated with multiple weapons developers and U.S. Government agencies to enable the Integrator to deliver miniature, precision munitions and guide them to their targets. During



September 2021, the RQ-21 Blackjack variant of the Integrator successfully delivered various inert kinetic payloads for a U.S. Navy test program. Testing of additional munitions remains underway.

"Based on global events and the evolution of the modern battlefield, Insitu's customers are demanding a kinetic strike capability," said Vice President of Global Growth Abigail Denburg. "To meet this demand, we are actively partnering to test a variety of kinetic capabilities for the Integrator UAS, which will shorten the time from detection and identification to execution," said Denburg.

Integrator's unique modular design enables it to carry multiple payloads during the same mission. It is a NATO Class 1 Small UAS (DoD Group 3 UAS) that carries up to 25 percent of its maximum gross takeoff weight as payloads distributed among its nose, payload bay, two wing trays, and two wing-mounted hardpoints. The nose is typically equipped with one of several intelligence, surveillance, and reconnaissance (ISR) turrets while the payload bay typically carries a synthetic aperture radar, a wide-area motion imagery sensor, a wide area maritime surveillance sensor, a communications relay payload, or one of several signals intelligence/electronic warfare payloads, which can be easily swapped in the field using common hand tools. Each of the munitions were developed as modular, self-contained payload bays that include the weapon(s) and the stores management system.

"This modular capability builds on Integrator's unique design and enables our end users to easily transition between kinetic and non-kinetic missions" added Denburg.

GA-ASI Poised to Begin LongShot Flight Testing Phase

General Atomic's Aeronautical Systems, Inc. (GA-ASI) is poised to begin the flight-testing phase on the Defense Advanced Research Projects Agency's (DARPA) LongShot program. Begun in 2020, General Atomic's was competitively awarded a contract to develop DARPA's concept for disruptive air combat operations through demonstration of an air-to-air weapons capable air vehicle. The concept seeks to significantly increase engagement range and mission effectiveness of current 4th gen fighters and air-to-air missiles.

Over the last three years, GA-ASI has iterated on numerous vehicle designs to



optimize performance and will complete the design enroute to flight testing in 2024. The testing will validate basic vehicle handling characteristics and lay the foundation for follow-on development and testing.

"We are extremely excited to get in the air!" said Mike Atwood, Vice President of Advanced Aircraft Programs at GA-ASI. "Flight testing will validate digital designs that have been refined throughout the course of the project. General Atomic's is dedicated to leveraging this process to rapidly deliver innovative unmanned capabilities for national defense."



Thales and Schiebel Expand Strategic Partnership to Promote the CAMCOPTER UAS Globally With Cutting-Edge Technologies

By combining Thales' expertise in advanced technology solutions, sensors and system integration with Schiebel's extensive experience in designing, developing and delivering high-performance RWUAS, this collaboration focuses on unlocking new frontiers around the world in uncrewed aerial operations. Through cooperation, both companies aim to leverage their respective complementary strengths to drive innovation, expand market reach, and meet the evolving needs of customers worldwide.

The CAMCOPTER® S-100 and S-300 systems represent the pinnacle of unmanned/uncrewed aerial reconnaissance and surveillance systems, embodying state-of-the-art technologies and unmatched reliability. With Thales and Schiebel working in tandem, customers can expect a seamless integration of these exceptional systems, enabling enhanced capabilities for defence, security, and civilian/commercial applications.

"We are thrilled to embark on this strategic partnership with Schiebel," stated Herve Hamy, Vice President ISR Business Line at Thales "Together, on a case by case basis, we will harness our collective expertise to deliver cutting-edge solutions that will undoubtedly redefine the RWUAS landscape."

"Schiebel is excited about the opportunities this collaboration brings," commented Hans Georg Schiebel, Chairman of the Schiebel Group. "Combining forces where appropriate with Thales will further strengthen our offerings and provide our customers with even more advanced, robust and reliable solutions."



Qinetiq Launches Jackdaw UAS Concept to Provide Significant and Affordable Combat Mass and Battlespace Capabilities

Qinetiq announces the launch of Jackdaw, a low-cost, high-performance 'disposable' uncrewed aerial system (UAS). Designed for swarming and collaborative autonomous operations including crewed-uncrewed teaming, Jackdaw will fulfil multiple missions including reconnaissance, electronic warfare, airborne decoy and threat representation.

Jackdaw will enable our armed forces to reduce operational risk and increase combat mass by rapidly deploying large numbers of UAS in scenarios currently dependent upon small numbers of expensive crewed aerial platforms. By teaming large numbers of Jackdaw with other UAS and crewed platforms, mission effectiveness will be enhanced, the threat to human lives mitigated and the cost of conducting operations significantly reduced.

Mick Andrae, Global Campaign Director, Robotics & Autonomous Systems, Qinetiq commented: "The Jackdaw concept leverages Qinetiq's expertise in very low-cost high-performance aerial targets—such as the Banshee family—and is enhanced with autonomous mission management and human-machine teaming capabilities. Critically, Jackdaw's autonomous goal-based mission management system is intended to integrate with NATO and allied open architectures, ensuring interoperability with existing and future crewed and uncrewed systems. This, combined with the very low-cost aerial target design philosophy, makes Jackdaw highly suitable for use as a disposable UAS in air, maritime and land domain applications."

Whilst Jackdaw is designed to be reusable, its low-cost disposable characteristics enhance operational flexibility by providing commanders with the option to sacrifice assets when needed.

In collaboration with other organisations, including BAE Systems and Inzpire, Jackdaw forms part of a family of UAS which will operate together seamlessly and coherently, aiding a more agile deployment and easier management from a central operations centre.



NGC MQ-4C Triton Achieves Initial Operating Capability with the US Navy



Northrop Grumman Corporation's multi-intelligence MQ-4C Triton uncrewed aircraft achieved a declaration of initial operating capability (IOC) by the U.S. Navy.

MQ-4C Triton is the U.S. Navy's only uncrewed, high-altitude, long-endurance aircraft performing persistent maritime intelligence, surveillance, reconnaissance and targeting.

Since achieving early operational capability in May 2020, the U.S. Navy's Pacific Fleet employed Triton in the U.S. Indo-Pacific Command area of responsibility conducting maritime and reconnaissance missions.

Northrop Grumman has delivered five multi-intelligence Triton aircraft to the U.S. Navy, with the latest delivered June 2023.

Experts:

Rho Cauley Bruner, director, Triton program, Northrop

Grumman: "Triton has proven to be invaluable for the maritime patrol and reconnaissance mission in the Indo-Pacific. Now that the system has achieved initial operating capability, commanders will be able to fully leverage Triton's powerful sensor suite to detect and deter potential adversaries around the world."

Capt. Josh Guerre, Persistent Maritime Unmanned Aircraft Systems program manager, U.S. Navy: "Persistent global maritime awareness is central to deterring, or competing and winning against, our adversaries. Triton ensures we're making informed decisions and effectively operating anywhere in the world."

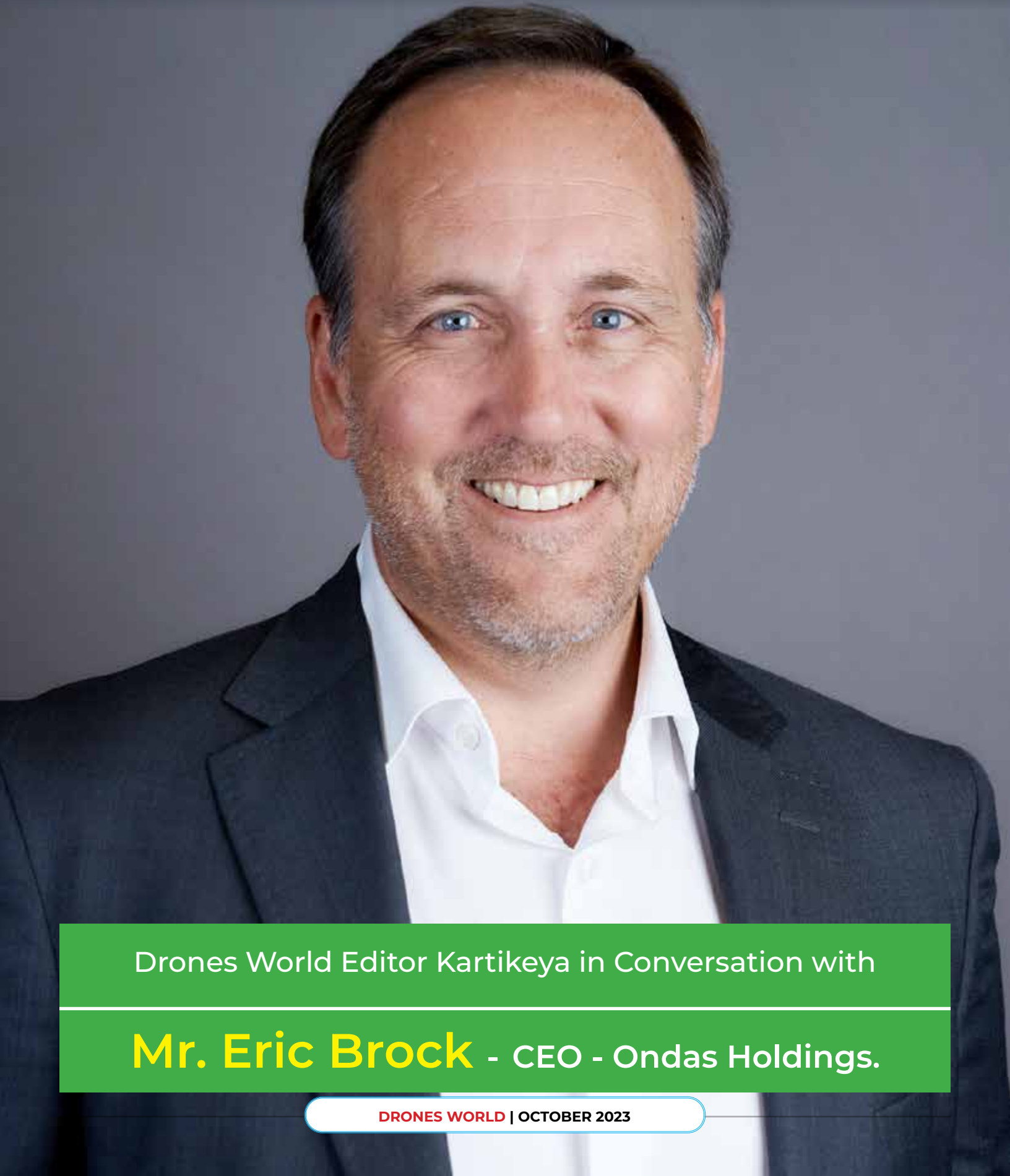
Details on MQ-4C Triton:

Built for the U.S. Navy and Royal Australian Air Force, the multi-intelligence MQ-4C Triton supports a wide

range of missions including maritime patrol, signals intelligence, search and rescue and communications relay. These aircraft provide commanders with persistent surveillance for the prediction of an adversary's behavior and enabling better planning, greatly enhancing joint military responses and operations.

With an operating altitude greater than 50,000 feet and endurance of 24 hours, Triton provides continuous communications relay to keep a distributed Navy connected, while ensuring commanders are operating off a common operational picture. Its unparalleled, long-range sensors allow it to detect, classify and track maritime targets well outside the detection of enemy ships and surface-to-air missiles.

In one 24-hour mission, Triton can survey four million nautical miles.



Drones World Editor Kartikeya in Conversation with

Mr. Eric Brock - CEO - Ondas Holdings.



Q Can you brief us about Ondas Holdings and its Ondas Autonomous Systems (OAS) business unit and subsidiaries?

A Ondas Holdings (Nasdaq: ONDS), is a listed company focused on next-generation wireless and autonomous drone technologies targeting government and critical infrastructure markets. Our drone businesses are organized under our Ondas Autonomous Systems (OAS) business unit and include wholly owned subsidiaries American Robotics and Airobotics. Our OAS business unit designs, develops, and markets commercial drone solutions which include the Optimus System, the world's first FAA certified small UAS (sUAS) developed for aerial security and data capture and the Iron Drone Raider, a counter-UAS system. The Optimus and Raider platforms are highly automated, AI-powered drone systems capable of continuous, remote operation and are marketed as "drone-in-a-box" turnkey data solution services. They are deployed for critical industrial and government applications

where data and information collection and processing are required.

American Robotics and Airobotics have industry leading regulatory successes which include a first of its kind FAA Type Certification for the Optimus System and having the first drone system approved by the FAA for automated operation beyond-visual-line-of-sight (BVLOS) without a human operator on-site.

Q Recently Airobotics Optimus 1-EX Drone received U.S. FAA Type Certification, can you brief its specifications & targeted customers/industries you are primarily focusing?

A The Airobotics Optimus System is comprised of a versatile multirotor UAV known as the Optimus, which is housed in a docking station with integrated robotic systems enabling both battery swapping and payload swapping, as well as data processing and cloud transfer. We also have a secure web portal called Insightful, which allows our customers to access

data and analytics collected by the Optimus during automated missions. Automated battery swapping allows for persistent availability and 24/7 operation of the Optimus as the Optimus drone can immediately be redeployed after returning to the dock for a battery swap. Similarly, the ability to autonomously swap sensors and advanced payloads without human intervention allows the Optimus System to provide multiple applications and use cases from a single location.

This is a truly autonomous system that, we believe, has unmatched and proven reliability and safety which is evidenced by our success in deploying fleets of Optimus in urban environments and our recently FAA-awarded Type Certificate for the system. We target customers for critical industrial and government applications where data and information collection and processing are required. These use cases include public safety, security and smart city deployments where routine, high-resolution automated emergency response, mapping, surveying, and inspection services are highly valued, in addition to industrial markets such as oil & gas, rail and ports which emphasize security and inspection solutions.

Q What are the reasons behind choosing a multirotor over fixed wing UAV?

A We chose multirotor over fixed-wing drones primarily because of its advantage to land and take off quickly. The Optimus System features a robotic arm service and functions as a network,

with each base equipped with various sensors supporting shorter range coverage. Multirotors offer greater flexibility in terms of flight control, making them well-suited for tasks that require precision, such as inspections, monitoring, and surveillance. In addition, for an autonomous drone-in-a-box platform, the ability of a multirotor to both launch and land vertically has significant advantages in automating repeated missions for persistent security and inspection applications. While fixed-wing drones have their advantages, our choice of multirotors aligns with our target industries and the specific needs.



Q How do you see drones as an upcoming market? Which market according to you is the best; Defence or Civilian?

A The addressable market for drone technology and services is huge, and growing rapidly. In fact, most market participants, both corporate executives and investors underestimate how rapidly the demand for drones is growing today. We believe this growth, off a low base, is poised to accelerate along the S-curve which is typical in complex, technology driven markets. The defense sector is large, and booming today and we expect that to continue, though over time, the commercial or civilian market is likely to be much larger and highly lucrative for dominant technology platforms delivered at scale.

The versatility and reliability of our autonomous platforms allows us to target a wide cross section of the drone market

ranging for government and critical industries, as well as defense. Within government, we see demand for homeland security, public safety and smart city applications, and in commercial markets we see oil & gas, utilities and other critical infrastructure operators increasing spending markedly due to the ROI automated drone solutions. All of these markets value the functionality of our system which ranges from video driven solutions for security and safety use cases, to the various payloads such as high-resolution optical sensors, thermal sensors and LIDAR which are used for mapping, surveying and inspection.

While both the defense and civilian markets have their merits, our primary focus is on the civilian market. This market offers numerous opportunities for drone applications, such as infrastructure inspections, emergency response, environmental monitoring,

and more. We believe that by addressing the needs of the civilian market, we can make a positive impact and position ourselves as leaders in this space. With all that said, I believe you could see us active in defense markets soon.

Q How Airobotics is different from competitors? What is your biggest USP?

A Airobotics distinguishes itself from competitors in several crucial ways, and our most significant unique selling proposition, or USP, lies in our innovative approach to autonomous drone technology. Airobotics specializes in fully and truly autonomous drone solutions. What sets us apart is our drones' ability to operate seamlessly without human intervention, from takeoff to landing and throughout complex missions. This level of autonomy not only reduces operational costs but also

minimizes the potential for human error, significantly boosting operational efficiency. The Optimus System is the only drone-in-a-box with a robotic arm that can swap batteries and payloads and not only recharge them, making it a true 24/7 operation capability.

Furthermore, our drones are engineered for industrial-grade reliability. They're purpose-built to withstand the rigors of challenging industrial environments. We incorporate redundant systems to enhance both reliability and safety, making them particularly well-suited for critical applications such as infrastructure inspections and public safety missions.

We have hardened this technology for the real world and believe our Optimus System has unmatched safety and reliability, which is the minimum bar to scale fleets of automated drones with customers. Of course, the reliability is the most vexing challenge to overcome for the vast majority of UAS developers. On top of the automation, reliability and safety, the functionality of multiple sophisticated payloads and data analytics integrated into the turnkey solution allows to really define the high-end of the "drone-in-a-box" category. We intend to push this first mover advantage to drive growth in this high-value category, which will allow us to drive important scale as we go to market.

Q Can you elaborate on the technologies that you are working on and industries you serve?



A We are continually working on developing and integrating cutting-edge technologies into our drone solutions. This includes advancements in AI, machine learning, computer vision, and sensor technologies. Our focus industries include smart city applications, public safety, critical infrastructure, and government services, where our technology can provide value by improving efficiency, reducing risks, and increasing overall effectiveness.

In addition, I would highlight our Iron Drone Raider platform we referred to at the outset. The Raider is positioned as a best-in-class, fully automated counter-UAS system. The Raider System is deployed at sensitive locations, to protect from threats of hostile drones. The platform is typically deployed with one or more "pods" housing 3 – 5 small, high-speed drones that can autonomously respond to threats and, while operating at extremely high speeds, track a hostile drone with the ability to capture that drone with a net with an



integrated parachute to safely control the drone after capture. The Raider can be deployed alongside the Optimus, or as a stand-alone solution.

Q What are the challenges and opportunities you see in Drone industry?

A In the drone industry, there are both challenges and opportunities. Challenges include regulatory hurdles, safety concerns, and public acceptance. The industry is further tasked with integrating a host of technologies ranging from communications networks, payloads, edge compute and safety technologies such as detect and avoid systems. In addition, to truly scale the industry, we need to automate as much of the activity as possible to remove costly and cumbersome labor, which will also improve quality of operations. Lastly, even with automation, field support for technology and specialized services must be scaled and we have a massive amount of data analytics capabilities to develop with AI/ ML technologies to harness the vast trove of data that will be collected on a daily basis. All of this technology and ecosystem development needs to take place inside a regulatory

framework that ensures safety.

However, it is well worth investing to attack and conquer these challenges as the rewards for the winners will be substantial. The market opportunity is measured in the tens of billions of dollars, no matter what industry research reports you reference. The potential rewards to investors in terms of returns market capitalization that can be created are even more substantial.

Q Where do you see OAS in the next five or ten years?

A We see exceptional growth in the drone sector over the next 5 – 10 years and we intend to be one of the leading technology and services providers defining these aerial data solutions for customers. Defining these solutions means continuing to drive reliable autonomy, while extending our capabilities with continuously improving data analytics.

Given the complexity of providing the complete, turnkey technical solutions, supported by field support and regulatory expertise, we believe market share will naturally accrue to a relatively small group of players who can realistically reach sufficient scale to be

a reliable provider to large, sophisticated government and industrial customers. Today, there are no big drone companies, but rather we see thousands of sub-scale players, many solving just a piece of the puzzle of a complex solution. This fragmentation is not unusual, we have seen this in formerly nascent industries ranging from the personal computer and the cell phone to the automobile sector, which ultimately saw significant consolidation.

Customers and investors both need to see leaders emerge and consolidation that will be required to create scaled aerial solutions providers in the Drone Economy. We believe Ondas can play an important role in the inevitable consolidation of the drone sector over the next decade.

We envision further advancements in our drone technology, expanding our offerings to meet evolving industry needs. OAS aims to be at the forefront of innovation, providing comprehensive drone solutions that deliver value across various sectors. Our goal is to be recognized as a trusted partner for industries seeking reliable, efficient, and autonomous drone solutions.

SAAB ACQUIRES BLUEBEAR

The acquisition of all shares in BlueBear is part of Saab's continued international growth journey across key markets, which include the United Kingdom, Australia, the United States and Germany. BlueBear is a world-leading provider of AI-enabled autonomous swarm systems for complex defence and security applications. BlueBear employs 65 employees at their site outside Bedford, England with a turnover of £8 million in 2022.

The combination of Saab's world-leading products, services and solutions, and BlueBear's experience as an agile integrator of AI-enabled autonomous swarm systems will be a powerful driver of Saab's future capabilities. BlueBear will contribute to Saab's existing activities worldwide and Saab will benefit from BlueBear's expertise in autonomy and swarming, as well as command and control systems.

As emerging and disruptive technologies such as AI, machine learning and autonomous systems have the potential to reshape entire industries, Saab embraces a proactive strategy of selected acquisitions. By acquisitions and strategic partnerships with companies that specialise in new technologies, Saab's capabilities are enhanced, thereby increasing the comprehensive solutions



offered for a wider range of defence needs. AI will enable Saab to further improve system capabilities and increase efficiency across our world-leading product portfolio.

"This acquisition is another step in support of our international growth strategy as we seek to ensure Saab is well positioned in key markets and to sustain our competitive advantage. BlueBear, as world-leading provider of AI-enabled autonomous swarm systems for complex defence and security applications, is a good fit with our approach of leveraging emerging technologies in the fields

of autonomous systems and AI," says Micael Johansson, President and CEO of Saab.

Within Saab, BlueBear will be a centre for Rapid Concept Development providing expertise and scaling-up innovation.

"For BlueBear this is an important step in our journey as we now move forward as part of Saab. We see many enhanced opportunities around naval, air and land autonomy, payload integration, next generation command and control, AI-enabled defence clouds as well as next generation platforms," says Dr Yoge Patel, CEO of BlueBear.

AeroVironment Completes Tomahawk Robotics Acquisition

AeroVironment has completed its acquisition of Tomahawk Robotics, a leader in AI-enabled robotic control and integrated communications systems. AeroVironment signed a definitive agreement to purchase Tomahawk Robotics in August for a total purchase price of \$120 million to be paid in a mix of cash and stock.

"Now that the acquisition is finalized, we're able to further integrate both companies' technologies and accelerate our implementation of AI and autonomy into AeroVironment's platforms, enabling us to offer the best solutions for our customers' operational needs," said Wahid Nawabi, AeroVironment's Chairman, President and CEO.

Tomahawk Robotics' flagship AI-enabled control system, Kinesis, is the most widely used solution for common controllers across U.S.



DoD and the greater defense industry. Pairing AeroVironment's unmanned systems with Tomahawk Robotics' AI-enabled technology will allow warfighters to operate various interconnected robotic solutions on the battlefield and share information between multiple domains and platforms with one common controller.

"We're thrilled for Tomahawk Robotics'

employees to join AeroVironment and we look forward to welcoming them into our expanding team," continued Nawabi. "Tomahawk employees will contribute to the growth of our already talented workforce and are joining AeroVironment's culture of innovation and exploration in which they can continue to develop in their careers."

Tomahawk Robotics will become part of the Small UAS (SUAS) business unit within AeroVironment's Unmanned Systems segment. AeroVironment plans to support all existing Tomahawk Robotics customers and Tomahawk's products will remain platform, market and industry agnostic. AeroVironment also plans to introduce Tomahawk Robotics' solutions to the company's growing customer base of more than 55 allied nations.

GIS Software Innovator VertiGIS Acquires Fellow Location-Intelligence Company ibR

VertiGIS, a leading solution provider and software developer in the field of geographic information systems (GIS) and spatial asset management announced it has acquired ibR Gesellschaft für Geoinformation mbH (ibR).

VertiGIS also announced a new business unit for land management which combines its expertise across the DACH region—comprising Germany, Austria and Switzerland—as well as a Berlin-based Innovation Center for SaaS/cloud development to serve its expanding customer base.

Based in Bonn, ibR specializes in GIS systems for cadaster and surveying. It shares a vision with VertiGIS for the evolution of land management enabled through modern GIS software delivery.

"We feel our existing customers and new ones will benefit greatly from the enhanced capabilities ibR brings us," said Andy Berry, VertiGIS's CEO.

"With both companies' decades of experience in the fields of cadaster, surveying and land development, we feel extremely well-positioned to help accelerate additional digital innovation for our customers, and specifically to expand VertiGIS' industry-specific solutions for land management. This is a cornerstone of our global business." "I am delighted that the complementary strengths of both companies are being combined and that we can work together as a team to support municipalities and public authorities in generating added value from their GIS data. In this way, we



can help to further accelerate digitalization in Germany," says Dr. Hans-Gerd Riemer, CEO of ibR.

VertiGIS, backed by global, technology-focused investment firm Battery Ventures, has continuously grown and diversified its business throughout Europe and North America since 2017. In addition to governments, the company helps utilities and other customers use GIS technology to collect, maintain, store and manage critical information that has inherent geographic and spatial elements. For example, the technology

helps water utilities notify affected customers about service interruptions, local governments manage maintenance contracts and retail giants identify the best locations for new stores, among other use cases.

VertiGIS also announces the foundation of its Berlin-based Innovation Center. "The Innovation Center will be focused on the development of cloud and SaaS solutions to ensure our technology portfolio provides the very best long-term value to our customers," concludes Berry.

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GeoCue Announces Dual Purpose Drone LiDAR and Mobile Mapping System Options

From the floor of The Commercial UAV Expo, Vivien Heriard Dubreuil, CEO of mdGroup (parent company of GeoCue) recounts a demonstration. “The new TrueView 680 LiDAR and 3D Imaging Payload attached to a heavy payload drone, touched down in the testing area collecting aerial data of the GeoCue headquarters. A drone pilot approaches the system, quickly removes the sensor from its quick release, and hands it off to a colleague. Within 15 minutes the TrueView 680 was securely locked into position on the small SUV and ready for mobile mapping duty.”

According to Frank Darmayan CEO of GeoCue “Every meeting, event and call we had, it seemed customers were telling us that they wanted to purchase one LiDAR system that could also work for both aerial and mobile ground projects. They wanted easy to use software to process and visualize data. Our team stepped up to the challenge to provide unique, dual purpose Drone and Mobile Mapping LiDAR systems, with our entire TrueView 600 series, as well as the TrueView 535.”

Darmayan added, “Whether a project requires an aerial perspective, a ground mobile perspective, or both, the TrueView 680 and 680LR provide the complete package. Both systems integrate Riegl LiDAR technology, with a field of view up to 360° for practically unrestricted data acquisition. By land or air, these systems provide unparalleled accuracy and precision.”

As part of the mobile mapping integration, the mobile mounting kit provides an enclosed system that protects the sensor from dust and debris. The system can also be configured with an optional Ladybug 360-degree camera and a Distant Measurement Instrument (DMI-wheel specific) that helps keep the trajectory accurate when GNSS is disturbed.

In addition to the TrueView 680, an optional upgrade is also available for the TrueView 655/660 and the TrueView 535 to enable dual purpose aerial and mobile mapping LiDAR.

Heriard-Dubreuil explained “We are continuously aligning our products with customer needs. In addition to this newly released mobile mapping capability we are also pleased to announce the release of the new TrueView 625. This system is based on the Riegl mini-VUX 1, and similar to our TrueView 655/660 it includes triple cameras... all this while hitting a sweet spot on price and performance. It’s already getting quite a bit of attention from our customers, who say it fills an important niche. Best of all, all TrueView 600-series payloads are NDAA-compliant.”

Vincent Legrand, VP of Sales said, “We offer turnkey solutions for our customers and dealers. Our expertise in hardware integration, software, workflow, training, and support from one company is a unique advantage that we can offer, and we’re excited about the growth that comes with that.”

Mapbox equips connected cars and apps with AI maps, backed by new \$280 million investment from SoftBank

Mapbox, the location platform powering navigation for Toyota, General Motors, and BMW announced the completion of a \$280 million Series E funding round, led by SoftBank Group Corp. and its affiliate (together, «SoftBank»), to fuel investments into AI location services and further broaden its footprint in the automotive industry. The company has long been the go-to location platform for powering mobile apps and logistics, from rendering animated radar maps for The Weather Company to helping Instacart deliver groceries on-time. Now, Mapbox has firmly established itself in the automotive industry, working with brands known for leading the market in innovation.

This new funding accelerates Mapbox efforts to bring AI into the car, with new ADAS features for automated driving and safety that work across a wider range of roads and more geographic locations. The unique Mapbox map allows vehicles and devices to share 28 billion global daily map detections. With an increasingly sophisticated set of sensors inside vehicles, automakers need embedded AI processing to enable fast decision making.

“It’s this combination of data and AI processing that is unique to Mapbox,” said Mapbox CEO Peter Sirota. “It’s what allows us to satisfy our customers’ needs across automotive, logistics, business intelligence, and mobile apps. This investment will allow Mapbox to bring its AI technology closer to the sophisticated camera and LiDAR sensors inside the vehicle, so split-second decisions can be made with the best data possible.”

Mapbox will leverage its real-time map to give automakers the required data and AI to comply with new safety standards such as Europe’s GSR and NCAP. The AI map also plays a role in automotive electrification by integrating with in-vehicle battery systems to monitor energy consumption, intelligently forecasting range, suggesting charging stations based on real-time availability, and facilitating secure payment processing.

Beyond automotive, delivery companies will gain access to local details that efficiently guide drivers to destinations. App developers gain richer 3D map content to create engaging virtual environments in travel, fitness, and weather. And companies of all kinds can leverage the live map to analyze how their business performs through the lens of location intelligence.

“We believe Mapbox is unlocking entirely new applications for AI in the car,” said Vikas Parekh, Managing Partner for SoftBank Investment Advisors. “As AI-driven location features become increasingly sophisticated and computationally demanding, I’m thrilled to see SoftBank’s broad portfolio of companies help Mapbox bring those to market faster.”



PDRL AND MULTIPLEX DRONE JOINING FORCES TO CULTIVATE EXPERTISE ON AEROMEGH PLATFORM



PDRL, a leading software company, is thrilled to announce the launch of its groundbreaking AeroMegh platform and certification program, revolutionizing the drone industry. With the rapid growth of drones and their applications, there is an increasing demand for skilled professionals who can harness the full potential of this technology. PDRL's AeroMegh platform, coupled with its comprehensive certification program, equips professionals with the knowledge and skills needed to excel in the evolving drone industry.

AeroMegh, offered as a Software-as-a-Service (SaaS) platform, provides a complete end-to-end solution for flying, capturing, processing, and analyzing drone data. By utilizing this powerful

platform, users can efficiently carry out complex tasks while saving valuable time and resources. PDRL's certification program offers professionals the opportunity to gain in-depth knowledge and expertise in AeroMegh, giving them a competitive advantage in the industry.

PDRL recognizes its role as a leader in the drone industry revolution. With over 50% of drone manufacturers certified with AeroGCS from the AeroMegh suite, and more than 75% of agriculture drones licensed with AeroGCS GREEN, the demand for skilled resources is evident. To meet this need, PDRL has developed a certification program aimed at enhancing technical knowledge and skills within the growing drone ecosystem. Participants in the program gain hands-on experience using the

AeroMegh platform, becoming proficient in its functionalities and applications. Upon completion, participants receive the prestigious PDRL certified drone professional designation, setting them apart from their peers.

The certification program covers all aspects of drone operations, including flying, data capture, processing, and analysis. Participants receive practical training to navigate the complexities of the drone industry successfully. PDRL's certification serves as a seal of approval, confirming that professionals possess the necessary expertise and dedication to excel in the fast-paced and rapidly evolving drone industry.

To ensure the widespread availability of this program, PDRL has formed a strategic partnership with Multiplex Drone. Multiplex Drone Private Limited, proudly backed by the esteemed Multiplex group of companies, is renowned for delivering exceptional drone technology and top-notch drone pilot training to individuals. Multiplex Drone offers comprehensive end-to-end engineering solutions and DGCA approved drone training programs, complemented by an array of specialized services and customer support. This collaboration of PDRL with Multiplex Drone will extend the program's reach, enabling professionals from diverse backgrounds and regions to benefit from PDRL's expertise.

PDRL's AeroMegh platform and certification program are at the forefront of empowering professionals in the drone industry revolution. As the industry continues to expand, the demand for skilled individuals becomes increasingly vital. PDRL's vision and dedication to transforming drone data into actionable insights are evident in its comprehensive certification program. This milestone represents PDRL's commitment to shaping the future of the drone industry and offers immense value to aspiring professionals and investors alike.

Quote from M.D. Multiplex Drone: "The growth potential of the DRONE is increasing strongly in our country, and it is expected to set a target of achieving \$ 23Billion drone industry by 2030. Along with this, the pursuit of drone pilot training is expected to create an impressive career in the coming years.

Precisely Announces Powerful New 3D Visualization Capabilities in Latest MapInfo Pro Release

Precisely, the global leader in data integrity announced the launch of MapInfo Pro v2023 – the latest release of its popular desktop Geographic Information System (GIS). Customers can now quickly and easily access a three-dimensional (3D) view of risks and opportunities with a new set of visualization tools. Users will also be able to seamlessly connect to enterprise-level spatial analytics for streamlined collaboration across the business and access several new upgrades to facilitate faster time to value.

With these updates, MapInfo Pro strengthens its industry-leading spatial analytics and mapping visualization capabilities, boosting location-based decisions across a broader range of essential business uses.

The enhancements include:

New 3D visualization capabilities – customers can now simultaneously display data in both 2D and 3D, revealing a new world of patterns and relationships.

Seamless connection to enterprise-level spatial analytics – users can connect MapInfo Pro to Precisely Spectrum Spatial and maximize data collaboration across the business.

Community-requested enhancements – new usability upgrades are now available, including customizable workspaces and user interface options.

The adoption of location intelligence has exploded in recent years, with 3D visualization and spatial analytics increasingly playing a central role across a wide range of high-profile uses. This includes urban planning for smarter cities, network optimization for improved digital equity, and disaster management of catastrophic events such as wildfires and major floods. MapInfo Pro empowers customers to fully harness the potential of location data and fuel confident decision-making across all these scenarios and more.

Precisely partner, Pelican GeoGraphics, has long understood the power of location intelligence for complex research and planning purposes. The team helps clients in the natural resources industry with the exploration of minerals to help create renewable energy sources.

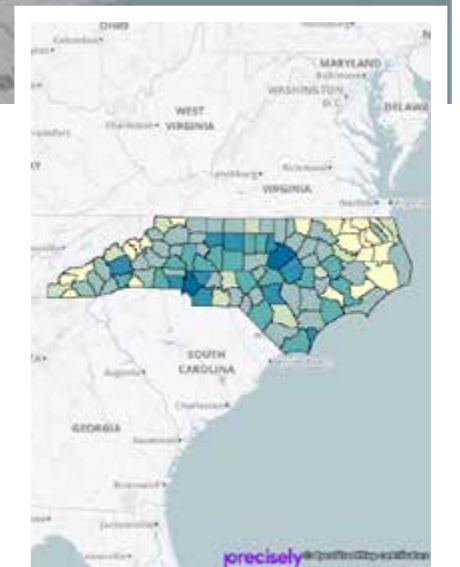
“Understanding the 3D nature of your data is essential in mineral exploration, so we’re thrilled



that this feature will now be available directly within the familiar interface of MapInfo Pro – and at a fraction of the cost of some of the more specialist standalone packages on the market,” said Caroline Hilton, Managing Director at Pelican GeoGraphics. “Even at grass-roots level, geologists will be able to visualize their regional and project data in greater detail, draping aerial images, geological mapping, geophysics grids, and geochemistry data onto the landscape with ease.”

As an all-in-one solution for managing, analyzing, and visualizing location data, MapInfo Pro is widely recognized for its ease-of-use, empowering customers to leverage critical location-based insights across a wider range of business users. It can also be easily customized through a wide variety of features and functionality available to customers via the MapInfo Marketplace.

“Precisely remains committed to delivering a complete desktop GIS solution in MapInfo Pro, that is powerful, flexible, and easy to use,” said Clarence Hempfield, Senior Vice President – Location



Intelligence at Precisely. “The latest release helps to unlock maximum levels of location-based context for our customers across an almost endless array of critical business scenarios.”

MapInfo Pro v2023 is available today in English, German, and French, with 13 additional languages slated to go live by early 2024.

FAA Approves uAvionix Beyond Visual Line of Sight (BVLOS) Exemption with Vantis Network

At the Commercial UAV Expo in Las Vegas, NV on September 6, 2023, the Federal Aviation Administration (FAA) announced its approval of the uAvionix petition for exemption to, among others, 14 CFR 91.113(b) and 14 CFR 61.3(a)(1) to operate an Uncrewed Aircraft System (UAS) Beyond Visual Line of Sight (BVLOS) in North Dakota through the use of the Vantis Command and Control (C2) and Detect and Avoid (DAA) network. Specifically, the exemption grants the use of the Vantis network to satisfy right-of-way regulations and the requirement for the operator to hold a pilot's license under Part 61.

Wow, that's a mouthful! Here's what just happened, and why it's important. This summer, the FAA asked for public comment on four (4) requests for exemptions by different UAS operators who represent a broad set of use cases with the intent that these exemptions could be rulemaking - i.e., precedent setting, in order to help move the industry forward in the absence of formal BVLOS rules.

The uAvionix exemption is different than the use cases in the other submissions in that it is a request for infrastructure approval. While uAvionix is the pointy end of the spear with our name on the exemption, the network infrastructure, which



provides C2 and DAA capability, was put together by the Vantis team consisting of the Northern Plains UAS Test Site, Thales, uAvionix, and others. uAvionix has had the privilege of serving as the UAS manufacturer and operator, and by contributing several key C2 and DAA technologies to the project.

From the Vantis website, its purpose is to develop and implement a commercially operational UAS BVLOS flight system throughout North Dakota and other states that can enable the UAS industry to grow. Aligned with that purpose, our collective goal with this exemption was to create the blueprint for others to follow...and we did it!

Why is this exemption milestone important? Isn't it just another in a long string of waivers? Nope, they are different. A waiver is essentially a one-off with every waiver theoretically receiving the same amount of rigor and safety analysis

(as they should). Approval under an exemption provides for repeatability - an exemption (which is technically rulemaking) can be referenced for future approvals in a much faster manner. More importantly it doesn't just apply to the original applicant; it works for the whole industry! With this exemption approval, the way is clear(er) for BVLOS operations, especially in North Dakota, where the infrastructure can be leveraged for repeatable operations. The same, or similar infrastructure can be used in other geographies. Yes, there is still a process, but the steps are proven, repeatable, and result in demonstrably safe operations.

uAvionix would like to thank all those involved with Vantis - it is a huge team and system of systems. Our SkyLine Command and Control Communications Service Provider (C2CSP) platform and ADS-B network are major contributors, but do not stand alone. Many months have been spent building, testing, installing, flight testing, reinstalling, updating, flight testing, documenting, flight testing, analyzing and flight testing (again) the system. We also would like to thank the FAA for their forward-lean on achieving this milestone and by recognizing that third-party providers can provide C2 and DAA services to independent operators as a way to scale the industry safely and effectively

Greek Islands connected by BVLOS drone deliveries of parcels & emergency goods

RigiTech is proud to announce the successful launch of their Eiger drone system in Greece, marking a significant step forward in the realm of Beyond Visual Line of Sight (BVLOS) drone delivery, and further proving the viability of its technology in Europe. This milestone achievement is the result of a pioneering collaboration between PROBOTEK, Uni Systems, ACS, Pleiades IoT Innovation Cluster, and Drops Smart Hubs, and promises to revolutionise parcel delivery and emergency goods transportation between Greek islands.

The project kicked off on September 8, carrying out the first test operation, managed remotely via RigiCloud from Kos and Pserimos. The Eiger performed an 8-minute flight connecting points over the ocean that are 12 km apart, displaying its excellence when it comes to overcoming challenging climatic conditions, safety and regulations. Safety remains a top priority in all RigiTech BVLOS



operations, and thus all project partners are working closely with Greek aviation authorities to ensure strict compliance with safety regulations and air traffic management.

The partnership between these Greek industry leaders marks a significant leap in the evolution of drone technology and its applications in logistics and emergency services. The project's primary objective is to validate the feasibility and efficiency of BVLOS drone delivery, addressing the unique challenges posed by Greece's island geography. "RigiTech is proud to partner with companies that are committed to the optimisation of aerial logistics, especially when the end goal is connecting remote areas that

can quickly benefit from this new aerial solution, offering faster and more efficient logistics", said David Rovira, Chief Business Officer and co-founder at RigiTech.

The project's focus on creating a lifeline for the timely transportation of emergency supplies, medicines, and vital resources to communities during crises and emergencies is aligned with RigiTech's overarching mission, as reiterated by Adam Klaptocz, CEO and co-founder: "Our team has developed very reliable technology with the goal of exponentially improving logistics, and we're beginning to see this implemented in different parts of the world where it can really make a difference".

RigiTech and its partners are excited to embark on this transformative journey in Greece, demonstrating the potential of BVLOS drone technology to ultimately improve the quality of life for residents and boost economic opportunities.

uAvionix and Iris Automation Form Strategic Partnership for Low Altitude, Wide Area BVLOS Operations

Iris Automation and uAvionix announced a strategic partnership to integrate Iris' Casia G ground-based collision avoidance data into uAvionix's SkyLine services for combined Command and Control (C2) and Detect and Avoid (DAA) services. The combination will enable operators of uncrewed aircraft to obtain superb low altitude airspace awareness and best in class command and control connectivity at price points that do not erode the economic value for small Uncrewed Aircraft Systems (UAS).

"Integration of the Iris' Casia G data is another step toward enabling scalable and achievable Beyond Visual Line of Sight (BVLOS) flights for UAS operators," noted Christian Ramsey, Managing Director, uAvionix Uncrewed Systems. "With better range than the human eye and artificial intelligence (AI) to analyze the optical image, the system can rapidly detect and classify other aircraft or objects in the air. That data is then ingested and combined with other sensor data, including ADS-B, and displayed for UAS operators in the SkyLine system. It's the type of novel integration and approach that we feel is important for a Command and Control Communications Service Provider (C2CSP) to provide and one that we have seen successfully meets the safety, efficiency and reliability needs of rapidly evolving UAS operations."

There are two types of traffic in the air today: cooperative aircraft who share position data



through transponders or automatic dependent surveillance - broadcast (ADS-B) and non-cooperative aircraft who do not share position data. uAvionix is the market leader in cooperative aircraft detection through its proven ADS-B IN solutions for UAS like pingRX Pro and pingStation3. In concert, uAvionix's SkyLine software services bring additional value to UAS operators by visualizing air traffic (ADS-B) data within the first cloud-based C2 network management platform. It's a combination that provides full optimization of the aircraft's C2 communications links and enhanced situational awareness for remote UAS operators. The proven and scalable uAvionix SkyLine system inclusive of airborne radios, ground stations, and DAA

sensor data is at the heart of two Federal Aviation Administration (FAA) BVLOS waivers and the recent FAA BVLOS exemption granted to uAvionix.

"We couldn't be more excited for this partnership. uAvionix has long been an industry leader in our space, and their ability to combine multiple technologies to address long standing gaps in our market is unmatched. Combining reliable and protected C2 communications with comprehensive situational awareness just makes sense. With the addition of our non-cooperative aircraft detection data, operators will now have a turn-key solution for their BVLOS operations," said Jon Damush, CEO of Iris Automation.

FAA Authorizes Zipline International, Inc. to Deliver Commercial Packages Using Drones That Fly Beyond Operator's Line of Sight

The FAA authorized Zipline International, Inc., to deliver commercial packages around Salt Lake City using drones that fly beyond the operator's visual line of sight without visual observers. Read the approval letters [here](#) and [here](#). Zipline will use its Sparrow drone to release the payload via parachute. Data collected from these operations will inform the FAA's ongoing policy and rulemaking activities.

The FAA is focused on developing standard rules to make BVLOS operations routine, scalable and economically viable. The agency chartered



the Beyond Visual Line of Sight Aviation Rulemaking Committee on June 9, 2021 to provide safety recommendations to the FAA. We are

reviewing their final report.

The FAA's long-term goal is to safely integrate drones into the National Airspace System rather than set aside separate airspace exclusively for drones. This approach is consistent with the FAA Modernization and Reform Act of 2012 and the FAA Extension, Safety, and Security Act of 2016. The 2016 Act directed the FAA, in conjunction with NASA, to continue developing a plan for Unmanned Aircraft System Traffic Management (UTM), which will assist in integration efforts.

Bringing the next level of antitank dominance to the battlefield

Israel Aerospace Industries (IAI) unveils the Rotem Alpha - An antitank, Vertical Takeoff and Landing (VTOL), tactical loitering munition which breaks the conventional warfare mindset and represents a revolution in both the technical and operational capabilities of loitering munitions. Equipped with a field-proven antitank warhead, a top-grade sensor suite, and long mission endurance, the Rotem Alpha brings unmatched advantages to tactical units requiring antitank force.

The Rotem Alpha, presented for the very first time at the DSEI London has a long endurance both while in the air and when parked in perch mode. It can fly and hover at a low-altitude profile to build situational awareness and execute an attack, despite adverse weather conditions. Rotem Alpha's sensor suite autonomously detects and locates hostile enemy fires, like artillery, rockets, and missile launchers, and then investigates and engages a direct attack using its electro-optical day and night seeker. Rotem Alpha is man portable. Alternatively, it can be dismounted from a vehicle. Carried in a backpack or deployed from a vehicle, this loitering munition is ready for takeoff in less than two minutes. As a VTOL platform, it can be launched and landed between trees, structures, and other types of harsh terrain.

IAI's President and CEO, Boaz Levy: «Rotem Alpha is an innovative portable anti-tank loitering munition, leveraging IAI's heritage of combat proven Loitering Munitions. Rotem Alpha addresses the up-to-date requirements of the modern battlefield. Its unique capabilities provide a key military advantage to the fighting unit.»

IAI is a global pioneer in loitering munitions, being the first to invent this weapons class nearly forty years ago. More recently loitering munitions have proven to be game-changing on the battlefield.



Thales and Schiebel Expand Strategic Partnership to Promote the CAMCOPTER UAS Globally With Cutting-Edge Technologies

By combining Thales' expertise in advanced technology solutions, sensors and system integration with Schiebel's extensive experience in designing, developing and delivering high-performance RWUAS, this collaboration focuses on unlocking new frontiers around the world in uncrewed aerial operations. Through cooperation, both companies aim to leverage their respective complementary strengths to drive innovation, expand market reach, and meet the evolving needs of customers worldwide.

The CAMCOPTER® S-100 and S-300 systems represent the pinnacle of unmanned/uncrewed aerial reconnaissance and surveillance systems, embodying state-of-the-art technologies and unmatched reliability. With Thales and Schiebel working in tandem, customers can expect a seamless integration of these exceptional systems, enabling enhanced capabilities for defence, security, and civilian/commercial applications.

"We are thrilled to embark on this strategic partnership with Schiebel," stated Herve Hamy, Vice President ISR Business Line at Thales "Together, on a case by case basis, we will harness our collective expertise to deliver cutting-edge solutions that will undoubtedly redefine the RWUAS landscape."

"Schiebel is excited about the opportunities this collaboration brings," commented Hans Georg Schiebel, Chairman of the Schiebel Group. "Combining forces where appropriate with Thales will further strengthen our offerings and provide our customers with even more advanced, robust and reliable solutions."



EOS demonstrates new directed energy and kinetic C-UAS capabilities

Electro Optic Systems (EOS) has demonstrated its Australian made directed energy and kinetic counter-drone capabilities in a field environment. This demonstration is a watershed moment for EOS and for directed energy technology in Australia, evidenced by the presence of potential export customers from Europe, the Middle East, North America, and Southeast Asia.

The testing was the first of its kind in Australia, with EOS successfully engaging moving drones from a moving vehicle with the 'Slinger' kinetic weapon system. The testing involved destroying drones with machine guns out to 500 metres and lasers beyond 1000 metres, with a very high level of accuracy. Importantly, these capabilities are being designed and manufactured in Australia, by Australians, using an extensive Australian supply chain.

Executive Vice President of EOS Defence Systems, Matt Jones, said, "I am enormously proud of the achievements of the team at EOS, with



testing exceeding expectations on all counter-drone systems. Drones are a threat in military and civilian environments right now. Counter-drone capabilities, like those developed by EOS, are

becoming increasingly essential, and will save the lives of our allies, or perhaps our own Defence Force personnel in the future."

These EOS counter-drone systems are evidence of genuinely sovereign capabilities meeting the needs of government and Defence, including countering contemporary and emerging threats, such as those in Ukraine.

Jones said "EOS' directed energy capability has significant export potential, adding to Australia's strategic weight and the reputation of Australian defence industry."

The directed energy capability also demonstrates EOS's capabilities in an area of priority for the Defence Advanced Strategic Capability Accelerator (ASCA), and the focus of AUKUS Pillar II on electronic warfare. Initially designed for export, these cutting-edge capabilities have generated interest from potential customers in North America, Europe, the Middle East, and Southeast Asia.

ASELSAN Showcases the SARP Next Gen Remote-Controlled Weapon Station at DSEI for the First Time

Turkey's defence industry giant ASELSAN continues to improve its SARP Stabilized Advanced Remote Weapon Platform family with its extensive technological expertise and know-how. ASELSAN has introduced the innovative and game-changing SARP Next Generation (SARP Next Gen) at DSEI for the first time.

SARP Next Gen is the upgraded version of ASELSAN's most acclaimed SARP Remote-Controlled Weapon Station (RCWS), maintaining its high hit probability, target tracking performance, and shoot-on-the-move capability against stationary and moving targets.

The system combines high-precision reconnaissance capabilities with excellent firepower to serve the tactical needs of the battlefield and protect critical infrastructures. The compact design of the system proves SARP Next Gen a perfect match for integration onto tactical vehicles, fixed surveillance posts, and towers. Depending on the operational requirements, it



can be armed with a 12.7 mm machine gun, 40 mm automatic grenade launcher, or 7.62 mm machine gun as its main weapon, as well as a 7.62 mm machine gun as its coaxial weapon. Thanks to its extensive surveillance and remote control capabilities, SARP Next Gen enhances situational awareness of the gunner in his proximity while drastically increasing survivability.

SARP Next Gen is fully equipped with innovative hardware and mechanical systems enabling the turret to have a low silhouette & lightweight, and it uses a hybrid ammunition box with an advanced user interface. Smoke grenades and a gunshot detection system can also be integrated into the SARP Next Gen, providing efficient use of the vehicle's top.

Another significant improvement brought by SARP Next Gen is the concept of a hybrid ammunition box. SARP Next Gen can be reloaded under armor through the hybrid ammunition box. The box offers higher capacity than standard ammunition boxes thanks to its under-armor reload capability; thus, SARP Next Gen enables the operator to carry more than 1250 additional 7.62mm rounds in the vehicle.

Designed specifically for land platforms, SARP Next Gen features a flexible and upgradable architecture with a low silhouette & lightweight, being more effective against asymmetric threats.



BEL & IAI sign MoU, to tap opportunities in Short Range Air Defence Systems' domain

Navratna Defence PSU Bharat Electronics Limited (BEL) and Israel Aerospace Industries (IAI), Israel's leading aerospace and defence company, have inked a MoU for co-operation in addressing India's requirements in the domain of Short Range Air Defence Systems.

The MoU was signed by Mr K V Suresh Kumar, Director (Marketing), BEL, and Mr Avi Elisha, VP and General Manager, Missile Systems Division, IAI, in the presence of Mr Bhanu Prakash Srivastava, CMD, BEL, in Bengaluru. The partnership marks yet another significant step towards cementing the synergy between the two companies which have a long history of association. BEL and IAI are engaged in several joint development / production / product support programmes for the Indian Defence forces.

The MoU aims at leveraging IAI and BEL's capabilities, and is in sync with the

'Atmanirbhar Bharat' and 'Make in India' policies of the Government of India.

Mr Bhanu Prakash Srivastava, CMD, BEL, said: "BEL considers IAI, Israel, as a key strategic partner. This MoU is envisaged to boost the co-operation between the two companies in the field of Short Range Air Defence Systems. It will empower the Indian industry to make significant contributions towards equipping our forces with state-of-the-art Short Range Air Defence Systems."

Mr Boaz Levy, IAI's President and CEO, said: "BEL and IAI have a successful partnership in the field of Air Defence in India. Together, we are providing the Indian Armed Forces with high-end Air Defence capabilities that meet their high-end operational requirements on one hand and 'Make in India' requirements on the other. Hence, it is only natural that we expand this cooperation to the Short Range Air Defence domain."

Zen Technologies Limited Secures Order from ministry of defence



Zen Technologies Limited has announced an order from India's Ministry of Defence for counter-UAS equipment valued at 123.3 crores (USD14.8 million).

■ The company's C-UAS portfolio of products includes:

- RF Based Drone detector (RFDD)
- Video based Drone Identification & Tracking (VDIT)
- RADAR
- Data fusion and Command Center (DFCC)
- Drone RF jammer (DRFJ)
- Hard kill

"Kinetics based kill and a Net

based drone catcher are the two options available in hard kill," said the company's website. "Kinetic based neutralization is supplied with a gun which can auto align to the target and fire bullets against the target to destroy the same physically. In order to capture the drone and land it at a safe place, net-based drone capture option can be employed. For this option, a dedicated drone with a hanging net will be launched to capture the rogue drone. This option is suitable for small rogue drones carrying potentially damaging explosives."

Department of Homeland Security Completes Testing of Sentrycs Counter-UAS Solution for a Swarm of Drones

Sentrycs, the technology leader in integrated counter-UAS technology, recently participated in the DHS (Department of Homeland Security) anti-swarm tests. During a series of rigorous tests last month in Oklahoma, Sentrycs successfully demonstrated its ability to simultaneously detect and track multiple drones, operating at diverse ranges, altitudes, and speeds. It completed multiple scenarios:

Individual and multiple drones flying in various formations up to 2.5 km (1.6 miles) away and 500 meters (1,640 ft) high

Safe drone mitigation; distinguishing authorized from unauthorized drones; tracking DJI, Autel, and Parrot drones simultaneously; tracking and mitigating the only 4G-enabled commercial drone

Outside the planned test and demo, several other



drones were detected and tracked flying 12km to 25km away

Sentrycs' technology is based on Protocol Analytics, which enables safe and dependable detection, tracking, and identification of commercial, DIY and manipulated drones, ensuring zero false alarms and no disruption

to other communication signals. Additionally, it can facilitate the secure takeover of unauthorized drones, safely guiding them to a controlled landing or directing them back to their point of origin, while leaving authorized drones unaffected. As was demonstrated in the tests, the system is not sensitive to the proximity of the drones to each other, the altitude they are flying at, or their speed.

Yoav Zaltzman, CEO of Sentrycs highlighted that, "Sentrycs' showcase at the recent DHS testing scenario in Oklahoma is a testament to the technological breakthroughs we keep pushing for and our relentless drive for excellence. The consistent and reliable results our system delivered underscore the transformative potential of our technology in the face of drone threats in general, and drone swarms in particular."

CERBAIR adds Drone ID identification feature to its complete range of Hydra systems

At DSEI, CERBAIR announced a major software upgrade that will enhance the capabilities of its HYDRA range for remote drone identification: the Drone ID feature. A much-awaited response to the urgent requirements to protect armed forces, homeland security and critical sites from the relentless rise of drones.

In safety and security industry, the challenge is to detect all potential airspace boundary violations, to locate the drone and its pilot, but also to identify the collaborative drones from the non-collaborative, the dangerous flight in restricted area, from the real threats.

As the application of Remote ID legislation gains momentum worldwide, drone manufacturers have developed their proprietary remote identification solutions, which now play a crucial role in the management of low altitude airspace.

Using its own Drone ID technology entirely "made in France", HYDRA systems are now able to detect the transmission by drones of remote identification signals, including those previously only available via the DJI AeroScope. Drone ID capabilities provide critical information from drones using Digital Remote ID devices or DJI drones electronic signal, such as: the drone's location, trajectory and speed, the take-off point and pilot's location, and the drone's serial number.

The fusion of these new capabilities to identify collaborative drones, with the detection and localization of non-collaborative drones in a single RF detection system, operating without any internet connection, allows users to protect the integrity of their flight-sensitive environment, enabling the creation of personalized geofencing and no-fly zones, for an additional layer of protection in sensitive areas.

All this, while ensuring the acquisition of a capacity that can be easily deployed for a limited budget, given the multiplication of sites to be covered, so that all entities can benefit quantitatively and qualitatively from an effective level of protection to prevent incidents. These new capabilities will also benefit all operators already equipped, through a software update to keep them at the cutting edge of threat detection.

Developed to increase the protection capabilities of the airspace surrounding critical entities against all type of drone intrusions, the CERBAIR solution, fully developed in France, masters the full spectrum of drone detection, identification and localization requirements, benefiting UTM (Unmanned Traffic Management) and CUAS.

The addition of Drone ID capabilities to the HYDRA range of detection systems is in line with CERBAIR strategy of offering major enhancements to the existing product range via a novel software licensing model. Now, identification of DJI drones, discrimination between collaborative and non-collaborative drones, and localization of drones and their pilots is possible with a single RF detection system.



OpenWorks and Robin Radar Establish High-Speed CUAS OTM

Achieving speeds of up to 100kph, OpenWorks Engineering and Robin Radar Systems showcased on-the-move (OTM) with stabilised AI-powered EO/IR and AI 3D radar. Proving again, collaboration leads to success. OpenWorks engineering and Robin Radar Systems are proud to announce the first customer demonstration of a fully autonomous OTM capability. The results will be presented at DSEI in London, in September.

Vision Flex is a highly configurable optical system that has a variety of upgrade packages to allow it to be configured for static or mobile applications. For demanding vehicle installations, it makes use of Inertial Navigation Systems, Dual-GPS and a custom balanced-gyro mount. This allows precise automated slew-to-cue, using AI classification, and close target tracking at long-range for target identification.

IRIS® is a full 3D counter-drone radar and with added on-the-move capability, the system can detect and classify drones while deployed on a moving vehicle or platform with speeds of up to 100km/h. IRIS® OTM tracks drones while on the move, providing height information as well as the position of tracked drones in all directions, giving users an early warning of approaching drones and precious time to react.

Chris Down, Managing Director of OpenWorks Engineering said: "We are very proud of all that has been gained by bringing together these well-matched AI-powered high-accuracy sensors. There was high repeatability in autonomous slew-to-cues both at high speed and during complex manoeuvres. This could not have been achieved so readily without continued collaboration between the OpenWorks and Robin Radar teams".

Marcel Verdonk, Chief Commercial Officer of Robin Radar Systems: "It's fantastic that Robin is continuing to push for innovation with our trusted partner, OpenWorks. This integration shows how fast two-step drone classification can be, especially when using radar detection to close in optical tracking. With the addition of proven on-the-move-capability, this unique integration will especially benefit military and police end-users who need to protect vehicle convoys and personnel while on the move."

Vision Flex and IRIS® are already deployed in multi-sensor integrated CUAS systems worldwide. IRIS® provides long-range 3D radar detection and classification using advanced micro-doppler technology enhanced with Deep Neural Network (DNN) capabilities. Vision Flex provides fully autonomous optical classification and tracking, using embedded twin-AI with EO/IR sensors.

OpenWorks engineering have had a year of innovation; launching new capabilities like Vision Flex CUAS used in the Robin Radar and OpenWorks testing. This multi-role, autonomous optical surveillance has targeting and tracking capabilities for a range of applications. E.g. Border Protection, Maritime and Coastal surveillance, Base Protection, Homeland Security and UGS/USV.

Proven, Reliable Positioning: Introducing the Trimble R580 GNSS System

The Trimble R580's survey-grade GNSS performance enables professionals in surveying, mapping and Geographic Information System (GIS), civil construction and utilities to quickly and easily capture centimeter-level positioning and boost productivity in the field.

With the field-proven Trimble ProPoint GNSS engine on board, users can measure points in challenging environments, such as under tree canopy or near buildings, while Trimble EVEREST™ Plus technology can identify and remove unwanted multipath signals for improved accuracy and data confidence.

"The addition of the R580 brings industry-leading Trimble ProPoint functionality in a range of form factors across the breadth of Trimble's GNSS receiver portfolio, providing a choice of productive receivers to suit any application, project requirements and team size," said Chris Trevillian,



director of product management, Trimble Geospatial.

Using the Trimble Maxwell™ 7 chipset technology, the receiver provides fast processing, anti-spoofing capability and the ability to track all available GNSS constellations. This results in higher satellite availability for robust positioning in a wider range of environments.

The R580 supports Trimble RTX® correction services for RTK-level precision without the use of a local base station or VRS network wherever correction sources are available, saving time and

money through faster field operation and simpler workflows. The receiver can be paired with all current mobile devices on a variety of operating systems and platforms—from a Trimble handheld or controller to a modern smartphone or tablet. It can also be mounted on a pole, vehicle or backpack.

Together with field software, such as Trimble Access™ and Trimble TerraFlex®, the R580 makes it easy to collect and communicate information as part of a professional-grade field-to-office workflow.

"The Trimble R580 is a go-to solution for dependable survey-level accuracy in the field," Trevillian said. "As the latest Trimble receiver that boosts productivity thanks to Trimble ProPoint technology, the R580's advanced technology provides access to survey precise positioning for challenging GNSS environments."

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Evolve Dynamics performs first ever fully autonomous drone landing using Cambridge Sensoriis ARC radar sensors



British UAV manufacturer Evolve Dynamics has embarked on an exciting new partnership with radar technology specialist Cambridge Sensoriis to perform the first fully autonomous drone landing. Cambridge Sensoriis' ARC radar sensor devices have been integrated with Evolve Dynamics' Sky Mantis UAV to achieve autonomous landing, loitering and zonal position hold without the use of any other sensors. This system is therefore ideally suited to operation in GPS-denied environments.

Evolve Dynamics' Chief Commercial Officer, Laurence Mallinson explained: "By using radar pods that communicate with each other, our UAVs will be able to land autonomously in any weather, on a moving host platform, or in a GPS-denied environment. The key aspect

of the system is that it is not reliant on visual navigation methods such as 2D barcodes or LED's, and therefore is able to operate in adverse weather conditions and complete invisibility, such as fog or mist."

The partnership sees Cambridge Sensoriis' ground-based radar beacons communicating with a Sensoriis airside radar mounted in the Sky Mantis aircraft (pictured on the left), which passes precision positioning data to the autopilot. This pioneering technology offers extremely robust positioning autonomy to Evolve Dynamics' Sky Mantis for operations involving vessel landing, loitering in holding positions both static and moving, and constraining flight to defined corridors or zones. With the use of Sensoriis' radar, Sky Mantis can launch from, follow, and land on a moving vehicle or boat.

Cambridge Sensoriis' CEO, Steve Clark, commented: "We've believed for some time that our radar-based positional information could add value to drone deployments, but it has taken the expertise and support of Evolve Dynamics to see that come to fruition with actual real-world autonomous manoeuvring and landing. It's a first for us. We're delighted with the collaborative spirit of this partnership, and the opportunity ahead."

Evolve Dynamics' CEO, Mike Dewhurst, added: "This is a major step forward. To achieve resilient autonomy and positioning without existing infrastructure, such as GPS, is essential. This is critical in defence scenarios, where we already have a strong market presence, as well as for the general scalability of industry drone solutions that will require strong resilience and redundancy."

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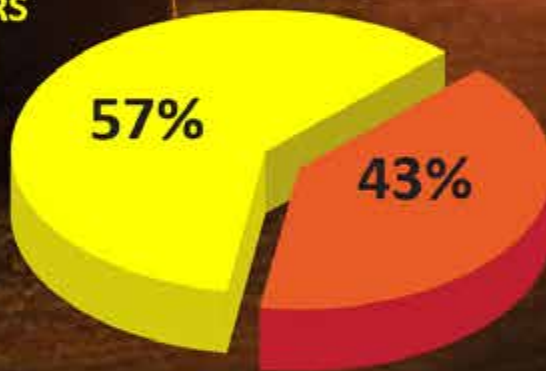


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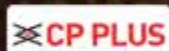


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Q uAvoinix has been in the news with more offerings in this year. Tell us about 2023 year offerings so far?

A 2023 has been a great year for uAvoinix. After receiving two (2) Federal Aviation Administration (FAA) Beyond Visual Line of Sight (BVLOS) Waivers early in the year, we have continued to expand our SkyLine service and product offerings. The subsequent FAA Exemption approval for BVLOS in September has accelerated demand and more customers are opting for the combination of assured Command and Control (C2) communications Detect and Avoid capabilities that SkyLine offers. The introduction of truSky for SkyLine provides a private, dual-frequency, validated ADS-B feed that can be trusted so that Uncrewed Aircraft Systems (UAS) operators and Air Traffic Control (ATC) can make informed decisions and maintain safe separation between aircraft. The SkyLine ecosystem consists of Airborne Radio Systems (ARS), Ground Radio Systems (GRS) and the first cloud-based network monitoring and optimization software service. With the capability to use multiple communications links such as LTE, aviation-protected C-Band, Satcom and ISM band coupled with inputs from various sources to detect and avoid cooperative and non-cooperative aircraft, the SkyLine solution is a repeatable and scalable solution that meet the risk analysis requirements for flying BVLOS.

Drones World Editor Kartikeya in Conversation with

Mr. Brit Wanick - Vice President, uAvoinix



Q What are the products and services currently offering by uAvionix for Civil & Defense unmanned systems?

A uAvionix is a leading provider of Command, Navigation, and Surveillance products and services for both Civil and Defense UAS. The venerable ping200X is a TSO certified Mode S ADS-B transponder that provides aviation-grade capabilities for airspace access to both civil and defense UAS. The George autopilot and truFYX GPS bring the same aviation-grade confidence to a flexible autopilot and navigation system built on a familiar architecture while ARS and GRS, such as the muLTElink-5060 and SkyStation-5060 POE, deliver



proven assured C2 communications for even the toughest safety cases. All uAvionix UAS products are designed for scalability and compatibility with the SkyLine cloud-based monitoring and management system to provide customers with a configurable and efficient solution for their UAS mission needs.

Q Most of the BVLOS operations depends on the Frequencies. What are the advanced solutions providing by uAvionix?

A uAvionix is a leading provider of Command Non-payload Communications (CNPC) link systems that uniquely adhere to standard specifications defined by RTCA DO362A and FAA TSO C213a to deliver reliable, deterministic, low-latency and certifiable radio communications for UAS. By employing multiple paths and multiple frequencies, the SkyLine ecosystem is able to avoid a lost-link scenario and mission failure. For example, when deployed with the

muLTElink-5060 and SkyStation-5060 POE, SkyLine actively manages the C2 communications links to optimize the connection over either the available LTE network in the region or the aviation-protected C-Band (5030-5091 MHz) provided by the ARS. Switching between the communications links is automated by the SkyLine software and displayed for the Remote Pilot in Command (RPIC) to provide complete situational awareness. Other SkyLink radios may be added, such as those for Satcom, to provide an additional link option that is again monitored and optimized by the SkyLine cloud-based network solution.

Q Can you provide a quick overview of the other components which are necessary for BVLOS Operations?

A The assured Command and Control (C2) provided by SkyLine is the cornerstone of successful BVLOS operations, but additional capabilities for Detect

and Avoid (DAA) and integration with the Ground Control System (GCS) of the RPIC are also needed. Surveillance data such as that provided by the uAvionix pingStation3 or through our partnership with Iris Automation's Casia G and RADAR sensors provide the required situational awareness of both cooperative and non-cooperative aircraft to properly remain well-clear of other aircraft. SkyLine readily displays this information to the RPIC and can be directly integrated into the GCS via an open application programming interface (API) to create a scalable and reliable technical solution for BVLOS.

Q Do you help companies stand up their BVLOS programs? How much importance is there for UTM in BVLOS Operation's?

A uAvionix is both a products and services company. Many of our customers are developing their initial UAS programs and platforms. Through thousands of flight-hours spent testing our own products and achieving FAA waivers and exemptions, we have amassed a core set of processes and procedures that improve safety and ensure a successful BVLOS flight. Through our services, we can support customers with recommended technology, processes, and procedures that align with their BVLOS requirements. Initial BVLOS missions are often being flown in remote locations to support infrastructure inspections. For these cases, UTM may play a lesser role. However as more and more BVLOS flights are flown and the density of operations increases, UTM and C2 communications necessary to maintain separation of aircraft will become increasingly important.



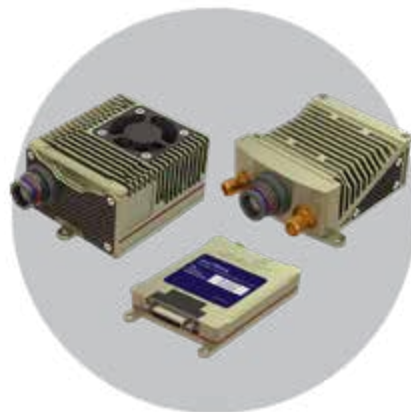
Q Can you give us a couple of BVLOS success stories with your partners?

A uAvionix recently received an FAA Exemption approval for BVLOS flights with the Vantis Network. Prior to the exemption, uAvionix and the Choctaw Nation of Oklahoma completed the first-ever US flights exercising both FAA and FCC approvals for using aviation-protected C-Band

to conduct BVLOS operations. Many other operators utilize a variety of uAvionix equipment and services, from pingStation3's to ping200X's in the systems they use to meet the waiver requirements for BVLOS.

Q Recently FAA has extended time for Remote ID Implementation. How does pingRID work? What are the real challenges in implementing in current scenarios? Brief us about the importance of Remote ID?

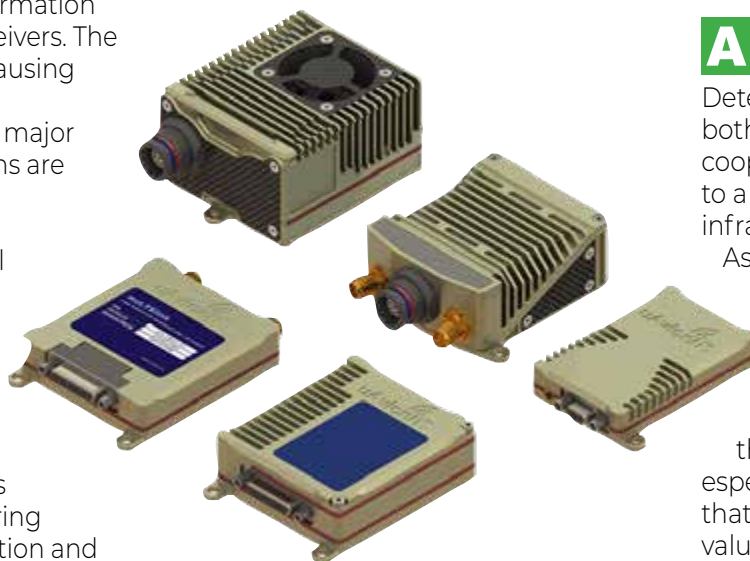
A The uAvionix pingRID is specifically designed to meet the Federal Aviation Administration (FAA) requirements for Remote ID Broadcast modules. uAvionix applied its proven aviation-grade rigor and know-how to produce a device that meets the FAA Part 89 requirements and adheres to the FAA's accepted RID-ASTM-F3586-





22-NOA-22-01 Means Of Compliance (MOC). The device is easy to use and does not require configuration or the use of an app. Users must register the device with their aircraft on the FAA website, ensure it's charged, attach it to the aircraft with included 3M DualLock™ tape, turn it on and be ready to fly. The device will acquire the necessary GPS signal and alert the operator when it's ready. A solid green LED tells the operator that the aircraft position has been acquired and is ready for take-off. Two-rapid flashes indicates that take-off has been detected and the pingRID is transmitting the necessary Remote ID information for nearby Remote ID receivers. The delayed enforcement is causing some individuals to delay purchases; however most major enterprises and institutions are proceeding with their compliance plans and contributing to the overall goal of a safer, integrated airspace. This includes retrofitting existing UAS with Remote ID to preserve their investment. A challenge is emerging in the engineering effort required for integration and

compliance on more complex platforms. For drones which are not built in mass-production, the differences in engineering and integration basically result in each airframe needing to get an individual Declaration of Compliance (DoC). Additionally, Part 89 of the rule can touch many other components in the highly integrated systems often found on custom UAS platforms, additional engineering work is required to properly comply.



Q What other technologies you are currently working & do you want to highlight the importance of the same?

A Remote ID receiving equipment can vary significantly and performance may be impacted by a number of environmental factors. Accordingly, mobile and fixed antenna versions of Remote ID receivers will be available soon through uAvionix.

Q What else can we expect in the coming Months/ years from uAvoinix?

A The combination of assured C2 Communications and Detect and Avoid capability for both cooperative and non-cooperative aircraft is foundational to a scalable and repeatable infrastructure for UAS operations. As leading innovators in aviation, we are developing Command and Control Communications Service Provider (C2CSP) components and services that will enable UAS operations, especially BVLOS, at price points that do not erode the economic value for small Uncrewed Aircraft Systems



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eVertiSKY Corp Completes NASA Commercial License for UAM Airspace Structures



eVertiSKY, a single-source provider of UAM ground space and airspace innovation, is establishing a standard to capture and publish UAM traffic data via software defined airspace structures in a commercial relationship with NASA's Unmanned Traffic Management System.

As part of the royalty-sharing agreement, the collaboration will leverage the NASA UAS Traffic Management (UTM) project to deploy the eVertiSKY Software Defined Airspace Platform comprised of:

4D Trajectory-Based Reference Blocks (4DTRB)

provide waypoints and flight lanes carefully designed to align with existing civil airspace

Digital Flight Rules (DFRs)

enable real-time publishing, coordination, situational awareness, and operational compliance monitoring

Ground-Based Public Sensing Nodes (GBPSNs)

collect information about UAM vehicles' position, speed, and planned/current trajectories

eVertiSKY will deliver the platform over three core phases:

- **Phase 1:** SDA framework and data structure for demo functionality relative to general industry stakeholders.
- **Phase 2:** city-specific simulation of SDA/UTM hybrid platforms with robust demo features specific to city/



“The next generation of urban air mobility requires ground and air infrastructure. Our proximity to the NASA UTM supports our ability to deliver both assets at the levels of operational and innovative excellence required to catalyze safety, operations, and service standards for the emerging Advanced Air Mobility industry.”

**Sandra Formenton,
CEO eVertiSKY Corp.**

- regional stakeholders.
- **Phase 3:** near-real-time airspace awareness and deconfliction data

between SDA customers and NAS stakeholders, operators, and consumers.

The UAM Software Defined Airspace platform will afford cities and large-land owners, and metroplex managers the ability to re-imagine, simulate, and ultimately activate their visions of UAM-enabled ecosystems in a scalable and intuitive manner. Under terms of the agreement, the eVertiSKY SDA will be available to a limited beta group in 2026 with general market viability in 2027.

The company intends to begin testing corridor simulations of a limited number of U.S. city locations in 2024 in collaboration with various stakeholders, including government agencies, industry partners, and academia, to accelerate the safe and efficient adoption of UAS technology for commercial and public use.

FREQUENTIS provides Norway with network solution for efficient airspace management



Avinor, the Norwegian Air Navigation Service Provider (ANSP), manages a complex and growing airspace featuring both crewed and uncrewed traffic, which requires complete operational awareness and regular status information of its technical resources and infrastructure. By implementing an overall operational monitoring solution, the efficiency of airspace management can be enhanced.

The Frequentis Advanced-NMS solution will enable Avinor to monitor their growing and complex countrywide infrastructure from one centralised tool, as well as enable fast, proactive, and effective responses to unplanned outages and emergency situations. It will also provide real-time performance monitoring of the quality of each system and will strengthen the overall security of Avinor’s operations. Thanks to the solution’s scalability, it can grow hand in hand with the development of their environment, enabling its use for decades to come.

“Thanks to the modularity of the Frequentis network monitoring solution, we can answer specific customer needs, now as well as in the future, because our solution can evolve with Avinor’s requirements. This offers flexibility and scalability, as well as future-proof confidence that it will support their needs for decades to come,”

Hannu Juurakko Frequentis Executive Vice President ATM Civil and Chairman of the Frequentis ATM Executive Board.

“We have been working closely with Frequentis for many years and find

them to be a reliable business partner. They have a high level of understanding of our organisation and of our specific needs. The growing complexity of our legacy monitoring systems was gradually making our work harder, so we are grateful to be offered this more future-proof solution to further improve our operations,” says Ellen Lystad, Director for ANS Technology Development in Avinor.

In modern ATM operations, the complexity and scale of systems is growing. ANSPs must integrate legacy equipment with state-of-the-art digital technologies, while managing dynamically changing flight volume. The Frequentis Advanced-NMS also allows ANSPs to adopt new contingency scenarios to increase overall operational flexibility. Fully customisable alarms, reports, and the capability to monitor from the overall network level down to the individual Air Traffic Management (ATM) service level are just some of the solutions’ capabilities.

High Lander selected to provide UTM services across Israel for eighteen-month period

Israeli national authorities have initiated an eighteen-month initiative in which, for the first time, uncrewed traffic management (UTM) technology will be used to manage air traffic in U-spaces across the country. They selected High Lander, a leading provider of drone management and uncrewed traffic management solutions, and Ayalon Highways, a Ministry of Transport-linked transportation solution provider, to supply the requisite technology.

Specifically, the Israeli Government Companies Authority and Israel Innovation Authority have elected to use High Lander's Vega UTM platform to create U-spaces in predefined airspaces and timeframes, wherever in the country these may be. When a U-space is activated, any party that wishes to fly a drone within this area will need to submit a flight plan to Vega UTM in order to be compliant with the Civil Aviation Authority of Israel. This is the first time that accessing a UTM network has become a regulatory necessity.

"Israel has been devoting considerable resources to the development of a national drone infrastructure for years now, and the launch of a UTM system on such a scale is the latest culmination of our efforts," said Daniella Partem, Head of the Israel Innovation Authority's Center for the Fourth Industrial Revolution. "Nationwide airspace management is a huge technical undertaking - we selected High Lander's platform for this pilot because we believe that it has demonstrated the maturity and scalability necessary to handle this challenge."

The scale of this initiative is a world first and a crucial step towards permanent implementation of a nationwide U-space. It will create an opportunity to educate official personnel



"We're very excited about this pioneering project which is sure to be the first of many such initiatives worldwide," said Meital Goren, Director of Autonomous Technology Implementation of Ayalon Highways. "High Lander was selected to provide the UTM platform because its solution has proved its effectiveness over a multitude of demanding projects and demonstrations over the last few years. We feel confident that this initiative will lay the groundwork for a long-term infrastructure in the future."



on the use of the system, as well as providing a crucial stress test of a new infrastructure type that's set to become a fundamental requirement for aviation authorities worldwide.

"We are incredibly proud to be selected as the official provider of UTM services in Israel" said Alon Abelson, CEO of High Lander. "This country has always been a global leader in technology, and the establishment of a new national air traffic management infrastructure will be one of the more significant technological developments of the modern age. To be chosen as the first company to provide this technology is a great honor, and we are more than confident that Vega UTM will continue to prove its effectiveness."

High Lander, which is embarking on this initiative with the support of Ayalon Highways, is a member of the Global UTM Association and a strong proponent of UTM technology standards.

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MilipolIndia, an international event for internal security for Indo-Pacific, to be held in New Delhi - 26th to 28th October 2023



‘Milipol India’, the maiden addition to the Milipol International Network of events dedicated to Internal Security will be hosted in Delhi from 26th to 28th October 2023. Inter Ads Exhibition Pvt. Ltd. and Comexposium Paris are organizing the event with the support of Ministry of Home Affairs, Government of India, Ministry of External Affairs Government of India and French Minister of the Interior. Mr. Gerald Darmanin - Minister of the Interior of France, will do the inauguration. MKU is the Lanyard and Bag Sponsor, CP Plus is the Registration and Badge Sponsor.

Under ‘Milipol India’, one can witness the global stage where international sellers and buyers can meet & network, unveil the latest technology, showcase new trends and discuss the needs to industry, one roof for all solutions.

Countries like Canada, USA, France, UAE, Belgium and more will be displaying their latest trend, technology and innovation. Indian Government bodies will be participating actively in various conferences, which will cover wide range of security related topics.

Prefect Jounot, CEO of Milipol and President of Milipol Network, said, “We are delighted to organize an International Event for Internal Security in India for Indo-Pacific. The first edition of MILIPOL India will bring together 150 exhibitors, 5,000+ visitors and Official delegates from around the world. Our aim is also to facilitate the discussions between decision-makers and policy makers on modern key homeland security challenges thanks to a state-level conference programme lasting the whole of the three days of the event. With this new edition in India, the

Milipol International Network reaffirms its status as the world’s key event for safety and homeland security.”

Rajan Sharma, MD Inter Ads Exhibition, said, ‘We are privileged to Launch ‘MILIPOL India’, a platform for technologies, innovations and solutions for homeland security in India. The first edition is bringing access to the rapidly expanding Indian market for defence and security technologies and a global opportunity for bilateral collaborations, networking and exposure. Above all the Conference Program is going to bring ample light on different parameters of Security, which the world is concerned about. We are truly humbled, to have the industry support for the Maiden Show of MILIPOL India.’

While at one end, there will be a lot to be displayed and on the other end a lot more be discussed. The



parallel run conference along the expo will address wide segments of security; ranging from security management in large cities, be it learnings gained from G20 or combating with online child offences. International security cooperation, Drone threats and security, Women and Policing, Road safety and security, Fighting fires, Cybercrime, Securitizations of ports, airports and borders, Forensic science and other such topics will also gain the attention.



About Milipol

For over 30 years, the MILIPOL brand has been synonymous with high quality, international events covering the field of Homeland security with Milipol Paris, Milipol Qatar and Milipol Asia-Pacific. At present, the Milipol network is growing with a Milipol India edition that completes the offer responding to a strong demand from the sector's main actors.

About Organizers:

Comexposium: The Comexposium Group is one of the world leaders in the organization of events and the animation of communities around their business and their passions. Comexposium organizes more than 150 professional and public events, covering more than 10 sectors of activity. The group connects 48,000 exhibitors and 3.5 million visitors, 365 days a year.

Inter Ads: Inter Ads is a leading and reputed organizer of B2B trade exhibitions and conferences in India in partnership with global exhibition management companies, being highly acclaimed for innovation and excellence in organizing exhibitions.



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Wings India 2024 will be the most comprehensive event on the Civil Aviation Industry calendar that includes the Inaugural Ceremony, Global Ministerial Conference, Global CEOs' Forum, B2B / B2G Meetings and Awards Ceremony, Cultural Evening & Business Networking Dinner. Also, the event includes Exhibition, Chalets, Demonstration flights, Static Display, Media Conferences, One-to-One Business Meetings and many more.

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