

Contents

- 2 U.S. AIR FORCE IS USING DRONES FOR AN UNEXPECTED REASON FIGHTING WILDFIRES
- 2 NOAA Readies Additional Unmanned Systems, Sensors to Prepare for Hurricane Season
- 3 The Flatpack Disposable Drone Provides Autonomous Delivery to Global Battlefields
- 4 Iridium Proposes a Model for BVLOS UAS Integration in the National Airspace System
- 5 GNC Launching Drone Delivery Service
- 5 London FireDrone project seeks to lower risks to firefighters
- 6 China unveils new combat drone described as a rival to US Army Grey Eagle
- 7 OneWeb Expands Service Across Europe and US
- 7 AFWERX integrates uncrewed traffic management to enhance safety and security
- 8 Russian statement sets out UAS strategy until 2030 highlighting agriculture and industry
- 9 RigiTech's payload innovation enables landing-free drone delivery to Denmark's wind farms
- 9 OneSky builds airspace information layers as part of Korea's UATM solution
- 10 About Those July 4 Fireworks and Climate Change
- 11 Voices from the Front: UAS Pilot from Ukraine's Spy Agency Shares Lessons from Battle
- 12 Voices from the Front: Ukraine's Digital Transformation Minister on Future Drone Innovation
- 13 Shield AI, Kratos Team to Integrate AI Pilot on Valkyrie XQ-58
- 13 Sky Elements' July 4th drone show greeting sets 'spell-out record'
- 14 This SUV-Sized Flying Car has \$50 Million in Pre-Orders: Begins FAA Type Certification
- 15 The Top 3 Challenges Facing the Drone Industry: Elsight and P3Tech's 2023 Market Survey
- 15 Mars helicopter calls home after long communications blackout
- 16 Sikorsky Requests FAA Exemption to Fly Rotor Blown Wing eVTOL
- 17 Drone Event in Odense: What's going on in the Nordics?
- 17 MightyFly Wins Michigan Mobility Grant to Perform Autonomous, Fixed-Wing Evtol Delivery
- 18 How Can You Measure the ROI of Your Drone-Based Farming Program?
- 19 UK Army to equip units with specialized SMASH counter-drone rifle sights
- 20 AI-Powered UAV Swarming Technology Steps Out of Science Fiction into Real World



1July23

U.S. AIR FORCE IS USING DRONES FOR AN UNEXPECTED REASON — FIGHTING

WILDFIRES June 23, 2023 Sally French



A major midwestern drone company just scored a massive contract with the U.S. Air Force — and the U.S. Air Force intends to use them for a reason that's perhaps unexpected: fighting wildfires, and more specifically using drones for wildfire

detection and prevention.

St. Louis-based aerospace startup, WingXpand, announced this month that it had won a sevenfigure contract with the U.S. Air Force for its 7-foot, wide expandable aircraft (the company calls it "backpackable" given how it can fold down in size). Along with the drone itself, the U.S. Air Force's contract also covers WingXpand's AI software that supports the early detection and mitigation of wildfires.



The version the Air Force is set to receive will be an upgraded aircraft from the product that WingXpand has currently been building and touting. The upgraded version for the Air Force is being built to withstand more rigorous conditions, and it'll also be equipped with advanced fire spotting software.

WingXpand's expandable drone uses a fixed-wing style (like a plane, rather than a helicopter), which allows for longer flight time. <u>https://www.thedronegirl.com/2023/06/29/air-force-fighting-wildfires-wingxpand-drones/</u>

NOAA Readies Additional Unmanned Systems, Sensors to Prepare for Hurricane Season <u>BRETT DAVIS</u> JUNE 28, 2023

LAKELAND, Florida—Hurricane Ian smashed into Florida in the fall of 2022, jumping from a category 3 hurricane to a category 5 in less than 24 hours. When it was done, it had killed approximately 160 people, mostly in Florida, and caused economic devastation estimated at \$116 billion or more in the United States alone.

The National Oceanic and Atmospheric Administration has been <u>studying that rapid</u> <u>intensification</u> for years, seeking to understand it to improve its forecasting, and for the 2023





hurricane season it's bringing more: More unmanned systems, more sensors, more money, more techniques for getting sensors into the storms, new forecast models.



In 2022, NOAA successfully launched the <u>ALTIUS</u> 600 unmanned aircraft from Anduril into the eye of hurricane Ian from the P-3 Orion nicknamed "Miss Piggy," getting new wind data to better understand rapid intensification.

This year, NOAA and its partners will do that, and more, he said, including launching the smaller <u>Black Swift</u>

<u>Technologies</u> S0, a smaller system that will take many of the same measurements. Another new platform, a hand-launched platform from Arizona-based <u>Dragoon</u>, may make its debut this year as well. It's a long-duration platform that would fly around the storm, making measurements at much lower altitudes than the P-3 can.

https://insideunmannedsystems.com/noaa-readies-additional-unmanned-systems-sensors-to-preparefor-hurricane-season/

The Flatpack Disposable Drone Providing Autonomous Delivery to Global

Battlefields Miriam McNabb June 28, 2023 by DRONELIFE Staff Writer Ian M. Crosby



SYPAQ Systems and Tanglewood

<u>Group</u> announced their formation of a strategic partnership supporting global sales of the SYPAQ <u>Corvo Precision Payload Delivery System</u> (PPDS) UAS. Following the delivery of more than 500 PPDS autonomous systems to the Ukraine Defence force, the two companies have partnered to support additional sales, support and distribution across Europe and the Middle East.

SYPAQ's Corvo PPDS UAS is an advanced and affordable fixed-wing autonomous system capable of covertly and reliably delivering payloads with great accuracy. The solutions are delivered as flat pack kits made primarily from waxed foamboard, rendering them easy to assemble and operate. With a payload capacity of up to 3kg and a range of over 100km, the Corvo PPDS can autonomously maneuver to a specific location and land unassisted. The adaptable autonomous



UAS grants the end user the ability to innovate during operations. <u>https://dronelife.com/2023/06/28/the-flatpack-disposable-drone-providing-autonomous-delivery-to-battlefields-across-the-globe/</u>

Iridium Proposes a Model for BVLOS UAS Integration in the National Airspace

System Commercial UAV News Staff JUNE 23, 2023



Iridium Communications Inc. has announced the results of an Uncrewed Aircraft System (UAS) flight trial highlighting Beyond Visual Line of Sight (BVLOS) capabilities in the National Airspace System (NAS), with a published whitepaper titled "Monitored BVLOS: A New Model for UAS Integration in the National Airspace System." The whitepaper

highlights and solves for challenges faced in enabling a safe, scalable, and efficient adoption of UAS in the NAS, including how to maintain safe separation of aircraft and what supportive Commercial Off-the-Shelf (COTS) avionics are readily available.

As part of the flight trial, a Remote Pilot-in-Command (RPIC) drone equipped with Iridium Connected[®] COTS avionics identified an intersecting aircraft at five Nautical Miles (NM) of separation with a closure rate of 300 knots. The RPIC successfully performed a BVLOS evasive maneuver in less than 18 seconds from detection to completion, maintaining two NM of separation with nonidealized operations.

Based on this flight trial conducted in partnership with American Aerospace Technologies Inc., Iridium confirmed that a simplified Minimum Equipment List could enable an RPIC to safely monitor a mission, communicate with air traffic control, and ensure safe Instrument Flight Rules separation from other aircraft. <u>https://www.commercialuavnews.com/regulations/iridiumproposes-a-new-model-for-monitored-bvlos-uas-integration-in-the-national-airspacesystem?mkt_tok=NzU2LUZXSi0wNjEAAAGMp04ivfk_JvGvgCryK5WM008wm_glj0h6F-zuS81-8CGm7aXnnlunqv9JASm9Dmkzt2u_oo29dxY8gLMLfWQZRnhMDz7AC6VQrrqAZmA9WaZLXA</u>



GNC Launching Drone Delivery Service 06/28/2023 <u>Greg Sleter</u> Associate Publisher/Executive Editor



Teaming with Zipline, which touts itself as the world's largest autonomous delivery system, the retailer will offer drone delivery this summer in Salt Lake City. Customers in the Utah county of Salt Lake who want to use the Zipline service will need to sign up with Zipline at <u>www.flyzipline.com/gnc</u> to confirm their delivery address is eligible. Once confirmed, Zipline delivery will be available for

those customers when they order from GNC.com.

"Partnering with Zipline is propelling <u>GNC</u> to the cutting edge in the retail category," said Alan Chester, the retailer's chief supply chain officer. "Drone delivery is an innovative way to make our fulfillment, distribution, and delivery processes more efficient, more effective, and faster, ultimately benefiting our consumers. We're excited for this initial test in one U.S. market while considering domestic expansion."

GNC will start the new service by using Zipline's Platform 1 long-range delivery system, which features a fleet of small, fixed-wing, fully autonomous aircraft that operate quietly and release packages with parachutes to a customer's yard. <u>https://storebrands.com/gnc-launching-drone-delivery-service</u>

London FireDrone project seeks to lower risks to firefighters Bruce Crumley | Jun 30 2023



Researchers at the <u>UK's</u> Imperial College London have created a prototype drone specially designed to withstand intense heat, and which through continued development may be produced as a vital data gathering tool for <u>firefighters</u> to minimize risk factors in various <u>blaze-battling</u> <u>scenarios</u>.

The less than fancifully named FireDrone project aims to <u>assist firefighters</u> in a variety of situations they currently must enter with limited or no advance information about threats to themselves or potential victims trapped by flames. The UAV has been constructed using heat-





resistant materials, permitting it to fly into blazes and gather a range of visual and environmental data for use by <u>first responders</u> preparing emergency intervention.

Initial testing of the craft has demonstrated its capabilities to continue functioning amid 200°C heat for 10 minutes.

Onboard assets like cameras, carbon dioxide sensors, and other tech capable of gathering various kinds of environmental information are packed inside lightweight, <u>highly insulating</u> <u>materials</u> like polyimide aerogel and glass fibers.

That outer shell is further coated with super-reflecting aluminum that protects FireDrone's internal components from the intense heat as it feeds information to <u>first responders</u> planning intervention. <u>https://dronedj.com/2023/06/30/london-firedrone-project-seeks-to-lower-risks-to-firefighters/#more-94558</u>

China unveils new combat drone described as a rival to US Army Grey Eagle



"Serious offences" could lead to deportation, the rules say. Under existing Chinese law, publishing geographical information on China without state permission is illegal.

The rules address potential dangers brought on by the rapid proliferation of drones in fields such as defence, agriculture and scientific research, a spokesperson for both

the justice ministry and the state air traffic office said, according to Chinese state media outlets on Thursday.

"Uncrewed aerial vehicles have been interrupting flights, injuring people when control is lost, and harming the rights of others by secret filming," the spokesperson said. "These problems are becoming more apparent and threaten aviation safety, public safety and national security. The risks must not be ignored."

Local governments have imposed temporary flight restrictions during mass events or those considered politically sensitive, such as the "two sessions", or lianghui, political meetings in Beijing. Some provinces and cities have been creating their own drone regulations since 2017.





3July23

OneWeb Expands Service Across Europe and US Rachel Jewett | June 30, 2023



OneWeb has initiated service across Europe and much of the United States as the Low-Earth Orbit (LEO) constellation is working toward global service.

The satellite operator announced on Wednesday that it started service at the end of May in 37 new countries in Europe including Austria, Italy, France, and Portugal,

and the West Coast of the U.S.—from Washington to California—as well as the Northeast coast, from Maine to Virginia, and across the Midwest. OneWeb is now reaching regions above the latitude of 35 degrees north.

OneWeb is the second LEO constellation in operation after SpaceX's Starlink, with <u>634 satellites</u>. OneWeb's business model is as a wholesale connectivity provider, working with telecommunications companies and internet service providers that integrate the OneWeb service into their connectivity services. Starlink started out as a direct-to-consumer operation, but Starlink now also does deals with service providers and enterprises like cruise lines and airlines. <u>https://www.aviationtoday.com/2023/06/30/oneweb-expands-service-across-europeand-us/</u>

AFWERX integrates uncrewed traffic management to enhance safety and

security June 29, 2023 Tim Tresslar AFWERX



WRIGHT-PATTERSON AIR FORCE BASE, Ohio (AFRL) – AFWERX and the Air Force Research Laboratory's Information Directorate have installed Uncrewed Aircraft System Traffic Management (UTM) at Eglin Air Force Base, Florida. Equipping Eglin's Duke Field with the Collaborative Low-Altitude UAS Integration Effort (CLUE) is the next step in AFWERX verifying that current air traffic

management systems can ensure complete safety as drones and electric vertical takeoff and landing (eVTOL) aircraft take flight.

"Airspace management will play a key role for the future of air mobility and technologies like drones, eVTOLs,," said Darshan Divakaran, AFWERX's head of airspace innovation



and Prime partnerships. "AFWERX Prime is focusing on collaborating with other agencies to ensure we can accelerate the future of air mobility in a safe and secure manner."



Maj. Mike Corson (left), 418th Flight Test Squadron commander, and Capt. Terrence McKenna, AFWERX Agility Prime test and experimentation lead, perform a pre-flight check on a Joby S4 aircraft. The Joby S4 is a five-seat electric vertical takeoff and landing (eVTOL) aircraft.

At Duke Field, AFWERX and the 413th Flight Test Squadron will evaluate and test military and commercial UTM systems such as CLUE, as well as other related technologies and sensors. The testing will focus on evaluating the UTMs' capabilities for deconfliction, communication and security as well as low-altitude weather and beyond visual line of sight operations, Divakaran said. <u>https://www.afrl.af.mil/News/Article-Display/Article/3443460/afwerxintegrates-uncrewed-traffic-management-to-enhance-safety-and-security/</u>

Russian statement sets out UAS strategy until 2030 highlighting agriculture and

industry July 3, 2023 Jenny Beechener UAS traffic management news



Media reports quote a statement released by the Russian government setting out a strategy relating to Uncrewed Aerial Systems (UAS) until 2030. According to a <u>report</u> published by *Sputnikglobe* re-published by *UAS Vision*, "Over the next 6.5 years, a new branch of the economy should appear in Russia related to the creation and use of civilian drones. This is the main goal

of the strategy for the development of unmanned aircraft until 2030 and for the future until 2035. The decree for its approval has been signed," said the government statement.

"The strategy covers five areas, among which is the stimulation of demand for domestic products and their development and mass production," according to the reports.

"Other areas are the development of such infrastructure objects as airfields, heliports, and drone ports; training of personnel for unmanned aircraft; as well as fundamental and advanced research in the field of unmanned aerial systems, the government noted.

The government added that it is also completing the formation of a national project for the development of UAS that will become the main management mechanism for the



implementation of the adopted strategy, according to the *Sputnikglobe* report. <u>https://www.unmannedairspace.info/latest-news-and-information/russian-statement-sets-out-uas-</u> <u>strategy-until-2030-highlighting-agriculture-and-industry-applications/</u>

RigiTech's payload innovation enables landing-free drone delivery to Denmark's

wind farms Bruce Crumley | Jul 3 2023



Up-and-coming <u>drone delivery</u> company <u>RigiTech</u> has followed <u>successes in France</u> and its domestic market of <u>Switzerland</u> with a new achievement in Denmark, developing a specialized payload lowering system that enables fast and precise transportation of parts to offshore <u>wind farms</u>.

The project in Denmark involved Lausanne-based

RigiTech partnering with local autonomous systems operator Holo and global transport and logistics company <u>DSV</u>. Using a specialized payload lowering mechanism that the Swiss company devised, the trio went to work testing <u>drone deliveries</u> of replacement parts to wind farm platforms operated by energy company <u>Ørsted</u>.

The result, they report, was a tightly synchronized network assuring drone delivery of required material to <u>windfarm platforms</u> located some 30 kilometers off <u>Denmark's</u> coast in just 30 minutes – far faster than usual boat transport – which enabled valuable same-day repairs.

That trial run of RigiTech's drone payload <u>delivery innovation</u> promises more efficient maintenance operations of the 111 turbines making up Ørsted's Anholt wind farm. It also extends successful <u>beyond visual line of sight</u> performance of the Swiss company's Eiger UAV to Demark, following the launches of service using the craft in <u>France</u> and its <u>home market</u>. <u>https://dronedj.com/2023/07/03/rigitechs-payload-innovation-enables-landing-free-drone-delivery-todenmarks-wind-farms/</u>

OneSky builds airspace information layers as part of Korea's UATM solution June

30, 2023 Jenny Beechener Commentary, UAS traffic management news, Urban air mobility

Unmanned Air Traffic Management (UATM) company OneSky is part of a consortium supporting the Korea – Urban Air Mobility (<u>K-UAM</u>) challenge aimed at commercialization of UAM in 2025. OneSky has started a new blog series discussing the OneSky Urban Air Traffic Management (UATM) solution created as part of the K-UAM Grand Challenge.





In the first post of the series, OneSky discusses building out the airspace information layers, including static and dynamic airspace constraints. In follow-on posts, OneSky will look at integrating surveillance feeds into the system and utilizing surveillance data. They will talk about flight authorization and the rules engine, then move to strategic deconfliction and conformance monitoring. Finally, they plan to discuss how this works in a federated architecture where a UATM system can manage operations from multiple

operators and PSUs. The team will also travel to Korea in mid-July and conduct AAM workshops.

The K-UAM Grand Challenge is hosted by the Ministry of Land, Infrastructure and Transport, and organized by the Korean Aerospace Research Institute.

https://www.unmannedairspace.info/commentary/onesky-builds-airspace-information-layers-as-partof-koreas-uatm-solution/

4July23

About Those July 4 Fireworks and Climate Change Delger Erdenesanaa July 4, 2023

The American practice of setting off fireworks on July 4 stretches back to the first Independence Day celebration in Philadelphia in 1777. Today, it's a beloved tradition that seems almost impossible to replace.



This year Salt Lake City is replacing its fireworks with synchronized dancing <u>drone displays</u> to avoid worsening air quality and setting off more wildfires. Boulder, Colo., is switching to <u>drones</u>, too, and Minneapolis is opting for lasers, simply because those technologies have been easier to source than fireworks in recent years.

Fireworks cause a spike in a form of <u>air pollution</u> called particulate matter, the same type of pollution that is elevated from wildfire smoke.



On July 4 and 5, fine particulate matter levels across the country rise by 42 percent on average, according to <u>a 2015 study</u> by the National Oceanic and Atmospheric Administration. Alongside the fireworks party, particulate matter pollution can rise as much as 370 percent.

These levels often exceed what's allowed by the Environmental Protection Agency for day-today outdoor air quality, but local, state and tribal governments are generally allowed to flag one-time events like fireworks, as well as wildfires, as "exceptional events" and avoid officially violating national air standards.

Other countries see similar spikes in air pollution around their own major holidays, said <u>Dian</u> <u>Seidel</u>, an author of the 2015 study and a retired NOAA climate scientist. <u>https://www.nytimes.com/2023/07/04/climate/fireworks-air-quality-drones-</u> <u>laser.html?campaign_id=9&emc=edit_nn_20230704&instance_id=96686&nl=the-</u> <u>morning®i_id=76945057&segment_id=138325&te=1&user_id=f3d322e93016f7ce6835ec0bc3368a5</u> <u>c</u>

Voices from the Front: UAS Pilot from Ukraine's Spy Agency Shares Lessons from Battle <u>SEBASTIEN ROBLIN</u> JUNE 28, 2023



A WB Electronics FlyEye is launched.

Ukraine's struggle to repel Russian invasion has been distinguished by its successful adaptation of low-cost drones, military and civilian alike, to support ground forces on the frontline. Those following the conflict have by now seen hundreds of videos of drones surveilling enemy forces about to

fall under a heavy hammer. But it's much rarer that we hear what it's like to pilot those drones.

That's a perspective I sought in an interview over Zoom with a veteran Ukrainian drone pilot going by the callsign DK, who is serving with the 13th Central Department of the Security Service of Ukraine.

DK reached out to me on behalf of <u>Army of Drones</u>, a crowdfunding campaign by Ukraine's United24 platform, seeking to supply Ukrainian troops with drones. By late April, it had raised \$108 million, bought 3,300 drones, and received 400 drone donations.

Sébastien Roblin: How and when did you first start piloting drones?

DK: I started with Armed Forces services seven-eight years ago [during the initial Russian invasions 2014-2015]. I saw real potential in them as my specialty was recon, and UAVs allow



reconnaissance in three dimensions, not just what you can see on the ground. It's a game changer. I was amazed at how effective we became gathering info over territory we didn't control, giving us opportunities we couldn't have imagined before.

https://insideunmannedsystems.com/voices-from-the-front-uas-pilot-from-ukraines-spy-agency-shareslessons-from-battle/

Voices from the Front: Ukraine's Digital Transformation Minister on Future Drone Innovation SEBASTIEN ROBLIN JUNE 29, 2023



A Mavic drone armed with a grenade and wielded by the Ukrainian army's 35th Brigade. Photo courtesy of the Ukrainian Ministry of Defense.

In the last four years, Ukrainian minister Mykhailo Fedorov's portfolio has snowballed. Five years after entering politics, in 2019 he assumed the newly created office of Minister of Digital Transformation at age 28.

This March, the office was expanded to include Innovation, Education, Science and Technology.

Initially focused on digitizing government services, Fedorov's job as a sort of CTO for the entire country took on new dimensions when Putin launched his full-scale invasion of Ukraine in February 2022. Fedorov is now leading the "Army of Drones" program which, via crowdfunding and "dronations," has acquired nearly 4,000 drones from abroad by early May 2023 in coordination with <u>UNITED24</u>, a Ukrainian-government fundraising platform boosted by celebrity ambassadors such as actor Mark Hamill and sports star Andriy Shevchenko that recently celebrated its one-year anniversary.

But Fedorov is also fostering efforts to help Ukrainian companies develop and indigenously mass produce drones and drone software, seeking to bring new capabilities to the table. In a past interview, he sketched out plans to build up a force of 10,000 civilian-type short-range drones for frontline support, supplemented by hundreds of longer-range drones. <u>https://insideunmannedsystems.com/voices-from-the-front-ukraines-digital-transformation-minister-on-future-of-drone-innovation/</u>



Shield AI, Kratos Team to Integrate AI Pilot on Valkyrie XQ-58 INSIDE UNMANNED SYSTEMS JUNE 15, 2023



Ryan Tseng, Shield AI cofounder and CEO, and Gerald Beaman, president of Kratos' unmanned aerial combat division. The companies announced that Shield AI is building an AI pilot for Kratos' XQ-58 Valkyrie.

SAN DIEGO—Kratos Defense & Security Solutions, a technology company in the defense, national security and global markets, and Shield AI, a defense technology

company, have signed an agreement to integrate and market an artificial intelligence pilot built by Shield AI for Kratos' XQ-58 Valkyrie, making real the concept of crewed-uncrewed teaming for jet aircraft.

"Ukraine is losing 10,000 drones per month due to Russian electronic warfare—primarily because the Russians are jamming communications and GPS. If an uncrewed aircraft is unable to operate without GPS and without communications, it will be near useless in future conflicts," said Brandon Tseng, Shield AI's cofounder and president, who is also a former Navy Seal. "AI pilots enable teams of aircraft to intelligently execute missions without GPS and communications. When you take an incredible, affordable uncrewed jet aircraft like the XQ-58 and pair it up with our AI pilot, you create a game-changing strategic deterrent."

Kratos has active production lines producing approximately 150 jet drones annually, including Valkyrie, and a family of affordable, expendable and attritable tactical jet drones flying today, including Tactical Firejet, Mako, Valkyrie and others, with actual known cost points of approximately \$400,000 to \$6.5 million and multiple contracts with the U.S. Air Force, Navy, Army, and Marine Corps. <u>https://insideunmannedsystems.com/shield-ai-kratos-team-to-integrate-ai-pilot-on-valkyrie-xq-58/</u>

5July23

Sky Elements' July 4th drone show greeting sets 'spell-out record' Bruce Crumley | Jul 5 2023

As *DroneDJ* readers casting even furtive glances at <u>headlines</u> over the weekend will have noticed, mainstream new outlets have finally – and, it seems, all at once – discovered the existence and spreading popularity of <u>choreographed UAV performances</u> challenging the lock



fireworks long held on nighttime celestial celebrations. <u>Drone show</u> specialist Sky Elements added another notable item to that amassing July 4th coverage by staging a series of spectacles across the US, including one setting what it says is a world spell-out record.



<u>Sky Elements</u> said it staged 40 total <u>drone shows</u> across the US in the run up to and through July 4. It noted its Monday evening performance rivaled the enormity of this post's opening paragraph by establishing a new "Guinness World Records title for the largest aerial sentence formed by multirotor/drones." That mark was set July 3 using 1,002

LED-equipped UAVs in the skies above North Richland Hills, Texas.



Somewhat less expertly executed, however, was Sky Elements' communiqué and <u>social media posts</u> of the <u>drone show</u>, which fail to note what that sentence actually *was*. Using its exceptional capacities of interpretation while viewing the footage, however, *DroneDJ* believes it came during the following

formation (which, to further nit-pick, doesn't spell out an actual sentence, but rather a greeting or elition-shortened phrase). <u>https://dronedj.com/2023/07/05/sky-elements-july-4th-drone-show-greeting-sets-spell-out-record/</u>

6July23

This SUV-Sized Flying Car has \$50 Million in Pre-Orders: Begins FAA Type

Certification <u>Miriam McNabb</u> July 05, 2023 by DRONELIFE Staff Writer Ian M. Crosby



Air mobility company <u>ASKA</u>'s 4-seater eVTOL has become the first ever flying car to begin the type certification process with the FAA. The prototype of the ASKA[™] A5 was awarded Certificate of Authorization and Special Airworthiness Certification by the FAA and has begun flight testing. ASKA has been conducting ground tests since 2022 and in Q1/2023

began performing on-street driving tests. This Special Airworthiness Certificate proves that ASKA[™] A5 has satisfied all FAA safety requirements. The company is currently working with the FAA on type certification, which signifies <u>the design is in compliance</u> with all airworthiness, noise, fuel venting, and exhaust emissions standards.



The four-seater ASKA[™] A5 is roughly the size of an SUV and fits in standard parking spaces. A drive & fly eVTOL capable of both road and air travel, ASKA[™] A5 boasts a max flight range of 250 miles and an airspeed of up to 150mph. The vehicle is designed for the highest level of safety, a major factor that has allowed ASKA to make positive progress with the FAA toward type certification. Its large aerodynamic wings are optimized for safe landing with the ability to glide. The aircraft also features six independent motor systems for flight and a ballistic parachute. <u>https://dronelife.com/2023/07/05/this-suv-sized-flying-car-has-50-million-in-pre-orders-aska-a5-evtol-begins-faa-type-certification-process/</u>

The Top 3 Challenges Facing the Drone Industry: Elsight and P3Tech's 2023

Market Survey Miriam McNabb July 05, 2023



Drone connectivity solutions provider <u>Elsight</u> and industry experts <u>P3 Tech Consulting</u> have partnered to produce the <u>2023</u> <u>Drone Market Survey</u>, a free downloadable white paper offering critical insights into the current state of the drone ecosystem. The global survey asked participants for their views on BVLOS operations, target markets, business models, use cases, and more.



The drone industry has rapidly evolved, transforming a wide variety of sectors. Despite industry development, several

challenges hinder the sector's growth and potential. Elsight and P3Tech's <u>Drone Market</u> <u>Survey</u> identified the top three challenges respondents named: regulations, costs, and communications. <u>https://dronelife.com/2023/07/05/the-top-3-challenges-facing-the-drone-industry-</u> elsight-and-p3techs-2023-drone-market-survey/

Mars helicopter calls home after long communications blackout July 5, 2023 Clive Simpson

NASA's Ingenuity Mars Helicopter's navigation camera captured the rotorcraft in shadow during its 52nd flight on April 26, 2023. This image was finally received after Ingenuity was out of communication for 63 days. Image: NASA/JPL-Caltech.

NASA engineers are prepping the miniature Mars helicopter Ingenuity for its 53rd flight across the surface of the Red Planet after re-establishing contact following a two-month radio blackout.





The silence was due to a Martian hill blocking line-ofsight communications with the Perseverance rover which acts as a conduit between the helicopter and ground controllers at NASA's Jet Propulsion Laboratory (JPL) in California.

Ingenuity, the first craft to ever fly across the surface of another planet, has made aerial scouting flights above the Martian surface seem almost routine. It embarked

on its latest mission on April 26, but contact was lost at the end of the 1,191-foot (363-meter), 139-second flight. <u>https://spaceflightnow.com/2023/07/05/mars-helicopter-calls-home-after-long-communications-blackout/</u>

Sikorsky Requests FAA Exemption to Fly Rotor Blown Wing eVTOL Graham

Warwick July 05, 2023



Sikorsky is planning to fly a subscale uncrewed aircraft in its Rotor Blown Wing (RBW) vertical-takeoff-and-landing (VTOL) configuration, according to a petition for exemption to certain airworthiness regulations filed with the FAA in June.

Sikorsky is seeking experimental-category certification of the aircraft for flight testing.

The RBW is a tail sitting configuration for a fixed-wing aircraft that takes off and lands vertically and transitions to wing borne cruise flight. The design was revealed in 2013 when Sikorsky was awarded a contract for the first phase of DARPA's VTOL X-Plane program.

As studied for the VTOL X-Plane, the RBW had a single turbine engine powering two wingmounted semi-articulated proprotors generating slipstream that flowed over the wing to increase lift. The aircraft could hover on its proprotors like a rotary-wing aircraft or cruise like a conventional fixed-wing aircraft. <u>https://aviationweek.com/aerospace/emerging-</u> technologies/sikorsky-requests-faa-exemption-fly-rotor-blown-wing-evtol





Drone Event in Odense: What's going on in the Nordics? Eszter Kovács JUNE 30, 2023



We had the privilege of engaging in an insightful conversation with Lisa Rosenlyst Hansen from <u>Odense Robotics</u>, where we went into the details of their event <u>International Drone Show</u> <u>2023</u> in August in Denmark. We also discussed their strategic plans for empowering Danish drone companies in the coming years. As Business Development Manager at Odense Robotics, Lisa's

core responsibilities revolve around the drone sector.

In her role at Odense Robotics, she serves as an essential support system for drone start-ups and scale-ups, assisting them through various programs that provide the guidance and funding they require for success. Lisa facilitates a drone networking group, where she brings together Danish drone companies several times a year to gain insights on a variety of topics, including interactions with air traffic management authorities.

Lisa explained to us that "We support companies in various ways. As a local hub, we can assist them to kick-start their operations in Denmark or launch their new activities by developing partnerships with the local Danish ecosystem. One of our main objectives is to build a relationship between different layers of stakeholders, such as governmental bodies, start-ups, and end users to create sustainable businesses together."

https://www.commercialuavnews.com/international/drone-event-in-odense-what-s-going-on-in-thenordics?mkt_tok=NzU2LUZXSi0wNjEAAAGMy1dMQ_z1QNkur1FQnrtVXBxOyLXjzolrUtT0Ofco2T9w6qqm VAL5cDAYIIFciDR3UToY_XOG-19AAa1q1XICEOPxNFsLe8RLuaTfSIcGFPoKIg

MightyFly Wins Michigan Mobility Grant to Perform Autonomous, Fixed-Wing Evtol Delivery <u>Commercial UAV News Staff</u> JULY 5, 2023



<u>MightyFly</u> was awarded a \$150,000 grant from the <u>Michigan</u> <u>Mobility Funding Platform</u> (MMFP), on May 30th, 2023, to perform autonomous cargo delivery flight demonstrations in the state. This is expected to be the first public demonstration of an autonomous, fixed-wing electric vertical take-off and landing (eVTOL) aircraft showcasing 100

pounds of cargo deliveries.

Page17



During these demonstration flights, conducted with the support of the Michigan <u>Office of</u> <u>Future Mobility and Electrification</u> (OFME), MightyFly will showcase the capabilities of its thirdgeneration autonomous cargo aircraft with a 6 ft by 19 inch by 18 inch cargo bay capable of carrying up to 212 small USPS packages.

The logistics needs of Michigan's manufacturing, automotive, logistics, retail, chemical and pharmaceutical industries offer the ideal scenario for MightyFly to demonstrate a new way to ship products, parts, supplies, and various goods. MightyFly's one-shot business-to-business (B2B) delivery services will provide cost savings for just-in-time manufacturing lines, timely deliveries of crucial shipments for medical treatments, and quick replacements of fast-moving consumer goods to retailers. <u>https://www.commercialuavnews.com/drone-delivery/mightyfly-wins-michigan-mobility-grant-to-perform-first-of-its-kind-autonomous-fixed-wing-evtol-delivery-flight-demonstrations?mkt_tok=NzU2LUZXSi0wNjEAAAGMy1dMQ_BSqa5-cuWei0_qOmaEkpwOwk-c_XsbsgmmulvLP6ah0c-eYINTQnynfiFhdg8LvQJzexatV86cah9KCuTsIKGcg1EYiCgQun_5EzRVKA</u>

How Can You Measure the ROI of Your Drone-Based Farming Program? João Antunes JULY 5, 2023



. According to Fortune Business Insights' <u>Agriculture</u> <u>Drones Market Global Report</u>, the global agriculture drone market size, valued at \$4.17B in 2022, is now projected to grow from \$4.98B in 2023 to \$18.22B by 2030.

In DroneDeploy's <u>State of the Drone Industry Report</u> 2022, the company states that farmers claim

improvements in operations, as well as planning and design by using drones to digitize their farms. Apart from the obvious advantage of mapping and surveying a farm, drones are also great tools for monitoring crops and livestock, assessing and extracting soil data (all in real-time), smart spraying and seeding/planting.

The choice of a drone depends on the use case at hand—do you require a spraying drone, a drone that can carry multiple payloads, a very high-accuracy mapping drone, or even a drone-in-a-box solution to perform autonomous flights from time to time? Does the drone come with proprietary software, or will you need third-party software? Do you have the necessary hardware to view, manage, and edit the drone-collected data? And on top of that, it's also important to consider the time it might take to learn and properly analyze that data. If this sounds too complex, maybe consider taking advantage of a drone-as-a-service solution, where



a company does all of this for you for a price. These are only some of the questions you need to ask yourself when setting up a drone program to take the first steps into increasing ROI with drones in agriculture. <u>https://www.commercialuavnews.com/forestry/how-can-you-measure-the-roi-of-your-drone-based-farming-</u>

program?mkt_tok=NzU2LUZXSi0wNjEAAAGMy1b3eKdm6EYzsm4wNzJPFFVT1n1wK_CZuy7lT9xFyLrasl00 zQ1PTh2bzU_mdrSxJ44Er45-Uhm91Fj7fZbLD26h97xQXTqYnTqY3Lpa6LXvyec

UK Army to equip units with specialized SMASH counter-drone rifle sights Bruce Crumley | Jul 6 2023



<u>The UK</u> Army is preparing to supply combat soldiers with a specially made <u>counter-drone</u> sight known as SMASH, which is designed to considerably increase a fighter's ability to take out enemy mini- and micro-UAVs while in flight.

<u>The Army's</u> page on the UK's <u>Ministry of Defense</u> (MoD) site recently <u>announced</u> its initial order of the counter-drone targeting tech, whose full name is SmartShooter SMASH Smart Weapon Sight Fire Control System. Once attached to SA80 A3 assault weapons and other military firearms, the unit recognizes a UAV within its range, tracks its movements, and locks onto the craft for firing – whether it hovers in place, advances in steady fashion, or undertakes evasive maneuvers.

To that end, <u>the UK Army</u> says it has already ordered 225 SMASH sights under a £4.6million (\$5.8 million) <u>MoD contract</u> – the first of procurement of the counter-drone tech it plans to make. Those assets will be issued to what are known as Very High Readiness units across the various branches of the British military. <u>https://dronedj.com/2023/07/06/uk-army-to-equip-units-with-specialized-smash-counter-drone-rifle-sights/#more-94674</u>





7July23

AI-Powered UAV Swarming Technology Steps Out of Science Fiction into Real

World Miriam McNabb July 06, 2023 by DRONELIFE Staff Writer Ian M. Crosby



Airbus Defence and Space GmbH, Quantum-Systems GmbH and Spleenlab GmbH have been awarded a research endeavor from the <u>Planning Office of the German Armed</u> <u>Forces</u> to demonstrate and analyze the AI elements necessary for swarms of tactical UAS in a real-world scenario. With a focus on the effectiveness of tactical UAS, the project known

as KITU 2 (Artificial Intelligence for tactical UAS) is being funded by the German Ministry of Defence. <u>Airbus Defence and Space</u> will provide swarming algorithms, simulation environments and experimental hardware, as well as required AI building blocks.

<u>Quantum Systems</u> offers the Vector 2-in-1 tactical aerial reconnaissance platform with built in AI edge-computing capabilities. This platform can be deployed as fixed-wing eVTOL Vector or as the multicopter Scorpion UAS, and allows for heterogenous swarms.

<u>Spleenlab</u> will leverage its expertise in AI edge software for swarming, incorporating object recognition and robust navigation methods in communications denied environments. <u>https://dronelife.com/2023/07/06/ai-powered-uav-swarming-technology-steps-out-of-science-fiction-into-real-world-scenarios/</u>

