

# Police Aviation News

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Issue 322

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**2EXCEL**

**WORKING TOWARDS SAR2G**

**IRISH GARDA FLEET PLANS**

**CHP MAKE FIXED WING BIG**

**UK HEMS RESULTS**

**K-MAX OUT - AGAIN**



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# LAW ENFORCEMENT

## BANGLADESH

**POLICE AIR WING:** In a public speech early in January the Prime Minister Sheikh Hasina promised her government's all out support to turn the police into a world standard law enforcement agency.

The premier opened the Police Week in person this year after a gap of two years due to the Covid-19 pandemic, when she greeted members of the force.

She promised to build a world standard "Smart Police" force having good professional knowledge and training and equipped with supports of state-of-the-art technologies and scientific equipment including further development of a police aviation wing. Two Russian-made Mil Mi-17 helicopters, first mentioned in the autumn of 2021, and repeatedly mentioned as imminent last March are still part of the plan.

## IRELAND

**GARDA:** An Garda Síochána will receive a new helicopter and a fixed wing plane through additional funding in the near future.

Funding will be provided in 2023 to support the procurement of a longer range and high-capacity utility helicopter fully equipped with Garda mission equipment, in addition part of this new funding is going towards the replacement of the current fixed wing. Of €21.5M being made available in 2023 through the Brexit Adjustment Reserve (BAR), administered by the Department of Public Expenditure and Reform, €9M will go towards phased payments for a replacement Garda Fixed Wing Aircraft.

Some €12.5m will be provided for the purchase and delivery of a helicopter. The BAR was put in place to counter unforeseen and adverse consequences of Brexit to EU member states and sectors that are most affected. The total fund for 2020-2023 in Ireland is €1.17bn.

The new helicopter will support the rapid deployment of the Emergency Response Unit and Armed Support Units where necessary.

Documents inviting expressions of interest have been issued but neither of these indicate the airframe of choice.

*Editor: The Garda Air Support Unit (GASU) was established in September 1997 with the delivery of a Pilatus Britten-Norman BN 2T-4S Defender 4000 fixed wing aircraft and a Eurocopter AS355N Ecureuil/Twin Squirrel helicopter. In later years the fleet was added to with two EC135s.*

*The unit is based at Casement Aerodrome, Baldonnell on the outskirts of Dublin city.*

*Garda aircraft are maintained on the Irish military register. Irish Air Corps personnel pilot all aircraft and provide maintenance facilities on behalf of the Department of Justice.*

*The aircraft are fitted with police role equipment including EO/IR cameras, search lights, extensive communication suites and microwave downlink/uplink technology.*

*A Prior information notice (PIN) for the Supply of Twin Engine utility helicopter(s) and Integrated Police Mission equipment and associated aircraft maintenance services for An Garda Síochána, due to be replied to by January 20 called for a helicopter or helicopters a competition that will initiate over the next 12 months with a budget of €12.5M. The second part of this is for the provision of maintenance services in respect of (the new) rotary wing aircraft and the existing fleet of two (2) EC135 helicopters.*

*It would appear from the wording of the documents that the helicopter may be additional to the pair of EC135s operated by the military for the Gardai and be a type that is larger (i.e. H145/AW139).*

*The indication in a separate PIN that the high wing fixed wing has an ultimate budget of €18M (including support and maintenance) suggests that the target airframe is not going to be a repeat of the UK NPAS P68L line of thought. This is apparently something substantially larger and more complex.*



**COVER IMAGE:** After the trauma of receiving a notice to quit - or at least get their aircraft off the airport - from the Peel Group, the landlords at Doncaster Sheffield International Airport, late last year the move to the far smaller Humberside International Airport an hour away by road near Grimsby was made successfully and without too much apparent pain.

The editor was invited to see their 'compact' new home and receive a briefing on the past, present and future of this vibrant company (my words) now operating several government air services including the current fixed wing element of HM Coastguard and set to greatly increase their workload in the new Search and Rescue contract from late in 2024. This is Beechcraft King Air 200 G-HMGB. [image PAR]

**Police Aviation News** is published monthly by **POLICE AVIATION RESEARCH**,  
7 Windmill Close, Honey Lane, Waltham Abbey, Essex EN9 3BQ UK.  
Contacts: **Cell:** +44 7778 296650 **Skype:** BrynElliott or +44 20 8144 1914  
**E-mail:** [editor@policeaviationnews.com](mailto:editor@policeaviationnews.com) and [policeaviation@hotmail.com](mailto:policeaviation@hotmail.com)



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## ITALY

**GUARDIA DI FINANZA:** On January 24 Leonardo officially delivered to the Guardia di Finanza (Italy's Police Force with responsibility for economic, financial and maritime matters) the operator's first AW169M light-intermediate twin engine helicopter in skid configuration. The handover was performed at Leonardo's Vergiate assembly line (Varese) during an official ceremony in presence of representatives from the customer and the company.

The aircraft, 907, will be part of an AW169M fleet of 24 units, including six with fixed landing gear and eighteen with skid undercarriage. All aircraft are expected to be delivered by 2024 complementing a fleet of 20 AW139 intermediate twin helicopters. The AW169Ms are to be used for various tasks including: maritime police/patrol, homeland customs security, law enforcement, rescue, and other security duties.

Guardia di Finanza first received the military-certified AW169M in late 2019, enhancing its fleet modernisation plans. The aircraft of Guardia di Finanza feature a dedicated configuration including: a rescue hoist, an emergency floatation system and life rafts, wire cutters, TCAS II (Traffic Collision Avoidance System), a NVG (Night Vision Goggle) compatible cockpit, HTAWS (Helicopter Terrain Awareness Warning System), an advanced communication system, advanced HUMS (Health Usage Monitoring System), a searchlight, an ice detector, SATCOM, mobile phone detector and hyperspectral detection and reconnaissance system. The helicopters are also fitted with a range of Leonardo systems such as a RW ATOS (Airborne Tactical Observation and Surveillance) system with an advanced operator console, Gabbiano radar, LEOSS (Long Range Electro-Optical Surveillance System), M428 IFF transponder, OPLS (Obstacle Proximity Lidar System), V/UHF radio systems cockpit panels and lighting.

The latest delivery introduces unique IFR, single pilot, Advanced Search and Rescue (SAR) Modes with

dedicated FMS (Flight Management System) search patterns enabling the aircraft to automatically fly along a predefined search path, which reduces pilot's workload on the search phase of a SAR mission. The AW169 is the only helicopter in its weight category that features Advanced SAR Modes.

## KENYA

**POLICE AIR SERVICE:** It was bad enough when the government stripped the police air service of its highly prized air assets after a series of embarrassing accidents and incidents. In December 2020, the President Uhuru Kenyatta presided over the official handover to the military the management of government civilian-owned planes in the country. He later launched the National Air Service Division at Wilson Airport in Nairobi. Under the edict the police aircraft were incorporated as part of the Kenya Air Force but remained nominally police aircraft.

The latest move in the downward spiral has now further angered the police aviators. One of their most prized aircraft, an AW139, has been stripped of its expensive role equipment, changed into an executive transport and reconfigured for use by Deputy President Rigathi Gachagua. It seems that Gachagua asked the military for a helicopter for personal use but they did not have one. They advised him to ask for one from the small police fleet.

In October last year, State House Chief of Staff and Head of Public Service Felix Koskei wrote to then-Inspector General of Police Hillary Mutyambai and ordered the handover of one of the two remaining AW139 helicopters to the Kenya Air Force for use by the DP.

One of the helicopters is already in the transport configuration so the removal of the role equipment in the other seemed pointless. The one they picked was fitted with a high specification FLIR EO/IR camera with a screen monitor in the cabin and had a downlink capability to two ground stations based in Nairobi and Mombasa. It would appear that the expensive role fit will end its days on a store room shelf.



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## UNITED KINGDOM

NPAS: They continue to advertise to fill vacancies in their ranks. The high degree of uncertainty in the future of the organisation is both precipitating departures and deterring prospective new applicants. The control room in Wakefield is undermanned and aircraft are regularly flying with just two crew members rather than the usual three.

The most recent vacancy advert was for two full time permanent posts of Flight Despatcher at the NPAS Operations Centre in the police HQ in Wakefield. Applications closed in January. The gloss is somewhat taken off the job offer by the statement: "Please note: a project is underway to identify a model for the long-term provision of Police air support and West Yorkshire Police may not be the host of NPAS beyond June 2024."

Having a control room under stress is one thing but the situation in the air strays into danger to the flight crew. All the NPAS helicopters were configured on the assumption that there would be three crew, based on their previous operators having full control over crewing. Reducing the number of TFOs to one complicates the task of the remaining one. In the EC135P2 model, half of the fleet, not all controls are duplicated front and rear, this requires the pilot to lower the downlink aerial and operate the controller, fortunately they are handy on the centre console but this is an unnecessary distraction for the "driver." When they were extensively refurbished the other half of the EC135 fleet, the EC135T2, addressed most of the problems, the fixed wing having a similar system suited to single TFO operation.



[PAR]

Many years ago UK police hierarchy decided that they wished to entirely separate the pilot from the policing task. They refused to allow serving police to become pilots, lest they were tempted to stray from their primary role of ensuring the safety of the flight and allow their assumed predisposition towards law enforcement to distract them. Obviously pilots do get involved but imposing non-piloting tasks on them is a step beyond the sensible.

The best TFO station is that in the rear, if only based on the number of monitor screens available, but the single TFO is under pressure. The tasks on pilot and TFO are not too great when the weather is benign, and the crew is fresh to the task but that is not the case in today's NPAS. A single TFO looks after the mapping, the camera, radios, searchlight and downlink. The list is not that unusual but in some aircraft the configuration is not intuitive and the solo operator runs out of hands and fingers. Add long transits, long hours in the air and long shifts and inclement weather and the safety margins diminish.



NPAS

NPAS are under pressure and the organisation does not meet its promise of a 24/7 service to England and Wales. After 3am the whole of the West Country and East Anglia are devoid of sensible cover. Both are effectively covered from London.

NPAS continue to have meetings designed to resolve the present impasse on the future, most appear destined to fail if there are no police formations willing to take on NPAS. Any volunteer would be consigning their service to never being able to rid themselves of it whether they were successful or failed.

It would appear that, subject to some positive information on the future of their £2.2M hangar at Doncaster Sheffield Airport (DSA) that the fixed wing will permanently settle at its current temporary home with Direct Flight at Leeds Bradford Airport. Long term readers will be aware of the hankering NPAS have to set up operations at East Midlands Airport, Castle Donnington, Derby (EGNX). Ten years ago operations were

rejected by the airport as the air police were being set up, but they kept on trying periodically. Post DSA they joined the other operations trying to find a new home in short order and Castle Donnington was on the list. This time there was some space but it soon became clear it was only for a year before rebuilding work would see them set to look for a new home. None of the operations from DSA took up that option.

Meanwhile the magnificent Rubb NPAS building at DSA stands empty and with no future mapped out. There is still pressure in the background that could see a new Middle Eastern owner acquiring the airport and returning it to its status as an international airport, but the path is probably going to be long and via compulsory purchase and certainly via the courts. There will be a point where restoring the airport to viability will pass and the uncertain future of the Rubb hangar will be as a venue for volleyball or ballroom dancing.

## UNITED STATES

**ALABAMA:** The Tuscaloosa Police Department and City of Tuscaloosa held a ribbon-cutting ceremony on January 11 for a new helicopter hangar at the Tuscaloosa National Airport.

The place is much larger than the old one - more than 13,000 square feet. That's large enough to house four 50 years old DoD surplus Bell OH58A/C helicopters, currently N63KS, N630JT, N631TC and N632TC. Until last year the Tuscaloosa Police Department had two of the Bell's, now it has four because the Tuscaloosa County Sheriff's Department handed over its two and morphed into using drones.



Ryan Phillips

"We need a strong aviation unit because they do things drones can't do and we're very lucky and fortunate to have a city council and mayor that believe in aviation that we can do a lot of different things with," said Tuscaloosa Police Chief Brent Blankley.

To make it all work, the city of Tuscaloosa invested a little more than \$892,000 in the hangar. The Air Patrol Division has 5 pilots and two mechanics.

**CALIFORNIA:** The California Highway Patrol has taken delivery of a new Cessna 208B Grand Caravan N30035. c/n 5682 and registered on the last day of 2022. It is the first of a significant fleet upgrade of fixed wing assets.

In July last year CNC Technologies, an aviation technology and wireless communications company serving the law enforcement, military and government markets, announced the sale of three new Cessna 208 Caravans to the California Highway Patrol (CHP), Texas Department of Public Safety and Pennsylvania Attorney General's Office. CNC acquired the new aircraft on behalf of the agencies through its CNC Aviation division, the others have been delivered and this is the delivery of the first completed CHP aircraft.

CNC developed comprehensive law enforcement mission suites for each of the new aircraft and will be providing ongoing operator training and support to the agencies.

Each customer will be operating a Caravan equipped with an advanced thermal imager, moving map system and a Tactical Flight Officer station with large monitor, keyboard and tactical radios. All of the mission suites were designed for full integration with the agencies' respective communication and downlink systems, enabling seamless connectivity from day one. Installation and integration of the mission suite in the CHP airframe was performed by Hangar One Avionics. The fleet of Cessna Grand Caravan's will replace the current fleet of Cessna 206 and seven Mahindra/GippsAero



GA8 AirVan aircraft. The delivery to CHP is the first of up to fifteen in a 5-year contract that CNC has with CHP. When, a few years ago, CHP announced that they were moving up from the Cessna 206 to the AirVan it was seen as a major move upwards in terms of capacity.

*Ed: The latest upscale represented by the Caravan has been reflected by several US agencies in recent years. For many agencies the aircraft also offers a type suitable for transportation – including cross border prisoner transport – but it is nonetheless a big move up from the role originally vested in the Cessna light single until the 1990s.*

*Several have been buying into the Cessna 208 Grand Caravan as a replacement for Cessna light singles [mainly 206] and now the Airvan.*

*Meanwhile Textron has announced it has delivered it has delivered the 3,000th Caravan, this to Brazilian aviation company Azul Conecta, a subsidiary of Azul Airlines. The handover took place at Textron Aviation's location in Independence, Kansas.*

Los Angeles Police Air Support has taken delivery of a new lightweight Tyler Technologies TSOP platform designed for the H125/AS350 helicopter. The improved design uses lighter gauge tubing and this reduces the overall weight significantly from 60lbs (27.2Kg) per side to 42lbs (19kg). The new design has recently been certified by the FAA. The previous design is certified by both the FAA and EASA. Tyler Technologies is a division of Tyler Camera Systems, Inc. based in Van Nuys, California.



OHIO: Details of the Ohio State Highway Patrol hosting of a 2023 Safety Stand To in April have been announced by the Airborne Public Safety Aviation office.

The event is on April 12, 2023 at the Highway Patrol Hangar located on the North ramp of Ohio State University Airport (KOSU) a public airport six miles northwest of downtown Columbus, in Franklin County, Ohio. The street address is 2829 W. Dublin-Granville Road, Columbus, Ohio 43235. Registration is complimentary. Details of the instructors are on the APSA website.

OKLAHOMA: The Oklahoma City Council approved the purchase of a new police helicopter on January 10, it will be financed through the tax fund.

Chief Wade Gourley told council members the expected \$3.7M purchase would help more than just law enforcement with missions like missing children, standoffs, and pursuits. In a further statement the fire department also supported the request. The council approved the purchase in a vote of 6 to 1.

The support for the bid by the fire department was a request for further air time from the police operation. Until now there was an assumption that the operation of two 2014 Airbus Helicopters AS350B3e (N720KC and N730KC) would ensure that one airframe would always be available. The new thinking based on past experience is that the third airframe (assumed to be an H125) will enhance the ability of the unit to support the fire service on their often longer missions. The police unit supports them on wildfires and other operations, assignments that often require the use of the police aircraft for several days.



February 2021 when the unit took over a new facility



# AIR AMBULANCE

## UNITED KINGDOM

**CHILDRENS:** The pioneering Children's Air Ambulance (TCAA) has introduced a new specialist incubator in its AW169 helicopter to assist medical transport teams during lifesaving flights. The national transfer service provides the only intensive care aircraft in the country dedicated to transferring critically ill babies and children, at a high and safe speed, from local hospitals to specialist paediatric and neonatal treatment centres. Thanks to the support of public donations, the charity has designed and developed three bespoke neonatal transport systems which have been provided to specialist NHS transport teams free of charge across England to enhance patient care.



The charity, NHS Clinical Partner Teams at Embrace Yorkshire and Humberside Infant and Children Transport Service (Embrace) which is part of Sheffield Children's NHS Foundation Trust, Bristol's Newborn Emergency Stabilisation and Transfer (NEST), Southampton Oxford Neonatal Transport (SONeT), International Biomedical and Gama Aviation collaborated on the development of a bespoke design, bringing three Neonatal Transport Systems onboard its brand new AgustaWestland 169 aircraft – now provided by Sloane Helicopters Ltd.

The new systems have been designed with input from leading neonatal transfer clinicians to ensure they are able to provide outstanding care in the air. In addition to the incubator, the system includes a Patient Monitor, Ventilator, Suction Unit, four Infusion Devices, Oxygen, and specialist Nitric Oxide Therapy.

The large cabin interior of the AW169 allows access to both sides of the incubator, and with excellent visibility from all four seats, it means more specialists' eyes can monitor the patient – as well as the parent. This space means that a parent doesn't have to move if a clinician needs access to care for their child, meaning they can remain close to their child the entire flight, putting their mind at ease. The helicopter also has plentiful medical air and oxygen supplies, and easily controllable heat and light levels, and with the onboard power, it reduces the reliance on batteries – making it a very efficient enhancement the national service provides.

The new neonatal systems integrate seamlessly with the charity's stretcher system, making the aircraft second to none in the provision of neonatal transfers, and have already been utilised as soon as they came online.



## FlySight @ Hai Heli-Expo 2023

6-9 March 2023

Georgia World Congress Center, Atlanta GA, USA

**Booth B907**

# Devon Air Ambulance MISSION FACTS

# 2022



DEVON: Mission statistics for 2022 reveal just how vital the response of the Devon Air Ambulance medical emergency service has been to the people of Devon, as they experience another incredibly busy year. Throughout the year the crew at Devon Air Ambulance was tasked to attend over 1,828 incidents across Devon and were also called to assist across our borders in neighbouring counties of Cornwall, Somerset and Dorset. The details are explained in the supplied graphic above. [DAAT]



**GREAT WESTERN:** Great Western Air Ambulance Charity (GWAAC) received a total of 1,808 call-outs to people in urgent need across its region in 2022 which includes Bath and North East Somerset, Bristol, South Gloucestershire, Gloucestershire, North Somerset, and parts of Wiltshire. 28% (506 patients) of GWAAC's total call-outs were to people suffering an out-of-hospital cardiac arrest, an increase from 26% in 2021.

Gloucestershire saw the highest number of call-outs for cardiac arrests, where the GWAAC Critical Care Team responded to 147 cardiac arrest patients.

**KENT, SURREY, SUSSEX:** The Air Ambulance Charity covering the south east of England down to the English Channel coast has reported that 2022 has been the busiest year in its 33-year history.

Between 1st January 2022 and 31st December 2022, the charity's crews of pilots, doctors and paramedics responded to 3,224 incidents, 64% by helicopter and 36% by Rapid Response Vehicle. 1,353 of the call outs were to incidents in Kent, 757 to Surrey and 947 to Sussex.

Road Traffic Collisions accounted for the highest number of missions, followed by medical emergencies and accidental injuries. Most patients were under 60 years of age.

Delivering world-leading pre-hospital emergency care 24/7 to the most critically ill patients across its region, it costs £15.2M each year for KSS to operate its life-saving service and with demand at an all-time high.

Operating out of Redhill Aerodrome, Surrey, and headquartered in Rochester, Kent, KSS provides world-leading pre-hospital emergency care whenever and wherever required to save lives and ensure the best possible patient outcomes. When the call comes KSS can reach any part of Kent, Surrey and Sussex in under 30 minutes, bringing the emergency room to the scene to deliver life-saving care.

KSS was the first Helicopter Emergency Medical Service (HEMS) in the country to operate 24 hours a day, seven days a week. In March 2020 KSS became the first HEMS to be rated Outstanding by the Care Quality Commission in all five of its inspection key lines of enquiry: safe, effective, caring, responsive and well-led. In September 2020 KSS won the Charity Times Charity of the Year Award (income more than £10M) and in September 2021 KSS won Kent Charity of the Year and CEO David Welch was selected as Charity Times' Charity Leader of the Year Award 2021. Each year, the charity must raise £15.2M to operate its life-saving service. 86% of its total income is raised through the generosity of KSS's supporters.

**MAGPAS:** The Cambridgeshire based air ambulance is awaiting completion of its new air base at Alconbury. The on-line image reputedly illustrates the state of build last month.



**LINCS & NOTTS:** The charity air ambulance recorded 2022 as the busiest year in its history with 602 night missions. Overall, the charity responded to 1,620 missions, a growth of 130 incidents on 2021. 1,003 incidents were in Lincolnshire and 441 in Nottinghamshire with the remaining 176 being to surrounding counties.

**MIDLANDS:** More than 200 major trauma patients have been recruited for a pioneering £10M research project looking at early detectors of probable susceptibility to in-hospital infection and / or multi-organ failure.

The 'Golden Hour' study, which commenced in 2014, is being led by Research in Emergency and Acute Care Team at the Queen Elizabeth Hospital in Birmingham and is supported by the National Institute of Health Research (NIHR). The study aims to improve patient outcomes by developing tests to help clinicians treating those who have suffered a major trauma to spot the early signs of whether patients are more likely to develop a serious infection or multi-organ failure in hospital in the days and week following the initial injury.

The research, which has now recruited more than half of the patients required, is being supported by the critical care paramedics and pre-hospital emergency medicine doctors at Midlands Air Ambulance Charity and West Midlands Ambulance Service University NHS Foundation Trust (WMAS), who collect blood samples from appropriate patients during the first hour of treatment.

To find out more about the Golden Hour study, visit [srmrc.nihr.ac.uk/trials/golden-hour](https://srmrc.nihr.ac.uk/trials/golden-hour). Further information on Midlands Air Ambulance Charity is found at [midlandsairambulance.com](https://midlandsairambulance.com) and West Midlands Ambulance Service is found at [wmas.nhs.uk](https://wmas.nhs.uk)

**STOKE:** The air ambulance based in Stoke on Trent in the Midlands was born out of a plan to set up a fire service resource centred on the same region. That project failed to materialise and it therefore moved across to the creation of an air ambulance in what is a fairly HEMS crowded area. It is fair to say that they have a way to go before the Stoke HEMS takes to the skies.



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The charity EO Phil Copeland and Daniel Moores the founding trustee have viewed several makes and models of helicopters being used by different international HEMS operations.

As a start-up they need an economical airframe, which means older, not new. Unfortunately the days of the cheap to lease BO105 that most of the UKs air ambulances started on are gone. The team asked around the existing HEMS suppliers – most of which are now wedded to ‘third generation’ airframes, bigger and newer, and not inclined to enable the level of assistance that was available to start-up operations 35 years ago. Stoke faced up to rejection.

As indicated by the their website artwork they are now focussing on starting operations with the Leonardo AW109 and naturally promoting its speed and reaction time potential based on a cruise speed of 150kts, significantly faster than others on the market. Currently the source of this helicopter – when sufficiently funded – will be Sloane Helicopters at Sywell. They have a while to go, in 2021 their income was just over £8,000. They are now a Registered Charity [1162611 Stoke Air Ambulance] <https://stokeairambulance.org/>

## UNITED STATES

**FLORIDA:** In the northwest of the state, Walton County first responders will soon be able to transport critical patients much quicker, with the use of a new helicopter. Walton County Sheriff's Office has teamed up with Air Methods, to operate the asset from April this year.

Walton County Fire Rescue has been stretched thin since the only hospital in the district, the HealthMark Regional Medical Center, closed its emergency department in March last year. The helicopter will transport requests from any medical institution or emergency medical service agency within the community. Services will be available to both residents and visitors 24 hours per day, 365 days a year through a new base site in the north end of the county (location to be announced) with support from both Walton County Fire Rescue and Air Methods personnel.

Air Methods and WCSO will be splitting the costs of the Bell 407 aircraft, but contract negotiations are still underway. Air Methods will initially provide the pilots and flight nurses. Into the future this might change. [WCSO/WJHG]

## FIRE

### AUSTRALIA

**SOUTH AUSTRALIA:** Local fixed wing and rotary firefighting exponents Aerotech Helicopters took delivery of their third UH-60A Blackhawk last month. Shipped to Melbourne docks wearing trade registration N60004 assigned to Pickering Aviation, VH-UHR (70343/81-23621) it was re-assembled at Melbourne / Essendon and subsequently flown to its new base at Adelaide / Parafield on January 19.

It joins sisterships VH-UHG (82-23761) and VH-UHS (80-23475) and will presumably eventually be repainted into the red and blue company colours worn by the other two.

To make room in the company hangar a fourth UH-60A, which was acquired for spares, has been moved outside. 82-23753 has been denuded of all useable equipment and is pictured at Parafield January 26. The remains of the aircraft have been sold (presumably for scrap) and await removal. [Rod Brown AB 18201/Facebook/Nathan Rundle]



Image copyright Rod Brown

## INTERNATIONAL

Tangent Link has announced the dates and locations for its series of two-day 2023 Aerial Fire Fighting conferences and exhibitions in the USA, Australia and Europe. The company has also undertaken successful events on Electronic Warfare (the next due in 2024) and Search and Rescue (no future date yet available).

**3-4 April 2023 Aerial Fire Fighting – Pacific Northwest Wildfire Conference and Exhibition**, will be held in Seattle, Washington, USA

**2-3 August 2023 Aerial Fire Fighting – Asia Pacific Conference and Exhibition**, to be held at the New South Wales Fire Service Training Academy, Dubbo, Regional Airport, New South Wales, Australia

**16-17 October 2023 Aerial Fire Fighting – Europe Conference and Exhibition**, will be in Athens, Greece

Each of the events will be organised by Tangent Link based at the Chilterns House Business Centre, Eton Place, 64 High Street, Burnham, SL1 7JT UK. t: +44 (0) 1628 660 400. They also have offices in Tallin, Estonia and South Nowra, New South Wales, Australia. Details available at [www.tangentlink.com](http://www.tangentlink.com)

## UNITED STATES

**CONNECTICUT:** Kaman have gain cancelled production of the K-Max helicopter after announcing it was being restarted in 2015. The type was used in several high risk fields including logging, firefighting, construction work. All tended to be at low level and requiring lots of hovering at max power. The type was used in limited numbers working for the police in Peru and in supporting the US military in drone like autonomous resupply flights. Regardless of its little successes it never captured anyone's imagination enough to lead to large scale production.



The K-Max first flew in December 1991 and the initial production run ended in 2003. Although only 60 of the type were produced over the 31 year span, they were quite popular with their crews. Sixteen were reported to have crashed over the years - 27% of the fleet. It is possible that one day someone might step forward to again restart limited production but it clearly will never be a world beater in terms of numbers.

**TEXAS:** Air Tractor recently celebrated the delivery of its 1,000th AT-802A at the employee-owned plant in Olney, Texas. The 802 is the largest single-engine crop-duster in production and its unique capabilities have given it the rare distinction of fundamentally changing the industries that use it.



Air Tractor

It was 1989 when Leland Snow began designing a large capacity, single engine airplane specifically for aerial firefighting. He believed it would have a positive impact in that industry. After more than two years of design, modification, certification, and manufacture, the first production single-seat AT-802A air tanker rolled out the doors of Plant 3 in 1993. No one really knew how popular it would become. The production rate initially was one 802 in a month or two, but now they are built in a matter of days.

The AT-502B was the company's largest and best-selling airplane until the AT-802 project began. And the design and production of the first 802s was a whole new order of scale. The 802 was like a monster compared to what the company had been building. Even getting it out of the production facility caused prob-

lems it was so tall. It may have been large but for firefighting use it was seen as a small, nimble aircraft ideal for dealing with wildfires. Today hundreds of the air tankers are in operation, from water scooping amphibians to wheeled versions that can be quickly filled with retardant at unimproved airfields close to fires to make multiple drops each day.

It wasn't long before Air Tractor produced the single-seat AT-802A for agricultural aerial spraying. As an 800-gallon (3,028L) ag plane, its popularity soared with aerial applicators. The Air Tractor 802 number 1,000 was delivered to a huge farm in Argentina that grows 110,000 acres of soybeans, cotton and corn.

AT802s have been adapted for use in oil spill clean-up, fuel hauling in remote areas, timber seeding and reforestation and coca crop eradication in South America. Air Tractor has also developed a military version of the aircraft and recently sold 75 of its Sky Warden close support aircraft to the U.S. Special Operations Command.

## SEARCH & RESCUE UKRAINE

**SEARCH AND RESCUE:** The first of the former United Kingdom military Westland Sea King helicopters donated to the war-torn country have arrived in the Ukraine to provide SAR services to the country.

According to images released by the Ukrainian Defence Ministry, at least one Sea King is in the Black Sea region. The UK has donated three Sea King helicopters, believed from a batch of retired airframes held by commercial operator HeliOps and used for commercial flight training on the type to the international market.

The precise version, or versions, supplied to Ukraine have not been revealed, but the Ukraine has issued a video of one of the aircraft and it appears to be a former Royal Navy Mark HU5, a type that retired in 2016.

The British Ministry of Defence previously announced the Royal Navy had trained ten Ukrainian crews and supporting engineers in a six-week course for the Sea King before it transferred three helicopters. Again, the only source of that training is with HeliOps. [Media/PAR]



Media

## UNITED KINGDOM

On January 12 the recently appointed Prime Minister of the United Kingdom was out touring Scotland and called in on the UK Coastguard Inverness Search and Rescue base. The two high profile visitors - Prime Minister Rishi Sunak and Secretary of State for Scotland Alister Jack were given a tour of the base and introduced to the expert teams who operate and maintain specialist aircraft, providing lifesaving services 24/7 on behalf of the Maritime and Coastguard Agency alongside partners across the UK emergency services.



Bristow

Meanwhile much further south the recently displaced fixed wing operations of 2Excel Aviation are settling into a new home at the small east coast Humberside Airport near Grimsby.

Their new offices are right opposite the quiet airport terminal building and shared with CHC, a company that these days has only a small operation supporting offshore wind farms. They are at the CHC building, Humberside International Airport, Kirmington, North Lincolnshire, DN39 6YH and have the use of nearby hangars for a surveillance fleet that placed 2Excel as the largest operator at Humberside overnight.

Later in this issue is the editors assessment of 2Excel today and into the immediate future as a government aircraft services provider.

## NEW YEAR, NEW IDEAS

*Tony Cowan MBE*

Those who are responsible for the security of the United Kingdom's borders, the Royal Navy and the Home Office (Department of the Interior) Border Force, may be forgiven for being pleased when the New Year began with several days of very poor weather in the English Channel. Weather that included strong, gale force winds and freezing temperatures. In the previous year, in 2022, the number of migrants arriving in the UK without permission, after crossing the English Channel in a small boat, mostly purpose built inflatables, rocketed from 28,526 in 2021 to 45,756 in 2022, an increase of 160%!

Although the migrants pay the criminal gangs, the people traffickers, many thousands of pounds for a place in an overcrowded inflatable boat, for a one-way ticket from a beach in northern France to England, they can't beat the weather. In the first three weeks of January there were Channel crossings on just two days. On the 2 January the UK Border Force 'rescued' 44 migrants from one boat, whilst the French coastguard were obliged to 'rescue' 80 migrants in two boats that were in distress in French waters. A further 106 migrants in two boats succeeded in crossing the Channel on the 17 January, bringing the total, those who landed in the UK, to 150. These numbers are very small when compared to January 2022 when 1,339 migrants arrived in 47 boats. Yes, the weather in the English Channel is an excellent deterrent, an excellent border guard!

Then, with an improvement in the weather, the result of an anti-cyclone (high pressure) over the UK, the 'flood gates' opened when, on Sunday, 22 January, 442 migrants in 10 boats were landed in the UK. This was despite the fact that French coast was being patrolled by a light aircraft, a Cessna C182, in the morning, at first light, and in the late afternoon, before sunset, on the previous day. Also, the European Border and Coastguard Agency (Frontex) patrolled the same coast with a Dornier 328 maritime patrol aircraft for some 4 hours and 15 minutes, at night, between 17:15 hrs and 21:30 hrs, between Dunkirk and the Baie de Somme, on Saturday, 21 January. However, without any figures for the number of migrants detained by the French, at sea, or on a secluded beach, there is no way of knowing how effective these flights may have been. These air patrols may have detected many hundreds of migrants intent on crossing the English Channel in an inflatable boat, and they may have deterred many more migrants too. Moreover, these patrols were certainly not 'persistent', with just one aircraft on the coast at anyone time, for just 8 out of 24 hours.

On Saturday and Sunday, 21-22 January the French coast, between Dunkirk and the Baie de Somme, was patrolled at sunrise and at sunset by a Cessna C182 N609PC. [Wikipedia Commons]



On the UK side of the median line the English Channel was, in January, patrolled with the usual fleet of aircraft, aircraft that we've become accustomed to in 2022. The Diamond DA62 MPP, based at Ostend, but operating from Lydd, the Tekever AR5 and AR3A drones and the Coastguard King Air which is now based at Humberside Airport. In addition, the Royal Air Force flew several sorties with their Beechcraft Shadow R1 surveillance aircraft. These sorties, by the RAF, included low level line searches along the Channel coast in Kent and a medium level 'barrier patrol', also along the Kent coast, with the crew of the

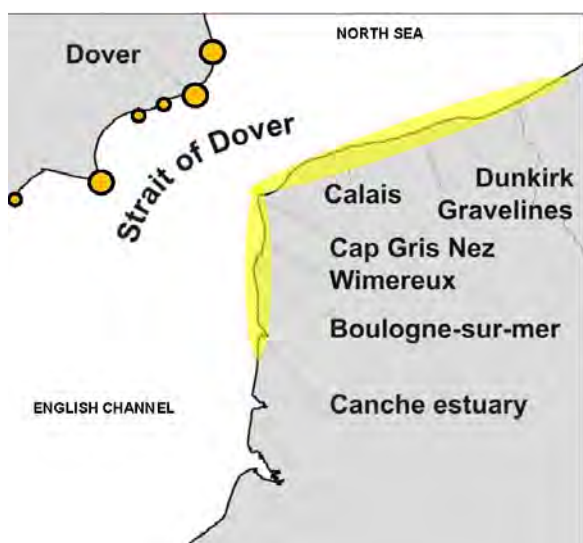


aircraft using a range of sensors to 'stare' across the Channel towards France. However, although all of these aircraft have and will continue to detect those boats carrying migrants across the Channel, there is little evidence of migrants, together with their boats, being 'detected and deterred' on the French side of the Channel, on the Cote d'Opale.



In January the RAF flew several sorties with their Shadow R1 surveillance aircraft, with the Crew using the aircraft's sensor package to 'stare' across the Channel towards France.

There was a further surge on Wednesday, 25 January in good weather; light winds with a low cloud base, a complete overcast at below 1,000. Weather which favoured the migrants, but which was far from ideal for both manned and unmanned aircraft. The total of number of migrants crossing in one day was 373 in 8 boats. A further 26 migrants crossed the Channel in one boat on the 28 January. Then, on Sunday, 29 January, 189 migrants were transferred at sea from 5 boats by the Border Force vessels, Hurricane, Typhoon and Volunteer and then landed at the Port of Dover. On the same day, the French coastguard 'rescued', 83 migrants from 2 boats in distress between Calais and Dunkirk. This brings the total number of migrants landed in the UK in January 2023, up to and including the 29 January, to 1,180 migrants in 27 boats, an average of 44 migrants per boat. In January 2022 the average was 28 migrants per boat. The inflatable boats, those carrying migrants, are certainly becoming bigger and the people traffickers are no less active this year than they were at the same time in 2022.

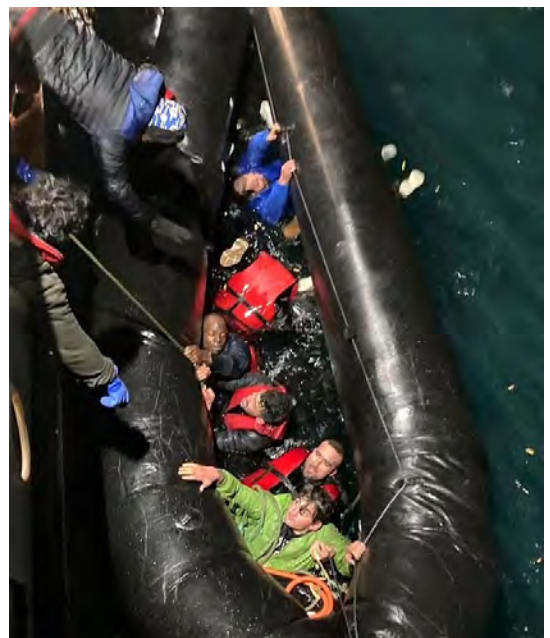


Sadly, without any means of knowing how many migrants set off on this perilous journey, often crossing the world's busiest shipping lane at night in a boat without navigation lights, in a boat which doesn't show up on a ship's radar, there will be accidents. In mid-December 2022 two boats, with 97 migrants on board, got into difficulty and began sinking in mid-Channel. Fortunately, the British fishing vessel, Arcturus was close by and its crew rescued 39 of the migrants. Rescue forces, ships and helicopters were quickly on scene and rescued a further 50 migrants from the second boat. Nevertheless, 4 migrants perished and 4 are still missing. Without boarding cards and without a passenger manifest there's no way of knowing how many migrants leave France and then disappear at sea!

In mid-December 2022 two boats carrying 97 migrants sank in mid-Channel. Four migrants lost their lives and four are still missing. Skipper Ray Strachan and the crew of the British fishing vessel, Arcturus rescued 39 of the migrants.



Major General Duncan Capps CBE, He is the newly appointed Director of the Home Office Small Boats Operational Command.



The New Year has seen political changes in the UK; the new Prime Minister, Rishi Sunak MP and the new Home Secretary, Suella Braverman KC MP have both stated their determination to secure the UK's borders in 2023. Moreover, a new person has been appointed to take charge of a new operational command. The former Home Office Clandestine Channel Threat Command has been disbanded and replaced by the Small Boats Operational Command with a new director, the recently retired, from the British Army, Major General Duncan Capps CBE.

Other new initiatives include a further grant of £63million (\$78million USD), to the French government, to improve security on the beaches of northern France with more 'boots in the ground', including UK Border Force 'observers', with more CCTV and with more drones. This is in addition to the £55million (\$68million USD) that was paid to the French government in 2021. It's also been recommended, to the Home Office, that light aircraft, 'spotter planes' patrolling the isolated French beaches between Dunkirk and the Baie de Somme, a distance of some 80 miles, would give a better result, as well as being more cost-effective than more drones and more CCTV. Moreover, as the weather improves and the days get longer the use of light aircraft, with their speed, their reach and, most importantly, their agility, becomes even more attractive, more viable for searching the beaches, the sand dunes and the forests of the Cote d'Opale. It is on these beaches where the French must succeed, where they must 'fight the battle' and, with the assistance of the UK Border Force, defeat the people traffickers.



The French Cote d'Opale, which borders the English Channel, has long, isolated beaches backed by sand dunes and forests. It is on these beaches where the French must succeed, where they must defeat the people traffickers, assisted by the UK Border Force.

Unfortunately, once the migrants are at sea, it would seem the French coastguard continue to escort overloaded inflatable boats, those carrying migrants, to mid-Channel, to just beyond the median line, where they inevitably run out of fuel! Then one, or several migrants will use a mobile 'phone to declare an emergency. His Majesty's Coastguard is then obliged to effect a rescue and the migrants are landed in the UK, usually at Dover. Many will agree that the French coastguard is part of the problem. Crossing the English Channel in a grossly overloaded inflatable boat with an unqualified person in charge is wrong and the French coastguard officers must know that it's wrong. This is an illegal activity, in which the French police and the French coastguard are, by failing to intervene, complicit. It is very obviously, a criminal act, an unauthorised commercial transport operation with money changing hands for the price of a ticket. A ticket which secures a place in an unseaworthy vessel under the command of a person without a certificate of competence!

One can only hope that the new initiatives for 2023, including the new entente cordial, together with the use of light aircraft to patrol the beaches of northern France, will work and that human trafficking, the vile trade in human lives between France and the UK, will be stopped, once and for all.

Note: *The author, Tony Cowan MBE is a former RAF maritime patrol pilot, also a former police pilot, a member of the North East Air Support Unit, and a former pilot with the Scottish Air Ambulance Service.*

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# INDUSTRY

In December **Airbus Helicopters** finalised the acquisition of ZF Luftfahrttechnik. With over 100 years of experience in the aviation industry, the company will now operate under the name Airbus Helicopters Technik GmbH as a wholly-owned subsidiary located in Kassel-Calden. The world-leading manufacturer of dynamic components for light and medium helicopters including related services with a global customer base is also a national leader with regards to the MRO for dynamic components of military helicopters. With this addition to Airbus Helicopters' portfolio, the company is broadening its range of MRO capabilities and secures additional competences in the area of dynamic systems.

Prior to the acquisition, the company was a subsidiary of the ZF Friedrichshafen AG. The company has delivered more than 10,000 gearboxes all over the world. It is a supplier of the H135 main gear box and has a share in the H145 programme. In 2021, the company achieved revenues of €94M and employed more than 450 people.

**BT (British Telecommunications)** has sealed a deal to create the world's largest drone super-highway in the United Kingdom.

The £5M agreement with Altitude Angel, a Reading (UK) and Amsterdam (Netherlands) based aviation company that specialises in unified traffic management

The UK government has given the go-ahead to for the world's largest and longest network of drone super-highways to be built. The drone superhighway will link cities and towns throughout the midlands to the southeast of the country, with the option to expand the corridor to any other locations in the country.

This new transport capability will be achieved by a consortium led by Reading-based UTM (Unified Traffic Management) solution provider, Altitude Angel, alongside BT, supplying expertise and connectivity through its mobile network, EE, and a number of UK tech start-ups. Together, the group will build and develop 165 miles (265km) of 'drone superhighways' connecting airspace above Reading, Oxford, Milton Keynes, Cambridge, Coventry, and Rugby over the next two years.

The government officially announced the project at Farnborough Air Show in July last year, this announcement relates to part of it.

Towns and cities along the superhighways and the businesses, and organisations within them will be able to benefit from automated drones at just the touch of a button: all flown safely and alongside other aviation.



Currently drones cannot be flown without a human pilot, except in rare circumstances usually involving a flight ban to other aircraft. The power of drones to transform lives and revolutionise business is inhibited by this situation since every drone requires the human in charge, and Skyway will obliterate the obstacle by enabling any drone manufacturer to connect a drone's guidance and communication systems into a

virtual superhighway system which takes care of guiding drones safely through 'corridors', onward to their destinations, using only a software integration.

Skyway doesn't rely on drones carrying specific onboard sensors to 'see' other aerial traffic: - the elusive "sense and avoid" - instead, it proposes to put higher-power, better sensors from multiple manufacturers on the ground, along a sensor network, which process in real-time to provide guidance. This means drones don't need to compromise payload, range or efficiency and can 'tap into' even higher resolution data, from multiple sensors, from the ground-based network.

*Editor: Media editorials claim the move will significantly reduce the number of lorry loads from the roads. At this initial stage the transported loads will be so light that there will be no impact at all on the existing surface traffic. If the concept is proven to be safe we can expect the size and capability of the system components to grow over coming decades.*

*As for the statement 'over the next two years' it may be worth recalling that BT is also involved with the building of the infrastructure of the Emergency Services Network (ESN) and that is currently running more than a decade late – mainly due to the late build of controlling towers. This then is yet another dream that may yet turn into someone else's nightmare.*

*A further caution on this relating to the statement about negating the need for sophisticated sensors and individual pilots, these will still be needed for craft to enter and leave the system.*

**EHang**, the China based maker of autonomous aerial vehicles (AAVs) that can carry passengers or deliver cargoes has formed a new strategic partnership that has brought in new capital. The tie-up will see Qingdao West Coast New Area, a government body from the north-eastern city of Qingdao, provide EHang with \$10M in fresh capital by buying new shares in the company.

This strategic investment and business partnership is a significant milestone for EHang's long-term growth. With more funding and strong product demands in the Qingdao local market, which is estimated to reach the level of RMB100 million in two years, EHang expects to accelerate the development of Qingdao's AAV industry through new aviation business and low-altitude economy. We believe our cooperation will propel Qingdao to be a world-class, innovative UAM application demonstration area with comprehensive AAV industrial chains and commercial operations."

While the deal won't close until the first quarter of 2023, EHang has already received the yuan equivalent of the amount and plans to use the funds as working capital and for general purposes. And should it require more money, Qingdao West Coast New Area or its affiliates may invest another \$10 million down the road.

Based on EHang's latest market value of about \$400M, the investment could leave the Qingdao entity holding up to 5% of EHang's shares.

While the new alliance sounds pretty good, the capital infusion also highlights the financial difficulties EHang, which was founded in 2014, is facing as it tries to commercialize its technology.

EHang's major deals to date include a pre-order of 100 units of its 216 series of air vehicles from Prestige Aviation in Indonesia in April, which followed agreements to sell 50 units of the same model each to Aerotree Flight Services of Malaysia and AirX Inc. of Japan.

The company is in the final phase of meeting safety requirements of China's Civil Aviation Administration (CAAC). This means EHang just needs to go through the last safety reviews to obtain the world's first airworthiness certificate for unmanned aircraft systems to carry humans. [Seeking Alpha]

Sensor solutions provider **HENSOLDT** is developing sensor equipment that can be integrated into a pod to give the recently commissioned Eurodrone a signals intelligence (SIGINT) capability. The sensor technology for reconnaissance of radio and radar signals is based on a combination of the latest technologies in digitisation, electronic beam steering and metallic 3D printing, some of which HENSOLDT has already developed in its "Kalaetron" product family. The contract for the implementation and testing of a SIGINT demonstrator worth approximately 15 million euros has now been awarded by the Federal Office of Bundeswehr Equipment, Information Technology and In-Service Support (BAAINBw).

On its own initiative, HENSOLDT has already demonstrated its communications reconnaissance capabilities (C-ESM) in ground and flight tests. The core elements of the system are a fully digitalised, broadband receiver, an electronically controllable antenna and a condensed structure of the electronic components that was only made possible by metallic 3D printing. In combination, these elements allow the SIGINT equipment to be incorporated into a compact pod system that can be easily integrated into flying platforms, but also scaled for sea and land applications.



Hensoldt

**Tecnam** has unveiled its new company logo, a fresh and modern update that reflects the company's evolution and growth.

The company, founded in 1948 by two brothers, Luigi and Giovanni Pascale, spanning across several aviation eras, initially with Partenavia then, in the 80's, with Tecnam. When the



Pascale brothers founded Tecnam, the General Aviation market was going through one of its most difficult times. Tecnam's mission at the time was to produce parts for other manufacturers such as Boeing, ATR, Agusta-Westland. In the 90's, Tecnam took a leading position in the industry by guiding the Light Sport Aviation revolution and today stands on the podium among the top General Aviation manufacturers in the world. Annually Tecnam delivers hundreds of planes to the most recognized flight training organizations, commercial operators and private owners in every single corner of the eastern and western hemispheres. The Tecnam logo that characterized many years of aviation did a great job during the years, making these Italian aircraft recognized worldwide. To celebrate the important milestone of 75 years in aviation, the Pascale family decided to evolve the current logo to combine both the heritage with the challenges of the future, inspiring a new vision of freedom, passion for flying and care for the planet.

As a prominent representation of the company, people and brand, the new logo is dynamic, modern and energetic.

**Vislink** announced that it has recently received orders valued in excess of \$2M for HD (high-definition) airborne video downlink system ("AVDS") equipment from law enforcement agencies in the U.S and Canada. The orders are comprised of comprehensive, automated surveillance and observation transmission and receive systems, long-range tactical handheld devices, as well as related componentry and managed client support services. This is consistent with Vislink's goal of providing comprehensive turnkey solutions that give its clients a single project management contact point.

**Nova Systems** will open an all-in-one facility for design, production and maintenance of airborne mission systems at Corsham Science Park, to support work on major search and rescue and airborne law enforcement projects.

The new facility will include a systems integration laboratory for performing mission equipment integration testing, as well as trial new technologies for adoption.

The Nova Systems' design team will be augmented at Corsham - in addition to our Bournemouth and Bristol sites - providing synergies between design, production and maintenance.



Nova

The presence at Corsham Science Park is positioning Nova Systems for growth in the airborne special missions market, the technologies developed at the new facility will ultimately support airborne public safety uses and will be deployed on the helicopters destined for service with the UK Second-Generation Search and Rescue programme (UKSAR2G) and the Dutch Caribbean Coast Guard (DCCG). Corsham Science Park is a new development of 20 commercial units in Corsham, Wiltshire.

The **Hangar Z Podcast** recruited the public safety aviation industry's brightest leaders to produce an episode on Leadership, and leadership challenges facing public safety aviation today.

Leadership is a topic that is constantly on the radar of those in the public safety aviation industry. Bryan Smith reported that "Over the years I sent out the ALEA/APSA safety survey and consistently one of the top four 'safety concerns' was problems with management or administration. It is disturbing to see that listed as a problem along with IIMC, engine failures, mid-air crashes, etc.

This group of leaders includes Clay Lacey from Texas DPS, Terry Miyauchi retired from Arizona DPS and is currently at Bell Flight, Jack Schonely retired from LAPD, Bryan Smith a current law enforcement pilot in Florida and previous Safety Program Manager for the Airborne Public Safety Association and Eric Weidner retired from the Ontario (California) Police Department now the Chief Operations Officer at CNC Technologies.

Each of these leaders are giants in the industry and has travelled the globe instructing and promoting the



public safety aviation industry. Getting them all together for this event was truly special. The Hangar Z Podcast and this special episode are available anywhere you listen to Podcasts. The links below are for Apple Podcasts and Spotify.

Apple Podcasts

<https://podcasts.apple.com/us/podcast/the-hangar-z-leadership-summit-2023/id1527649477?i=1000596019218>

Spotify

[https://open.spotify.com/episode/1Uqa6MslzMdJPfFsTuTbbz?si=FNmoK\\_2CQROtWHZkuFY-mg](https://open.spotify.com/episode/1Uqa6MslzMdJPfFsTuTbbz?si=FNmoK_2CQROtWHZkuFY-mg)

Early last month the **Bristow Group Inc.** and its subsidiaries announced that it has entered into two thirteen-year secured equipment financings for an aggregate amount up to £145M with National Westminster Bank Plc (NatWest). The proceeds from the financings will be used to refinance the indebtedness of the previous equipment financing facilities with Lombard North Central Plc, refinance the aircraft financed thereby, and provide additional financing to support Bristow's obligations under its contracts with the Department for Transport and the Maritime & Coastguard Agency of the United Kingdom.

The 19-seat Dornier 228 twin-engine hydrogen testbed aircraft has taken to the sky as part of the HyFlyer II project. The milestone moves **ZeroAvia** forward on the way to meeting target of commercial flights using only hydrogen fuel cell power by 2025, and potentially scaling the engine technology to larger airframes.

This becomes the largest aircraft in the world to be powered by a hydrogen-electric engine – so far. The full-size prototype hydrogen-electric powertrain is installed on the on the left wing of the aircraft, with the standard Honeywell TPE-331 engine retained on the right wing. In this testing configuration, the hydrogen-electric powertrain comprises two fuel cell stacks, with lithium-ion battery packs providing peak power support during take-off and adding additional redundancy for safe testing. In this testbed configuration, hydrogen tanks and fuel cell power generation systems were housed inside the cabin. In a commercial configuration, external storage would be used and the seats restored.

The successful 10-minute first flight took place at Cotswold Airport, Kemble, Gloucestershire, UK, marking an important milestone in ZeroAvia's HyFlyer II programme.

All systems performed as expected. This is the largest ZeroAvia engine tested to date, and places the company on the direct path to a certifiable configuration to be finalized and submitted for certification in 2023, with this programme also serving as key to unlocking speedy technology development for larger air-

Proposed layout for a hydrogen powered Cessna 208



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craft. ZeroAvia's 2-5 MW powertrain programme, already underway, will scale the clean engine technology for up to 90-seat aircraft, with further expansion into narrowbody aircraft demonstrators over the next decade.

ZeroAvia will now work towards its certifiable configuration in order to deliver commercial routes using the technology by 2025. The Dornier 228 will conduct a series of test flights from Kemble and later demonstration flights from other airports. Almost exactly two years ago, ZeroAvia conducted the first of more than 30 flights of a six-seat Piper Malibu aircraft using a 250kW hydrogen-electric powertrain.

**Telefónica and Alpha Unmanned Systems (AUS)** become priority partners for business opportunities in 5G communications and unmanned helicopters in the defence and security market.

AUS, based in Madrid, Spain, announced the new collaboration agreement with Telefónica to support each other in joint business opportunities. Telefónica becomes AUS's priority partner when its customers need 5G communication services, while the Madrid-based company will be AUS's partner when unmanned helicopters are required.

Alpha's A800 and A900 platforms are designed for both civilian and military/security use.

Founded in 2014 has made direct international sales to both institutional organizations (governments and armed forces) and private entities, with recurring clients in Spain, Israel, USA, Greece, Indonesia, Georgia, Turkey, European Union, etc.

*Editor: Not to be entirely dismissed in the wider parts of industry with 2Excel revealing they are working towards the use of modified 5G cell phone technology in their fixed wing aircraft fleet. This of course potentially leaping ahead of the 4G technology being introduced by the troubled and late ESN replacement for Airwave.*

UK aircraft manufacturer **Britten-Norman** is entering a partnership with telecoms innovator Stratospheric Platforms Ltd. The telecoms developer is pioneering the concept of extending 5G connectivity using aircraft to expand coverage as "masts in the sky".

Stratospheric Platforms has selected the Islander BN2T-4S as a test platform. The aircraft will be used for airborne trials of Stratospheric Platforms' advanced technology for the delivery of mobile connectivity

More than a decade ago fixed wing aircraft manufacturer Britten-Norman moved its main operation from the Isle of Wight to the mainland and took up space at the former RNAS Daedalus at Gosport. Although retaining a presence at Bembridge on the Isle of Wight the aircraft manufacturer has now further extended its presence at what is now Solent Airport after signing a new 15-year lease of its civil aircraft manufacturing and maintenance facilities.

The company has extended its lease for its third purpose-built hangar which is part of Fareham Borough Council's economic hub. The signing of the new lease signals a period of growth, innovation, and further success across its 34,000sq ft. facility.

The manufacturer has purchased 9 aircraft from the UK Ministry of Defence to repurpose and reinvent for the civilian market, these aircraft include examples of the BN2T-4S.

Since moving its airside operations to the airport in 2010, Britten-Norman thus far created over 100 job skilled opportunities and invested over £20M into the local community.

Britten-Norman and US flight control systems developer **Genesys Aerosystems** are collaborating to certify the latest S-TEC 3100 autopilot system on Britten-Norman's range of Islander aircraft. The modification will be available as standard on all new aircraft as well as retrofit.

Britten-Norman's Chief Executive, William Hynett, commented "Our Technical Capabilities team keeps the Islander's aircraft systems under constant review, looking for affordable technology that will complement the Islander and enhance customer experience. Whilst we are firmly focussed on the development of our next generation of zero-carbon aircraft, we feel that it is equally essential that we provide focussed support to our highly valued, long-standing customers. Introducing affordable upgrades to the retrofit market is a key part of that strategy."

The S-TEC 3100 autopilot solution has proven to be a success in the general aviation sector due to its easy integration and affordability. The S-TEC 3100 Digital Flight Control System (DFCS) is an attitude-based autopilot that gives pilots a list of workload-reducing and safety-enhancing capabilities that were





previously unavailable on aftermarket autopilots.

When upgrading from an existing S-TEC autopilot you may be able to save costs by reusing existing installed servos and other installation kit items, thereby requiring less installation labour time. This makes the S-TEC 3100 upgrade more economical compared to a new installation from other systems.

Genesys Aerosystems and Britten-Norman started work together on testing and installing the S-TEC 3100 at Britten-Norman's MRO facility at Solent Airport, Daedalus from December last year. The modification for the Islander is due to be released in Spring 2023. Advanced orders can be placed through Britten-Norman's Customer Care team.

In an unexpected move Britten Norman has gained United States Federal Aviation Administration (FAA) type certification for the Rolls Royce model 250 powered BN2T-4S Islander turboprop aircraft. The BN2T-4S is the larger variant of the piston BN2B Islander and comes with an increased MTOW of 8,500lbs. Certification is included under FAA Type Certificate reference A17EU Revision 22.

Britten Norman see this as an important milestone and compliments existing type certificates for the aircraft with the UK CAA and EASA. The new certification opens up new markets for the company in the USA and internationally. Britten-Norman holds a stock of factory refurbished pre-owned aircraft.

Britten-Norman is currently progressing type certification approval for the BN2T-4S Islander in India and Canada.

**Sikorsky** recently delivered its 5,000th "Hawk" variant helicopter to the US Army as a UH-60M Blackhawk. Even as the US Government was stating it had selected a Bell product as its replacement going forward the type retains a significant production future. The iconic aircraft will continue to support medium-lift requirements for the U.S. military and international operators for decades into the future. Sikorsky's workforce manufactures the latest generation of Hawk aircraft built in Stratford, and there is high international demand for the Sikorsky S-70 Black Hawk, manufactured by Lockheed Martin's PZL Mielec facility in Poland. More than 35 international customers operate the Black Hawk thanks to its global support network and continued modernization.



The Royal Thai Air Force has placed orders for more than thirty (30) **Diamond aircraft** for multiple applications since 2008. Their newest three DA42 MPP, which will be added to the surveillance and reconnaissance fleet at wing 402, are equipped with high-end sensor technology to support the country in fast collecting environmental data used for disaster relief and monitoring, generation of flood models, surveillance of terrain as well as change-detection and other applications. The aircraft are in a changeable configuration and ready to be used also with existing surveillance and reconnaissance mission systems. The latest three DA42 MPP were delivered with an extensive package of ground processing stations, spare parts, trainings and a purchase and development program.

Over the last 12 years, Royal Thai Airforce has proven that the DA42 MPP concept as a highly efficient and reliable concept to meet their needs.

**Leonardo** and the Italian Secretariat General of Defence/National Armaments Directorate sign AW169M LUH Contract for Austria to exercise options for additional helicopters

The €304M contract for additional 18 helicopters follows the Italy-Austria Government-to-Government (G2G) Agreement amendment signed in December 2022 and brings to 36 the total number of AW169M LUH for the Austrian MoD

The Italy-Austria G2G initiative is aimed at reinforcing the bilateral collaboration between the two countries and establishing a strategic partnership in the rotorcraft sector

The AW169M LUHs will be able to carry out a wide range of missions supporting Austrian defence requirements and the national community, including troop transport, combat operations, disaster relief and emergency response, fire-fighting, mountain rescue and MEDEVAC.

The delivery represents an important milestone for Leonardo, celebrating the first delivery to the export market of the AW169M variant under a G2G programme. Austrian crews have already been training at Leonardo's Training Academy in Sesto Calende (Italy) and will be supported by the Italian Army's training capabilities. Deliveries of all aircraft are expected to be completed by 2028.

The AW169M is a replacement for the Alouette III aircraft fleet, which have been in service since the 1960s and assigned to several law enforcement roles including border patrol. The capabilities of the new type far outstrip those of the Alouette.

**Britain's Arc Aero Systems**, formerly Samad Aerospace, has put forth its vision for a "cost-effective, low-carbon solution to intercity travel." The hybrid Linx P9 promises to beat comparably sized helicopters on range, speed and operating cost and to be looking to adopt sustainable fuel or even hydrogen power.

The airframe has the appearance of a hybrid between a plane, a helicopter and a gyroplane – a full composite design weighing just 4,255 lb (1,930 kg) empty. The nine-seat cabin resembles something the Airbus might produce married to a slender, 41 foot (12.6 metre) main wing, with a pair of 6 feet 6 inch (2 metre) pusher props hanging off the back, as well as a sizeable tail surface and fins.

At over 42 feet (13 metres) the main rotor is pitch-controllable but does not interact with either a tail rotor or collective. In many ways it is like a gyroplane – but they have unpowered main rotors. Like the later Cierva Autogiros of the 1930s, the Linx P9 uses pre-spinning of the rotor to enable vertical lift from the ground. Where Cierva used a mechanical link from the engine the Linx uses an electric motor to pre-spin the rotor.



In normal flight driven by the pusher props the wings take over 90% of the lift duties, and the top rotor can be slowed right down. This reduces drag, and also more or less eliminates the asymmetrical lift that helicopters develop due to retreating blade stall. It is claimed these features will enable a maximum cruise speed of 230 mph (370 km/h), a speed which has only been exceeded the Westland Lynx and next-generation exotics like the similarly configured Eurocopter X3 and the Sikorsky X2.

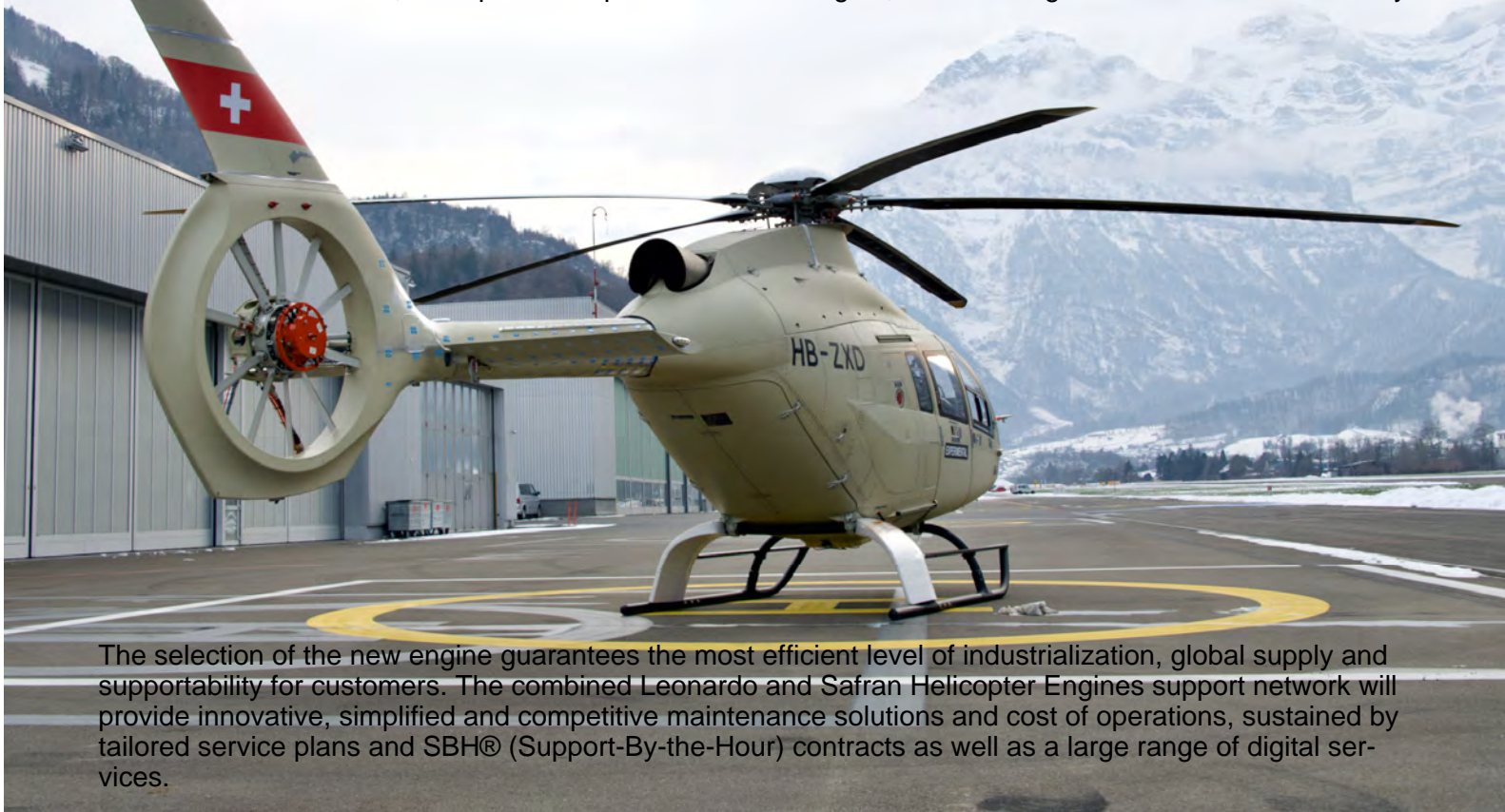
In 2022, **Airbus Helicopters** logged 374 gross orders (net: 362), highlighting the ongoing market recovery with an impressive 216 light single engine helicopters sold. Deliveries increased from 338 in 2021 to 344 in 2022, contributing to Airbus Helicopters' preliminary 52% share of the civil and parapublic market. Airbus' helicopter fleet flight hours are now back to pre-COVID 2019 levels.

The first ACH160 was delivered to a Brazilian customer, transported by an Airbus Beluga, in July 2022. Shortly after, All Nippon Helicopter's H160 entered into service in Japan and the French Navy took delivery of the first H160 for SAR operations. In October, the Company delivered the first H135s to the Spanish Ministry of Interior following the major order just ten months prior.

Significant support and services contracts were signed for both the civil and military range. Highlights include an NH Industries contract with NAHEMA for the French and German NH90s, a follow-on contract with the US Army for more than 480 UH-72A and UH-72B Lakota helicopters. The Helicopter Company signed In-Service HCare contracts for its fleet of 20 H145s and six ACH160s.

The **Leonardo/Kopter AW09** is the Leonardo Helicopter Division's five-to-eight seat, single-engine multi-role helicopter which is currently under development at Kopter's facilities in Mollis, Switzerland. It is a clean-sheet design amongst a market sector dominated by decades-old airframe designs. The first prototype P1 first flew on 2 October 2014 with a Honeywell HTS900 powerplant and the programme was taken over by Leonardo in 2020.

Last week Leonardo and Safran Helicopter Engines announced they have joined forces to further enhance the capabilities and competitiveness of the next generation AW09 single-engine helicopter. The production aircraft will feature the 1,000shp class of power Arriel 2K engine, the newest generation of the Arriel family.



The selection of the new engine guarantees the most efficient level of industrialization, global supply and supportability for customers. The combined Leonardo and Safran Helicopter Engines support network will provide innovative, simplified and competitive maintenance solutions and cost of operations, sustained by tailored service plans and SBH® (Support-By-the-Hour) contracts as well as a large range of digital services.

The new propulsion system is already installed on the latest AW09 prototype, PS4 (Pre Series 4), which is about to start flight test activities in Mollis. PS4 includes all developments implemented and tested on P3, the previous prototype, allowing to reach the AW09 final configuration. PS5, the next and final prototype is planned to follow later in 2023.

There may be a sense of doom and gloom circulating around the unclear fate of **Doncaster Sheffield** Airport but there appears to be a silver lining there somewhere as well.

In the last few days of January no less than eleven aerospace jobs have been announced in 'Doncaster' and they are not just part of the expansion of 2Excel Aviation.

2Excel themselves are seeking five people to fill a range of posts in and around DSA - a Project Co-Ordinator, a Trials Management Officer, a Deputy Head of Design, a Compliance Verification Engineer and a Design and Certification Engineer. Down the road at Retford, the air surveillance company DEA Aviation are seeking a Dispatch Coordinator and even Tekever Ltd the Portuguese drone manufacturer mainly having a high profile in the English Channel are advertising in Doncaster for an Air Safety and Regulations Assistant, although it seems it is not strictly a local task.



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# ACCIDENTS AND INCIDENTS

**5 January 2023 Pilatus PC-12/47 5Y-FDF** Air ambulance of AMREF Flying Doctors Suffered a front wheel collapse landing at Kenneth Kaunda International airport, Zambia. No injuries reported. Damage minor.

**18 January 2023 Airbus Helicopters EC225 Super Puma 54.** Interior ministry helicopter. Crashed near a kindergarten school in Brovary, Kyiv, Ukraine killing 14 people including six members of the interior ministry and others on the ground including three children, another 25 being injured. Of the three most senior Interior Ministry deaths Interior Minister Denys Monastyrsky, 42, died alongside his first deputy minister Yevhen Yenin, state secretary Yuri Lubkovich. Mr Monastyrsky is the highest profile Ukrainian casualty since the war began in 2022. Other reports state that Tetiana Shutyak, the deputy head of the patronage service, two security guards, a photographer, the Head of the Protection Department of the Internal Security Department of the National Police Lt Col Mykhailo Pavlushko, Lead Inspector of the Communications Department of the Ministry of Internal Affairs Nikolay Anatsky, and the on-board mechanic of the special-purpose aviation squadron, warrant officer of the Civil Protection Service Ivan Kasyanov, along with pilots Alexander Vasylenko and Konstantin Kovalenko. There is no indication the crash was anything other than an accident, it was daylight but very foggy and there was no electricity and therefore no lights on the buildings. [Suspilne]

**24 January 2023 Helicopter (Bell 407 N312ST?)** Michigan State Police. Trooper 2 patrol helicopter was illuminated by laser and came under gunfire while operating over Detroit. A 33-years old male suspect first flashed a laser at the helicopter, then shot at it, over the 12850 block of Terry Street near Tyler Avenue. MSP Troopers responded and approached the home on foot, they came under fire, the man came out of the home and started firing at them as they overflew at 1,500 feet and they returned fire. The suspect died at the scene. Trooper Two landed at Willow Run Airport for inspection shortly, thereafter, determining the aircraft was not hit. [Media]

## SAFETY

Early in January the Federal Aviation Administration (FAA) announced that the United States (US) Notice to Air Missions (NOTAM) system had failed. For a period, no new NOTAMs or new amendments were processed.

On January 11, 2023, at 12:23 UTC, the FAA ordered all airlines to halt domestic departures in the US until at least 9:30 AM Eastern (14:30 UTC) to "validate the integrity of flight and safety information." By 13:50 UTC, the agency indicated that normal operations were resuming gradually and the ground stop, which ordered all airlines to halt domestic departures, was lifted.

More than 21,000 flights were scheduled to take off in the U.S. on Wednesday, mostly domestic trips, and about 1,840 international flights were scheduled to fly to the U.S. Some medical flights were able to get clearance, and the outage did not affect military operations.

Although the White House initially said there was no evidence of a cyberattack, President Biden directed the Department of Transportation to investigate the cause of the disruption.

Quickly it was established that the system failure of The Federal Aviation Administration (FAA)'s Notice to Air Missions (NOTAM) was caused by personnel neglecting operating procedures, which resulted in flight disruptions across the USA. The system, still at least six years away from an upgrade, is based on 1990s technology. The agency's 'preliminary work has traced the outage to a damaged database file'.

EASA and the manufacturer of the BO105 and BK117 (Airbus Helicopters Deutschland GmbH), have issued an urgent directive – an Emergency Alert Service Bulletin - relating to the swashplate on the helicopters MRB. The issue relates to a range of different models and subtypes through to the modern BK-117D2/H145.

An occurrence was reported of finding an affected part with a missing inner ring. Investigations are still on going to identify the root cause of this event. This condition, if not detected and corrected, could lead to loss of control of the helicopter. To address this potential unsafe condition, AH issued the ASB to provide applicable instructions. This AD requires a check of proper installation of the swashplate inner ring and, depending on findings, corrective actions.

Before next flight after the effective date of the AD, operators were to inspect the affected part in accordance with the instructions of the ASB and if it is determined that the swashplate inner ring is not installed, or if it can-



not be determined that the swashplate inner ring is installed, before next flight, contact AHD to obtain approved remedial instructions.

In the heat of the chase for an armed suspect, the operator of a York Regional Police, Canada, surveillance drone didn't tell air traffic control (as required) they were operating near a busy airport in Toronto. The drone collided with a Cessna 172 C-GKWL in August of 2021. The police pilot told investigators he thought the area about 1.2 nautical miles off the end of Buttonville Airport's Runway 15 was free of traffic and he put the 13.5-pound DJI Matrice M210 into a hover at 400 feet AGL.

The instructor and student in the 172 were on final when they heard and felt a significant impact and assumed they'd hit a bird. They continued the approach and landed normally and discovered the extensive damage to the cowl on the ramp.

The report says the pilots didn't see the drone and the drone pilot may have been "task saturated." It also said the spotter the pilot had asked to monitor the drone visually wasn't trained and didn't know he was supposed to be able to see the aircraft at all times. Since the mishap, the police force has rewritten its drone procedures to ensure all the rules are followed and that all personnel involved in drone operations are properly trained. [TSB/Russ Niles AvWeb]

## UNMANNED

Drones flying at up to 90mph "could soon be delivering" lifesaving medical supplies within minutes.

Emergency operators will be trained to send of machines loaded with EpiPens or defibrillators as soon as someone calls the emergency number.

US company Blueflite claims its drones, currently on trial, were aiming at near instant delivery to anyone within a 10-mile radius.

On arrival the machine would hover and drop the equipment to the patient who they would "identify" with a camera.

This proposal was announced at the Consumer Electronics Show in Las Vegas and relates to negotiations with a US ambulance company, Acadian Ambulance, but is also linked to talks they are having with companies in Ireland and the United Kingdom.

*Editor: Clearly not a service for everyone, first the prospective patient would need to be known to the delivery company and within 10 miles of the drone that might deliver and drop medication on them (is that legal?). That is a lot of drones sitting around waiting for a patient to need an EpiPen! It may be cheaper to donate a pen (and defibrillator) for when they go out!*

### SKYDIO2

The maiden voyage of the Skydio 2, which has been on order since June and arrived early January, went exceptionally well. I'm amazed at how far drone technology has progressed since my first very basic, difficult to fly, Arduino board controlled quad back in 2012. Bravo Skydio corporation! This baby is assembled in America (Silicon Valley in fact) and essentially flies itself! It's not as stable as

the DJI Mavic Pro in wind, but the collision avoidance features are amazing and more than make up for it. It has 3 cameras on top and three on the bottom, and it's nearly impossible to run it into an obstruction. In fact, I put it in tracking mode and walked under a tree with few leaves. It stopped, repositioned, and flew around the tree avoiding the branches. Pretty cool stuff. It's been dubbed the "selfie" drone, but with the optional hand controller it's a regular drone. The controller is kind of wonky (but those with video game experience will like it), and it will only accommodate a cell phone. But the drone also comes with a wand controller. It's pretty cool, and you can impress all your Harry Potter fan friends as they watch you control your drone with flourishing arm movements!!! [Mark Colborn TX]



### LIFESAVER

We all know about Counter Drone technology in its wide range of forms but equally most are aware that it is not something we can deploy at mere whim. The ICAO rules still state that interfering with the flight of an errant drone – even if it is carrying a bomb - is hijacking.

Not all nations take on that principle so allowing manufacturers to operate. DroneShield's counter-UAS system helped protect Brazil's president-elect from suspicious drone activity during the nation's recent presidential inauguration ceremony, shooting down four unknown drones. During the ceremony, it was confirmed that the Brazilian federal police used the DroneShield counter-UAS system to "neutralise" four suspicious drones that were seen moving towards the president.

The company's counter-UAS system is a handheld product that emits jamming frequencies to overcome a variety of uncrewed aerial threats. Typically, drones respond to the jamming by returning to the remote control, starting point, or by vertically landing.

In Brasilia, the Planalto Palace ceremony, which was attended by tens of thousands of supporters, saw Lula da Silva return to office for the third time. Despite the security threats, 77-year-old President Luiz Inácio Lula da Silva continued by taking part

## PEOPLE

One of the advertisements for new Border Force staff to be placed with the Small Boats Operational Command (SBOC), calls for two Liaison Officers to operate as embeds within the Centre of Cooperation and Information Centre (CCIC) and Joint Control Room (JCR) offices to manage small boat data exchange, assurance, and international engagement. The roles are focussed on ensuring the UK and overseas partners primarily France and Belgium currently are exchanging information effectively and provide a link into the UK landside operation as well as the upstream prevention work with overseas partners. The posts will be based in Dover or London with regular travel to Calais. Candidates will be expected to spend a minimum of three days a week in an office.

After 16 years with Essex & Herts Air Ambulance (EHAAT) Cliff Gale has retired as Operations Director. Cliff joined the charity back in 2007, having spent 30 years with Sussex Police where he gained hands-on experience managing the police air operation then based at Shoreham Airport - now Brighton International Airport. Since joining EHAAT he has helped the charity achieve numerous milestones whilst setting the foundation for its massive growth.



Cliff (above left) has been commended by his colleagues as helping to create clinical governance in pre-hospital care in the early days of air ambulance services. His achievements have been many, but probably the most notable are, playing an instrumental role in expanding the charity's operations into Hertfordshire, cementing EHAAT's future with its airbases at Earls Colne and North Weald, and purchasing its first owned helicopter.

Cliff won't be saying 'goodbye' completely though, as he will continue to work with the charity on a part-time basis to oversee the implementation of its carbon reduction strategy alongside other projects. However, he is handing over the 'operational reins' to Paul Curtis (above right) who becomes EHAAT's new Aviation & Operations Director.

Paul has over 25 years in the aviation industry piloting helicopters for the military, air ambulances, the police and for the offshore oil and gas industries. He has also flown for Jet2.com, flying Boeing 737's.



Smith Myers, the award-winning global specialist in the design, development, manufacture and support of application specific cellular network and handset capabilities has announced the appointment of Andrew Munro as Managing Director, alongside three new appointments to the Board. Smith Myers was founded in 1987 by Tony Smith and Peter Myers who remain as Board

Directors and continue to work in the business.

#### **Andrew Munro, Managing Director:**

Andrew joined Smith Myers as a Director in 2013 and was appointed to the Board in 2017. Previously, Andrew led Ultra Electronics Electronic Warfare Business in Canada. Other senior roles have included President at M2 Consulting, and Vice President Electronic Systems at Allen Vanguard. Prior to entering the Defence and Aerospace Private Sector, Andrew had a full operational career in the British Army in Signals Intelligence, Counter Terrorism and Counter IED.



#### **Simon Alford, Director - Software Architecture:**

Now in his 20th year at Smith Myers, Simon started on a "3-month contract" but quickly became an integral part of the team. Since then, he has been key in delivering 3 generations of Smith Myers products and bringing innovation and process changes into the software team. Simon graduated from the University of Southampton in 2001. Previous experience includes running his own start-up enterprise (Mobile Your Content) plus time as a developer at Tarantella Inc. based in Cambridge and California.



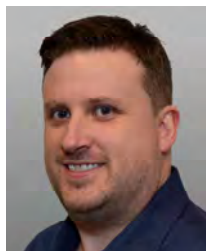
#### **John Gillespie, Director - Test Systems and Production:**

John graduated from Strathclyde University in 1983 with BSc in Electronics, then joined BAe Dynamics in the same year as a Test Package Design Engineer. Recruited from BAe by Smith Myers in January 1997 as a Senior Test/Production Engineer, John has been a focal point for the Companies test, production, and support. In 1999 John was promoted to Test System Manger and has led Smith Myers Production and Test department through a major transition to AS9100 accreditation.



#### **Nathan Herbert, Director - Hardware Development:**

Nathan joined Smith Myers in 1998 as an Apprentice, working as a Test Technician in the Test Department. Over the course of 25 years with Smith Myers, he has risen through several technical and customer facing roles within the company, ultimately leading the company's hardware design, development, and test activities during the recent transition into the Aerospace Sector. Nathan holds a deep understanding of customer needs and requirements in what is a quick-moving and highly demanding industry.



The company has focused on designing disruptive technology for Network Operators, Government Agencies, Law Enforcement, Military, and Search and Rescue organisations. The successful business model includes partnering with aircraft (crewed and uncrewed) and ground-based vehicle OEMs (Original Equipment Manufacturers) and integrators, including some of the world's largest organisations. Smith Myers ARTEMIS suite of SAR products has been in active service saving lives around the world since 2017 with the lead customer The Royal Norwegian Airforce on their Leonardo AW101 Search & Rescue Helicopter and other major players about to announce their adoption of the technology in the search and rescue marketplace.



# FEATURE ARTICLE

– 2Excel Aviation on the move

The Editor was invited to Humberside International Airport in the middle of last month to view the new home of 2Excel for a briefing on the operation now and into the future. It was to be a fact filled two hours and I hope that I have done them justice so close to their unplanned move. It probably helped that their partners in the UK SAR mission, Bristow Helicopters Limited, own a majority share of the airport at Humberside.

In November last year the UK emergency services aviation world suffered a minor ripple when the Peel Group decided to unilaterally close Doncaster Sheffield International Airport (DSA) and halt all further flying from there. The result was that several small airlines, some freight services, two flying schools and two emergency services operators were obliged to find a new operating base at very short notice.

As recounted several times in recent months, the two emergency services affected were the fixed wing operations of NPAS and 2Excel Aviation. The former set up a new home at Leeds Bradford Airport and 2Excel Aviation were obliged to split their DSA operation between Humberside International and Teesside International. They already have another base at Sywell, Northamptonshire but that is unsuitable for the aircraft operating out of DSA. Bases at Stansted Airport and Lasham Airfield were also ruled out. Effectively most of the thirty aircraft and over 400 employees the Group were likely to be affected in some way by the disruption. Perhaps fortunately the company was in a good position. After a difficult period brought about by Covid and Brexit, in the most recent financial year (reporting to 31 March 2022) the company was able to report a significant increase in revenue, a strong return to profitability and a strong balance sheet thanks in part to winning significant new contracts (SAR2G and OSRL surveillance). As has been evident, the company has been expanding its employee headcount (up 12.5% in the year and rising).

Thrusting several operations onto the market at the same time was always going to be difficult and the fact that all of them found somewhere to go in a very short period is remarkable. Even now the situation is evolving as valuable hangar space becomes available. There was no plan, the move was undertaken in an ad-hoc manner, a sensible structured move would have entailed years of planning, what came about took just two months and demonstrated the resilience of the company.

Retaining the original ideal facility at DSA resolves many problems associated with finding office accommodation while the legal wrangling continues over the future of the facility near Doncaster. The voluminous hangar there remains a giant empty void. Active plans to increase the number of hangars used by 2Excel at DSA are, at best, on hold but perhaps lost forever.

The shared offices within the CHC building at Humberside are crowded and, in many ways, dutifully reflect the urgency of the move just two months ago. There is no immediate chance for my host on the day Matt Tones, Head of Special Missions to get his own office space, the rooms are still a jumble of communal living. There are plans to move the crew rooms closer to the aircraft in the current hangar and that will help immensely.

Throughout the move the staff were a major concern. Some might gain from the relocation, but most were unlikely to. Retaining the DSA facility for office-based needs went some way towards alleviating hardship but a significant number of staff were obliged to change their day-to-day travel routines. In 2018, 2Excel Aviation became 51% employee owned through the creation of an Employee Ownership Trust.

## Oil Spill Response

The lack of suitable hangar space at Humberside obliged 2Excel to base the two large Oil Spill Response Boeing 727 based pollution spray aircraft they support at Teesside Airport. The pair can operate out of the airfield but the place has a history of only needing hangars for small airliners and helicopters and nothing was either available or suitable. The Boeings are 'poised' to meet a major world sea pollution emergency at short notice but so far, thankfully, have never been called upon to undertake the role to meet that real



Spray bars at the rear of the oil slick dispersal Boeing 727. [Farnborough. PAR]





A bustling apron in front of the current, soon to be added to, hangar. The hangar provides enough space but it is a tight fit after the more generous space at Doncaster. [PAR]

catastrophe that has not recurred. OSRL was created in the wake of the BP Gulf of Mexico oil spill – the drilling industry wanted, and pays for, an on-call jet to go anywhere in the world at four hours' notice. The two Boeing 727s are fitted with 2Excel's own designed, manufactured, installed and certified TERSUS dispersant system. The crews train weekly to maintain currency but the aircraft has only ever flown with fresh water onboard. They train with the harmless water spraying regularly but are otherwise tucked away under cover. The voluminous DSA hangars were ideal for housing them. Part of the contract that is active is a PA-31 assigned to UKCS that regularly patrols looking for oil spills around the coast of Britain. The support contract for the two Boeing's has recently been renewed.

As now the largest operator at Humberside 2Excel operates several twin engine aircraft on surveillance and they are now housed in modest former CHC hangars a few hundred yards from the CHC offices. It is a tight fit for the current fleet but more space is promised in a nearby hangar to allow for the impending future growth of the fleet to meet future projects the most important of which is UKSAR2. Last year it was announced that 2Excel were part of a consortium with Bristow Helicopters Ltd and Nova Systems awarded the Second Generation Search and Rescue contract by Maritime and Coastguard Agency.

### **Humberside International**

Airline traffic into and out of Humberside is restricted to 2-3 flights a day mainly operated by Eastern Airlines and KLM, typically to Aberdeen, Amsterdam and Esbjerg (Denmark), using such as the Jetstream 41. In the summer there are flights to Bulgaria and Spain and even Iceland. The terminal building facilities are surprisingly good for such low level of activity. Other regular flights are a range of platform support and governmental operations, the latter now boosted by the arrival of 2Excel.

### **The Fleet**

Due for delivery within weeks are two Diamond DA-62 aircraft. The pair are substantially complete and under test at the Diamond Aircraft factory in Wiener Neustadt, Austria. They are painted white and red but they are not assigned to coastguard duties; as yet unproven, they are not in the UKSAR2 contract and for now the customer is not Bristow but another, as yet unannounced. Perhaps, if they prove their capability and green credentials, they may find a place in the UK Coastguard fleet by way of an alteration in the existing contract. Although capable they do not carry the range of sensors being acquired for the King Air fleet.

There is more to the DA-62s than the type and its potentially green credentials. It is equipped with an exciting new sensor that its manufacturers, Trakka, and the customer 2Excel believe in. Both have high expectations that the images it will deliver will place the long accepted EO/IR products from FLIR and L3 Harris in the shade. If the Trakka meets expectations the whole new UKSAR2 fleet may well see its equipment unexpectedly tweaked.



Piper PA-31 Navajo/Panther G-SCIR under maintenance checks by 2Excel's own Part 145 engineers at Humberside. This aircraft has upgraded 350hp engines and four blade props. These aircraft were part of the original UK Coastguard contract but have been increasingly sidelined by the far more capable Beechcraft 200 King Air Fleet [PAR]

Until the arrival of the Diamond's the fleet relies on a legacy surveillance fleet of King Air and Piper Navajo twins. When 2Excel arrived at DSA in the summer of 2017 they undertook limited surveillance tasking for customers, mainly using sensor equipped Piper PA-31 Navajo with the Panthers enhancements. It was two years before the five-year Coastguard contract became a reality. Bristow had trialed a Jetstream 41 in an eyeballs and binoculars surveillance tasking and saw an opportunity to reduce the reliance on expensive helicopters alone in some of the coastguard sorties. 2Excel embraced the task as their own, and more. As a result they now undertake a major portion of the overall UK government surveillance aircraft requirements and even have UK military EO/IR training tasking.

The Coastguard contract resulted in the acquisition of two King Air aircraft supported by the existing Piper fleet. In the first three years from November 2019 7,065 hours were flown, slightly more than half delivered on PA-31 Panthers, rest on King Airs. The original contract was limited and found to be under pressure as the English Channel migrant problem grew. A primary tasking was setting up extended patrols over the southern North Sea but that was more intensive than the contract allowed for and had to be renegotiated to bring in fresh funding. It also underlined the whole concept of economic fixed wing for the UK Coastguard.

The PA-31 aircraft feature limited sensors, primarily EO/IR, as they are now supporting the King Airs rather than the primary resource. The current King Airs, there are now three, are extensively modified, a ventral panner containing a radar, L3Harris MX-15 EO/IR and vertical scanner for detecting oil slicks. Each of these will be upgraded in the move up to SAR2 with additional equipment including the Smith Myers Artemis mobile phone search and rescue tool.

The radar will be from Leonardo and draws upon the close contact the company has with the manufacturer. For over five years 2Excel have provided Leonardo with flight trial services supporting their research and development work and introduce new capabilities onto the market faster. The contract with Leonardo was renewed in 2021 and involved the test and demonstration of radar and electronic warfare systems under flight conditions.

An example of this approach in action is the trials work for Leonardo's Osprey 50 E-scan surveillance radar. 2Excel was able to fit the new radar to a B200 King Air test aircraft and certify it for flight exceptionally quickly, allowing Leonardo to accelerate the radar's development cycle and demonstrate its in-flight performance to potential customers. Leonardo has subsequently sold the Osprey 50 radar to a number of international customers and has resulted in 2Excel gaining first-hand knowledge of the capabilities of the Leonardo radar systems.

The extensive equipment fit on the King Airs means that the number of people able to fly in them is restricted. The current 200 model operates SPIFR and a single sensor operator in the rear right cabin. There are additional seats for 4/5 but to retain the maximum fuel and endurance any additional passengers are limited to two.

The existing aircraft will have their role fit refurbished to the new UK SAR2 standard and that will include work with Leonardo and the fitting of a more capable radar array. The radar rotates but can be locked in position to concentrate on a given area with the expectation that objects the size of a ball can be located at long range. In addition to the obvious equipment upgrades, details like a new wider, and more comfortable, rear crew seat are to be introduced based on other more human orientated needs.

### The Future

With UK SAR2G from next year is the new £1.6bn, 10-year contract awarded to the Bristow-led consortium combining and altering the rotary and fixed wing set up. More aircraft, different aircraft, and with increased capabilities and the need to acquire and prepare the airframes. There are the plans to undertake upgrades to existing aircraft but added to these are the design and preparation for service the new enlarged fleet of Beechcraft King Air 200 and 350 to meet the new Coastguard contracts – that work will take place at Humberside Airport maximising 2Excel's own Part 145 engineering – a factor that makes the company resilient and not reliant on third-parties.

Bristow the lead on SAR2G has already announced major changes in how the helicopter fleet is to evolve with the Leonardo AW189 and AW139 becoming the rotary wing aircraft of choice and displacing the Sikorsky S92. There will be limited use of drones and significant additional fixed wing. The addition of the King Air 350 brings a new capability to the future of SAR. The slightly bigger aircraft now offer a new capability of extended range. Now the limits of their wanderings will take them out into the North Atlantic and half way to the USA.

The contract is transitioning to the new contract from September 2024 to December 2026 thus ensuring the continuation of critical live-saving SAR services across whole of UK. The six King Airs will be based at Humberside, Prestwick and Newquay.

In the background talks continue over the ultimate future of DSA, who knows where that will lead. All manner of solutions have been floated including compulsory purchase and taking the matter to the courts but it will be a while before anything becomes clear. Meanwhile the runways are marked with white crosses signifying they are closed to all traffic and the once warm hangars and terminals are invaded by the cold and damp of winter.

2Excel Aviation has announced that 2022 was the final full season for The Blades Aerobatic Display Team. The Blades have been important and iconic for the business since 2Excel was founded. They debuted in 2006 and have been the one constant during the Company's expansion from just four aeroplanes and five people to the £45M turnover, 30 aircraft and almost 500 employees the Group comprises today.

While it will never feel like the right time to draw a line under this world-class team – the epitome of aerial excellence – the challenges to global economies, the worsening cost-of-living crisis and the protracted hit to disposable incomes this is causing have exacerbated the challenges facing The Blades.

This comes amid the continued degradation of the air show circuit, with more and more events being lost, meaning fewer opportunities to display and showcase our sponsors to the public.

Together, these factors prompted 2Excel's Board to consider the future of The Blades. Regrettably, we concluded it is an unsustainable business model and, in the best interests of all our employee-owners, we needed to take action and redeploy our resources elsewhere within our fast-growing Company. We are seeking to honour all existing bookings.

The Blades themselves are valued employees; ex-military fast jet pilots and support staff with desirable skillsets we hope to retain and redeploy elsewhere within the business as we seek to meet increasing demand for 2Excel's innovative aerospace services. These consultations are ongoing.

During the 17 flying seasons the Blades delivered, millions of people saw the team display.



## MOVE ALONG THERE

Russia has blamed its own soldiers for losing their lives after a Ukrainian missile strike killed scores at a military college in the Donetsk area.

The attack on New Year's Day killed at least 89 soldiers but many, many, more may have been involved. The Russian authorities state that the soldiers were told not to use their phones. It is claimed that President Putin and many other heads of state do not use cell phones as they provide good targeting information on individuals and the Russians have themselves targeted Western officials visiting Ukraine – aiming at the signals from multiple Western telephones in an unfamiliar location. The Ukraine's simply returned the compliment.

So, beware when using your phone in foreign parts, there is more than Spam out there!

A bit behind the news curve was a report in last month's Daily News that in New York an Apple AirTag was found secreted in the engine compartment of a marked NYPD car in Queens. The coin-sized tracking device, which connects to Apple's "Find My" network, was discovered on the police car Sunday. The AirTag had been placed in a small plastic bag.

The finding prompted a call to go out to officers to look for such tags when they check the vehicles before and after the tours of duty.

Apple are said to be working with law enforcement to avoid "unwanted tracking" via their AirTag's, a device designed to help people locate their personal belongings, not to track people or another person's property. A similar product "Tile" is available!

Behind the curve? Well, the item was written as if it all happened yesterday. Not so, it was based on an Apple press release dated in February 2022!

Just reading the newspaper about thousands of stories surrounding illegal attempts to enter Britain and it occurs to me that there used to be a very efficient organisation called the ARO, the Metropolitan Police Aliens Registration Office, situated alongside Holborn police station. I think it went away with being in the EU. Not sure how good it was really but it seemed great when I was using it back in the day. Maybe it needs to return, somebody has to do something about the flood of people crossing the English Channel! I guess the first thing will be to get rid of the upsetting word.... 'Alien' ... they come from Mars don't they?



Latest reports indicate that a career in the Police Service is gaining popularity with the university graduate to a remarkable degree!

HM Inspectorate of Constabulary Matt Parr, the ex-Royal Navy man who wrote that damning, but largely ignored, report on NPAS all those years ago, recently reported that London's Metropolitan Police had been employing near illiterate officers in order to meet ethnicity targets. Nothing really new there. I suspect the practice has been going on so long now there maybe no-one in Scotland Yard able to read his new report!

## UPCOMING EVENTS

### PAvCon Europe Bilbao 5-7 June 2023

The bookings have started, and the honour of first booking (and payment) goes to Flightcell in New Zealand. Second to sign up were FlySight in Italy. They will be sponsoring major elements of the event as they did in 2022. The new e-booking form only went live on the website on January 8 and the first form appeared filled in the following morning! There is no rush yet, the venue information remains incomplete and not on the website, we have yet to confirm the favoured hotel in Bilbao. For the moment all you need to do now is ring the dates in your diary for 5-7 June 2023. The first day, a Monday will be a training day and the day when exhibitors need to be setting up their exhibition. The main conference and exhibition days will be the Tuesday and Wednesday (6-7 June). The cost will see only a small rise on the 2022 exhibitor prices to meet growing inflation across Europe.

On the PAvCon Europe website you will find booking forms for Exhibitors and Visitors in standard format. In addition this year we can offer Exhibitor links to an e-format PDF from the website or via this link.

[https://eu1.documents.adobe.com/public/esignWidget?wid=CBFCIBAA3AAABLbqZhAD\\_srZliqVa-3DHDKI3TTjVrK2AgDbYLz-qLYKxhsUAs7xEjnNqvzwllGn9JkEVRs\\*](https://eu1.documents.adobe.com/public/esignWidget?wid=CBFCIBAA3AAABLbqZhAD_srZliqVa-3DHDKI3TTjVrK2AgDbYLz-qLYKxhsUAs7xEjnNqvzwllGn9JkEVRs*)



**28-30 November 2023.** The next edition of European Rotors is coming to the Avda del Partenón, 5, 28042 Madrid. The show features the latest in vertical flight safety, trainings and a floor show. The three-day show attracts hundreds of exhibitors from the helicopter and advanced air mobility (AAM) industries worldwide. More than a dozen helicopters are expected to fly in before the show and will be displayed on the exhibition floor at IFEMA Madrid, Hall 9. European Helicopter Association (EHA) and the European Union Aviation Safety Council (EASA), organizers of the event, also anticipate other aircraft—including prototypes of AAM aircraft—will be on display as well. ATAIRE, representing the Spanish helicopter industry, is the event’s country host, and US-based Helicopter Association International (HAI), an international trade association, is producing it. The first two EUROPEAN ROTORS shows were held in Cologne, Germany, in 2021 and 2022.

In addition to the exhibition floor, EUROPEAN ROTORS 2023 again also focuses significantly on education and training. The renowned EASA Rotorcraft and VTOL Symposium remains the flagship of EUROPEAN ROTORS broad conference programme, which focuses on the latest rotorcraft and VTOL developments. The educational programme is augmented by certified training sessions, best-practice seminars, hands-on presentations in the Rotor Safety Zone and workshops.



An educational opportunity – Rotorthon – exists for student teams. This program, including an online version and an in-person version, challenges students to solve or innovate some of the more pressing issues in the VTOL industry. Examples are concepts for the next generations of VTOLs, public acceptance of urban mobility, support for disaster relief, joint use of drones and rotorcraft for the same mission, and much more. Information on the program for 2023 will be available soon. Companies throughout the European Union or around the world with interest in exhibiting at or attending European Rotors 2023 can find more information about the event on the show’s event page, [www.europeanrotors.eu](http://www.europeanrotors.eu) or on the community exchange platform [www.365.europeanrotors.eu](http://www.365.europeanrotors.eu).

## THE HANGAR Z PODCAST LEADERSHIP SUMMIT 2023



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### UPCOMING

**21 – 23 February 2023 International Military Helicopter event**, Millenium Gloucester London UK <https://www.defenceiq.com/events-militaryhelicopter>

**28 February to 5 March 2023 AVALON 2023** Geelong, Melbourne, Australia.

**6 March 2023 HAI Heli-Expo** Atlanta, GA

**14-16 March 2023 Security & Policing** - the official UK Government global security event. Held at Farnborough International Exhibition & Conference Centre, Farnborough, Hampshire. Hosted by the Home Office's Joint Security & Resilience Centre (JSaRC), Security & Policing offers a world-class opportunity to meet and discuss the latest advances in delivering national security and resilience with UK and overseas Government officials and senior decision makers across the law enforcement and security sectors. Contact [securityandpolicing@adsgroup.org.uk](mailto:securityandpolicing@adsgroup.org.uk) +44 207 091 7835

**3-4 April 2023 Aerial Fire Fighting** – Pacific Northwest Wildfire Conference and Exhibition, Seattle, Washington, USA Organised by Tangent Link. Chilterns House Business Centre, Eton Place, 64 High Street, Burnham, SL1 7JT UK. t: +44 (0) 1628 660 400 [www.tangentlink.com](http://www.tangentlink.com)

**25-27 April 2023 World Border Security Conference**, Skopje, North Macedonia (Balkans). The Repub-

**BAPCO**  
The Annual Event **2023**

**7-8 MARCH 2023**  
Coventry Building Society Arena

**REGISTRATION OPEN**

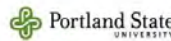
# AERIAL FIRE FIGHTING 2023

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For more information on sponsorship or exhibiting please contact:

**UK Office**

Carl Piercy  
M: 44 (0) 7921 299 352  
E: [cpiercy@tangentlink.com](mailto:cpiercy@tangentlink.com)

**Australian Office**

Julia Guy  
M: +61 (0) 412 395 047  
E: [jguy@tangentlink.com](mailto:jguy@tangentlink.com)

lic of North Macedonia is a landlocked country in the South-eastern region of Europe known as the Balkans. It gained independence in 1991 as one of the successor states of Yugoslavia. In March 2020, North Macedonia acceded to NATO, becoming the 30th member state and accession process to join the European Union remains ongoing. The World Border Security Congress is a high level 3 day event that will

discuss and debate current and future policies, implementation issues and challenges as well as new and developing technologies that contribute towards safe and secure border and migration management.

[www.world-border-congress.com](http://www.world-border-congress.com)



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