

Police Aviation News

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Shows Issue

February 2020

SHOWTIME HELI-EXPO & SINGAPORE



EDITORIAL

A TALE OF TWO CITIES

With Corona virus on the rampage in the Far East [but coming to a country near you we are promised], covering both the HAI Heli-Expo and the Singapore Air Show in a single issue provides a story with many contrasts.

Corona was but a murmur in the wings when people were travelling to Los Angeles in late January and yet already family and friends were questioning why I should even stick my nose out of my front door let alone venture far to the west to the doorstep of Disneyland in such 'dangerous' times. By the time I was setting off to Heathrow Airport six days after my return from LA there was definite general expectation among family and friends that I would travel to the airport in a full NBC suit.

Fortunately for the public wellbeing I spent thirty years risking my life in the police force. Even without Corona, SARS or whatever other health risk was about my colleagues and I ventured forth serving all! We could attest that on many occasions the day-to-day living conditions of ordinary British families were more of a health risk than any passing Chinese Virus!

As a people watcher, born of policing, I noted that many were truly in fear even before the WHO declared there was something to fear. An example was the man on the LAX-London flight who wore his face mask at all times lest he catch something and yet, off came the mask to eat and drink..... and no, he did not wash his hands each time when taking the same, germ ridden, mask off and on! I noted similar traits with other wearers, noses poking out, masks round necks while taking a drink or quick draw on a cigarette etc. Clearly some were not thinking it through.

So, what follows, is a report from your intrepid correspondent on the war front of aviation and virii in LA and Singapore. If you are reading his I survived – apparently against the odds.

Bryn Elliott





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Cover: Flying into the show from Reno, Nevada N1032F is a 1970 Bell OH-58 serving with Washoe County Sheriff's Office.

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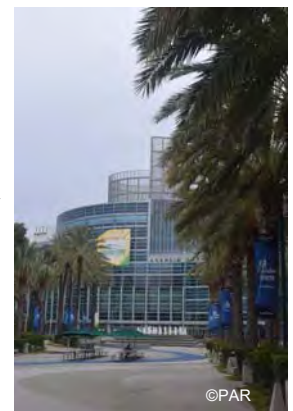
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Those of us that follow the annual Helicopter Association International (HAI) Heli-Expo will have noticed that the 2020 event was somewhat earlier than usual. The reason behind this is that HAI had committed to a number of years in Louisville, Kentucky and 2020 was one of them. Louisville Heli-Expo 2016 was something of an unmitigated disaster with low attendance and mostly negative comments from those attending on the quality of facilities and the poor weather. Although the date slot for Kentucky was similar to previous years (February 28 to March 3) and attracted 55 civil display helicopters and nearly 700 exhibitors the town was difficult to get to and hit by inconvenient snow showers. Attendees arriving via Chicago in the north suffered worst in encountering blizzards. After taking on-board the comments, and seeing the massive piles of uncollected tote bags, HAI wisely elected not to return to Louisville.

Unfortunately, convention centres are booked many years in advance and Anaheim was only available in January by the time the switch was made. So, this year it was expected that California would again be cooler than usual but still set to be warmer than Kentucky had been. And so it turned out to be. The locals were out in woolly hats, warm coats and voluminous scarves but the escapees from such as New York and Europe were typically in shirt sleeves. It did rain and there was fog but it was (for most) warm and inviting.

The Convention Center at 200 South Anaheim Boulevard, Anaheim, CA 92805 is 32 miles, or a 40 minute cab ride, out of LAX airport and offers the added attraction of Disney right next door, a factor that was potentially attractive to attendees bringing their families for all or part of the event.



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For a while the show was eclipsed by the death in a helicopter crash to the north of LA in which a famous sportsman, Kobe Bryant, died. There was no real connection with Heli-Expo other than many of the people in Anaheim knew and loved Kobe and could talk sensibly about the helicopter type he died in and could see the weather conditions outside for themselves. Being professionals of course we might expect that no-one ventured an opinion on the causal factors in the tragedy. The fact that we could not see the distant horizon for mist and fog on the day of the accident may have had some bearing on our immediate thoughts. In truth there were as many opinions as visitors. Time and an enquiry may clarify the truth.

This is the first show under the stewardship of James A. Viola as the organization's president and CEO since January 16. Viola replaced Matthew S. Zuccaro, who announced his retirement last autumn and used this year as something of a swan song.



Viola most recently served as director of General Aviation (GA) Safety Assurance for the Federal Aviation Administration (FAA). In this role, he oversaw 78 Flight Standards District Offices (FSDOs) and 2,500 employees across the United States and was responsible for maintaining consistency and standardization in the application of safety oversight activities for the GA community. Additionally, he ensured stakeholder and public needs were met quickly and efficiently and was responsible for starting the US Helicopter Safety Team (USHST), serving as the initial government co-chair.

Viola's aviation career began with the US Army, with the majority of his flying done as a special operations MH-6 and MH-47 helicopter pilot. He rose through a series of posts of increasing responsibility, achieving the rank of colonel. His final military assignment was as division chief, Army Aviation for Current Operations, where he determined and recommended the aviation unit station, prioritization, and optimization of 4,200 army aircraft, 100 manned units, and the combat rotation plan to Iraq and Afghanistan. He left the army in 2008 to work for the FAA, where he again progressed through positions of increasing responsibility.

A strong advocate for GA, Viola flies his own light aircraft as often as he can. He holds ATP ratings for helicopters and fixed wing and is a dual-rated certificated flight instructor who holds an endorsement for Special Federal Aviation Regulation 73 for Robinson R22 and R44 helicopters. He has accumulated more than 6,000 flight hours, which includes 1,100 with night-vision goggles. Viola holds three master's degrees and is a member of the Army Aviation Association of America (Quad A), the Military Officers Association



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of America, the Veterans of Foreign Wars, the American Legion, and the Aircraft Pilots and Owners Association.

Viola's three-to-five-year vision for HAI encompasses a strategic plan for member service initiatives. It also acknowledges the ongoing dynamic changes throughout vertical-lift aviation, including unmanned aircraft systems, and the contributions of industry manufacturers and suppliers. There are rumours that they might change the name of HAI to put 'International' at the front, but they are just thoughts.

SHOWTIME

The HAI Heli-Expo is about the announcements each of the primary manufacturers makes in selling to the world. A decade ago, the news was primarily about the projects and sales of US manufacturers, Bell, MD and Sikorsky, more recently the European's take centre stage each time. It is perhaps fortunate that those same Europeans have decided that manufacture in the USA is advantageous. Airbus has evolved as the prime manufacturer and sales team in the region, but their advantage is slipping away.

Although Airbus can still illustrate a numerical sales advantage, they have Leonardo breathing down their necks in more ways than one. The recent sale of a quantity of AW119 Koala variants to the US Government can only have been a blow that was compounded by the story of the show - the taking over of Swiss owned Kopter by Leonardo. Predictably, Airbus have appealed the award of the military contract, but it is difficult to see how they will play the Kopter coup.

At their pre-show press conference Kopter had described the latest significant changes to their SH-09 and left the press pack dangling with a news story to come. I am pretty sure no-one saw it coming. We were off on a tack assuming an Airbus link up, we saw so many ex Airbus staff and the Fenestron like tail but failed to pay due regard to the new Italian engineer on the press conference dais.

To date all the manufacturers have avoided entering production with anything that might be seen as a copy of a copyrighted rotor/fan in ring tail and yet the Guimbal Cabri and Kopter have them. We assumed too much and were duly misled by the Airbus link to the Cabri based Airbus Helicopters VSR700 naval UAV. *The mistake was complete.*



Subject to there being no significant developmental issues Leonardo has bought into the very programme that should safely take on the mantle of being the AS350/H125 replacement market and with an airframe is already attracting attention and set for production in the USA. It is, or should be, deeply troubling for Airbus.

The takeover, not yet signed sealed and delivered, is 100% so leaving plenty of scope for a Leonardo disaster. The Kopter staff have been led to believe there will be independence to develop the SH-09 and a family of related products - potentially a light twin - and there may well be those words in the contract. If a clear gap is maintained between the brand and the rest of the AW line all might be well. This will give Leonardo a replacement for the now dated A109/A119 and provide Airbus with something approaching a nightmare.

Nightmare? The best-selling light single helicopter is currently the Airbus Helicopters AS350/H125/H130 series. It [and the BK117 derivatives that make up the H145 product] are the prime civil products of the company and yet very dated. The first Aerospatiale AS350 appeared in the mid-1970s, over 50 years ago. And that is the trouble, it has never had a replacement marketed. Although greatly improved its safety has been regularly called into question. The modern stroking seats greatly improved occupant survival in accidents, but they were found to be delivering the crews to a fire fed by a non-crashworthy fuel tank. The fuel tank issue has now been addressed but the basic airframe remains older technology not designed to give the occupants the best chance of accident survival.

I must add here that in focussing on the flight safety drawbacks of the best-selling H125 I am not seeking to ignore the potentially worse crash survival characteristics of competing airframes. Almost any type of light helicopter designed before the introduction of JAR-27 has significant issues.

In meeting the requirements of JAR-27 the SH-09 promises to bring the latest in safe-flight design to the market. There is already a great deal of interest among US airborne law enforcers and HEMS operators and that might at least instigate a price war as Airbus try to ensure the majority of sales remain with them.

Airbus Helicopters lodged a protest with the Government Accountability Office (GAO) against the Navy choosing **Leonardo** for the Navy's new helicopter training aircraft, a \$176M contract to buy up to 130 trainers. The Navy has issued a stop work order on the new trainers while the protest is ongoing.



Leonardo offered the single-engine TH-119, while Airbus offered the twin-engine H135 and Bell offered the 407GX single-engine, a type related to the Bell 206 based TH-57 Sea Ranger that is up for replacement, after nearly 40 years' service. It might be expected that some or all of these will be offered to US police on disposal, hopefully by 2023. A decision on the protest is due in mid-May.

MD SHOWTIME

Although given far less profile at the show, the other story is the renewed MD Helicopters embrace of Universal Avionics to provide the glass cockpit for the MD902/969.

Now a part of Elbit Systems Universal and MD have a history. A few years ago, MD were working closely with Universal to create the glass cockpits for their legacy OH-6 based helicopters and the long promised MD902 developments. The project was so important for both of them that successive editions of the Heli-Expo had them with conjoined booths.

When MD decided the project was over the last people to hear about it were the highly embarrassed staff of Universal. Unfortunately, they had a front row seat watching Lynn Tilton extolling the virtues of the rival GENESYS glass cockpit as their part in the MD glass cockpit evaporated. It is perhaps fortunate that most of those salespeople have since moved on. Universal no longer have their booth close to MD and a quick straw poll suggests that the current sales force is not aware of the earlier difficulties. Move on.

This year Lynn Tilton held her customary State of the Nation address to the gathered fans attending Heli-Expo. These gatherings were once simply called press conferences and they lived out of sight in a press room. It was pretty clear that in one way or another the press pack had the nasty habit of asking some annoying questions about statements made and projects apparently dropped. This led to some lively exchanges and a change in model that took the press conferences on to the show floor. That model did not exactly meet the needs of the MD CEO either and these days the adoring public get into the seats early leaving the press pack at the back of the crowd and pretty much out of ear-shot!

The Tilton spectacle, aircraft production news interspersed with the CEOs latest take on fashion. Potentially this adds sex appeal for those of a certain age. The whole is a fun walk by but most of the press reporters cannot be now be bothered to turn



up their own hearing aids to catch the words of wisdom.

To earn money the company has understandably relied upon selling the latest variants of its Vietnam era OH-6 military line to Afghanistan and Kenya, this has left civil developments and sales in the background. MD Helicopters MD6XX project, a warmed over MD600N, continues to suffer delays as the small manufacturer juggles work with its other OH-6 derived helicopter models. MD unveiled a mock-up of the MD6XX in 2017 and promised to complete certification by the end of 2018.

Next year, it is always next year, the company is again going to work on modernising the MD902. Unfortunately, that type has been moribund for so many years that it is going to need a great deal of work and money to return it to a market long since moved on to Airbus, Bell or Leonardo types. There may be a continuing market in Hungary I understand.

BELL

Inevitably, the helicopter show took on some of the new e-taxi technology, again the Consumer Electronics Show (CES) stole the lead on HAI when Bell presented the latest modified version of its electric air taxi to the world. On this occasion they did not bring the CES display to the show and Anaheim was distinctly quiet about the whole e-Taxi project. The technology is not for tomorrow, or the next day, but perhaps in a few years when battery technology improves something will again appear. Until then non-helicopter material will be less evident at the Heli-Expo show.

We are told that this is 'the future' and so it may be. The question still remains 'how far in the future?' Great advancements are underway in the realm of automation, with pilots representing both one of the largest fixed expenses in helicopter operation and, so we are led to believe, pilot error one of the most common causes of fatal accidents. Still we await a certification authority go-ahead for the technology to

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allow all types to 'detect and avoid' so the subject remains a virtual one.

It was always going to be difficult and the situation with the 737 MAX has added several layers of scrutiny to the mix. Even the certification authorities no longer trust each other implicitly.

At the moment the load on the electricity distribution system is eased by the availability of gas [bad], oil [very bad] and wood burning [debatable]. When everything is electrically driven someone is going to have to find enough power stations to feed the grid that charges all of these air transports and all the ground vehicles on-demand. It works well on paper but even on the ground there is a massive question mark over how a person on the 30th floor of a tenement block charges their electric car overnight. That of course needs to be multiplied by the millions of people who will need such a service to meet the political promises around "Carbon Neutral." I guess that the farmer in the steppes or Russia and the wheat fields of Wyoming are not going to be reliant on a charging point!

People with means travel via helicopter and private aircraft because they can afford to and it is usually much faster than taking too congested streets. This is then an elitist proposition rather than something for the common man.

Electric vehicles, and eventually autonomy, promise to bring costs down, but will that be enough to present a cost-viable alternative to cars and public transit. There is nothing more attractive to a money hungry government than to find something cheap and untaxed. In killing off the conventional motor vehicle and aircraft Governments across the world will be losing massive amounts of taxation that will need to be recouped somewhere. Either the e-taxi and electric cars will be taxed, or we will have to start smoking again.

So back to the present day and the reality of Bell helicopters today in Anaheim.

Most of the present-day production airframes were on display on the vast booth with pride of place and marketing effort again given to the 525 Relentless. The large fly-by-wire type still struggles to find a market with the oil and gas sector in decline, but Bell are promoting the green shoots of new growth.

The first production-representative Bell 525, fitted with an oil-and-gas interior made its first Heli-Expo debut. The model has made significant strides in flight test activity, completing major development testing requirements. The programme is transitioning to certification flight testing. The 525 is powered by two 1,800-shp GE Aviation GE CT7-2F1 engines which received FAA type certification last autumn.

During the show, Bell announced their collaboration with Norwegian oil and gas operator, Wintershall Dea Norge AS, to bring enhanced helicopter operational safety to the North Sea. The two companies are committed to enhancing helicopter operational safety in the North Sea.

The Bell 505 JetRanger X is slowly increasing its penetration into the US law enforcement market and announced its latest sale to the Leon County Sheriff's Department in Tallahassee, Florida. The unit has been a low key user of Bell helicopters in air support for some years but this is believed to be the first instance of hem buying a new airframe.

Most recently, in 2016, it was reported that the Leon County Sheriff's Office has more than 200 deputies, out patrolling the streets and three operating helicopters. The four-pilot team had doubled the





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number of hours flown in moving from a mainly reactive status to one where patrols were scheduled. Some 600 hours flight hours were logged in that year by 50 years old Bell OH-58s originally disposed of to law enforcers in the mid-1990s. The Bell 407GX continues as the improved IFR model of the 407. Following FAA certification for single-

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pilot Instrument Flight Rules (IFR) and Bell Autopilot - 3rd Axis, the 407GX's new IFR capability allows all-weather operations while continuing to provide multi-mission capabilities reliably and effectively. The Bell 407GX offers the lowest direct operating costs of any IFR-capable helicopter on the market today. As innovators and a leader in smart, digital vertical-lift aircraft, Bell is the first OEM to certify a Health and Usage Monitoring System (HUMS) for a light single-engine aircraft. HUMS monitoring covers drive system, engine, rotors, and it provides estimates of remaining useful life to help bring predictability to maintenance needs.

Additionally, the Precise Flight Pulselite® system will now be included as standard equipment on all new Bell 407GX aircraft. When enabled, the Pulselite® system alternately pulses the landing and taxi lights to enhance the visibility of the aircraft to traffic and birds. The Pulselite® system has a direct impact on reducing the number of bird strikes and is available by Bell as an aftermarket installation.

All Bell Subaru Bell 412EPX and Bell 429 aircraft now feature the second-generation BasilXPro avionic suites produced by Astronautics. The new Avionics come with several enhancements, most notably being nearly three pounds lighter per display unit, lower power consumption, expanded route mapping with five levels of declutter and a two-second power-up time.

This is the first time the Bell Subaru 412EPX will be on display in North America since the aircraft was unveiled at the Farnborough Air Show in 2018 and further promoted at the Singapore Helicopter Show in 2019. It may be based on a legacy design but it remains popular and benefits from a more robust main rotor gearbox dry run capability, increased internal Maximum Gross Weight to 12,200 lbs. and mast torque output of +11% at speeds below 60 knots.

Not all the exhibit helicopters were new. The cover image for this edition is of a 50-years old Bell OH-58 Kiowa operating with a law enforcement unit in Nevada. In September 2018 the Washoe County Sheriff took delivery of TrakkaCam TC-300 and Trakka's Map & Video Management System the TM-100 to replace the 8500 manufactured by FLIR Systems and Churchill Map system. RAVEN utilizes the TrakkaCam TC-300 and TrakkaMaps TM-100 to locate crime suspects and to perform search and rescue missions.

The system was first used by Washoe in late August 2018, to locate two adults and an 18-month-old baby. They were found after being lost for eight hours on a cold night in the Sierra.

The system comprises an innovative lightweight 300mm gimbal and has a total mass less than 19kg. It features high performance fully digital 4-axis gyro-stabilization, and a payload suite comprising MWIR thermal imager, HDTV EO/Spotter with continuous zoom. The TC-300 also includes eye-safe laser range finder, NVG compatible laser pointer, a fully integrated IMU/GPS for Geo-Location and Moving Map Integration, Auto Tracker, an advanced HD video engine and options for searchlight slaving, haze reduction, image blending and MTI.



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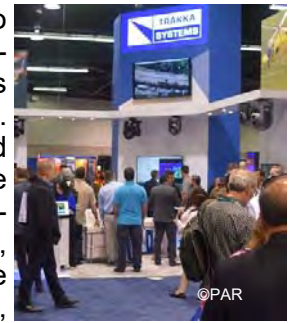
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AIRBUS

Airbus Helicopters showcased some of its civil range of helicopters with an H125, an ACH130 Aston Martin Edition, and an H175. The latter was the only type on display that might be described as not being 'legacy.' The H125 continues to be made more attractive and the example on show was displayed with the company's latest improvements destined to better serve aerial work operations.

Following the success of Airbus Corporate Helicopters (ACH) since its launch in 2017 as the dedicated Private & Business Aviation helicopter platform, particularly with the ACH145 and ACH160, Airbus has renewed its offer for the ACH130 by partnering with Aston Martin for a visually reworked helicopter which offers a great deal of profile to the type but is not expected to be a big seller.

The interior of the ACH130 has been much lauded in earlier reports – the Heli-Expo example was displayed and flown at UK press launch in December and then again at an official launch in the French Alps ski resort of Courchevel early in January before it set off to the US for Heli-Expo.

The ACH130 Aston Martin Edition, the first offering from a partnership between Aston Martin Lagonda and Airbus Corporate Helicopters, comes equipped



with a range of four interior and exterior designs generated by Aston Martin. Available in four external liveries with complementary interiors, the helicopters are embellished with Aston Martin signature elements, starting with the iconic Aston Martin wings, which are embossed onto luxury leather features, tastefully positioned throughout the cabin.

The Stirling Green-themed external scheme, which is already flying on the first aircraft, features a painted gradient, which fades down into Jet Black on the underside of the helicopter with Skyfall Silver around the cowlings. Further external liveries are available with other Aston Martin paint colours including Xenon Grey, Arizona and Ultramarine Black. The only figure I have heard quoted is 'five' a year, surely a number barely worth the bother for a main manufacturer. If it had been a motor car it would be the task of a local coachbuilders to customise the interior.

The H175 on the booth was displayed in the troubled offshore transportation configuration. It is unfortunate that just before the show the struggling Bristow confirmed that it was no longer taking its order for H175s.

Airbus remain the best-selling line and inevitably their static display was a reflected in surrounding booths, several examples of the H125 included an H125 from LAPD in a law enforcement configuration and an H145 from San Diego Gas & Electric.

Airbus Helicopters has announced a new Alternate Gross Weight (AGW) available on the latest version of the H135 family of helicopters. H135 helicopters with the new alternate gross weight benefit from a 120kg (265 lb) increased



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take-off weight and useful load. This increase can also be used to extend the range by up to 75 nm or the endurance by up to 40 minutes under standard conditions. The new AGW will be certified by EASA and FAA in 2020 and can be retrofitted on all H135s with Helionix.

Reflecting their eminent position in the market Airbus concluded Heli-Expo 2020 with 38 orders, as well as 20 retrofits for the new five-bladed H145. German air rescue and ambulance provider DRF Luftrettung placed an order for 15 H145s, making them the largest operator of the H145. Metro Aviation has increased their order book for the EC145e, the model based on the tail rotor that has proved to be a winner for them in the US market.

Customs and Border Protection will add 16 new H125 helicopters to their fleet, with deliveries beginning later this year from Airbus' production facility in Columbus, Miss.

Airbus received an order for three new H135s from NASA, marking the first-time partnership between the U.S. space program and Airbus Helicopters. The agency will use the aircraft for a variety of missions, including missile launch security at Kennedy Space Center in Florida, emergency medical services and qualified personnel transport.

RESCUE GATHERING

It is worth recording that the Heli-Expo event kicked off with the APSA [Airborne Public Safety Association] Rescue Summit 2020 on January 27 at the Anaheim Convention Center.

Rescue Summit 2020 included various presentations pertaining to helicopter rescue operations including topics such as hoisting, safety and critical incident & accident reviews. Lunch was provided, and plentiful networking opportunities were scheduled throughout the day.

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The advertisement features a blue and white color scheme with a background image of several helicopters in flight against a sunset sky. In the foreground, the silhouettes of two soldiers are visible. The text is arranged in a clean, modern layout with a mix of white and blue colors.

For APSA Members entry was included in APSA Individual Membership, a Non-Member being charged just \$50.

Until recently it was an independently organised rescue services meeting forum but the ALEA [Airborne Law Enforcement Association] did a deal with them, gave up their own long standing title and merged to produce a new more inclusive organisation encompassing the members of both organisations [and more] and a common new name of APSA.

With outdoor recreation surging, the Forest Service reports that in 2016, some five million more visitors hit the 193 million acres of public land it manages compared with a decade earlier. The fastest-growing residential areas in the country are in areas where locals have easy access to adventure. Outdoor tourism in places like Colorado’s Front Range is spiking as people seek out white-water rivers and alpine peaks. Meanwhile, some SAR leaders report changes in the kinds of rescues they’re doing: there are more Instagramming adventurers getting in over their heads, more mushroom hunters in flip-flops losing their way in the woods, and more people navigating with their phones until the battery dies.

In more rural and remote areas, SAR services tend to be limited. Again, this used to make sense. In the past, the relatively small number of adventurers who planned a climbing expedition to a peak, were typically more capable of saving themselves, or at least of stabilizing their situation until help arrived.

Volunteers are usually self-funding; when they decide to become a member of a group it is, they who take on a significant debt brought about by equipping themselves with clothing and the tools of their chosen trade. Few rescue groups have the means to supply their volunteers with equipment and they choose to put themselves in harm’s way without recompense.



The numbers of volunteers killed and injured helping their fellows was starkly brought into focus in Turkey in early February. At least forty people were killed and 84 injured after two avalanches hit the mountain-side near Turkey’s eastern border with Iran in 24 hours. Initial reports suggested that the first avalanche only affected a handful of people, five dead and perhaps two missing. The second avalanche killed dozens of rescuers who were responding to the first snow slide. A team of 180 search and rescue workers were subsequently deployed to the scene, along with medical units and ambulances, putting further numbers at risk.

In US terms the vastness of their underpopulated country works against them. Few areas can afford to set up rescue teams that individually would have few calls on their services. It is different in Europe where the footfall of foolhardy adventurers is far higher and often leads to both governmental and commercial rescue operations being set up to meet high demand.

Flights from Europe to LA take about ten hours and include several hours crossing a vast swathe of land from Greenland to the Rockies where no-one lives in any numbers. In that vastness some 170 deaths are estimated to take place each year, individually they may well be important but seeking to give them all the level of rescue services common in Europe would be prohibitive.

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CarteNav SOLUTIONS

Wireless intercom technology innovator, Axnes has announced the integration of the PNG wireless intercom system for multi-mission provider, Travis County STAR Flight. Based in Austin, Texas, STAR Flight has recently taken delivery of three AW169 airframes as part of a fleet modernisation to support their air medical transport, hoist, and fire suppression operations.

Designed to improve crew safety, situational awareness, enhanced communication, and efficiency in flight operations, the PNG wireless intercom system was integrated by Leonardo prior to final delivery. Each airframe has an internal PNG base station and control panel integration along with two MP50 handsets. The waterproof wireless handsets have an average range of 2-3 miles and allow full duplex crew communication while performing external airframe tasks such as swift water rescue, hoist operations, remote accident scene response and other critical missions.



One of the new fleet of AW169 helicopters for Texas based Travis County STAR Flight ©PAR

Some of the many features include a battery life of up to 15 hours of continuous operation or 40 hours of standby capability and the latest airborne environmental and software standards. A night vision goggle (NVG) compatible handset and control panel screen are standard, in addition to MP50 voice activated (VOX) and push to talk (PTT) function which allow users to easily integrate the MP50 into multiple critical and routine civil and military mission profiles. Secure AES 256-bit encrypted voice technology ensures that communications by MP50 handheld users cannot be compromised by others.

Axnes is well known for its successful wireless ICS solutions and today more than 1500 aircraft worldwide are equipped with their wireless technology. Axnes was founded in 1995 and is a privately-owned company headquartered in Norway with offices in the United Kingdom, Austria, and the United States of America. www.axnes.com.

Thanks to recent Public Use aircraft disposals and sales by the manufacturer, Sikorsky, one of the most evident airframes by type at Anaheim was the Blackhawk in a variety of states of conversion leading to the ultimate of the Firehawk.

Anodyne Electronics Manufacturing Corp. (AEM), a subsidiary of Structural Monitoring Systems Plc. was selected to supply the loudspeaker systems for seven new Sikorsky S-70i Firehawk helicopters, three of which were delivered to California in December. United Rotorcraft and Sikorsky selected AEM's LS1320 loudspeaker system to provide air-to-ground communication for the Department of Forestry and Fire Protection (Cal Fire), the Los Angeles County Fire Department (LACoFD) and the City of San Diego Fire-Rescue Department, with more Firehawk systems on order.



Spidertracks, a leading provider of satellite-based real-time flight tracking, active flight following and communication solutions, announced the launch of the Spider X – their next-generation Spider hardware.

It wasn't much more than a decade ago when aircraft tracking was feasible only for the top tier of the industry. Innovation in the sector typically followed a traditional pathway of heavy boxes that required integration into aircraft systems, and the cost and complexity of these precluded mainstream adoption. Spidertracks came to market with fresh thinking and a delightfully simple product philosophy that broke down

these barriers and revolutionised the sector. Today aircraft tracking has industry-wide adoption – the benefits of increased safety and operational efficiencies have seen Spidertracks become the de facto standard.

Ten years on, Spidertracks took this to a whole new level with the release of Virtual FDR™ – an adaptive sampling algorithm on the Spider that provides an accurate, high-resolution representation of an aircraft’s actual flight path and movements in (near) real-time. As a trusted provider of aviation safety services, Spidertracks utilise a dedicated Iridium channel for all mission-critical data. This gives the customer assurance of receiving high-quality data, on-time every-time, without reliance on cellular availability or retrieving an SD card.

Spider X expands on the power of Virtual FDR™ with the introduction of an attitude and heading reference system. AHRS data is transmitted over the air, allowing simple and easy access to information about the aircraft’s orientation and position. The innovative piece of hardware developed by the Spidertracks team based in New Zealand is packed with forward-thinking tech such as Wi-Fi, cellular, Bluetooth, USB-C, and serial port interface capability, to provide the ideal development and integration platform. Building on the advanced functionality of its predecessors, the Spider X will make flight data monitoring (FDM) accessible for the general aviation industry as a simple, easy to install, lightweight, and affordable solution.



The Helicopter Association International (HAI) Heli-Expo is about much more than the exhibition. It is a chance for the international community to come together to meet, train and network and this year’s show was packed with business deals, new technology, safety and professional training.

The four-day event brought together thousands of attendees from around the globe, focusing their attention on every aspect of the rotorcraft industry. Spread across the breadth of the Anaheim Convention Center, attendees and exhibitors got close-up looks at the nearly 60 aircraft on the 313,000 net square feet show floor with 657 exhibiting companies, and even a presentation on the Mars Helicopter before a packed audience.

Attendees were able to choose from over 150 education courses, technical briefings, workshops, forums, meetings, and seminars. Nearly 4,000 attendees participated in free Rotor Safety Challenge sessions that focus on improving safety in every aspect of the vertical lift industry. Additionally, approximately 500 attendees participated in for-fee professional education courses, and over 1,300 attended technical briefings provided by aircraft and engine manufacturers.



There is a tendency to talk up the products of the ‘big’ companies, Airbus, Bell etc but the fact remains that in terms of volume Robinson outsells them all and is as innovative as any of the others.

Left is specialist Police R44 and right an electric R44 developed by Tier 1 Engineering that was setting records in 2018.

It set the Guinness World Record for the farthest distance travelled by an all-electric helicopter, flying a distance of 30 nm at speed to 80 knots and an altitude of 800 feet.





Images from this years Heli-Expo. Clockwise: Interviews of the Awards for Excellence winners [now available online], Airbus H125 for San Bernardino, Jan Becker the current Chair of HAI handed over the Excellence awards, the Leonardo booth and German ground support from LICO.



The show dates in 2021 are March 22-25, with the exhibit floor open March 23-25.



SINGAPORE AIR SHOW

©PAR

Two weeks is a long time in aviation and, it seems, the Corona virus. The latter started to seriously effect attendance at the bi-annual Asian event as January turned into February.

As planned, more than 300 aviation leaders from over 50 countries, including Transport Ministers and senior executives of civil aviation authorities, international organisations, airports, airlines, aircraft manufacturers and air navigation service providers, were to meet in Singapore to discuss sustainable aviation growth at the Singapore Airshow Aviation Leadership Summit (SAALS) on 9 and 10 February 2020. The Summit was started in 2008 to provide a global platform for aviation leaders to network, exchange views on developments, and collaborate on new approaches in aviation. Unfortunately, it fell neatly into being a public gathering and therefore deemed dangerous for propagating Coronavirus. There was no public ban on meetings or gatherings, but the government made it clear in their advice that more than few people in the same place was downright dangerous. It is a moot point whether that was an expensive over-reaction.

The biennial Singapore Airshow is Asia's largest and most influential international aerospace and defence exhibition for stakeholders to forge strategic alliances and collaborate for change to shape the future of the global aviation industry through its high-level conference, forums and co-located events. Leading industry players, government and military chiefs gather to network, exchange ideas and seek solutions and strategies to advance the interests of the global aerospace and defence sector. Unfortunately, they too amounted to just a public gathering of the type that the government in Singapore was suggesting were to be avoided.

The organisers and managers of all the events, Singapore based Experia Events Pte Ltd, were seeing two years of hard work unravel before them.

First most of the exhibitors from mainland China pulled out and they were followed by a few from countries across the world. Big names in aviation were included, Textron made their decision early, but they were followed by others from the Americas including Bombardier, de Havilland and Viking. The decision that had the greatest effect was the government announcement that fighting the virus was now covered by an orange alert. That precipitated fears that the attending parties would not be insured. It was not just the fear of the illness itself, that was being widely overstated, it was the catastrophic likely consequences if large numbers of returning staff were put in quarantine. Nothing is free in the USA and the potential loss of staff for weeks on end plus meeting their wages and accommodation costs were not even likely to be covered by insurers. As a result, companies either downsized their presence or cancelled completely. The overall loss in exhibitors was announced as amounting to just 8% of the total, but on the day the visual effect of the staff downsizing was considerable.

The other consequence of the alterations in the make-up of the attendees was that the balance of the show shifted firmly towards the military. Very little civil content was evident.

The world tour of the Viking Twin Otter included the show so the ISR configured airframe was obliged to divert to Australia with a plan to undertake the flying demonstrations scheduled for Singapore at a later date in a country yet to be decided. As stated Canada based Viking did not attend the event but Airborne Technologies, the Austrian integrator of the ISR fit on the Viking airframe were there as were most of the companies on the Austrian national stand. In addition to sales to the Vietnam military the project appears on the cusp of further orders.

Airborne Technologies George DeCock and Bryn Elliott demonstrate safe greetings decreed at the Singapore Air Show — Fist Bumps.

Handshakes were still the order of the day, albeit followed by a thorough 'cleanse'



Out on the display flight line the ever-popular aerobatic team of the South Korean Air Force, regular attendees for many past events in Singapore pulled out. The newly ordered F-35B was being displayed to great effect by the US Marines but the manufacturer Lockheed Martin was no longer in town. Other spectacular aerial displays came from first time participants China's People's Liberation Army Air Force (PLAAF) aerobatics team, Ba Yi, the Republic of Singapore Air Force's aerial display team of an F-15SG fighter jet and two AH-64D attack helicopters.

As the show opened the organisers remained upbeat that they still had Asia's largest and most influential international aerospace and defence event in place and were still expecting 45,000 trade attendees and over 930 participating companies from more than 45 countries/ regions. Almost half of the companies were participating at the Singapore Airshow for the very first time.

Well-being and safety of attendees was a top priority and the organisers introduced enhanced precautionary measures to safeguard the well-being and safety of all attendees. These include enhanced cleaning and refuse management to maintain high standards of hygiene and cleanliness and temperature monitoring. Out in the population at large it had become difficult to source hand sanitisers but the organisers found adequate supplies for the attendees, and they deployed a team of doctors and medics to attend to any visitors who feel unwell, along with temperature screening at access points at Singapore Expo and Changi Exhibition Centre. The number of tickets available to the public for the weekend displays was halved as the public gathering decree bit.

Empty chalets were cordoned off as the numbers tumbled and the show was left to the military craft.



FLY SAFE IN 2020 

The Singapore Airshow 2020 'no-contact' policy encouraging attendees to adopt alternative business greetings instead of the conventional handshake received a limited acceptance. I am unsure whether fist bumps will catch on among the wider population but those of a French greeting persuasion were probably devastated at not getting their fill of traditional double cheek kisses. In reality there were lots of handshakes—each quickly followed by a dousing of sanitising fluid. This industry is too small to completely adhere to anti-social advice no matter how important.

Airbus usually persuade airlines to bring their giant people carriers to fill the static, but not this year. There was a great deal of concrete hardstanding that the US and Singapore military simply could not fill adequately. Even the helicopters were absent except in model form on a booth that was apparently short of staff.

The Textron Group pulled out early and ensured the absence of Beechcraft, Hawker and Cessna brands, and Lycoming Engines along with Bell helicopters. It was clear big plans had been made for Bell, the booth was very large, but the locally based office in Singapore were on hand to fulfil meetings they had long planned. They were too few in number to fill the space, but the effect was understandable and not as negative as some abandoned structures.

The stand for Leonardo was equally large but its signage, brashness and lack of exhibits and staff made it stand out a great deal more than others. Meanwhile just around the corner the booth representing Kopter, so recently acquired by Leonardo was fully manned by local staff.



We will have to await another two years before another air show returns to the island. Hopefully that event will not face the many disadvantages this year faced. It was daunting for all, there seemed so many wasted hours but personally my accolade goes to the staff writers of AIN and Flight who were contracted to produce show daily titles for an event that was so thin on content. For the first two days they produced around 50 pages, and on the third day 30 pages of regionally relevant text to accompany the pre-booked advertising. They may have struggled but they certainly delivered.



Bell might not have had its own exhibits on their booth but there was the recently upgraded Bell 412 out in the static park. Although on offer to law enforcement agencies, this like everything else is technically a military project.



In rounding up the event the organisers were understandably seeing the positive aspects. The trade segment of the Singapore Airshow 2020 concluded on an optimistic note with more than two-thirds of its key exhibitors committing to participate in the eighth edition, from 15 – 20 February 2022, at the Changi Exhibition Centre. Returning exhibitors will include Airbus, Boeing, Changi Airport Group, Diehl Defence, Elbit, Embraer, Hensoldt, Israel Aerospace Industries, L3 Harris, Lufthansa Technik, Pratt & Whitney, Rafael and ST Engineering.

Other returning country pavilions for Singapore Airshow 2022 include Australia, Canada, Germany, Malaysia and Switzerland.

On the face of it, no damage done.



The US support for the show was all pervading and led by the State Department bringing together a range of exhibitors—most of whom were present on their booths in time for an official tour.



Thank goodness for the US Military! Most of the international static exhibits came from the United States.