

# Police Aviation News

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HAI Heli-Expo 2013 Las Vegas Special Report

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## HELI-EXPO REPORT 2013

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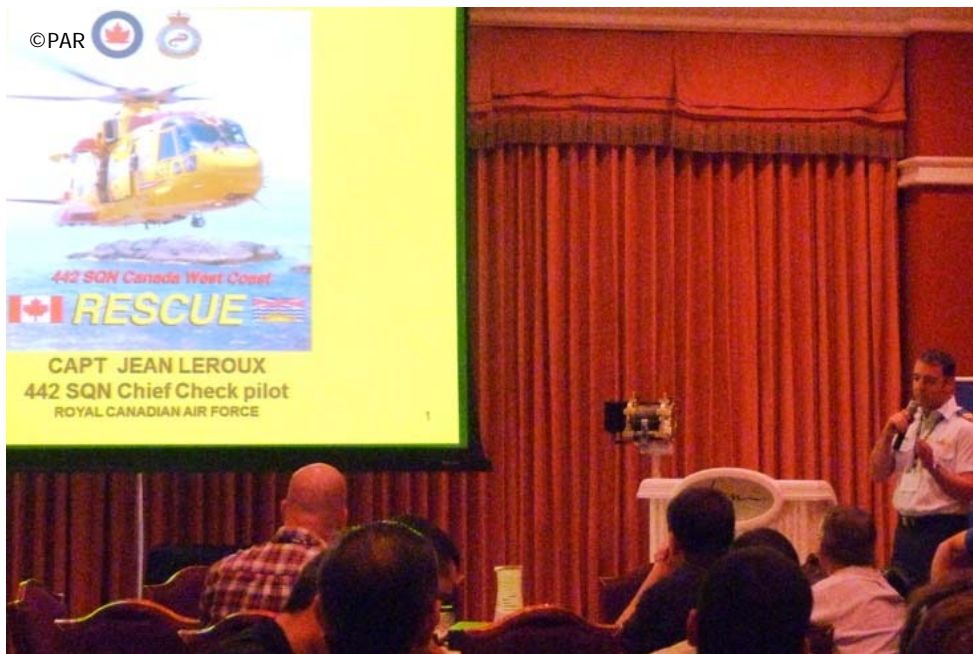
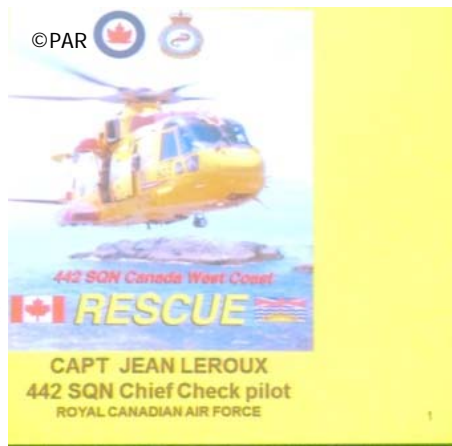
The official word is that this year the Heli-Expo showed the 6<sup>th</sup> consecutive year of growth. The return to Las Vegas after a length absence increased the number of exhibitors and the footfall. How much of this was a reflection of the attraction of ‘Sin City’ I guess we may never know – suffice to say that the desert watering hole has many varied attractions.

As is usual with such events stored orders flowed with Eurocopter reporting 69 and Bell 50 orders.

As with all recent events the show proper was preceded by both Education Classes and mini-conference events operated by companies specifically for their customers. The Honeywell event is primarily a vehicle for briefing customers on developments in the product line where the two day Goodrich Hoist Users event includes a greater active input from the customers – mainly drawn from active SAR organizations and the police. The gathering has now morphed into being a UTC Aerospace Systems event with the take-over of the company. Currently Goodrich remains the brand but I expect that it will be even less visible by this time next year.

Among this year’s presentations were hoist and rescue presented items from Australia, Colombia and France as well as the closer to home items from US and Canadian operators.

A highlight planned for the first of two days was a hoisting demonstration by one of the venerable Bell UH-1 Huey helicopters operated by Las Vegas Police Rescue. The chosen





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viewing platform for the gathered international group of event attendees and a number of invited media was the stark rooftop level of the Encore Hotel on The Strip. Braving annoyingly high winds made unpredictable by the presence of the airfoil shape of the hotel the Huey, N233JP, ran in to the built up area from its base at North Las Vegas Airport and commenced its routine but had to break off to undertake a real rescue mission. It returned the following morning by which time I was otherwise engaged.

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Left: The HelisAS in the Bell 407

Right: The HelisAS components

Background: View out of the Bell 407



## DEMONSTRATION FLIGHT

The North airfield is a well kept secret, the cab driver thought I was mad when I suggested that there was indeed another landing ground besides McCarran International – my repeated stabbing at the little airplane symbol on the map I absent mindedly picked up from the tourist office the day before paid off and he joined me in the mini-adventure that was investigating the field. Besides the police air unit North Las Vegas is home to a variety of light aircraft, a training school and a fleet of Dornier 228's used by Vision Air on Grand Canyon sightseeing trips so it is busy even if not widely known among its residents.

Prior to the Heli-Expo the field was being used for customer demonstration flights by Bell Helicopter and Cobham. The latter were offering a restricted number of media demonstration flights to showcase their Heli-SAS equipment. Customer demonstrations were held during the show and the handful of media flights served as something of a shakedown for the employed pilot before the show started. It is not a new system, it was FAA STC certified on the Bell 206B, 206L, 407 and the AS350/EC130 models by May 2011.

The pilot, employed specifically for the show, was a high hour former LA Police Department officer Frank King and our mount a Bell 407 N444BV owned by STM Aviation in Delaware and operating on behalf of Cobham for the show period. The 407 is a comprehensively equipped machine with add-ons including a GPWS terrain warning system.

The ease with which the pilot was able to understand and use what was for him an unfamiliar bit of kit suitably demonstrated that it is intuitive in use. The control panel for the HelisAS is tiny compared to the other displays and unfortunately placed low down in the narrow centre console a position that made it difficult for either of us to see easily. The narrow cockpit of the Bell meant that the panel was inevitably lost to view behind knees and the

bulk of the centrally mounted bulk of the PIC's collective. A nuisance largely militated by the comprehensive equipment fit but not insurmountable.

The Heli-SAS is a simple height and attitude hold device, reasonably priced, and primarily aimed at taking the load off the pilot on a day to day basis but also a potential lifesaver if the aircraft enters unexpected IMC. The system enhances flight safety by reducing pilot workload and increasing flight stability. The two-axis, attitude hold, attitude command flight control system allows many cockpit functions to be performed hands-free. HeliSAS' function provides precise control during all modes of flight, regardless of wind conditions or aircraft centre of gravity. The Heli-SAS will set the craft into a safe flight mode with the altitude and heading set, allowing the pilot a degree of hands off control and time to regain orientation. Heading changes can be altered and the HeliSAS will allow the craft to move smoothly around to the new compass point. Although the equipment is designed to operate at over 44 knots and above 500 feet it will allow an ILS approach to bring the helicopter safely down the glide-slope at lower heights. The lightweight and compact system is normally fitted out of view beneath the cabin area where it attaches to the control runs.

After start up of the single RR250 our flight out was slightly delayed by a succession of Dornier 228 aircraft trundling past carrying the paying public for their view of the big hole in the ground that is the Grand Canyon. Every day at least a thousand tourists individually pay hundreds of dollars for these flights in the helicopter fleets that swarm around Las Vegas – the Dornier's are just another income stream – so there is no wonder that helicopter business is good in the desert. Recent debutants at earlier Heli-Expo's have been the colourful A119 of Heli-USA as seen at last year's Heli-Expo in Dallas and Maverick Helicopters received one of the first EC130T2e delivered and operated it for demo flights for American Eurocopter during the Expo. Again that type was launched at the Dallas show last year and has joined a fleet with 36 examples of earlier EC130s.

Once cleared to lift the 407 headed further north across the low rise sprawl of the Vegas suburbs, leaving behind the tiny area that is famously garish and high rise. Soon the sprawl gave way to larger patches of desert and then we were among the forbidding hills - or were they mountains – and inhospitable desert. In truth it was not too far from the watering holes of The Strip but it would not be an easy walk.

Once engaged the HeliSAS maintains a steady pressure on the stick allowing limited hands free operation of that control as long as height and speed are maintained.

I did find the 'compactness' of the Bell cabin something of a surprise and a nuisance at times, and recalling that US police officers of my acquaintance tend to be of pretty bulky proportions can see why many find later airframe designs are preferred. Getting in any cockpit past both collective and stick is difficult at most times [except we expect the Bell 535] but the narrowness further heightens the difficulties. Cobham exhibited on two stands for this years show – one in the North Hall and the other in the Central Hall exhibiting both antennas and avionics.

The ILS approach into Las Vegas North with the high rise of The Strip in the background. ©PAR



## PRESS CONFERENCES

The Press Conferences for the event started the day before the show with a faltering start on a quiet day unfortunately leading to searchlight manufacturer Revue Thommen and Pratt & Whitney Canada picking the same time slot despite a pretty empty day.

Thommen have seen some major revisions in recent months, changes in ownership, management and the sales team that effect continuity and a still stalled assault on the world market place. The HSL-1600 searchlight offers high performance multi-function capabilities in a single integrated design. Solid state technology is incorporated throughout and offers significant increases in reliability, performance and ease of installation. Power management, control and system integration circuitry including active slaving capability for onboard FLIR, Camera Systems and/or Helmet Sight Systems is integrated into the unit itself thereby eliminating the need for any additional remote junction boxes and intermediate cabling. The unit is operated via up to two hand control units or from

the cyclic or collective grips. The primary 1600 Watt Xenon short arc lamp provides up to 1600 m detection range and a variable beam spread from 4° to 20°. NVIS capability of up to 1000 m is offered via an optional integrated IR filter module – a feature that the most direct competitor Spectrolab does not offer. After pursuing the matter at the press conference it seems that the expectation that Thommen would be able to guarantee the all important 1,000 hour lamp life appears to be less firm than it was a year ago.

Although sales into the world market have yet to materialise, as continued certification issues emerge, some 80 examples of the searchlight have been sold into Russia and the east. Conversely Spectrolab the long term market leaders are seeing their uncertified lights lose market share to the certified products – particularly the Trakka – so for Thommen the future might look rosy.

Clashing in the time schedule was the PW&C

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meeting, in the main the company are celebrating the 50<sup>th</sup> anniversary of the PT-6 engine but additionally they have been announcing that the time between overhaul (TBO) for all new PW206 and PW207 engines has been extended to 4,000 hours, a benchmark that PAN is aware fixed wing operator Diamond Aircraft finds difficulty in playing 'catch up' with for its far younger Diesel Austro engines.

The first PT6, developed in the early 1960s, was a leap of faith. P&WC was so convinced of the enduring potential of the engine that it invested more in the development and launch of the PT6A than the company was actually worth at the time. That leap of faith has paid off and the company has never stopped investing in its original success story, routinely creating new models of the iconic engine that build upon its reputation for rock-solid reliability and ease of maintenance. The PT6 turboprop is used by more than 6,500 operators in 182 countries. Constant investment in new technologies has created more power without increasing overall size. It has reduced emissions, increased maintenance intervals, created health monitoring capabilities and reduced fuel burn. It's a new engine with 50 years of performance, safety and endurance: all the usual stuff from which legends – and market leaders – are made.

The engine has its share of records, with some 41,000 engines being built in 68 distinct models with an accumulation of 335 million flight hours recorded. Compared to the original engine launched in the 1960s, today's PT6A engine is four times more powerful, offers a 40% better power-to-weight ratio and 20% better fuel consumption. The low shutdown rate is legendary with today's Basic In-Flight Shutdown (IFSD) rate is one event per million flight hours (0.001 per 1,000 EFH), a figure leading to the certification authorities of many nations allowing single engine types to undertake IFR passenger flights. Europe still lags behind although Finland has recently eased this in allowing passenger flights by a PC-12 in country.



## AGUSTAWESTLAND

The first major OEM to run a press conference was AgustaWestland at the Venetian Casino Resort, Las Vegas' version of Italy with the newly installed Daniele Romiti, as AgustaWestland's CEO.

Although the company studiously avoided direct reference to the troubles besetting it in India it was not long before the question and answer session broached it. In short the company denies being involved in any wrongdoing over alleged payments made to secure the large AW101 order from the Indian military. Figures being bandied around Las Vegas suggested £50M being involved as a payoff. How was this to be achieved? It seems unlikely that a mere bank transfer would work too well and a figure so large would certainly involve several dozen carrier bags even if paid in the largest bank notes available! Go figure.

On the show floor AgustaWestland displayed four of its range of helicopters and promoted its customer support and training services. The AW189 and AW169 helicopters on schedule to be certified this and next year respectively, but neither was represented in prototype or mock-up form this year. The four airframes displayed this year are readily available and represent EMS, offshore transport, corporate transport and national security missions.

Three of the four helicopters on display at Heli-Expo had been built in the United States at AgustaWestland's facility in Philadelphia, where the fourth, a GrandNew, was customised and completed by AgustaWestland Philadelphia having been assembled in Italy.

Making its Heli-Expo debut was the latest version of the Koala the AW119Kx, N516LF, an evolution of the successful A119Ke featuring the Garmin G1000HTM Integrated Flight Deck system with an advanced avionic suite comprising a Synthetic Vision System with Highway In The Sky (HITS) depiction, moving map and a Helicopter Terrain Avoidance Warning System (HTAWS) with worldwide terrain and obstacle database. The aircraft displayed was EMS configured for Life Flight Network, the launch customer. Life Flight Network signed a contract at last year's Heli-Expo for 15 EMS configured aircraft.

AgustaWestland again displayed its multi-mission AW139 National Security Helicopter demonstrator. The aircraft displayed a wide range of mission capabilities for Homeland Defence and was supported by a second AW139 displayed in the offshore transportation configuration with the fourth airframe being a New Grand.

The company announced a significant number of contracts during the show including one by UK based Sloane Helicopters for the purchase of two GrandNew light twin and two AW169 light intermediate helicopters. The first EMS GrandNew will be operational in the UK in the summer with Coventry based TAAS.

A REACH Air Medical Services Agusta A109A N21RX has passed the 10,000 flight hour milestone after being operated for 25 years in the company fleet and the occasion was marked at the show. Contrast the time taken to achieve that level of flight hours in EMS with the time taken for UK police aircraft to achieve it.

REACH Air Medical Services, headquartered in Santa Rosa, California, provides rotary and fixed wing patient transportation for critically ill or injured patients. In April 1987, REACH 1 began providing helicopter air ambulance services to Northern California using the twin-engine, instrument-flight-capable Agusta A109A aircraft.

They now have bases in Concord, Imperial, Lakeport, Marysville, Redding, Sacramento, Santa Rosa, Stockton, Thermal, and Upland, California, as well as Corvallis, Oregon and San Antonio and Houston, Texas. 2012 marked the 25<sup>th</sup> anniversary for REACH Air Medical Services founded by Dr. John McDonald who wanted to better serve his community. Since its inception REACH has safely transported more than 55,000 patients.

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Another EMS contract announced was that for a fleet of AW139 to equip the Saudi Aeromedical Evacuation Department of the Ministry of Defence of the Kingdom of Saudi Arabia. The helicopters will be configured with a dedicated aeromedical interior to perform air ambulance operations. At the same time that the Bristow Group was signing an order for EC175 helicopters it ordered another six AW139 helicopters and took options on additional aircraft.

More than 70 AW169 helicopters have now been ordered for a wide range of missions including corporate transport, air ambulance, law enforcement, utility and offshore transport. With all four prototypes already flying, the AW169 is on schedule to achieve certification in 2014. A versatile, new generation twin engine light intermediate category helicopter, the 4.5 tonne AW169 has been designed in response to the growing market demand for an aircraft that delivers high performance, meets all the latest safety standards and has multi-role capabilities and state-of-the-art technology.

The company has successfully demonstrated to EASA a 50-minute loss of oil or “run dry” capability for the AW189 main gearbox. The AW189 will be the first helicopter ever to enter service with such a capability, which is 20-minutes more than any other currently certified helicopter.

## EUROCOPTER

The following morning it was Eurocopter’s Press Conference that brought forth a chance for company problems to be placed under the thumbscrews on the grounding of the EC225. In contrast to the AW approach to the India question President & CEO Lutz Bertling, in his last HAI appearance, met the matter head on in his presentation and largely negated the need for questioning. Later during the show it was reported that EC have identified the problem but the resolution may now have slipped to June.

The EC message was that the company highlighted how it would meet a vision of transitioning from an industry-leading helicopter manufacturer to being the No.1 vertical lift mission solutions provider through evolving the current product line. There was much talk of upcom-



ing projects including the evolution of the X<sup>3</sup> into a commercial project that Lutz assured us will look nothing like the current airframe. He promised the intention to use the X<sup>3</sup> to raise the current speed levels but it is not clear whether they are after spoiling someone else's existing record. Did he have a hint of trouble making in his voice?

On the booth the latest members of Eurocopter's helicopter family – including its new EC175, an EC225, the enhanced EC145T2 and the AS350 B3e were joined by the newly reworked EC135T3. In contrast to last year there was no secret as to the identity of the 'unveil' – indeed there was no curtain raising, simply an introduction to the familiar shape with a few useful alterations.

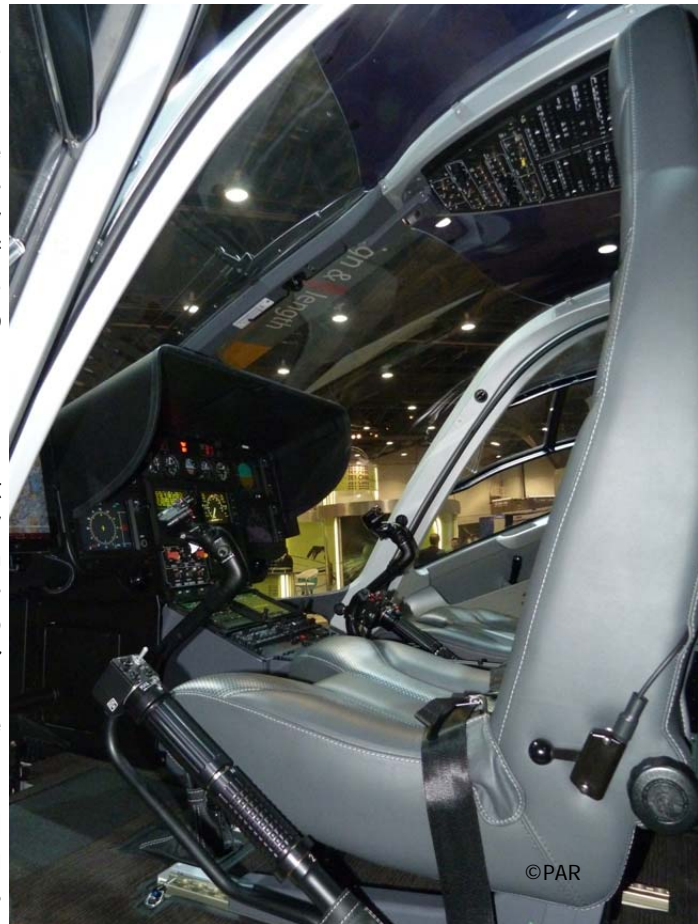
The EC135 has had a makeover. The latest version of the now 15 years old design – and most preferred light twin type for police use worldwide - is now the EC135T3 or P3 depending on powerplant.

The story was briefly broken by Rotor & Wing a week before Heli-Expo and duly repeated by a German helicopter forum before disappearing from view again as Eurocopter apparently swung its advertising 'big stick' – EC does not like exclusives spoiling their party! That said it was a bit of an open secret in the industry and R&W was not the only media group to leak news of the development.

The T3/P3 version provides a significant performance improvement in hot and high conditions, and for many operators, an impressive improvement in payload capabilities. The main rotor blades have been extended by nearly four inches, and the avionics suite includes optimised FADEC (full-authority digital engine control) software. Maximum takeoff weight has a 66-lb. boost to a new figure of approximately 6,579 lbs. The aircraft's range may also be lengthened if the mooted new external auxiliary fuel tank makes the grade.

Overall the new EC135T3 displayed at the Heli-Expo shows that, notwithstanding the hype, not a great deal has changed with the new airframe. Inside they have revised the ergonomics up to preferred modern standards but if you did not fit in the back seat before you still will not. Police role fits in the UK use up a lot of 'boot space' and that area is no larger either so other than the kit getting smaller there is no gain beyond an enhanced ability to carry conferred by the engine and rotor blade boost.

There was some talk about external/conformal fuel tanks but that is it seems no more than EC asking the customers whether they want them. The plan, as



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far as it goes is to bulge the top step in a similar manner to that exhibited on the Heli-Expo aircraft for housing the emergency floatation gear. External tanks are not new and Conformal fuel tanks were featured on the first Devon & Cornwall BK117C1 G-D CPA - they never made it past the launch photo-shoot as it was found that the police role fit with nose mounted camera shifted the C of G far too forwards. They sold them off to someone without a sensor pod. So it looks like this may be a HEMS or utility option if it ever happens.

The single-engine AS350B3e powered by a Turbomeca Arriel 2D turboshaft engine with a new-generation digital FADEC, and an engine data recorder for condition monitoring was a colourful addition to the EC booth.

Robert Spiegel has always been a fan of pop art. So when the South Florida commercial real estate executive purchased a Eurocopter AS350B3e for corporate use by his family-owned Poinciana Management Inc., he had an idea for the perfect paint scheme created by Romero Britto a Brazilian-born neo-pop artist whose main gallery is in Miami.

Off to one side in model form with an accompanying 3D video was the Eurocopter X<sup>3</sup>, whose full-scale demonstrator recently toured the USA. The video based on the tour was a popular side attraction on a project that still raises the type of interest that Concorde once did.



Above: Artwork AS350B3 on the Eurocopter booth.

Left: Arrivals Day a utility AStar arrives at the show for display in the static park.

Right: The future—a popular 3D video of the US Tour of the X-Cubed



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## METRO AVIATION

Elsewhere in the halls other police operated examples of the AS350 resided on the booths of such as FSI and L3 Wescam and Metro Aviation was displaying examples of both the EC135 and EC145 in the typical EMS role fit the company is noted for.

The Metro Aviation EC145 completion was an aircraft based in Cincinnati, Ohio at the University of Cincinnati (UC) Health Air Care and Mobile Care air medical programme, and is operated for them by Metro Aviation. The EC145 is equipped with the Metro Aviation Single Pilot IFR STC including Colour Radar, Satellite Radar, Helicopter Terrain Awareness and Warning System (HTAWS), and Traffic Collision Avoidance System (TCAS), as well as a cabin area that features the latest generation of medical technology and equipment for comprehensive patient care. Additional safety features include a cockpit and cabin that is compatible under night vision goggles, as well as satellite tracking capability and North Flight Data System's Light Aircraft Recording System (LARS). Metro performed the completion at its Shreveport, Louisiana facility and it features some adventurous use of colour in the seat upholstery. Who would have expected scarlet in a potential blood and gore environment?

At the end of the Heli-Expo most of the major manufacturers reported significant sales mostly in the oil and gas sector but with some from the ambulance and rescue sector. For Eurocopter the bookings covered products ranging from Eurocopter's light single-engine AS350 helicopter to the EC225 helicopter. Despite its current grounding the latter type was able to demonstrate fourteen sales placed by Milestone Aviation Group along with five medium-weight EC175. For oil and gas as well as SAR. The Bristow Group signed an agreement covering up to 12 EC175s for offshore energy industry, marking another major endorsement for the type.

Eurocopter's new mid-sized EC135 T3/P3 twin-engine rotorcraft attracted significant attention with a trio of international customers placing launch orders: Air Methods and Norsk Luftambulans ordering six each for emergency medical services; and Aiut Alpin Dolomites booking one helicopter for its mountain rescue operations.

The Avincis Group's signed for ten EC145T2 to be deployed in emergency medical services work; a memorandum of understanding from Phoenix Heli-Flight for an EC145 T2 to be used in emergency response as well as oil and gas missions; and Memorial MedFlight's order for one EC145.

## TURBOMECA

Over with Turbomeca (Safran) they announced the introduction of a new turboshaft engine to be called the TM800 Arrano, an 1,100 shp engine designed to power four-to-six ton helicopters and fitting in between the Arriel and Ardiden performance ranges. In today's market, The Arrano is named after the word 'eagle' in the Basque language. The Arrano will offer a 10 – 15% lower fuel consumption.

In July 2012, Eurocopter announced that its X4, new-generation, 5-to-6-tonne helicopter will be the first platform to be powered by the Arrano engine. Its development and certification plans are in line with the entry-into-service of the initial configuration of the X4. The first test run of the Arrano is scheduled in 2014.



As mentioned earlier the new Eurocopter EC135T3 utilises the Arrius 2B2 Plus. The new Arrius variant offers technical improvements compared to its predecessor, the Arrius 2B2. Its new FADEC system, offers engine's optimal reliability and availability with a time between overhaul (TBO) of 4,000 hours as well as a 5% increase in take-off power.



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## 21-22 May 2013



## MD HELICOPTERS

Perhaps the most anticipated press meeting in the Heli-Expo round is that held by MD Helicopters. In the past sparks have flown as the CEO Lynn Tilton clashed with a few characters among the media over probing questions from the floor or for getting the reporting wrong. The meetings tend to be recorded so there is need to get the story right – on both sides. There is always the danger of a repeat clash if someone grasps the nettle; it does not always happen, but the possibility is the attraction!

Nominally the event was to get one over Eurocopter, the timing was hard on the heels of the EC event, held some distance away, but actually everyone made it on-time without having to leave in a hurry. In the past press conferences have been a timing tussle between the major OEMs but lately sensible scheduling has avoided each of the major OEMs going head to head – and obliging the audience to leave one early to get to the next. In the event the MD event clashed with engine manufacturer Turbomeca.



At the centre of the presentation was a celebration of 20 years of the MD900 Explorer line, something of an oddity as the type remains virtually unavailable – but that is set to change.

The MD Explorer was a McDonnell Douglas project started in 1989 and completed its maiden flight on December 18, 1992, setting a set of unique benchmarks for performance and safety advancements, in the light twin category. The Explorer was the first production aircraft to incorporate the revolutionary NOTAR system in its initial design. With 20 years of

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mission proven flight, the advanced design of the airframe combined with NOTAR technology, still today, sets the bar for quiet operation, safety, versatility and low cost operation but it continues to attract far fewer passionate followers than its competitors.

MD still believe in the Explorer, its NOTAR technology and its future; as ever making the world at large accept and support that belief is the major challenge they face. To attract the interest and support of potential customers significant upgrades to the avionics and electrical system, along with advances in performance to increase range and payload have been put in train. The first stage in this customer attention getting is a weight increase - max gross weight is now 6770lbs [3070kg] an increase of 270/122kg.

A key element in the product development timeline will be the introduction of a next generation, full capability flight deck being developed with avionics manufacturer Universal Avionics Systems Corporation. It will not appear before 2015 but the result will be a new custom single-pilot IFR-capable integrated flight deck available for new production and retrofit of Explorer helicopters. The new cockpit will feature a Primary Flight Display (PFD) providing all Primary Flight parameters, Primary Engine / Rotor data and safety critical annunciators. Full capabilities will include synthetic vision, electronic charts and display graphics that are video and mission display capable. The system will support both single and dual pilot operations. Archangel Systems, Inc. will integrate its AHR150A Air Data Attitude Heading Reference System with the MD902 avionics upgrade.

MD continue to believe passionately in their products – the others being the perpetually successful MD500E and its new development the military MD540 – but at times they can overegg their capabilities and the actual level of success in their quest for recovery from a dire past still not entirely under their control. Things are getting better, but there is a long way to go.

## Managing your Mission

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## SIKORSKY

Sikorsky Aircraft was another area of some friction between MRO and the media – in this case for omissions in the presentation rather than the display of too many tenuous positives.

Last year it was Geoff Pino at the helm but now he has gone and this year Mick Maurer faced the press with some very positive messages from the world of Sikorsky. The S-92<sup>®</sup> fleet has now surpassed 500,000 flight hours, more than 90% of all S-92 hours flown in the offshore configuration, with 54% being flown in the North Sea. The type made its first flight in 1998 and now serves oil and gas and rescue services across the globe.

Much was made of the military products, the Blackhawk in the main, and of future products incorporating the X2 technology, but there was something missing. Just like Pino before him Maurer left out any mention of the products of Schweizer. The Elmira New York plant had been taken over by a Sikorsky to use for military completions and then quickly given up to lie empty and derelict. The S300, a piston powered type very important in the development of police aviation across the world, receded into the mists of time. Although it now plays only a tiny part in police aviation for many it remains an important basic training type much preferred over the Robinson and yet there are reports of massive waiting periods for what is a trimmed down product line.

That is all well enough but if Sikorsky is to build the S300 why would it be shy of mentioning the line on this occasion its annual statement of purpose? It was clear that there was a certain amount of embarrassment among the Sikorsky hierarchy at the probing by the press and yet here was a simple repeat of what had happened in 2012 when Pino too was wrong footed by similar questions. For the time being the questions were deflected by bland statements that Sikorsky is researching the manufacture and build standard of the S300. The type, long manufactured as a legacy product mainly by hand using old – perhaps even ancient – techniques, is now being reviewed to make it fit within a modern production regime. There must be serious doubt that it can ever fit within a modern factory economically but Sikorsky appears to be again deferring the announcement of the predictable.

But they have grasped the nettle as far as the turbine powered Model 434 is concerned. The product is not seen as viable thereby leaving the sole customer, the Saudi Arabian Border Guard, with a dead-end product that will not be further developed let alone civil certified.

There may be a future of sorts for the S300 but no-one is ever likely to step up to the table in support of the 434 and its S330 and S333 forebears. Perhaps another Schweizer clone will take the S300 back into a small production scenario – not unlike the resurgence of that old granddaddy of the light helicopter world the Bell 47.



### SCOTT'S BELL 47

Before the show Scott's – Bell 47, Inc. (SB47) announced a change of leadership related to the successful completion of their start-up phase, after acquisition of the Bell 47 Type Certificates in 2010.

Chris Meyer, formerly of Northwest Airlines Corp, has been appointed General Manager of SB47, and Neil Marshall, the man who turned his back on the Bell 429 as it was certified, is departing from his full time role with the company. Neil, a Partner at Vaeden Solutions, a provider of project, advisory, and interim management services, will continue to support SB47 on an advisory basis. Chris, who managed the transition of the Type Certificates, parts, & intellectual property from Bell in 2010, is currently the General Manager of Texas Helicopter Company, Inc., a sister company to SB47, and has worked alongside Neil as they have developed the ancient craft over the past 2 years.

Neil leaves the company with established operational processes, Drafting, Supply Chain & Quality Departments, all developed successfully with FAA oversight since 2011. SB47 has converted over 500 drawings of Bell legacy parts using modern 3D CAD techniques, including the replacement of out of date manufacturing standards with modern processes and standards. SB47 has over 180 FAA approved PMA's for use on the Bell 47 helicopters, has received over 3,700 newly manufactured parts, consisting of 39 high priority, unique part numbers, to replenish spares inventory, and has multi-million dollar commitments with the established supplier base for more. SB47 is also close to completing the development of a new state of the art instrument panel STC and have opened a new project with the FAA for new composite main rotor blades. The process appears to be a clone of Sikorsky plans for the S300 but with significantly lower overheads.



The 47GT-6 is to enter production powered by the RR300 engine, it will be developed as an STC modification to the 47G-3B-2A type design, and will be produced from wholly new production parts from 2016 at a cost of \$820,000 although there is a special offer of just \$750,000 for March. The STC will also include a new, modern Instrument Panel similar to that currently being developed for use on the legacy piston driven fleet of Bell 47 helicopters still in service. Use of the 47G-3B-2A platform takes advantage of the 3,200 lb MGW with external load that the model was originally certificated for. The helicopter will also incorporate other improvements including Composite Main Rotor Blades, LED Exterior Lighting and new Interiors, plus SB47 hopes to drive down operating cost to market leading numbers through the use of modern drive train technologies.

### ROBINSON

Robinson Helicopter were displaying two specially equipped aircraft – one from the Fontana Police in California was an example of the turbine powered R66 configured in the law enforcement version and an R44 electronic newsgathering platform. Conventional versions of the company's current best-selling helicopter—the four-seat, piston-driven R44 Raven, and its two-seat piston helicopter, the R22 shared the display area and appeared on other display areas in the hall. The Fontana R66 Police operates over an area lo-

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cated some 40 miles from Los Angeles, and watches over a population of 196,000 residents within the 43-square-mile city limits. Since 2003 the police department had been utilising a law enforcement-equipped R44 under a lease agreement and took delivery of the more capable turbine type late last year.

## BELL

As is usual Bell Helicopter took the largest Heli-Expo booth space – an impressive 150'x150' space on which it placed four full-size helicopters with important customer-driven upgrades announced during the show. Speaking to the usual enthusiastic and packed home crowd, President and CEO John L. Garrison opened the show to resounding applause with the announcement of a deal for 30 Bell helicopters with Air Medical Holdings Group.

Garrison provided an overview of significant customer-driven upgrades to Bell Helicopter's rotorcraft and highlighted progress with the Model 525 Relentless - expected to fly next year.

Among the upgrades announced is the Bell 412EPI, which includes the introduction of a next-generation fully integrated glass flight deck, and boost performance with the Pratt & Whitney's PT6T-9 Twin Pac® engines, delivering 15% more power. The company also previewed the new retractable wheeled landing gear option for the popular Bell 429 to address customer demand for missions requiring ground taxi. The latter is not exactly new as an earlier Heli-Expo featured mock-ups of the 429 with both skid and wheeled undercart.

Additionally, Garrison unveiled the new Bell 407GT, an armed version of the high-selling Bell 407GX. The 407GT is equipped to meet any mission need – ranging from tactical air

**[More Heli-Expo images on the Police Aviation News Facebook Pages](#)**

assault and troop escort, to reconnaissance and search and rescue – and is qualified for a range of weapons, from light to advanced laser-guided munitions. The commercially qualified 407GT incorporates the Garmin G1000H™ flight deck, providing critical flight information at a glance for greater situational awareness. The weapons system for tactical operations, includes an infrared camera system with laser designation capability, weapons management system, universal weapons pylon (UWP), derived from that fitted to the battle tested OH-58D Kiowa Warrior, a tactical radio suite and aircraft survivability equipment.

The sensor turret being incorporated into the 407GT is the L3 Wescam MX15D electro-optical/infrared (EO/IR) designating turret. The MX15D was tested extensively during live-fire operations at the U.S. Army's Yuma Proving Ground late last year, culminating in the very successful demonstration of laser target designation for the BAE Systems Advanced Precision Kill Weapon System® (APKWS) guided rockets. The MX15D gave the operator a superior tool for long-range target identification and laser-guided weapon designation.

As has been the case for some 19 years now Garrison was able to point to its oft repeated mention in *Professional Pilot* magazine as the number one company in service and support. It may be a comfort to Bell but it has not projected the company into a position where they have increased sales significantly on the strength of it.

## TANIS

Tanis Aircraft Products has announced a Supplemental Type Certificate for the Bell 429 Preheat System by Tanis. The company manufactures the only heli-preheat system that thoroughly and safely heats all critical components. Helicopter preheat systems typically include heating elements for the engine, main rotor gear box, accessory gear box, tail rotor gear box, fuel control unit, hydraulic tanks, and oil coolers. Battery preheat systems are also available and sold separately. With a Tanis System the heat is thoroughly applied in a safe and reliable manner which reduces maintenance costs and fuel consumption. Preheating adds to operational reliability, flight safety, flight utility, and reliable starts in all weather conditions.

Preheating the components is accomplished through heat pad elements mounted to the surface of the components with an approved bonding sealant. Power is applied through an independent wiring assembly that connects all of the heating pads.

Tanis Aircraft has manufactured customised preheat and maintenance solutions for many different aircraft and helicopter applications since 1974 at its factory in Glenwood, MN administered from offices in Eden Prairie. [www.TanisAircraft.com](http://www.TanisAircraft.com)



## POWER SONIX

Power Sonix, Inc. announces at HELI-EXPO in Las Vegas the release and availability of new aerodynamic speaker arrays for their industry-leading airborne public address systems. The new wing-shaped hexagon speaker enclosures offer a 30-40% reduction in the surface area of the speaker driver enclosures from their previous models.

The company has been awarded a long-term contract with Korean Aerospace Industries of South Korea (KAI) to supply 900-watt PSAIR32A tactical public address systems for the Surion helicopters being made for the Korean National Police Agency. The Surion helicopter is being designed, engineered and manufactured in South Korea by KAI in partnership with Eurocopter of France. The 3-horn, 900-watt Power Sonix PA will be recessed into the fuselage and integrated with the Technisonic A790 audio panel, allowing cockpit headset voice projection, pre-recorded messages, and connectivity to COTS MP3 players & iPods.

Power Sonix was chosen after a comprehensive competitive bidding process over Cobham Avionics (Made by Anodyne) and Ultra Electronics. "We are extremely proud to have been chosen for this program. It further validates our products as the best airborne public address systems on the market today, providing the most power and clarity in the smallest footprint possible and at affordable prices for budget-strapped law enforcement agencies.

## VAN HORN

The Tempe, Arizona based rotor blade manufacturer Van Horn Aviation has increased its industry profile over recent editions of Heli-Expo as it expands its range of composite rotor blades. The company signed a Memorandum of Understanding with Bell Helicopter concerning 412/212 rotor blades over the design, certification and manufacture of composite tail rotor blades for the larger Bell product lines. The VHA 412/212 tail rotor blades will also be available for purchase by current operators through Aeronautical Accessories, a Bell Helicopter brand.

The 412/212 arrangement follows another recent agreement that underlines the wider acceptance of the Van Horn composite product between the two companies. Aeronautical Accessories will distribute the Van Horn 206B/L composite tail rotor blades to customers giving maintenance staff more confidence when installing blades with a clear Bell seal of approval. [www.vanhornaviation.com](http://www.vanhornaviation.com).

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### RSG AERO DESIGN

Last month's standard edition of Police Aviation News carried some details of a US industry role fit project undertaken by RSG Aero Design a Fort Worth, Texas company for a unit of the Japanese Police operating with the Fukui Police Department. The company, formerly Texas Aviation Services and a long standing US completions centre in the emergency services arena were at Heli-Expo promoting further contracts.

The Fukui PD installation and certification work was completed in Japan in early April 2012. This was a delayed "role fit" on an airframe delivered from Eurocopter in 2011. The scope of work included the design, analysis, substantiation, and subsequent fabrication and in-country installation and testing of the mechanical and electrical provisions of the Fukui PD supplied surveillance, communication and data link equipment for the Eurocopter EC135T2+, c/n 0962. The mission equipment and installation provisions included the following:

- 1- RHS universal gimbal mount assembly with quick release mount, harness assemblies and aircraft wiring provisions for the Axsys V14 EO system. The gimbal mount base assembly attached to the aircraft FWD RHS landing gear step assembly to provide rigid and table structural support for the installation. Precision machined lightweight mount design allowed the V14 gimbal to be quickly and securely installed or removed depending on the mission requirements.
- 2- LHS universal gimbal mount assembly with quick release mount, harness assemblies and aircraft wiring provisions for the Axsys V9 EO system installation. The gimbal mount



base assembly attaches to the FWD LHS landing gear step assembly to provide rigid and stable structural support for the installation. The gimbal mount base assembly attached to the aircraft LHS landing gear step assembly to provide rigid and stable structural support for the installation. Precision machined lightweight mount design allowed the V9 gimbal to be quickly and securely installed or removed interchangeably with the Trakkabeam searchlight depending on mission requirements.

3- Harness assemblies and aircraft wiring provisions for the Trakkabeam searchlight along with a precision machined mount design allowed the searchlight to be quickly and securely installed or removed interchangeably with the Axsys V9 EO system depending on mission requirements.

4- High powered external PA system with dual speaker arrays for clear, undistorted, long range directed voice and warning projection. The external speaker assembly attached to the aircraft Aft RHS landing gear step assembly using quick release mount design to allowed for rapid reconfiguration depending on mission requirements.

5- Lightweight monitor mount that attaches to the LHS of the existing instrument panel to provide secure and ergonomic installation for a cockpit 5.6-inch LCD display. The mount design incorporated a glare shield to optimize the performance of the display during daylight operations.

6- Precision machined lightweight Operator Console assembly with quick installation provisions to the existing cabin seat tracks. The modular design of the Operator Console assembly provided secure and ergonomic mounting for a 15-inch HD LCD display system along with hand control units for the Axsys EO systems and the Trakkabeam searchlight, M/W digital data link, digital HD video recorder, operator audio panel, external PA control panel and tactical communication equipment.

7- Precision machined lightweight Avionics Rack assembly with quick installation provisions to the existing cabin seat tracks. The modular design of the Avionics Rack assembly provided secure and forced air cooled mounting for the aircraft mission equipment.



## FINALE

This year's show being the biggest ever with 736 exhibitors and 20,393 attendees, leaves the HAI team with a major task in getting more growth next year in Anaheim, California. The dates for your diary are February 24-27 (exhibits open February 25-27) 2014.

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