

Police Aviation News

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Special Edition—Heli-Expo 2011

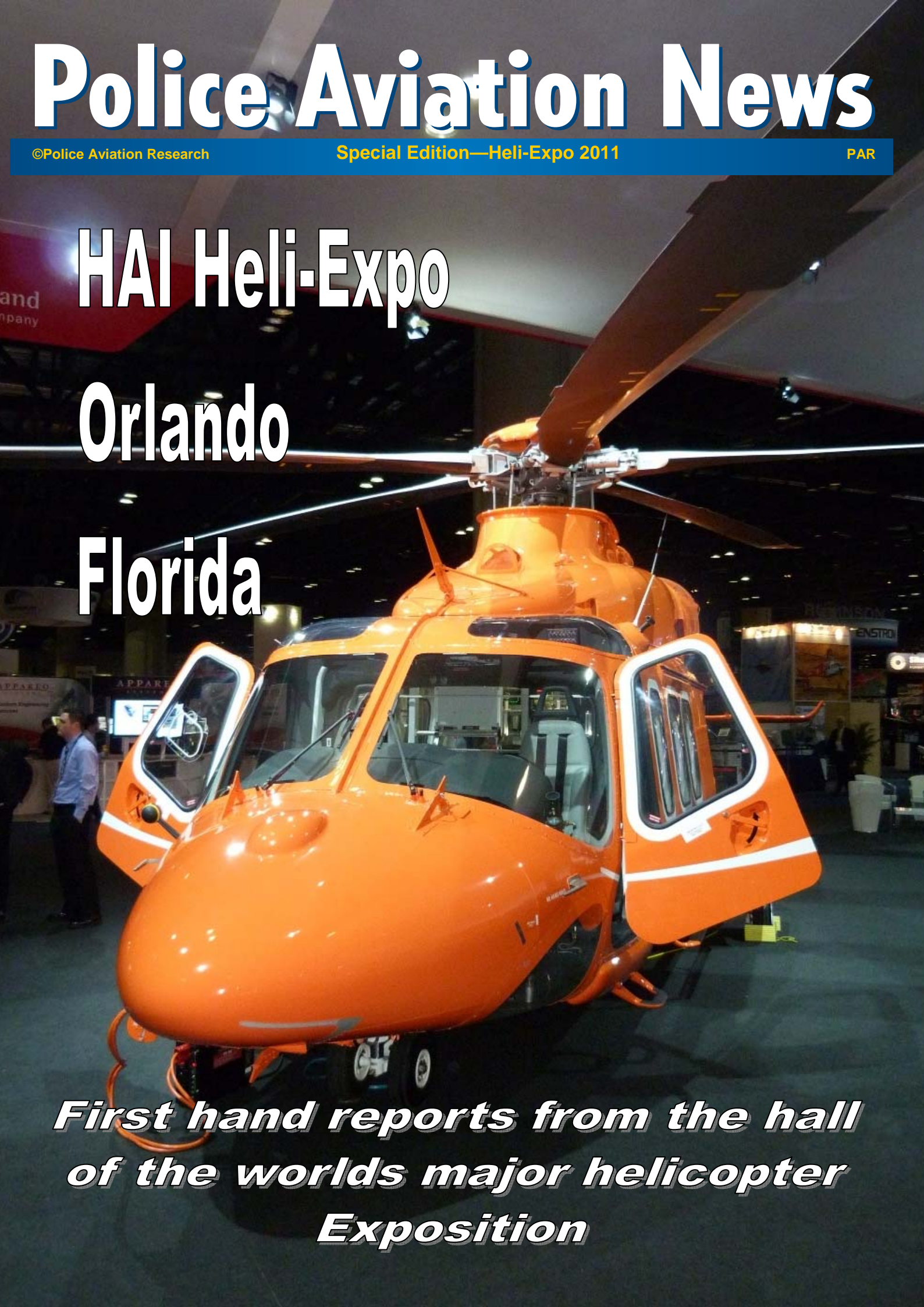
PAR

HAI Heli-Expo

Orlando

Florida

*First hand reports from the hall
of the worlds major helicopter
Exposition*



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WELCOME TO ORLANDO

Having been involved in the experience of a number of Helicopter Association International Heli-Expo events in the past I am perhaps being a little more 'picky' about the visitor experience than I used to be.

Orlando hosted the 63rd edition in the newer wing of its Orange County Convention Center in International Drive. In this part of the world all the structures are big and no less so the facilities for the HAI Heli-Expo 2011 show time – a typical out of town US convention building built on a 'green field' is so vast that each of the lushly carpeted and furnished 'corridors' leading to one of the halls and meeting rooms is easily large enough to hold an event in.

This sense of scale has its downside in Orlando 2011. Having taken over the relatively new and ever larger north building complex for this year's Heli-Expo the organisers, HAI, can rightly claim to be offering an ever bigger show when compared with the previous time in town. Unfortunately the large scale puts an equally giant distance between all of the elements that make up the overall event and even the Hilton Hotel – nominally attached to the new complex – is far from close. In a society where everyone travels across the road by car it means little but for the uninitiated foreign visitor it became a blistered foot shock! Anyone booking the same hotel as last time because it was 'handy for the Convention Center' arrived to find that 'handy' was now a mile further away from the centre of operations. A twenty minute stroll was now nearer a marathon and that the former venue was now a convention for retail giant Wal-Mart and its employees



COVER IMAGE: On the show floor AgustaWestland AW139 C-GYNH of the Canadian EMS operator Ornge represents one of the most successful helicopters in recent times.

The new hall space was not fully utilised, it is of such gargantuan scale that there were acres of unused space behind the exhibits and the vast car park behind provided a perfect temporary heliport for flight worthy arrivals.

After the event HAI reported that manufacturers conducted more than 90 customer demonstration flights from the rear of the convention building. A total of 625 companies and organizations exhibited at the show and registrations were around 20,000, both records. More than 50 helicopters were displayed on a show floor of roughly 1 million square feet. I am not so sure that that HAI did not fall for their own 'bigger better' mantra, the event lost something... it was big and even more soulless than usual. Even the main exhibitors had truly giant booth spaces when compared with earlier events, AgustaWestland in particular had a vast space allocated and what seemed significantly greater distances between exhibit airframes than in previous years.

All that said, Heli-Expo remained the greatest helicopter show around and well worth the travel across from Europe and farther afield.

But first to some of the side show elements.

"SIMPLY UNBELIEVABLE"



WESCAM's MX-10 continues to take the industry by storm! Who would have thought that footage captured from a demo would have created the buzz it has. As the saying goes... You have to see it to believe it!

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GOODRICH USERS CONFERENCE

The annual gathering of Goodrich customers and staff was relocated to the new Hilton Hotel and quickly drove home the distances when compared with the location chosen last time. Held over two days on March 3-4 many of the 'must see' presentations took place on day 1 when I was still travelling to town but I was able to take in a couple of interesting items. The principle purpose of these outside events is to take customer feedback and there was plenty of that to be had.... and not all of it was of the type that Goodrich would necessarily wish to hear too often. Fortunately no one was decrying the basic Goodrich hoist it was a failure of some attachments to satisfy customer needs.

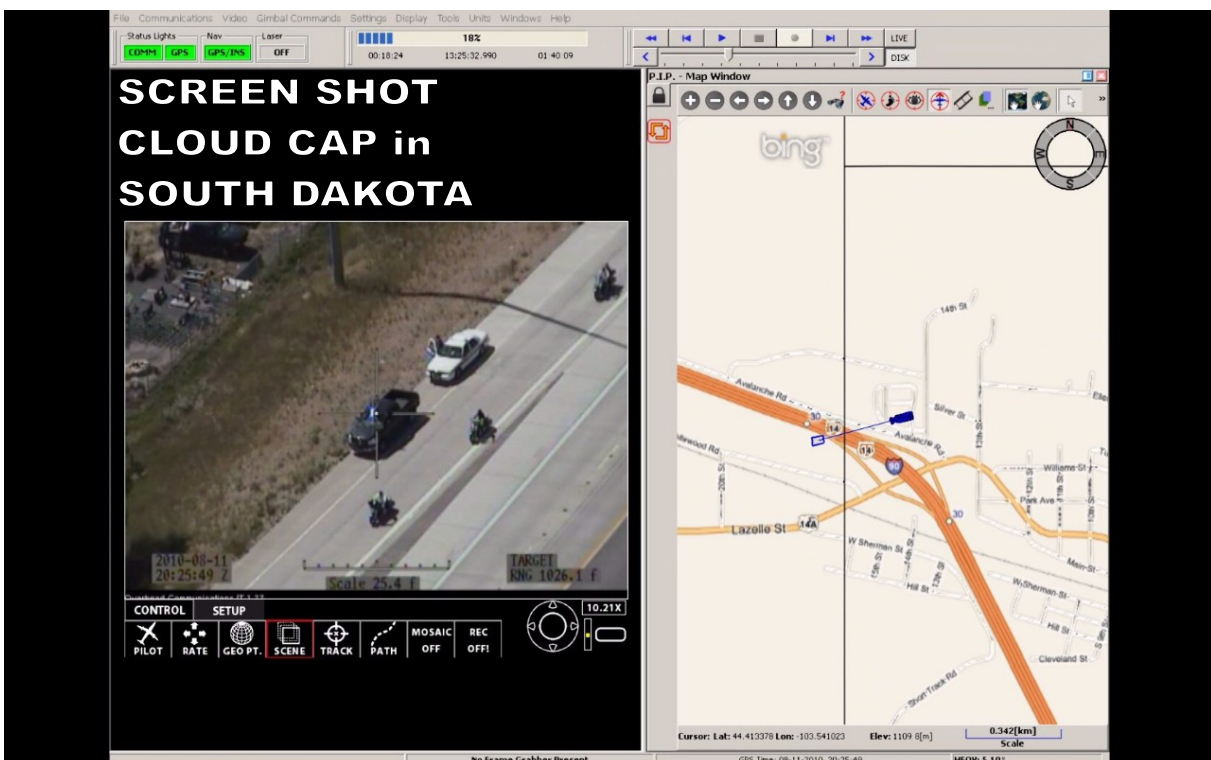
Lt Olivier Mabilie of the **French Navy**, and a pilot with a long personal history in SAR operations, gave an overview of their operations before getting down to the detail of how they undertake rescues with the Goodrich hoist and a range of equipment that seems to have altered only in detail over the years.

One difficulty they have identified is failing to source a satisfactory replacement winch hook. Since 1993 the service has been using a *Westland Hook* which they slightly modified to their ideal specification to ensure that it was safe and reliable in use by rescue swimmers often suffering with frozen hands rendered not as nimble as those to be found in warmer climates. Clearly with his gear now superseded in production they needed to find something newer but even after trialling all of the hooks on offer from today's industry they still have still not found equipment with an acceptable specification.

Cloud Cap, as the in house Goodrich sensor offering naturally took a slot to provide an overview of this developing product line. Primarily designed with a view to equipping small unmanned airframes and Windows based for simplicity the Cloud Cap product range has expanded to take on the lower end of such as law enforcement operations. The low cost specification includes using a Logitech hand controller rather than an expensive custom made ruggedized example. The beauty of the technology is that although it might break relatively easily a replacement part costs just \$20 in the High Street.

Like the 'big boys' they suffer from US Government restrictions on the export of FLIR technology and that too impinges on their ability to even get licences to exhibit outside the US – unless they stick to EO daylight camera demonstrations.

Recently the company were working with the South Dakota Highway Patrol with a 2 pound [1kg] system fitted via a Meeker dovetail mount to their Bell OH-58. Although an International market product the Cloud Cap range enjoys only restricted civil certification, most fits to date have been into the military, Public Use or under an STC. The company has been working with Meeker, NASS, Paravion and Yson on various mounts.



A presentation on the **Argentine Coast Guard** exhibited a service managing on elderly resources and currently able only to offer a restricted service. Night search is acceptable but the standard of the equipment is such that they cannot undertake an IFR rescue sortie – so perhaps the current message is to avoid getting into harms way in the South Atlantic on anything other than the very best of weather!

The Coast Guard was originally part of the Navy but in the 1980s came under the Ministry of Security as a police resourcing. The fleet has changed significantly since it became a law enforcement agency but the biggest loss of aircraft in the shortest time scale was as the result of the 1982 Falklands War. In that short and bloody conflict the operation lost a pair of Short Skyvan fixed wing and a SA330 Puma.

With the remaining Skyvan aircraft withdrawn the main fixed wing aviation resources operated today are a fleet of newer CASA 212 but the rotary wing fleet is older and now hard pressed by age and the ravages of salt water corrosion. Most numerous are the French sourced Dauphin's acquired from the mid-1990s to 2002 and these operate in the SAR role. A handful of Schweitzer S300 are used for training. Only one SA330 Puma [PA-13] now remains in service. The original trio were acquired around 1980, one lost in South Atlantic war, it was captured and served with the RAF until lost in a 2009 accident and the other crashed fatally early in 2000 when the rescue basket got caught up. Two pilots died of hypothermia and only parts of the airframe were recovered.

On the brighter side re-equipment is under way with a total of four Eurocopter AS355NP helicopter deliveries taking place 2010-11. Ideally though the service would like to replace the Puma with something more capable and aspirations are that an EC225 will be going south one day soon.

The Goodrich event was about hoists and rescue equipment, but the company is not just in that sector. **Goodrich Corporation** showed a number of advanced helicopter technology products designed to bring real-time information to air crews and lower operating costs to owners along with enhanced safety and rescue systems. On their booth they displayed their HUMS (Health and Usage Management Systems), helicopter health monitoring and management systems that provide actionable data, from flight line maintenance teams all the way to the manufacturer. www.goodrich.com

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AGUSTAWESTLAND

Just prior to the show AgustaWestland North America introduced its AW139M military helicopter for the US military market at a military specific forum, the 'paint job' on an otherwise fairly standard airframe serves as the mock up. It appeared in the Orlando hall but was separated from the giant main AW booth space to underline that as a military project it was actually out of place at Heli-Expo.

US manufactured in the company's Philadelphia facility and loaded with US military technology from suppliers across the USA, the definitive AW139M is to include a high-definition FLIR, self protection equipment including infrared detection and countermeasures, avionics and heavy duty landing gear. The proposed AW139M would also include armoured seats; ballistically-tolerant, self-sealing fuel tanks; and an external stores system for carrying gun pods, missiles and air-to-ground rockets.

The company naturally highlighted the recent exploits of the Emergency Management Queensland Helicopter Rescue's [EMQ] AW139 medium twin helicopters, aircrew and support staff in making a significant contribution to the communities hit by the recent extreme flooding in Australia, rescuing dozens of people in just a few hours and saving many lives.



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On January 10th in particular an inland tsunami had caused extreme flash flooding engulfing several towns in the Lockyer Valley area and it was two EMQ AW139s that flew into Grantham, 60nm west of Brisbane, and winched some 43 people in an afternoon. The crews battled extremely poor weather, dwindling fuel and fading light with the helicopters which performed safely and reliably throughout and again the following day.

The night before the show AW held their traditional press conference, an event in which they were very open and frank about their hopes and aspirations for the immediate future in a period of some financial challenges.

In his thick and sometimes difficult to follow Italian accent Giuseppe Orsi was even more open than he has been in recent years. The AW brand is in the ascendency but as more than one speaker pointed out in Orlando anyone might be ready for an unexpected fall so all projections are suppressed by a degree of caution.

Strangely both the major European manufacturers have grown more open about their hopes and aspirations as the American's have 'shut up shop' and retreated into their own world of relative silence. I suspect it is the bravado of growing confidence up against the ongoing Titanic mentality that still grips much of the US helicopter world. Sikorsky is healthier and there are signs that there is something positive stirring in Mesa but that may still be an illusion.

Although this was the big event 'Heli-Expo' the AW product line is effectively marking time and there were no major announcements on impending civil milestones. The AW169, launched to the world at Farnborough last year is progressing well and last years mock up though physically the same has had a new coat of paint to temporarily erase any UK police aspirations the blue and yellow scheme may have indicated! The ongoing debacle that is to be the National Police Aviation Service is no longer a good model to associate with the AW169.



The spacious, unobstructed cabin space with constant section geometry can accommodate 8 or 10 persons. Alternatively, two longitudinally or transversally mounted stretchers can be accommodated. The type offers high rotor clearance, OEI capability in all flight phases, engine burst containment protection for the PWC PW210 turboshaft engine and a 30-min MGB run-dry capability.

The programme is progressing as planned with the first flight scheduled in 2012 with certification in accordance with the latest amendment of JAR/FAR 29 and JAR-OPS3. It will be compliant for Category A, Class 1 Operations and IFR Single and Dual Pilot Operations.

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The process should be far enough advanced by the end of 2014 for deliveries to start immediately afterwards. The AW169 has been designed in response to the growing market demand for higher mission flexibility and multi-role capability in the 4.5 ton class the sector currently very much the market of the not so new EC145/BK117.

The booth included a useful 'living brochure' feature room which effectively immersed the potential customer in a room with large scale image projection facility showing the various interior options. A good show gimmick but little more.



Although he may not have intended

it to be so, the comments made by Orsi on the current state of the Bell Agusta 609 tilt rotor led to a marked difference of opinion with their supposed partners Bell Helicopter. Bell have clearly been less than dynamic supporters of the 609 project – indeed every project they have touched - for a long time now but seem to believe no-one has noticed.

Orsi clearly said that the development process of the BA609 was still being held up in negotiations with Bell Helicopter, whom he inferred was reluctant to hand over the development baton to AgustaWestland and yet in the Bell press conference mainly relating to yet another 407 upgrade everything that Orsi had intimated was denied.



Uniflight announced a cooperative venture between Bell Helicopter and Rolls-Royce to provide the RR500 turboshaft as an engine upgrade kit to the venerable 206 series of light single engine helicopters. The project will significantly improve the performance of the aircraft for hot climate and high altitude operating conditions from about 2013.

Unfortunately upgrading the existing product line was again the primary element to the whole of the Bell presence at the show. Two major new launches at the show based on the



407 line simply amounted to a major Garmin glass cockpit refurbishment and a military mock up. Both of these took place amid great celebration on day one but the former was more appropriate as a Garmin booth event and as previously recounted AW pushed their military AW139 off booth because they considered it *inappropriate* for the show.

The perennial good mark continues to be the award of the best OEM for support by a magazine. There is a strange expectation by Bell that 'other' magazines will help celebrate this accolade but that is perhaps a little over optimistic! Instead, rather than praising the readers of another magazine, we might be tempted to wonder whether the exemplary supply chain related performance to customers is probably greatly supported by there having been no new product lines inserted to complicate the supply chain since the 407 was introduced. A static product line is a relative dream for logistical matters.

No mention was made of the 412 Magellan upgrade or of the major power train problems in some models of this venerable type brought to light when an NYPD helicopter crashed into the sea just short of the base.

Bell Helicopter largely ignored their superb Bell 429 although one was in a dark corner of the booth. The 429 continues to have weight issues that will not go away and a number of long expected sales remain in limbo until they are resolved. Bell are not unduly pressuring the signatories to these options simply because the overall performance of it have not yet met the promised specification to the customer. Is the level of project financing in the company is being kept low?

It is not all bad on that project though, Bell has announced that the National Civil Aviation Agency of Brazil (ANAC) has awarded the Bell 429 helicopter Brazilian certification. This approval follows certification by the US Federal Aviation Administration (FAA), Transport Canada (TC) and the European Aviation Safety Agency (EASA). The first delivery has been made to a customer in India and over 40 sales of Bell helicopters, mainly the legacy types, were announced in the wake of the show.

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EUROCOPTER

And so to the big boy of the commercial helicopter world.

Eurocopter unveiled its newest helicopter and launched a comprehensive enhancement of the existing product line at Heli-Expo, thereby, they say ‘underscoring the company’s commitment to innovation for the improved operating performance, efficiency and maintainability of its rotary-wing aircraft.’



In a predictably glitzy unveiling the ‘new’ helicopter was revealed at Eurocopter’s exhibit stand at 11:30am on the opening day of the show, during a ceremony led by Eurocopter President & CEO Lutz Bertling. Agreements with multiple launch customers were also announced and Bell’s event down the hall—set for exactly the same time—was overshadowed.

In spite of a vast number of the media and interested onlookers knowing exactly what was to be seen under the shrouds Eurocopter did their work well and kept the identity of the craft well hidden. That an EC145 with a Fenestron was to be unveiled was well known... after all it had been photographed on test flights during 2010 so even the general shape was well known.

Thanks to a useful bit of Eurocopter disinformation ‘we’ of the media were suitably wrong footed over the exact identity to be used for the new EC145 variant. One of the discarded options, ‘EC146’ stuck fast and there were even those who claimed

ownership in getting the name right. Unfortunately they were left to quietly retreat as soon as the curtain was raised upon the new ‘EC145 T2.’

In fact the new beast was just a mock-up, leaving the real airframes to continue with certification hours building back at the factory. What you could see was a slightly oversize



EC135, beneath the exterior was yet another move away from the Grandfather Rights BK117 airframe. The cabin shape changed years ago and provided a massive advance in cabin space and usability but retained the core internal dimensions – the cabin still steps down at row three so tall people still have head clearance problems. At the core of the changes



are the deletion of the conventional tail rotor and the inclusion of an uprated Turbomeca Arriel 2E engines, upgraded main and tail rotor gear boxes, a 4-axis autopilot and a modern digital FADEC (Full Authority Digital Engine Control). The cockpit features the latest in glass cockpits and only the EC175 has a similar set up. This is to be a no option feature.

It may have been heralded as new but of course it was not. What it turned out to be was an advance based on a proven product incorporating all the aspects customers - mainly important air ambulance operators in the USA - had long wanted. All of the new features should improve maintenance times but it remains a 'Grandfather Rights' airframe with all the safety and engineering negatives that brings. The negatives decline with each upgrade but at the core the type remains what it is and is certified as a BK117D.

The EC145T2 may have been a mock up but I was asked where the serial number was! Not so sure 'works of art' in this sphere have started carrying a s/n just yet.

The glass cockpit is the same as that from the EC175 [and that part looked 'real' enough as well] - I was led to believe it will not be an option, take it or pay heavily for something else. That option will have an effect on law enforcement use and the TFO/observer will probably have to use the same screen.

The EC145 T2 launch orders announced during the unveiling were led by Spain's INAER, which signed for 10 aircraft. Its initial helicopters will be in the EMS configuration, with flexibility provided in follow-on deliveries for other mission-specific versions of the rotary-wing aircraft depending upon INAER's operational requirements.

The upgrade to the specification should meet most of the needs for this market sector for some years from first deliveries next year. After the AW169, with its significantly more roomy cabin, becomes available the situation is likely to alter. Meanwhile, to take a leaf out of the MD publicity book EC145T2 pilots can reverse into bushes with less danger of damage. Though no-one has yet explained why they would want to do that!

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In contrast the AW169 is a clean sheet of paper JAR29 design of similar weight and it shows in the amount of clear area cabin room it bestows upon the design. EC have been lucky in that the BK117 [and the similarly blessed AS350/EC130 for that matter] allowed them such leeway in the upgrade processes, no matter what AW have done to the A109 its own ancient national build standard held it back with a small cabin even if the overall interior volume is larger than competitors.

These days enhancements for Eurocopter's product line involving a number of the current helicopters on offer carry an "e" designation for "enhanced" and in that vein the single-engine top model of the Ecureuil/AStar family has picked up the new designation AS350 B3e. The aircraft was being shown in its corporate/VIP configuration. The updated version of the Ecureuil family incorporates a more powerful Turbomeca Arriel 2D turboshaft engine, along with a new FADEC and an engine data recorder for condition monitoring.

The AS350 B3e features an improved interior design, as well as tail rotor modifications for additional ease of piloting. It also has the option of operating at the maximum takeoff engine power rating for 30 minutes, and can be equipped with optional engine filters for additional protection during flight in sand and snow conditions without weight penalty. Certification of the AS350 B3e is targeted for this summer, with deliveries beginning before year-end.

Within four hours of the introduction of the AS350 B3e helicopter, the principals of Air Medical Resource Group knew that this was the aircraft they needed to expand their business. They signed for seven of the new helicopters.



photo taken right after the signing of the contract, in front of the AS350 B3e on Eurocopter's booth. In the photo are (left) Marc Paganini, President and CEO of American Eurocopter and Joseph Hunt, CEO of Air Medical Resource Group.

In an easily missed aside the Eurocopter President & CEO Lutz Bertling mentioned the AS350 series and touched on its replacement. Current thinking appears to be that there is no option on the table to replace the type that has pretty well got the single engine police and air ambulance markets sewn up. The basic craft may be modified from time to time, more powerful engines and some alterations to improve maintainability – perhaps even a Fenestron one day – but the crew accommodation of the core airframe remains difficult to better. The price to pay is that its vintage results in longer maintenance periods when compared with a new design. In Texas the Indra/AEC AS350 Full Flight Simulator has received Level B certification from the FAA. Also announced was the signing of a simulator training contract with the Texas Department of Public Safety.



Also spotlighted at Heli-Expo was the full-scale mock-up of Eurocopter's EC175, displayed in its configuration for oil and gas transportation missions. Flight testing with two EC175 prototypes has surpassed the 100-flight hour milestone, demonstrating the aircraft's excellent handling qualities and low internal vibration levels. The initial production helicopter for this seven-metric-ton rotary-wing aircraft – being developed in a joint programme with the Chinese Aviation Industry [AVIC]. The first EC175 deliveries are scheduled to begin in 2012, following type certification.



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Additional attractions on the booth were a EC130 B4 helicopter in the emergency medical services (EMS) configuration, an EC135 with a corporate/VIP cabin arrangement and a model representing the company's innovative X3 hybrid helicopter demonstrator, which has attained a true airspeed of 180 kt (333 km/hr) in level flight during its first phase of testing. The second phase will begin in the coming months, with the goal of achieving sustained cruise speeds in excess of 220 kt.



SIKORSKY

Sikorsky are strong in both the civil and military fields but are perhaps perceived as in a downward trough in the civil market at the moment, both the 434 and S-76D projects are beset with development delays not too far removed from the state of the economy – there seems little point in rushing either programme to a lack lustre market. The 434 is not yet certified but even the Saudi Border Guard continue to have difficulties in operating the type. It is not the fault of the machine, it

is just that it is proving difficult to train up local pilots.

Even the in service S-92 is having its own problems what with cracking gearboxes that fail to run dry as the customers expected and the Canadian Government announcing by media just days before the Heli-Expo that its patience had run its course and that they were now intent on imposing penalties of up to \$8M against Sikorsky for the latest delays in the delivery of a new fleet of maritime helicopters based on the S-92.

The manufacturer is facing a financial hit after failing to meet a schedule that already has been pushed back from the original 2008 deadline. The amount of the penalty is largely symbolic, representing just 0.15% of the \$5.7-billion contract, but it highlights Ottawa's decision to take a tougher stand against the US company.

Sikorsky announced the expansion of the S-92A[®] helicopter's operating envelope with approval by the FAA to execute Category A vertical takeoffs and landings from ground-level

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To receive this certification, a helicopter must, among other requirements, be able to continue operating safely in the event of a single engine failure, either by landing or continuing to fly to safety from the helipad. The worldwide fleet of 132 S-92 helicopters has accumulated more than 295,000 flight hours since deliveries began in 2004.

Sikorsky Aircraft and Eclipse Aerospace have announced the completion of a minority equity investment by Sikorsky in Eclipse Aerospace. The companies also entered into a Service Level Agreement pursuant to which Sikorsky will provide global supply chain support and certain production restart services, which will aid Eclipse Aerospace in its efforts to reintroduce production of the Eclipse 500® very light twin engine jet. Located in Albuquerque, New Mexico, Eclipse Aerospace provides engineering, service, and support for the fleet of roughly 260 Eclipse 500 twin-engine jets. At the show the company were reticent to discuss the still very new developments.

MDHI

The dire situation that has surrounded MD Helicopters for so long appears to be improving. The main indicator was in fact when MD CEO and money source Lynn Tilton showed a face at the show that has been absent for a while.

The MD press conference was presented by a calm measured and sensibly dressed lady of a certain age. She - it seems - is convinced MD has turned the corner. She stated she firmly believed she has the [Saudi Arabian] Boeing Little Bird fuselage construction contract in the bag and there were things she was holding back on. That turned out to be a potentially lucrative Iraqi training contract announced shortly after the show with details pending. She is also convinced that she has a 50 aircraft order for 902s for HEMS work in the Middle East using a new local contact whom she claims is trustworthy.

Action Aviation gained a passing mention but you could sense the venom in her words. Hamish Harding the Action CEO is certainly not in the Tilton good books and is unlikely to ever get on her Christmas list anytime soon. But there are plenty of people in that category these days.

At the time of the show there was nothing substantial signed sealed and delivered but clearly Boeing let her say the Little Bird bit [and where else would the fuselages come from] but whispers elsewhere in the halls suggested that Boeing would go elsewhere if they could because the price was a sticking point and not yet decided, the lady wants to recoup her losses but Boeing do not apparently see themselves as a cash cow.

And just in case we were led to believe she is a totally reformed character she went off into a rant about the US Government buying US equipment [from her of course] tore Elfan ap Rees [Avia Press] off a strip for demurring but apparently failed to take on board his valid point that MD fuselages come from a car plant she owns in Mexico and an aircraft factory in Turkey. Some of the gear boxes come from Japan, door hinges from Canada etc. In short, despite some tinkering the MD product remains very much an international beast but chewing over the detail seems to make this very rich lady happy for a day or so.

In a small show of an enhanced Heli-Expo presence MD Helicopters displayed three aircraft at the event – recently this has been just one two. On show were examples of the MD 500E®, MD 530F® and MD 902 Explorer® The lady told us that the latter, no 0136, was snatched back from a military operator in Jordan after non-payment of a stage payment it



seems. Belying its previous utility role the Explorer featured a beige VIP interior which includes three forward and two aft facing energy attenuating business seats from Fischer+Entwicklungen GmbH, an aft facing low cabinet with an integrated video monitor finished in birds eye maple wood trim, leather panels and ceiling mounted LED ceiling lights, acoustic insulation, BOSE Series X headsets, a cabin/cockpit privacy window, a moving map with local maps and DVD/CD player and wool carpeting clearly aimed at royalty.

While the Middle East appears to be the saving of the MD product but that does not mean that the company can be complacent in ensuring the customer base plays ball with the money.

Before the event the last failed attempt to rely on this market sector was to be seen in the utility market. In a ceremony on January 5 the new British Trinity House contract helicopter Explorer G-COTH was officially named *Satellite*. The airframe was formerly used by the police in the USA and the thwarted first Saudi HEMS operation. It was this that led to the 'problem' with Action Aviation and was recovered from the desert before moving on to the UK.



MD900 with Van Horn booth beyond...

At the press conference another announcement made related to MD outsourcing main rotor blades and having them newly made of composite materials. The announcement stated that MD Van Horn Aviation were demonstrating "co-developed composite main rotor blades for the MD 530F® aircraft" so having failed to find the exhibit on the MD area PAN went to the Van HORN booth to see them to get the information and photograph the prototypes [just like PAN did for the Van Horn OH-58 blades]. No go. They do not exist. The last time MD MRBs were outsourced to industry it was 900 blades to Kaman and that was a massive bill she had to address right at the start of her tenure at Mesa.

I have little doubt that a very capable Van Horn will produce the goods – MRB's and eventually tail rotor blades – for the 530 series in time but I feel that here is a serious bit of damage done to the integrity of all the good 'news' issued for MD this month. This, and much of the other good, will take ages to pay the bills.

Bell Helicopter announced that they have signed a distribution agreement with Van Horn Aviation LLC for the previously mentioned 206 composite tail rotor blade supplemental type certificate (STC) No. SR02249LA.

This STC allows for installation of the Van Horn composite tail rotor blade onto the Bell 206B and 206L series aircraft. The composite tail rotor blade is easily identifiable with its three high visibility stripes and carries its own unique part number 2062200-301. It is available exclusively through Aeronautical Accessories

"We recognize our customers' need for improved, cost-competitive replacement parts and are committed to finding ways of increasing productivity and reducing direct maintenance costs of our aircraft," said R. Danny Maldonado, Senior Vice President and Chief Services Officer, Bell Helicopter. "Bell Helicopter has and will continue to develop strategic relationships, such as the one with Van Horn Aviation, to help us accomplish this goal."

The composite tail rotor STC offers customers the advantages of: 3-year, 1,500 hour non-prorated warranty Composite material for corrosion resistance, Reduction in tail rotor noise signature; Increase in tail rotor authority at higher altitudes; 5,000 hour life for reduction in direct maintenance costs.





Above: The Van Horn Group have signed an agreement with Bell Helicopter and are now said to be working with the MD Helicopters on new blades for the MD530.

FLIR Systems Corona 350 IR systems was added to the usual line-up of gimbals by the takeover of the former PolyTech based in Sweden and has added a long sought uncooled technology system to the FLIR range.

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SEARCHLIGHTS

Head - to - head

Overall the big story among the smaller manufacturers was all about searchlights. As the show opened news broke of a competition undertaken by Eurocopter to select a preferred searchlight for its products.

A four way open competition included the long term industry leaders Boeing Spectrolab SX-16 set against three of the main challengers, two of which are very new, Thommen HSL1600 from Switzerland, Trakka 800A from Australia. The other main US product is the Luminator LS16.

The four are not strictly comparable, the Trakka product produces only half of the nominal light output of the others and is new cool technology, but it is the result that matters and it was the Trakka that was selected as preferred product – which of course does not guarantee that the customer will choose it but it does add pressure to the selection process. The order in which the others were placed in the process is of course a tightly guarded secret.

“This contract is the direct result of an enormous investment in man-hours and over 24 months from both Eurocopter and Trakka Corp. At the onset, we agreed to offer a unique solution for high intensity searchlights by addressing the needs of the market and integrating the product into the Eurocopter airframes,” said Peter Rudaizky, CEO of Trakka. “This collaboration enables Eurocopter to now offer its customers a product which expands their mission capabilities and is built to world class certification standards and quality benchmarks.”

In the wake of the agreements with Sikorsky and Eurocopter this is a major move forward for the Trakka Corp product and has quickly established the company as a leading player internationally, and one already offering a comprehensive range of training courses and materials as well as hands-on support in both installation and operator training.

Currently design, development and manufacturing of Trakka products takes place in the Melbourne, Australia facility but Trakka has additionally announced the opening of a new manufacturing plant and factory Service Centre in Scottsdale, Arizona. Initially this will assemble the searchlight but will move towards full production as a US product by Trakka USA LLC.

In recent weeks PAN has carried quite a lot of information on the Thommen product but some of it bears repeating if only to acknowledge that their marketing team made sure PAN had their most up to date information before the HAI event and in the knowledge that the Eurocopter result was due. Next year Thommen are producing their HSL800 a smaller searchlight that will be a more direct competitor for the Trakka in its power needs at least. Both are designed to operate within a full operational environment and, like the Trakka will offer users the opportunity to change IR and other filters throughout the flight envelope. Older



generation equipment requires that the airframe slow down to undertake that important tasking.

Thommen's hard work is paying off and, although they are still way behind the three alternatives they have over 30 orders at certification and first deliveries are due shortly.

The Thommen is one self contained system. Everything including the cables and connectors, power supplies and slaving boxes is in the weight calculation for the weight and balance calculation of the aircraft. Uniquely if you remove the light you remove everything except the control connector, all the others leave behind a residual weight penalty and greatly reduce EMC issues.

Thommen thinking is that most operators do have 80% of their flight time without the need for a searchlight on board due to weight and aerodynamics issues. The current searchlights like the Spectrolab SX16 and XP16, the Luminator LS16 and the Trakka 800A the operator has to fly all the weight of the separate boxes and installation equipment all time even the searchlight itself if off the aircraft.

In the case of the Trakka 800 Thommen say that customers are flying about 10 Kg [22 pounds] even if the Trakka Searchlight itself is off the aircraft. In the case of the world standard SX16 about 15Kg [33 pounds] dead weight is there even while the light is on the shelf in the hangar.

Unusually in this sector Thommen are quoting a bulb life and a 5,000 hr. MTBF – this contrasting with set military practice of fitting a new lamp tube immediately before a critical mission simply to reduce the possibility of a dark lamp just when it matters.

Originally the searchlight was a Russian design but Thommen in Switzerland reworked it and although there is a Russian version production of the unit is wholly Swiss from parts that are sourced in the West thereby assuring the integrity of the product into Western defence markets. Thommen are like Trakka to have a US facility.

Weighing 64.4lbs [29.2kg] the price is the same as the main opposition from Spectrolab – that however is not a certified product.

Deliveries start this summer. Production is underway with deliveries to an undisclosed Asian customer of 30 units and a 31st unit scheduled to go to Australia. Any new orders, such as those gained at Heli-Expo will be the 32nd unit available in July.

There are of course a multitude of rebuttals to the Thommen claims – and I think it is unlikely that a large scale operator is going to simply abandon its large numbers of serviceable SX16s until they have to. One change that is clear though is that Spectrolab have a number of new competitors stomping around their turf. Meanwhile with their lead on the market Trakka have broken into the US Government aviation market in a big way and increasingly Federal helicopters – including many Homeland Security types are carrying the light.



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CURTISS-WRIGHT

As belied by the two names it holds Curtiss-Wright Corporation are a long established company – but a relative newcomer to recent law enforcement and helicopters. Although it was Curtiss that launched airborne law enforcement back in 1914 it is only through recent acquisitions that the now larger company has returned to this sector of the industry. The recent acquisition of UK based Skyquest Aviation, law enforcement role fit integrators best known in the UK, is the most obvious example. Some of their equipment is illustrated here [right]. Many of the new sections of the Curtiss-



Wright Corporation have already lost their identities to the new owner but others tentatively retain a separateness that is unlikely to last too long.

I have been assured that the Curtiss-Wright names with their pioneer connotations are 'safe' which bodes well for marking the 100th anniversary of police aviation in just under three years. The first of the first was a Curtiss seaplane operating off a Miami Beach.

Curtiss-Wright are well known in military spheres and commercial fixed wing but less so in commercial helicopters, where it has a commercial link Sikorsky are generally the airframe builder. The company claims to be on every major US Army rotorcraft platform but Heli-Expo as we have already discussed is supposed to be about civil operations. The most obvious cross-over type is the UH-60 Blackhawk as that serves with a number of 'heavy' police operators mainly in the central and southern American countries. The products are a bit 'uninteresting' but critical, data recorders, sensors and windshield wipers. The same applies to the company presence on current and forthcoming variants of the S-76 through Penny & Giles branding. For the future Curtiss-Wright can claim to be a major supplier to the forthcoming Sikorsky CH-53K, again a wholly military programme.

In addition to its Skyquest products the company was showing its other wares – and as many will be aware selling and showing aircraft 'bits' and boxes is not always that easy to put across. It was perhaps fortunate that at least some of the items had an overall interest inbuilt primarily because they relate to ongoing storylines. Put together the ongoing controversy over run-dry gearboxes and recent promotion of the fully de-iced AW139 in the commercial market and perhaps with a fair stretch of imagination] you might 'connect' with Curtiss-Wright exhibiting a MRB de-icer for the Sikorsky S-92. Yes well perhaps it is a stretch in interest but most black-box stories are like that.

The fact that the main rotor de-icing distributor looks like a circular junction box is about as inspiring as its stablmates that look like ordinary junction boxes does not help the task of the Heli-Expo onlooker. For the sales staff at the show they are not looking for 'impulse buys' from the passers-by. They may take up the offer of a pen but most are unlikely to but a box.

That said, once you get into conversation it was interesting to learn just how the S-92 [and the AW139 – with someone else's similarly specified gear] has main blades capable of shedding ice as it comes to rescue you on some windswept fishing boat off Orkney. No inflatable rubber boots altering the blade profile, or little people with pickaxes, 'simply' the injection of a metered amount of fluid to ensure there is no build up.

Not a lot of people know that.



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We make it visible.

Also in the display cases could be found fire protection computers and smoke detectors – even the next generation of the equipment that airlines put in their toilets to stop you puffing away on the illegal stuff unnoticed.

Round that off with a flight recorder and you have just about covered the main product lines of the group that continues to expand beyond its original ideals year on year. There have been so many acquisitions lately that it is difficult for the show staff to know what the latest product line is in time for the latest show. www.cwcontrols.com



Expansion continues and the company has announced that through its Metal Treatment, it has signed a definitive purchase agreement to acquire the assets of BASF's Surface Technologies business from BASF Corporation. The Surface Technologies business is a leading supplier of metallic and ceramic thermal spray coatings primarily for the aerospace and power generation markets.

Thermal spray coatings are utilised to protect and enhance a wide variety of critical components used in the aerospace, automotive, diesel, power generation, medical and general industrial markets. These coatings provide thermal barrier protection, abrasion and erosion resistance, high temperature oxidation/corrosion resistance and the capability to serve as a replacement of hard chrome plating. BASF's Surface Technologies business applies several different types of thermal spray coatings, including high velocity oxygen fuel (HVOF), plasma spray and flame spray coatings, which can all be tailored to the specific end use application.

BASF's Surface Technologies business generated sales of approximately \$29M in 2010 and has approximately 150 employees at its three operating facilities located in East Windsor, CT, Wilmington, MA and Duncan, SC. The transaction is expected to close within ninety days from signing.



Spanish simulator company Indra was exhibiting their simulator technology at the show. Indra, is a major simulator manufacturer with over 25 years of experience developing civil simulation and training solutions for aircraft, trains, subway systems, buses, heavy machinery and more.

Not many in law enforcement were greatly aware of the company until they were associated with two recently introduced Eurocopter systems, firstly there was the American Eurocopter AS350 trainer and then the EC225 system opened at Eurocopter UK at Aberdeen [pictured right].

The main subject in Orlando was of course the multi-million-dollar, full-motion flight simulator for the AS350 helicopter set up in Texas. Billed as the most advanced simulator in the world for single-engine helicopters the American Eurocopter simulator is an advanced full-motion simulator for the AS350 helicopter primarily used by law enforcement and medical rescue agencies and is the most widely employed surveillance helicopter in the U.S.



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Meeker Aviation and AirFilm Camera Systems announced the receipt of EASA approval for Bell 212 / 412 / AB412 series nose mounts for camera / sensor / searchlights. The mount received FAA approval last year. The mount will also fit SuperHuey, Huey II, 210, UH-1N models. The nose mount offers a max payload weight 135lbs., an ability to accommodate all the most popular sensor/cameras/searchlights using existing aircraft hole patterns. It is easily installed and removed. www.meekeraviation.com

Air Methods has been a loyal Turbomeca customer for many years and operates approximately 220 Turbomeca engines (Arriel 1, Arriel 2, and Arrius 2 variants), operated out numerous bases in 43 states across the U.S.

The successful development of a maintenance facility at the Air Methods West Mifflin, PA will play a key role in the reduction of direct maintenance costs and success of the overall agreement.

Russ Spray, President and CEO of Turbomeca USA states *"Turbomeca is excited to mark this milestone in our professional relationship with Air Methods. This new agreement will bring our two companies closer together with the goal of maximizing the responsiveness of our support while bringing meaningful added value to an important customer"*.

Turbomeca announced the new Arriel 2+ family. The Arriel 2D, Arriel 2E and Arriel 2N, part of this new family, will respectively power the AS350 B3e, EC145T2 and AS365 N3e. This new family offers lower operating costs, higher reliability and higher performance.

Arriel 2D certification is scheduled mid-2011, the Arriel 2E's one year later and Arriel 2N's mid-2013.

This new engines family (from 894 shp to 951 shp thermal take-off power) benefits from new technology in a proven engine. Its engines comprise five modules providing simplified maintenance at low cost.

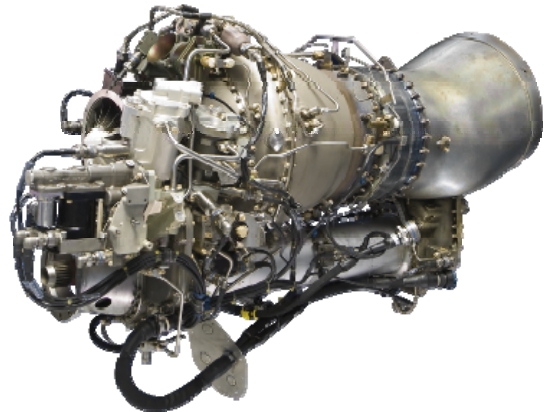
The new family will offer better performances with lower maintenance costs. The comprehensive Direct Operating Cost will be also reduced, thanks to higher TBO (Time Between Overhaul), up to 4,000 hours at entry into service, then up to 6,000 hours at maturity.

The Arriel 2+ engines are controlled by a new-generation dual-channel FADEC, a benchmark for efficient power control, reducing pilot's workload and increasing safety.

The new Engine Data Recorder, together with the blade-creep monitor, further shifts the emphasis from traditional to preventive maintenance. These innovations also drastically reduce unscheduled removals and significantly improve helicopter availability.

Turbomeca (Safran group) is the leading helicopter engine manufacturer, and has produced over 68 000 turbines based on its own designs since the company was founded.

Since 1978, Turbomeca has been producing 10,000 Arriel engines composed today of 29 variants fitted on their corresponding helicopters. The Arriel family flying records total 30 Million flying hours, from Sahara to Antarctica. Web sites: www.turbomeca.com and www.safran-group.com.



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The world's oldest and largest helicopter sightseeing company, Papillon, is making a commitment to improving the safety of its fleet and passengers by choosing spidertracks aircraft tracking system for its flight following. The Las Vegas-based company flies 40,000 hours a year, offering sightseeing tours around Nevada and into the Grand Canyon, as well as contracting to the Department of Defense, Department of the Interior, Forest Service, Game and Fish Department and utility companies.

Director of operations John Becker says they needed a tracking system that would enable them to keep in contact with their aircraft, wherever they were flying. "Many of our contracts cause us to be operating remotely and we also have aircraft descending into the Grand Canyon, where providing positive radio contact can be a challenge. Finding a tracking system that would suit our operation was essential to improve the safety of our fleet and passengers. Spidertracks meets that need and has proven to be extremely reliable."

Papillon will initially be installing 30 units into their helicopter fleet, with a further 20 being installed in Grand Canyon Airlines' Twin Otters, Caravans and Cessna 207s that offer tours of the Grand Canyon. About Papillon Helicopters.

Air Methods Corporation has announced the acquisition of United Rotorcraft Solutions (URS) by its Products Division. URS is a full-service helicopter and fixed-wing completions center and Maintenance Repair Operation (MRO). Founded by Dave and Traci Brigham in 2005, URS initially served the very unique demands of helicopter night vision capability. In less than six years, URS has expanded to include a full spectrum of rotorcraft and fixed-wing completions and MRO services in a wide variety of markets, including corporate, airborne law enforcement, air medical, utility, border patrol, DEA and other special missions. URS' business has also grown to cover the globe with successful modifications and completions currently operating in the United States, throughout Latin America, Canada, Africa, Asia, Russia, and Australia.

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Police Aviation News includes materials produced for it by Ian J Commin of Insight Design of North Burnham, Slough SL1 6DS. This includes the banner titles and the PAVCon logo. In addition from time to times images specifically altered by Insight Design and others but originally produced for McAlpine Helicopters [now Eurocopter UK], Oxford, will appear with permission of the original owner. In some cases it may not be possible to indicate the source of this material directly associated with the images used.

URS' facilities, consisting of two hangars for a total of 54,000 square feet of space, are located in Decatur, Texas. URS currently employs a staff of 43.

URS was at the show in its own right and will continue to operate as a stand-alone facility serving its established customers, while developing new ones. URS' new relationship with the Products Division will provide URS with additional financial resources and engineering support to facilitate solid growth trajectory, while continuing to provide the highest level of personal customer service for which URS is so well known.

A major new international helicopter exhibition will take place at Farnborough, UK, in an exhibition centre at the heart of the UK aerospace industry 19-20 September 2012. According to the long term plan every two years Farnborough will host The Helicopter Show, a single comprehensive helicopter event open to both civil & military exhibits. In addition to a UK and international audience of commercial and defence industry professionals, a VIP Salon will be at the disposal of High Net Worth Individuals interested in private charter and personal helicopter ownership

In these difficult trading times, The Helicopter Show seeks to break the mould with keener exhibitor pricing, a great day out for visitors and a better, more convenient location (just 10-15 minutes from Central London by helicopter, and less than 30 minutes from Heathrow, 45 from Gatwick, and 60 from the Eurostar Terminal)

The prestigious permanent venue of FIVE (Farnborough International Venue & Events) will exceed exhibitors' expectations ... a modern, permanent air-conditioned exhibition centre with internet access throughout, carpeted solid flooring, permanent toilets & kitchens, mains electrics and plenty of parking adjacent to the hall and to our modern chalets and static helicopter park

And for the many helicopter fly-ins expected, the onsite TAG Farnborough is Europe's most modern and luxurious business airport

Although they are a new team, The Helicopter Show Ltd team has organised international events across the commercial aerospace and defence sectors in Europe, Asia and South America. Sue Bradshaw was until her sudden departure after operating the Helitech Portugal last year Helitech's most recent Director. The organising team includes former hands-on directors of previous editions of both Helitech and the global defence show DSEi and there may be no real coincidence in the people and the dates.

Details available at <http://www.thehelicoptershow.com> +44 7765 817383 alternatively you can E-mail sue.bradshaw@thehelicoptershow.com

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