

Police Aviation News

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Heli-Expo Special Dallas 2006

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Heli-Expo 2006

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HELI-EXPO

The show is predictable in that it always serves up more than can be taken in on a day trip and ever popular. As always the organisers – Helicopter Association International – could show a record breaking attendance on the opening day [Sunday]. And the reason for this consistent behaviour is that it is the best helicopter show on Earth. The American public and a large swathe of the World know that, so they all make the annual pilgrimage to inspect what is new and old in the rotary market. There are surprises to be had, but they are fairly rare and in fairness the show does not really need them.

What follows are just sound-bytes extracted from a giant show. Much will be ignored or missed but I hope that you will find the fare served up is of interest.

A 'Five-year purchase expectations survey undertaken by **Honeywell** forecasts that industry might expect sales of more than 2,600 new civil helicopters in the next few years. An increase in demand for new turbine powered helicopters is indicated. Many of the conclusions were echoed in a separate assessment published by **Rolls-Royce** on the future engine market. Honeywell announced that its eighth turbine-powered civil helicopter purchase outlook projects the deliveries during the period 2006 - 2010, driven in part by strong demand for light single and intermediate twin-engine models offering newer technology.

Corporate, emergency medical services (EMS) and law enforcement helicopters combined are expected to account for more than 70 percent of all new civil rotorcraft sales during the five-year forecast period.

With civil helicopter deliveries up 24% in 2005 and likely to rise again this year in the face of strong demand Honeywell predicts that in future sales will be at least 15% greater than in the previous five-year period [2001-2005]. Some 6,000 new civil helicopter sales can be expected 2006-2016.

In North America, law enforcement applications received 42% of all mentions this year, exceeding all other use segments. By way of contrast the 2005 survey showed law enforcement trailing EMS as the most frequently mentioned helicopter use segment, after a two-year slide from almost 40 percent in 2003. Law enforcement operators predict that funds to purchase new helicopters for increased homeland defence and border patrol requirements



Front cover: The new Texas Department of Public Safety American Eurocopter AS350 AStar N207TX takes off from the lawn of the Hilton Anatole in Dallas on Sunday February 26.



will begin to materialise.

EMS applications fell to 24% of planned new purchases in North America from 31% in the 2005 survey. This area is now the second- highest end use category cited by the survey respondents for new helicopters in the region.

For the past five surveys, between 63% and 86% of all European purchase expectations have been for twin-engine models. This has been caused by regulations requiring twin-engine aircraft on flights over congested areas and other use limitations. That said single-engine models are making a major comeback to Europe as a number of operators make moves to move back to singles on the grounds of cost - even if it means diverting around 'no-fly' zones open only to twins.

In the Americas, where no regulations requiring twin-engine aircraft are even pending, over 65% of planned purchases are for single- engine aircraft. Conversely in Asia, the Middle East, Africa and Oceania operators overwhelmingly favour twin-engine machines.

The above is just a précis of the main elements of a lengthy report from Honeywell International. For additional information, please visit www.honeywell.com

The **Las Vegas Metro Police Department** has taken delivery of an UltraMedia™ HD system. The purchase was the result of a year long evaluation process that involved in-flight evaluations of multiple products from four different manufacturers. The LVMPD chose the UltraMedia HD based on its picture quality, stabilisation, and FLIR's history of providing exceptional after sales service, training, and support.

The UltraMedia HD is primarily a tool for the media rather than being aimed at the law enforcement market, nonetheless an increasing number of law enforcement operators choose such equipment for specialist surveillance requirements.

It features 5-axis, microprocessor-controlled gyrostabilisation technology, and features the Sony HDC 950 coupled with the Fujinon HA42X13.5 ERD. The UltraMedia HD's unprecedented 1140 mm focal length and best in class HD camera capture crisp detail from higher, safer altitudes without sacrificing wide angle performance – or unduly betraying the presence of the host aircraft.

The system was delivered and training completed in time for use on New Years Eve, one of the busiest nights of the year for the LVMPD.



FLIR Systems, Inc. announced the sale and delivery of five Ultra8000™LP's to Alachua County, as part of Florida's Regional Domestic Security Task Force 3. The State of Florida is divided into seven multi-jurisdictional task forces designed to implement a common crisis approach and response between regions throughout the state.

The compact Ultra8000LP, specifically designed to be lightweight while offering extreme high performance for law enforcement missions, features a high-definition digital Indium Antimonide (InSb) thermal imager with a complimenting ultra low-light TV camera and a Class IIIb CW diode laser pointer. Ground forces equipped with night-vision goggles can clearly see the 30-mw laser's beam and spot, though it remains invisible to the suspect.

Delivery of all 5 systems took place within a short three week period. Such delivery performance is not common throughout the industry, but through vertical integration of key technology FLIR maintains control of all critical and key components necessary for the quality and expeditious assembly of their thermal imaging systems.



Probably one of the more important items appearing at this years show is the re-appearance of the Vectorbeam.

This publication has carried items on this new searchlight's progress for some years now since it popped up as a promising new searchlight at Helitech 2003, Duxford UK.

At that time the unit looked like a reworked sensor pod. **Vector Scientific** of Victoria State in Australia had teamed up with Swedish company Patria Ostermans Aero AB to market the new light in Europe but at the show they were back exiting in their own right with a radically different look to the equipment and a new home in Sarasota, Florida.

The GyroLight VB500 as it then was has morphed into the Trakkaeam A800 – a very different shape. A high-intensity xenon lamp half the size of the opposition promises to deliver a more consistent and intense beam of white search light that peaks at 22,500 lumens placing it between the output of the Nightsun 2 and SX-16 [30 million] and the SX-5 [15-20 million] using a light source similar in specification to the latter. A selection of internal infrared filters provides a range of lighting from a red glow to completely covert. The original light was installed in a US sourced GyroCam gimbal and appeared quite conventional.

The new light on display at HAI gave a definite appearance of being futuristic. Even offering a light weighing less than 18 pounds and costing just \$24,000 places Vector-Beam at a major advantage over long established alternatives. This is the industry's first and only unit to combine a high intensity white searchlight with a series of internal filters in a single housing. During the show it was in flight test with the police in Stockholm, Sweden. The results of this trial have yet to be released. www.vectorbeam.com



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Dallas hosted most of the marketed options for manoeuvring skid-equipped aircraft on the ground. Even within the airborne emergency services sector there is a wide swath of choice for moving skid equipped types on the ground. For light helicopters like the Robinson the choice is virtually unlimited – bolt-on ground handling wheels may be fiddly but they suit the market sector - but larger types represent a more difficult task.

One solution is the ground handling dolly – a simple steel and timber wheeled platform on which the pilot lands and takes off. They can be simply and economically produced within an operating unit having the right skills and welding equipment or bought in at a competitive price. Free travelling motorised versions, usually with an up-market specification, are available. In Europe the principal has been taken to its ultimate by some major EMS operators that have developed motorised ground handling dollies that transport the craft from its heated hangar out to the pad and back again on guide rails. All very Gerry Anderson and Fireball XL-5, but usually tailor made for one airframe. Small dolly for small airframe and large dolly for large airframe, not necessarily flexible and often tricky to land on. There have been instances where they have snagged on a helicopter as they have taken off with 'disturbing' effect!

Dolly's are often cheap to acquire but multi-aircraft operators tend to be obliged to have one for each airframe and you cannot usually load a disabled aircraft on or off them. Base costs around \$5,000 may be a little in aircraft terms but if you have a fleet of ten to cater for the sum soon passes \$50,000 and that is another ball-game.

As a result industry offers a number of stand-alone systems, simple type specific tugs for the light end of the market, and those that pick the airframe up off the ground and place it at a new location whilst being free to pick up another machine elsewhere. These are usually powered by batteries but some offer reciprocating engines.

So back to the HAI show.

The Manhandler™ fits into the traditional ground handling platform category in offering a welded steel frame and cushioned wheels that are easily moved by any vehicle or, in the lighter categories, manpower. As stated these provide excellent maneuverability and they are offered in four standard sizes to handle any skid or float equipped Helicopter up to 15,000 lbs. The Super Dolly is the type NYPD use to move their Bell 412 fleet of three about on. Indeed NYPD has one of this type of landing pad for each of its fleet.

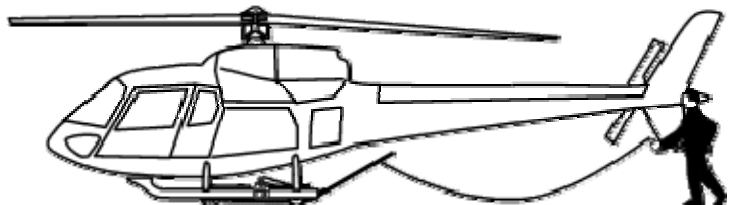


Since 1967 the Manhandler dolly has been produced by the Main Line Helicopter Corporation, in Wilmington, Delaware www.helicopterdolly.com

The compact and regularly revised Chopper Spotter® is familiar territory as an alternative means of moving a unique, patented machine to handle helicopters on pavement. It lets one person quickly load and move a helicopter with ease and it will move disabled machines almost regardless of their position in the hangar or on the apron.

Unlike some of its competitors the Chopper Spotter loads from the rear. Roll it under the helicopter and attach two yokes to the wheel attachment points and then step back and lift and transport and craft up to 4,000 lbs or 1,820kg using the remote control at up to 3 feet per second. This capability allows it to move up to the Bell 206L at mgw.

The Chopper Spotter is manufactured by J.B. Knowles Inc. in Blue River, Wisconsin, USA. E-mail: jknowles@mwt.net www.jbk.rotor.com



This year saw the first appearance in the USA of the TLC Helilift, a World class alternative to the dolly and existing types of lifter.

Within Europe the TLC Helilift is seen as the aircraft handling system of choice. With virtu-



ally all UK police units using the system as owners or on lease and most European police units either having one or aspiring to one its launch into the US market has been long delayed as operators across the rest of the World picked up the system.

The TLC Helilift is a universal ground-handler for most skid mounted helicopters. Advantages include single person operation, handling of mixed fleets, and the ability to provide eight hours of continuous use. Currently rated at 5,000kg [[11,000 lbs], the Helilift is capable of handling anything from the Robinson R44 to the Bell 430. The Bell 412 at its maximum gross weight is 11900 lb, 5398 kg so currently beyond the Helilift when fully loaded. That said, the Helilift is used by the RAF for its own large 412 fleet.

Since November 1999 a fleet of 26 AS350 helicopters based at RAF Shawbury is looked after by Helilift equipment that undertakes some 50 aircraft movements daily over distances of up to ½ km in all weathers.

WECO Aerospace Systems Inc. has been selected as the exclusive US distributor and TLC and WECO jointly presented a demonstrator in the static park at the show. Unfortunately a massive blocking action by the Unions spoiled the party somewhat. Because TLC was not the recognised handling agent for moving helicopters at the show it could not even feature one in place when displayed – because it would have to collect, lift and move it! The power of the unions proved an immovable barrier for TLC and WECO as the Helilift is regularly employed as the aircraft movements contractor agent at major airshows across the World. Lesson learned. So at HAI it had to make do with a set of tubes adorned with a large box [they couldn't find anywhere else for the box to go!]

Not surprisingly the resultant exhibit [more like inhibit] failed to grab the attention of a passing trade unaware of its pedigree – this time around. The five figure price was also a bit daunting for potential customers more used to paying out \$5,000 to make their skid equipped aircraft move.

TLC Handling Limited have a website at www.tlchandling.co.uk/testimonials.html The web site includes a video of the unit in operation.

WECO Aerospace Systems Inc., can be contacted at 800 531 4073 or +1 916 645 8961 info@wecoaerospace.com www.wecoaerospace.com





MD Helicopters, Inc. [MDHI] has been teetering on the precipice for a long time now but it has stubbornly failed to take the final dive. It now looks extremely unlikely to fail and appears to be moving forward with a further commitment to pioneer cutting-edge helicopter technology. Beyond getting the support issue improved – but not yet solved - the company has announced that it is taking bold steps to support the safety recommendations of the International Helicopter Safety Team (IHST). Beginning with 2007 aircraft deliveries, all MDHI products will sport a wide range of safety features - wire strike protection, cockpit voice and video recorders, health and usage monitoring systems (HUMS), terrain awareness warning system (TAWS) all backed up by a Fly Safety Training package to be added to MDHI's Training Program.

Some surprise was expressed when MDHI announced that in future the fuselage for the 500E®, 530F®, 520N® and 600N® helicopters will be manufactured by Global Automotive Systems in Monterrey, Mexico. These were previously built by aerospace engineers Kaman. The reasoning behind the move is that Global Automotive is, like MD a company in the Patriarch Partners portfolio. The thinking appears to be that this way two of the Patriarch charges are helping each other out of the hole.

Over the years the EFIS that the developed Explorer was equipped with has come in for criticism. Now MD has added the Chelton FlightLogic Synthetic Vision Electronic Flight Information System (EFIS) to its list of optional equipment. The reason, given by Lynn Tilton is that 'MD Helicopters must pursue dual paths of building efficiency as well as sustaining innovation.'

The EFIS system is immediately available for dual-pilot IFR configurations. In a year the system will be available on SPIFR Explorers. The original equipment remains the standard equipment.

'The Chelton EFIS dramatically enhances the safety of helicopter operations, particularly at night and in inclement weather,' says Andy Logan, Chief Technology Officer for MDHI. 'The system presents obstructions and terrain on the primary flight displays in real time, giving pilots the ability to fly precision approaches to rooftops and oil platforms with complete confidence in the helicopters' location.' The US Army LUH proposal uses the Chelton.

Regular readers may recall the difficulties MD got into over the Dutch Police [KLPD] contract. A failure to meet the exacting specification led to the cancellation of a major 8 airframe contract at – we were supposed to believe – the 11th hour of certifying the higher specification. Well the illusion of an 11th hour has been and gone many times now but the new MD



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management team is determined to get the job done and finally produce the specification their predecessors claimed was all but ready.

PAN met with MD's Andy Logan, their Chief Technology Officer. A man with a strong link to the original programme brought back in to put R&D back on line.

Producing the new super capable version of the Explorer is central to MD's LUH bid. Like other bidding manufacturers MD have LUH specification aircraft already in the air and nominally ready to meet the daunting delivery schedule. It may be an inconvenience for Eurocopter and Bell to set aside airframes for LUH but it is certainly a major problem for MD. This after all is a company that has delivered nothing significant in the past year and LUH wants a handful of deliveries this year. Logan is not fazed by the prospect. Unlike Eurocopter the MD LUH airframes will impinge on deliveries to civil customers. If MD were to lose the contest an again growing customer base would be offered earlier deliveries.

Producing the performance continues to rely upon an extended tail boom. When this was first mooted [out of the rumour mill] it was generally assumed that it was a longer mid section possibly added to longer main rotors to maintain the swept area of the Coanda effect. But that was an erroneous appreciation.

The additional length in the tail – 20 inches - is actually aft of the horizontal and vertical fins. The extended Notar shroud area provides greater moment and enhanced tail authority for a heavier airframe.

When the technology is proven and certified – and it must be remembered that an 'impending certification' was central to the old MD's strategy to keep the KLPD contract a year ago – each of the existing Explorer helicopters will be offered the modification free of charge.

Six months on from the Patriarch take-over Lynn Tilton's new MD Helicopter's appears to be a reformed beast, but we have been here before.

UK based **Spearhead Exhibitions**, the organisers of the successful Helitech series of shows announced the launch of a new European exhibition for later this year. Spearhead [part of the Reed Group] were a little worried about foisting yet another show on the market but it appears that their choice of Spain as a venue was well received by the exhibitors in Dallas. Early days yet but the Helitech 06 show is scheduled for 3-5 October 2006 – just 6 months away from the launch date – at Cuatro Vientos, Madrid, Spain. The location is a helicopter base for law enforcement aircraft with both the Guardia Civil and Trafico on site - so there will be a fairly significant emergency services presence on tap even before the exhibits arrive. www.helitech.co.uk

For **Bell Helicopter** this HAI Show was a triumph. As the Annual Convention drew to a close the company was able to point to a record breaking show for helicopter orders. The success of Bell Helicopter at HAI is indicative of the positive growth Bell has experienced recently. Bell Helicopter took orders for 100 aircraft during the three-days of HAI, nearly tri-



Reims F406 Land & Sea Surveillance

pling its number from last year. Coupled with the recent Asian Aerospace show held in Singapore, during just 14 days, Bell booked 140 helicopter orders. In contrast last years 'best show in years' Bell took orders for what was then seen as a creditable 34 helicopters. Bell's HAI 100 order intake includes 46 of the new Bell 417s and 33 Bell 429s.



In a ceremony before a large crowd, Bell Helicopter Chief Executive Officer Mike Redenbaugh revealed the new Bell 417 in law enforcement configuration.

The Bell 417 improves on the excellent 407 with even more power, more payload and improved hot and high performance. The 417 offers a modern, Chelton glass cockpit and the new Honeywell HTS900 turbine engine delivering more than 970 SHP. Before its unveiling at the show the Bell 417 was originally marketed as the 407X and that is what it is. The pair still have too many visual roots in the 206 JetRanger family to pass as new technology [even though the new features move in that direction].

The 417 prototype will fly in April of this year and certification is set for early 2008. Overall if the stated timescales of each remain as stated the certification schedule of the 417 is similar to that of the 429.

The future is the new Modular Affordable Product Line (MAPL), and its first offspring the 429. In a significant milestone Bell announced that the new high performance main rotor system for its new 429 light twin helicopter recently flew for the first time, a little behind the schedule being talked about last year.

Bill Stromberg, 429 Program Director said, 'During this past year we have successfully completed the evaluation of an improved engine, intake, exhaust, tail rotor control cables, autopilot, aircraft data interface unit, and now the main rotor system. This is the sixth and final major new system to be demonstrated before the 429's first flight later this year.'

The main rotor blade, a product of Bell's MAPL, incorporates new advanced manufacturing technology to make the blades easier to manufacture and more affordable. Produced by ATI in Newport News, Virginia they are fitted to a rotor hub manufactured at Bell's facility in Texas.



In the shadow of the Bell 429 mock-up on the Bell booth PAN was able to speak to Bill Stromberg and pick up some of the progress in the MAPL line.

Some in the industry had criticised the retention of a conventional tail rotor on the new 429 model. Having seen the early artists impressions of an MAPL showing a non-rotor based system clearly many were expecting to see the new system on the new helicopter at launch.

Having looked at a number of alternative options for replacing the tail rotor, readers will recall the Bell variation of the Fenestron recently flown, they are going for a more radical solution. The new system has yet to be developed. It is based on a straight tailboom and re-directed air but is not a Notar as used on MD airframes in that it will not rely primarily on the Coanda effect or a fan driven redirected airflow. Unlike Notar the redirected airflow [and it's not clear how it will be derived] will add to forward flight energy and will serve to increase forward speed.



The top and bottom of it is that the alternative system to the tail rotor is simply not yet available for production and it will not be available for at least another three years. Meanwhile Bell have produced a modern tail rotor that will offer quiet performance thanks to its 'X' blade set-up. Although it has its critics the company has found very little real opposition to the current height of the tail rotor – as underlined by the growing order book – its location is constrained by the future need for a straight tailboom. That said Bill Stromberg accepts that there is a potential danger to such as ambulance personnel loading a stretcher through the rear clamshell doors with the rotors running. There are plans to offer an illuminated physical barrier – a horizontal bar - on the forward edge of the tail fins. That seemingly simple solution has yet to solve the problem of retaining the flexibility of the fins. It is unlikely to significantly effect performance.

Honeywell has been selected by Bell Helicopter to provide five key avionic products for the new Bell 429 helicopter.

The centrepiece of these avionics is the new KSG-7200 Air Data Attitude Heading Reference System (ADAHRS). The KSG7200 is a derivative product from Honeywell's air transport and business jet markets. The system features Honeywell's Micro-Electromechanical Sensors (MEMS) in place of spinning mass gyros and accelerometers which provide superior accuracy eliminating the reliance on updates from a global positioning system.

Bell's other new kid on the block the single-engine Bell 210 is still to deliver. Some 18 months after the uprated Huey programme was launched, seven months after its first flight and FAA certification the company is quoting a delivery date for the first airframe as being May this year. The cheap to acquire and operate 210 was not on the Bell stand, instead it was nearby with subsidiary company Edwards & Associates. One of its target markets was the Army's LUH programme, that fell by the wayside when it was clear to Bell that it was not going to meet the aspirations of the military. Its place in the bid was taken by the Bell 412 twin.

In the field of older technology Bell continues to sell and deliver the existing lines of helicopters in again growing numbers. The Minnesota State Police [MSP] took delivery of a new Bell 407 at a Heli-Expo ceremony on the opening day. Starting with the Bell 47 the MSP has flown Bell helicopters for nearly 50 years.



The **American Eurocopter** booth was adorned by the AS350B3 that flew to the top of Mount Everest on May 14 last year. The political fall-out from the Nepalese authorities effectively delayed full acceptance of the feat so this years Heli-Expo became the first real opportunity for a real celebration to take place. Eurocopter pushed the boat out with a range of giveaway goodies - CD's of the flight, bags and hats included.

A quiet point made was that this two minute landing on the summit of the Worlds highest mountain will never be bettered. Since the record flight was undertaken



Mount Everest has shrunk slightly and continues to lose height as time passes. Interesting. But although the flight was a talking point it was barely news, the event being ten months before. There was however news enough from Eurocopter-land.

Shortly before Heli-Expo opened *Flight International* produced an article setting out the health of the helicopter industry as a preamble to the show. One of the graphs used showed that the number of civil helicopters produced by Bell and Eurocopter over the years was now about even. I guess the time will not be far off before Eurocopter can claim to have sold more. This of course is a little tongue in cheek for EC is never really likely to sell as many helicopters overall as Bell. The numbers of military machines Bell produced far exceeds any overtaking. Plus of course Bell was always Bell where Eurocopter makes up its total from a mix of company names [Aerospatiale, Bolkow, MBB, Sud etc.]

Eurocopter's order book for the EC 135 topped 500 units at the end of 2005, with 87 aircraft sold in 2005 alone - 50% of them were for the USA. It is the company's top seller and the best-selling light twin-engine helicopter worldwide – tending to put in focus the denigrators of the type of a handful of years ago. To stay ahead of the competition, Eurocopter has certified an increased take-off weight of 2,910 kg (from formerly 2,835 kg). LBA/EASA certification was granted on February 21, 2006. Deliveries will start in September. For customers operating the new EC 135 T2i or P2i variant the benefits will include increased payload, performance or range. In fairness these figures do not take the type up to the same level as the competitors – the magical 3,000kg – even though the military standard EC635 is at that figure. Seeking 3,000kg for its Explorer effectively broke MD although AgustaWestland made the grade with the Grand. Eurocopter barely need the hassle, they have an airframe in that class already – the EC145.

The EC135 may be selling well but one of the types it nominally replaced – the AS355 – continues in production. The 135, built in Germany, actually replaced the BO105 but many expected the French AS355 would fall by the wayside as well. With the continuing success of the broadly similar single-engine AS350 airframe it is a case of not yet.

A new improved version of twin-engine AS355N – variously marketed in the civil arena under the names Ecureuil, Twin Squirrel and TwinStar – will continue to complement the range of newer light twin-engine helicopters as the AS355NP. The changes mainly relate to improvements in engine performance that will enhance the types Cat A take-off capability. Eurocopter has built more than 720 units of the AS355 series since the 1970s and they have accrued over 3 million flight hours – many in law enforcement service. From April 2007

the AS355NP will be a high performance multi-mission aircraft based on the proven technologies of the successful AS350/355.

With the event being held in Dallas it was fitting that the **Texas Department of Public Safety [DoPS]** took delivery of a new aircraft during the show. The DoPS is the proud purchaser of the first entirely 'Made in America' Eurocopter A-Star 350B2 – arguably the first true A-Star ever, all the others were Ecureuil's made in France and re-named after crossing the Atlantic. The single 732 shp Turbomeca Arriel 1D1 engine rotorcraft was built at American Eurocopter's state-of-the-art 85,000 square foot facility in Columbus, Mississippi.

The first domestic production B2 joins eight other helicopters in the Texas DPS Air Unit; all of which are Eurocopter models. The new B2 is being posted to the DoPS' new helicopter base in San Antonio, Texas. It is equipped with a Nightsun searchlight and L3 Wescam camera system.



It was a year ago that the contract was announced but various difficulties have meant that EADS North America were unable to confirm the order from the US Department of Homeland Security Customs and Border Protection to American Eurocopter for EC120 helicopters. This delay in finalising the deal related primarily to political blocking moves highlighting issues raised by other manufacturers.

This acquisition is the first order for 10 Light Sign Cutter EC120s in a Department of Homeland Security contract that could involve as many as 55 helicopters, with a potential total value of up to \$75M.

The Department of Homeland Security Customs and Border Protection EC120s will be produced at the new Columbus, Mississippi facility of American Eurocopter, an EADS North America business unit.

Portable aviation ground power

The advertisement features a collage of images showing various portable aviation ground power equipment. In the foreground, there are several units: a black battery-powered unit, a silver unit with a fuel tank, and a yellow unit on a cart. Cables and connectors are visible. In the background, there are smaller images of aircraft being serviced by similar equipment. The text 'GPUs • power carts • DC power supplies • fuel pumps • landing lights' is prominently displayed. The company name 'Powervamp' is in large, stylized red letters. Contact information and a certification logo are also present.

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The EC145 was in its time the most desired unavailable helicopter Eurocopter had. All initial production – two years worth – went to French agencies as the industry clamoured to buy the ‘yet to be announced’ development of the BK117.

The clamour for the EC145s excellent combination of cabin space and versatility has barely died down, sales numbers are not huge but for a large machine creditable. The type has established itself as a rugged, reliable workhorse in the law enforcement and EMS markets worldwide. Orders presently stand at 95 aircraft, and more than 75 have already entered service. In 2005, new orders for a total of 20 EC145s were booked, predominantly in the American and European EMS and law enforcement markets. The annual production rate will be increased from 19 per year to 25 this year. It is being offered as a candidate for the ongoing US Army LUH competition with – and many think that this may well be a master stroke – Sikorsky building the contract aircraft.



Travis County STAR Flight took delivery of their new EC145 N373TC after the show broke down and released it from the Eurocopter booth. STAR Flight anticipates taking delivery on a second EC145 in the next year.

Travis County EMS STAR Flight is the only aerial emergency medical company in Texas that performs a wide range of highly specialised emergency response services including: emergency medical transport, land/water rescue, wilderness search and rescue, fire suppression and law safety assistance. With a seventy-five mile service radius from Austin, STAR Flight has previously primarily relied on the Eurocopter EC135 to deliver emergency evacuation services to a wide range of people in the outlying areas of Travis County. New contracts required greater cabin space to accommodate isolettes for premature babies and other equipment and that lead to the EC145 purchase. The new type, assembled in the United States by American Eurocopter, has a capacity for four attendants (including the pilot) and two patients.

Keystone Helicopter Corporation, one of the largest and oldest helicopter services companies in the United States and a wholly-owned subsidiary of Sikorsky, announced that it is acquiring the two pre-owned Travis County Eurocopter EC135s. The two EC135s will be used for AMS missions by Keystone, which operates a large fleet of turbine helicopters at numerous air medical locations in the eastern USA.

Keystone was honoured for exceptional customer service by Rolls Royce. Rolls Royce presented Keystone with its Customer Satisfaction Award during a Feb. 24 award ceremony. The Customer Satisfaction Award is given to an Authorized Maintenance Center (AMC) for superior satisfaction evidenced by customer feedback and field representative input.

Schweizer Aircraft, a subsidiary of Sikorsky Aircraft Corporation, received 37 helicopter orders at this year's Heli-Expo trade show in Dallas, Texas. The orders are the most ever received by the company at the trade show.

The new orders include both the 300 piston and 333 turbine models and represent sales to distributors and operators in seven different countries: Belgium, Germany, Australia, Brazil, Canada, United Kingdom and United States.

Management at Schweizer credits much of the success at this year's Heli-Expo to the more than 60 sales and service centre reps from around the world who attended workshops and briefings on the company's plans for increasing output and product improvements. For many it was their first trade show under the unified Sikorsky/Schweizer partnership and during the successful integration of Schweizer.

Parent company, the **Sikorsky Aircraft Corporation**, were enduring a strike in its factories as the show opened. Some 3,500 workers at the company's factories in Connecticut and Florida had walked out a week before – not exactly an upbeat background for promoting sales at the HAI Show.

On the large company Booth Sikorsky were displaying a 'mock-up' of its forthcoming S-76D model a standard S-76 and the S-92. The magic of the highly detailed 'mock-up' was based on the real thing – a former crashed airframe dredged from the deep. But it looked good and highlighted Sikorsky's wish to remain in the civil airframe game. The S-76D was launched at HAI a year ago, deliveries are still two years away.

For today the S-92 remains the immediate hope for increased civil sales. Recent announcements placing of the type firmly into the SAR market are important. Although competitors continue to highlight the fact that it remains untried in the role it is clear that the type is making inroads in a market to replace the company's incomparable earlier product the S-61. As many still claim the S-61 can never be replaced placing the new airframe into the same niche is important for Sikorsky.

To date there are 19 S-92s active and they have taken the type hours over 10,000 in the past year. The important sales to CHC made the breakthrough and resulted in the type being selected for the UK Coastguard replacement programme.

In the wake of the recent buy out of Bell Helicopter **AgustaWestland** announced at the show that they have rebranded the former AB139 to the AW139. The order book for the type had passed 150 as the show opened and subsequent announcements mean that the total is now approaching 170. The Tokyo Metropolitan Police – currently operators of the only civil EH101 – are to take delivery of an AW139 shortly.

In buying out Bell AgustaWestland will be facing a greater pressure on their own flight-test resources.



The advertisement features a red background with a white grid pattern. On the left, the L3 Communications Wescam logo is displayed. The central text reads "The Evolution Continues..." in a large, bold, yellow font. Below this, the contact information "1.800.668.4355" and "www.wescam.com" is provided. On the right side, three thermal imager models are shown: MX-15, MX-15D, and MX-20. Each imager is depicted with its internal components visible through a circular opening.

L3 communications
WESCAM

The Evolution Continues...

1.800.668.4355 www.wescam.com

MX-15 MX-15D MX-20



The updated Grand version of the 109 currently stands at nearly 60, deliveries outside the USA have started but it still awaits FAA certification - expected this month. AgustaWestland claim that the Grand can offer operating costs that can be as much as 36% lower than competitors in the same size category.



N196FB AgustaWestland 119 of the Phoenix PD

I guess that claim in code may well refer to the gap in costs compared with the significantly larger EC145.

AgustaWestland and Sloane Helicopters Ltd based in Northampton, UK announced the signing of a new distribution agreement to provide AgustaWestland helicopters to the United Kingdom and Irish civil helicopter market. This agreement will allow Sloane to market and sell the entire AgustaWestland civil market product line.

The distribution agreement spans four years and entails the acquisition of a minimum of 44 helicopters in the four year period. Sloane has already signed a contract to acquire 10 helicopters in 2006. The overall market value of the agreement is approximately €200M.

It is stated that this agreement will strengthen AgustaWestland's share of the UK light-twin VIP/Corporate market, which is already more than 70%, and will facilitate further expansion in the UK HEMS and police market. Current sales into this sector are a single EMS machine and a single police machine.

Sloane Helicopters Ltd has been supporting AgustaWestland's UK sales as an agent since 1996. During these ten years Sloane has sold more than 40 Agusta helicopters in the UK and Ireland. Sloane also acts as a Service Centre, Maintenance facility and Type Rating Transition centre for AgustaWestland helicopters in the UK



Tokyo PD are expecting delivery of this AW139

Shephard
HELI
Pacific

31 May - 1 June 2006, Royal Pines Resort, Queensland, Australia



Robinson, still the largest unit manufacturer of civil helicopters, still have to announce their new helicopter design. The many rumours surrounding 'the future' seem to suggest that Frank Robinson has looked at, and rejected, various options including diesel and turbine power but we shall have to await Franks decision.

There were two examples of the **Erickson Air-Crane S-64** wearing Italian Forestale colours in the static park this year. Behind the double take was tragedy.

On July 7 last year S-64 N236AC. Italian Forestale crashed killing a mechanic from the manufacturers plant and three others were injured on a flight that went down 5 minutes after taking off from Rome Fiumicino. This was to be the second Forestale S-64 and had featured at the 2005 Heli-Expo as CFS-101. Introduction to service was taking some time – it was after all months since the show - so at the time of the accident it remained on the US register, never actually being handed over and becoming CFS-101, as a result it will be replaced by Erickson. The pair of machines at the show were CFS-102 and 103.

In the shadow of the Forestale S-64 stood a single example of the VN1100... a resurgence of the former 1960s vintage Fairchild-Hiller 1100. Small numbers of this once popular helicopter continue to be produced.

Enstrom Helicopter Corporation partnered with **Gyrocam® Systems** to display an Enstrom 480B Guardian helicopter outfitted with the Gyrocam® IR dual sensor surveillance camera, and a SpectroLab® SX-5 searchlight, in the static park area of the show.

The Guardian is marketed as an 'ideal law enforcement platform' that comes standard with police mission equipment. The majority of US law enforcement operators employ single-engine machines with a two crew package and it is this market that Enstrom are addressing. The large cabin glazing is being promoted for its excellent visibility. With many of its competitors now offering a range of alternative anti-torque systems the Enstrom 480B's conventional open tail rotor design is promoted as providing exceptional performance, and handling capability in windy conditions.

Founded in 1959, Enstrom have never made major inroads into the law enforcement market but have supplied examples of each line of helicopters including the three-place, piston-powered F28F and 280FX, and the turbine-powered 480B to some law enforcement operators since the 1970s.

The current 480B is available as a three-place advanced trainer or as a three- to five-place VIP aircraft. For law enforcement applications, the 480B is known as the Guardian and the F28F is called the Sentinel.

The 800 line, 3-chip colour Gyrocam camera provides clear, crisp images, recording every detail in high resolution. The 3 to 5 micron infrared sensor includes a 17mm to 200mm optical lens and can capture differences in heat signatures, in either traditional black and white, or as colour enhanced images.

Enstrom's newly configured Guardian went on a Southeast Tour following the HAI Show from the 2 - 8th of March. Enstrom's plans included visits to 10 police and sheriff's offices on its route from Dallas Texas to South Carolina and then back to Menominee Michigan.



Aerospace Filtration Systems Inc. (AFS) and **Donaldson Company Inc.** have teamed up to develop industry-leading solutions for new and retrofit inlet barrier filtration systems for helicopters. The AFS/DCI team will pursue development of both commercially certified and military qualified filter assemblies that use a new Donaldson proprietary dry filter media and a durable new oiled media.

New-development filters for the Bell 417, Eurocopter AS 350, AgustaWestland A119 and several military helicopters are being considered from the initial design phase to incorporate the dry media. The dry media simplifies service with the use of compressed air or an environmentally friendly cleaning solution and water, eliminating the time and attention required to dry and re-oil filters. The team will evaluate existing applications for retrofit as time allows within the regulatory approval process, making the dry media solution available to customers in the future.

AFS and Donaldson barrier filtration systems have been proven to filter out more than 99% of dirt and sand, thereby enhancing engine performance when compared to traditional particle separators – and at a more economical cost.



Heli-Dyne Systems were showing a range of equipment options including a universal gimbal mount for the AS350/355 series. The new unit has a bayonet quick connect gimbal mount that will accept the Wescam MX15, the FSI Star Safire series and Ultra Media LE.

Goodrich Sensor Systems from Minneapolis were exhibiting a laser-based system that it says can detect energised and non-energised wires, as well as water-borne surface objects. The flight tested 30 pound Laser Obstacle Awareness System (LOAS) can detect half-inch power lines and quarter inch un-powered wires.

LOAS resembles a FLIR with a 180° horizontal and vertical field of view of +30° and -90° and can detect wires between 2 and 2,000 metres distance.

LOAS is still in test and may yet need to be made smaller to reduce drag but might be expected to see certification early next year and become available at a cost of less than \$100,000.



In response to customer demand, **SEI Industries** has engineered its newest product, the Torrentula 'Lite' Valve — a variable dump option for smaller Bambi buckets and a retrofitable variable dump valve for standard buckets.

Building on the success of its larger cousin, the Torrentula Valve, this newest 'Lite' addition provides variable dump capability to a range of bucket sizes from 120 to 440 gallons. With design features that are both economical and operator-friendly, the new valve uses less power than any other comparable type available on the market. Typically, the Torrentula 'Lite' can be installed using the aircraft's existing electrical configuration.



Each of the major sensor manufacturers was present at the show – although once again I seem to be reporting that did not see IAI Taman promoting their POP imagers.

Polytech showed its latest gyro-stabilised gimbals for airborne imaging applications at the show. Live demonstrations of a range of products including the new 350mm/13 inch Cobolt 350 - a high performance multi-sensor gimbal for airborne surveillance constructed from lightweight high stiffness composite materials and the Cobolt 275 - a high performance stabilised gimbal equipped with state of the art electro-optic sensors optimised for civilian missions including SAR and law enforcement.

Since 1988, Polytech AB has been focused on development and production of innovative camera systems for airborne applications. Today, Polytech AB offers a comprehensive range of proven products for airborne radiometric applications, ranging from power line inspection to fire mapping and environmental studies. Details on Polytech can be found at www.polytech.se.

The AeroExpo 2006 logo features a large, stylized 'A' in orange and blue, with the word 'AeroExpo' in blue and '2006' in orange. Below the logo, the text reads: 'AN INTERNATIONAL EXHIBITION FOR GENERAL AVIATION', 'WYCOMBE AIR PARK JUNE 23 - 25 2006', and 'www.expo.aero'. At the bottom, there are four small photographs showing various aircraft on display at the exhibition, including a helicopter and several small planes.

Police Aviation News

This might have been a helicopter show but one company managed to major a presentation on a fixed wing aircraft on their booth.

Once upon a time there was a highly promising police task aeroplane that was conceived in England but primarily designed to succeed in a vast American market and it even entered service with the police in its home country but lots of wicked things happened – a fatal crash, a fire and company failure – and the whole plan to undertake massive production fell apart. In the end the relative fame of the Optica Scout far outstripped its demonstrated capabilities. In the ten years since its last real metamorphosis it has staggered from owner to owner without any real re-birth. The last information suggested that it was to see production successively in Wales, Eastern Europe and then the Far East. Now a new future has emerged.

The newly formed **British Light Aircraft Co. America Inc.** [BLAC] based in Waco, Texas has teamed up with the Greater Waco Aviation Alliance, a body tied in with the local Chamber of Commerce to promote aviation in the city, to set up production of the Optica. BLAC has the will, the premises and the financial ability to bring about a new Optica - this time called the Optica Lone Star – and to produce airframes in the USA to feed a home market that was always seen as the main customer base for the type. There is now a growing gap between the new project and the original aircraft.

There are a couple of Optica's in the US and one is expected to be a demonstrator but there are no plans to buy into remaining UK airframes including the former Hampshire

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police aircraft still owned by Mike Woodley and stored at North Weald. It may look identical but the new project is intended to be based on new build and may move forward to include a degree of composite construction to replace metal structures.

The team at BLAC includes Chris Burleigh, who was once on the team of the original Optica product, and Andy Richardson formerly with McDonnell Douglas and Boeing

Fortuitously the US has a problem with its porous southern border, a fear about terrorism and a limited budget. The US Border Patrol is progressively upgrading its rotary wing fleet but is also facing decisions about replacing its fairly large light fixed component. That is an area where Optica Lone Star may have a future. Time will tell.



AeroComputers Inc. are the latest company to produce a ruggedised solid state recorder device.

These units have pushed aside the nominally new 'half way house' of digital tape and many companies have already abandoned offering them as new equipment options.

The California based company were displaying their X³ [X cubed] Digital Video Recorder at the show.

The company can be contacted in N. Ventura Road Oxnard, California info@aerocomputers.com

Bristol PA based **Life Support International** were displaying an example of the Billy Pugh Helicopter Rescue Net – a proven item of equipment used by airborne SAR crews around the world with hundreds of lives saved. Life Support International, Inc. (LSI) have over 30 years experience in the production

and marketing of lifesaving equipment. Designed for use in the harshest of environments, these nets can be used on land or in water (flotation collar is optional).

The design and construction of the net allows for compact, easy storage in most helicopters. Various models are available, offering different configurations in sizes, flotation, and folding capabilities.

Life Support International produce and market a range of equipment including life preservers and rafts, ropes, rescue litters, hoist accessories, cable cutters, harnesses and accessories.

www.lifesupportintl.com

Keystone Helicopter has a new 130,000-square-foot, state-of-the-art facility in Coatesville, PA., and a new relationship with Sikorsky Aircraft Corporation. Sikorsky announced its acquisition of Keystone Ranger Holdings in December 2005.

Keystone will continue to serve as a factory-authorised service centre for Bell, Eurocopter, MD Helicopter, Rolls Royce, Turbomeca, Pratt & Whitney, and Sikorsky products.

Keystone began its transition into the new facility in Coatesville, known as the Heliplex, in 2002. The facility now has 55,000 square feet of office, shop and hangar space. In April 2006, the newest phase of the Heliplex will be open and ready for business. This new building will add 75,000 square feet of hangar and support shop space.

Closing information from HAI state that HELI-EXPO 2006 was the best exposition and meeting ever. 2006 broke all previous attendance records, with a total of 16,629 helicopter





industry professionals attending. The attendance record was already broken after only the second day of the show. As of the end of Monday, February 27, 15,833 people had already attended the show.

Additional records broken include 520 exhibitors who showcased their products and services, utilizing 220,000 net square feet of exhibit space, 853 Job Fair attendees and 30 Job Fair exhibitors, and 617 students who registered for the Professional Education Series. There was a total of 48 helicopters displayed on the show floor.

HAI staff members will soon begin preparing for HELI-EXPO 2007, which will take place in Orlando, Florida, March 1-3, 2007.





Dart



Kamov



MD900



Robinson

