

# Police Aviation News

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HAI 2003 Review Edition

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# HAI DALLAS TEXAS FEBRUARY 9 - 11, 2003



*Dallas cowboys – in bronze.*

**W**ith a background of Eurocopter increasing its 2002 turnover by 12% and capturing 60% (by value) of World civil and parapublic market US industry was again uncomfortably placed at a disadvantage to the Europeans at its own premier show.

Things are changing. The US market is now growing at such a rate for them that many European manufacturers – not just Eurocopter - are putting in place or upgrading their own facilities in North America. Eurocopter, Agusta-Westland and Turbomeca were each announcing new facilities for service, repair, assembly or manufacture of aircraft and engines within America.

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All of this serves to increase the pressure on the 'traditional' US manufacturers [and of course MDHI is already a Dutch company] in just the same way as the British motor manufacturing industry was nibbled at and finally wiped out by Ford, GM and then Nissan and BMW...

European sales successes and projects dominated this HAI. **Agusta-Westland** were announcing sales of A119 Koala's into prime areas of law enforcement – including New York - and already firming up on the project to join with US manufacturers to sell the US101 into prestige operations including the transportation of future Presidents of the United States.



Last year the EC145 mock-up dominated the Florida exhibition hall from its lair on top of the **Eurocopter** booth. This year the type that is set to take the US EMS market was operating largely unseen from the rooftop heliport. The EC145 came to HAI as a certified entity, it gained its German ticket in December 2000 and the FAA one year ago. In the meantime the type has been certified in Japan, France and Switzerland. It may be no surprise that the UK CAA are holding out though - they took issue with the type of bonding used to seal the expansive windscreen – as most aircraft find it the most difficult authority to deal with. With deliveries running at a rate of 25 each year and an already significant backlog the type is not in any way immediately available.

on the



EC145 and S-92 on the Dallas flight line.



Careflight Agusta A109E Power

All the news.



*HEMS configured Eurocopter EC130B4 on the EC Booth.*



*The Bell VTOL UAV has been selected for the USCG*

Most people would accept that Frank **Robinson** was dead set against using turbine engines in his aircraft. Now it appears that although his reciprocating products continue to sell well, his attitude is softening.

Amid rumours that he has already flown a turbine R44 Robinson at HAI the Robinson organisation was not totally discounting the introduction of different engine types. Frank has left the type of engine to be employed in a new design he's working on open to conjecture.

Robinson told one publication that the R22 is now 'tapped out' in terms of power available. 'We just can't get anymore out of it,' he said. [DSH]



*Robinson were displaying their new Raven based R44 Police and a similar Newscopter. The interior of the Police model now includes a retractable monitor that greatly enhances the direct field of vision for the observer when not using the sensor.*

With MOGAS difficult to obtain there are some markets that favour turbine fuel and these might tempt the company to consider a move from the traditional engine. But a Robinson spokesman has pointed out that Robinson is about high numbers and low costs and it has yet to be seen whether either the high-cost turbine or the heavy diesel engine will yet attract a sufficiently large market for the company to take the plunge.

**Honeywell** have announced that its Fifth Turbine-Powered Civil Helicopter Market Outlook projects deliveries of approximately 2,600 new helicopters during the five-year period 2003 - 2007, driven in part by increased demand in Law Enforcement and Emergency Medical Services helicopters.

Law Enforcement and Emergency Medical Services helicopters combined are expected to account for over half of all new helicopter applications during the five-year forecast period. Border patrol and homeland defence are mentioned frequently as planned use for new law enforcement helicopters.

The survey reflects a 3% compounded growth rate over the forecast period. The outlook also projects a 4% increase in 2003-2007 deliveries compared to the period 1998 - 2002, when approximately 2,500 new turbine rotorcraft were shipped. Estimated new civil turbine-helicopter deliveries declined slightly in 2002 over the levels experienced in 2001 and are likely to dip modestly again this year.

In terms of new helicopters in North America, law enforcement received almost 40% of all mentions this year, compared to 31% in the 2001 survey and was the most frequently mentioned use segment.

Emergency medical service applications increased from 19% in 2001 to 30%. Planned corporate usage fell, most likely in response to a weak industrial economy and corporate profits.

**Honeywell** also announced that it is developing an improved Airflow Modulator (AFM) for its LTS101 series of engines that will deliver 4 times the reliability of existing units.

Certification of the new part is expected in mid-2004. The new component will be a drop-in replacement for existing units and will be available for immediate or upgrades to fielded engines.

Airflow modulators regulate the flow of air through the engine, maximising engine power. A malfunctioning unit could cause an engine stall or a reduced level of power for the helicopter. Honeywell's new AFM design will incorporate the use of hydraulic power to replace the older pneumatic technology. Honeywell's new design is expected to have a Mean Time Between Removal of 2500 hours, nearly four times that of existing controls. The unit will be compatible with both FADEC and Non-FADEC equipped engines.



*The new LTS101-950 will provide up to a 23% increase at takeoff and a 35% increase for single-engine conditions.*



Honeywell is developing an advanced growth engine for the LTS101 engine family. The next LTS101 version designated the LTS101-950, will have an advanced technology compressor. The LTS101-950 will maintain present LTS101 engine footprint in existing airframes and will enable engine power upgrades for existing LTS101 operators and for future helicopter platforms providing up to a 23% increase at takeoff and a 35% increase for single-engine conditions.

**Eurocopter** remain at the peak of their sales success. Riding on their continued ability to provide the market with the airframes it requires it continues to set new roots in the form of bases of operations around the World.

At HAI Eurocopter confirmed the selection of a new US production and finishing facility in Mississippi. In so doing they snubbed Texas. Texas politicians, they say, spend too much time helping a hometown helicopter company, Fort Worth-based Bell Helicopter Textron.

Whilst declaring their satisfaction with operations of American Eurocopter, their subsidiary based in Grand Prairie, Texas, and having no intentions of leaving the town they also say that they won't rule it out.

There is a suggestion that American Eurocopter might leave Texas and consolidate at the new plant in about two years.



The EC135, the UK's most Advanced Police Helicopter

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American Eurocopter's business has been strong, the company has been contracting out a considerable amount of work and simply needs to expand its US operations. Mississippi offered very attractive financial incentives.

American Eurocopter employs about 325 people at its Grand Prairie Municipal Airport plant, where it performs completion work on new helicopters and repair and maintenance work.

Bell Helicopter Textron is one of the top employers in Tarrant County, with about 5,800 area workers.

On the first day of HAI Eurocopter officials hosted a Coast Guard chopper crew at the company's booth for a champagne toast to commemorate the milestone of operating its helicopters for more than 750,000 flight hours since 1984.

The Coast Guard, as part of its Deepwater project, has tentatively identified Bell/Agusta's new AB-139 helicopter as its aircraft of the future. Eurocopter officials make no secret of the fact that they're hoping to turn that decision around with the controversial upgrade of the Coast Guard's ageing fleets of aircraft. [Fort Worth Star-Telegram]

**American Eurocopter** announced at the show that it is freezing the cost of spare parts for models AS350, AS355, AS365, EC130 and EC155. The price freeze will remain valid throughout 2003.

'These price changes demonstrate Eurocopter's continuing commitment to stabilise or reduce one of the largest operating costs associated with helicopters, that of spare parts replacement,' said Mike Muniz, Director, Logistics Support.

Replacement parts prices for the EC120 and EC135 will actually decrease in 2003, reflecting Eurocopter's intent to reduce the direct maintenance costs for these two models. The price for spare parts for the BO/BK series will see a modest increase. Complete pricing information can be obtained through the Espares page on the Eurocopter website [ [www.eurocopter.com](http://www.eurocopter.com) ].

Eurocopter will also help its customers plan for 2003 by offering a customised pricing analysis based on 2002 total purchases to determine their costs for the coming year.

**Outerlink Corporation**, a satellite data communications company, announced the installation of its automatic flight following system by 12 air medical operators. The Outerlink system enables both automatic flight following and real-time data messaging between air ambulance aircraft, ground dispatchers and hospital emergency rooms.

The Outerlink System enables air medical operators to pinpoint the location of their aircraft, in real time, even in remote areas. This satellite-based flight following system provides not only immediate status of the aircraft; it also provides a historical record of actual flight paths, thereby enhancing the efficiency and accuracy of the billing process. Thus, the system contributes both to the safety and productivity of flight operations.

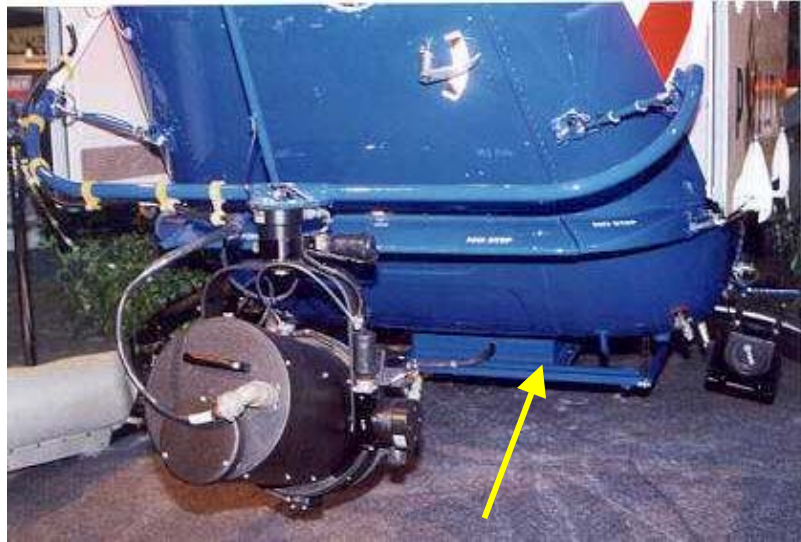
Outerlink is based in Concord, Massachusetts. For more information visit their Web site or contact: John Smits, Director of Marketing, +1 978-371-9190 x272 [www.outerlink.com](http://www.outerlink.com)

2002 was a difficult year for **MD Helicopters**, Inc. (MDHI), which joined other manufacturers in reporting a decline in 2002 deliveries. MDHI delivered 15 helicopters in 2002, according to Chairman and Chief Executive Officer Henk Schaeken.

The 2002 delivery total included five MD 500E four MD Explorer four MD 520N and two MD 600N helicopters.

Schaeken said MDHI expects to deliver 44 aircraft in 2003 and already has 35 firm orders on the books. Last year's deliveries were negatively impacted due to delays in delivering 13 MD Explorers to two major customers, the Dutch National Police (eight MD Explorers) and the

German State Police (five MD Explorers). In addition, the delivery of 10 MD 600Ns to the Turkish National Police was delayed due to ongoing export financing issues. The first Dutch and German MD Explorers were finished the first week of February, with both programs to be completed by year-end. The Turkish National Police MD 600Ns also are slated for delivery before year-end.



*Fully Equipped:*

The Dutch Explorer displayed [No86, N7006X also known as PH-PXA] showed off all the equipment options, flotation gear, new SX16 mounting, skyshout, observers station, sensors and special equipment. Although these ultimately required the troublesome re-certification with the FAA and JAA MDHI states that the full equipment is expected to see use only occasionally operationally. The most demanding role was that replacing the fixed-wing aircraft and the sensor from that role now occupies the area under the fuselage pod. In so doing all the equipment UK police aircraft carry in the same position is now displaced to the interior. A result is that the rear door – originally designated for use by stretchers or storage - is now only an equipment bay.



The MD Explorers for the Dutch and German Police are the most heavily equipped airborne law helicopters ever manufactured. In fact, the unique configurations for both customers required type certification by the Federal Aviation Administration.

'The good news is that this was a tremendous engineering effort that is now behind us, and, in the process we rewrote the book on integration with these programmes,' Schaeken said. 'We have set the stage for future customers with complex requirements, and we now have a capability that is unique in the industry.'

In addition, Schaecken said MDHI's substantial market share in key segments such as public service will serve the company well in 2003 and beyond.

MDHI claim a total market share of 7% although the MD 500 Series line boasts an impressive 31 percent market share in public service, based on deliveries since 1999. Likewise, the twin-engine MD Explorer has a 23 percent market share in the public service segment, based on deliveries since 1999. These results reflect MDHI's strategy of focusing on the homeland security and public service markets.

*Ed: Bearing in mind that MDHI are claiming a very bad year on one hand and then proffering very impressive market share numbers on the other hand there must be an 'overclaim' here somewhere! It just goes to underline that you can prove anything with numbers.*



**Texas Aviation Services (TAS)** officially announced their new FAA approved STC for a Bell 407 auxiliary lighting system. This advanced lighting and filtering system offers the unique capability of Night Vision Goggle (NVG) compatibility.

TAS and REB Technologies jointly developed the STC for several customer requirements. This system utilises patented Spiders™ ANVIS White LED light modules to illuminate certain instruments, along with special Shadows filters for avionics displays and the master caution panel.

Spiders™ and Shadows technology offers unique capabilities and advantages compared to other systems. ANVIS White lighting facilitates improved instrument readability, offers transparent transition from aided to unaided flight at night, and at significantly less cost than older, more traditional lighting systems. Shadows filters eliminate unwanted elements of visible light while retaining proper color perception of instruments, moving maps, and other displays. TAS's NVG systems are being utilized by several commercial customers, and in a number of military and covert applications.

Spiders™ and Shadows technology provides an unequalled and pilot-friendly cockpit lighting environment. TAS holds the only FAA approved multiple STC's for auxiliary cockpit lighting on the Bell 206B/L series aircraft. Texas Aviation Services is based at the Fort Worth-Meacham International Airport.



**Editor's Choice:** The star product for the future was on the THALES booth. TopOwl is a helmet-mounted sight/display for helicopters that shows great promise for the future.

Although it is currently a military product TopOwl is the best helmet-mounted sight and display for helicopters in the world. Anyone who has donned a standard helmet, a set of night vision goggles [and associated counter weights!] and tried out the Scout helmet pointing needs to seek out the THALES offering. It is supremely lightweight and well balanced and does not turn the wearer into some alien being with its eyes on stalks. All displays are head-up into the visor and fed by coaxial cameras in the helmet shell. Individuals require a customised helmet liner, but the same applies to similar systems including Scout.

Before anyone launches their contract procedure I must emphasise the FUTURE, for TopOwl, for this product is still very expensive. The current use is on military helicopters in the Tiger, NH90 and Rooivalk sector. I did try and elicit a 'ball-park' price figure from the equipment from the THALES representative but I suspect that the current offering is so embarrassing expensive that it is going to be out of reach for a while yet! A simplified version must appear in time to save the neck muscles of every erstwhile SAR and nvg capable pilot. Still anyone with a few such worries might like to look at [www.thales-avionics.com](http://www.thales-avionics.com)



Not yet available in Europe, HISL, **Helmet Integrated Systems** [[www.helmets.co.uk](http://www.helmets.co.uk)] launched their 900 series helmet at the show. A lightweight high comfort helmet system the Alpha 900 is designed for use in helicopters and fixed wing aircraft without ejection seat capability.

Forty years of business success was celebrated by **Tech-Tool Plastics, Inc.** during Heli-Expo 2003. The company also celebrated the receipt of Federal Aviation Administration approval for a complete line of replacement windows for the Eurocopter BO105. The company exhibited several of these B0105 windows, as well as a full range of others, in its Heli-Expo exhibit. Founded by company President Johnny Wilson in 1963, Tech-Tool Plastics, Inc. is still owned and operated by the Wilson family in Fort Worth, Texas. They manufacture standard and custom helicopter replacement windows for Bell, Eurocopter, MD Helicopters, Robinson, Schweizer and Sikorsky helicopters. New products are always under development in response to the needs of the market, Tech-Tool is finalising development of windows for the Bell 407, the Eurocopter EC120 and BK117, and the Robinson R44.

**Enstrom** were promoting the new company at Heli-Expo, showing off sweeping changes designed to breathe a new different life into the company and its products. An aggressive plan for growth, and implementation of the plan is in full swing at the company's Menominee, Mich., headquarters and around the world. Changes include the establishing a world dealer network, so far the network includes 25 dealers in the US and Canada, with plans for continued expansion.

Restructuring the company and its management include creating a new division devoted to product support and significantly increasing the number of tech reps. Marketing has also been enhanced with a bold advertising campaign, a new office in Taiwan, and plans for a greatly enhanced web site.

In the factory changes to manufacturing processes and workflow will improve efficiency and ease the proposed expanded production.

Enstrom has delivered approximately 1,000 helicopters since the company was founded in 1959. Seven-hundred of those helicopters are still flying.



For the near future Enstrom will be launching a law enforcement specific model to the market. No details of this have yet been indicated. In the past there have been a reasonable number of the piston F28 model in service but the turbine types have made little impression.

**Icarus Instruments**, Inc., in association with Flight Explorer®, introduces Sky Connect® TRACKER™, the world's first flight tracking system providing continuous service anywhere, from the North Pole to the South Pole.

Using Flight Explorer, the leading provider of Internet-based real-time flight tracking information, Sky Connect TRACKER combines FAA-sourced IFR traffic with the full-time satellite tracking of VFR and IFR aircraft. Two-way messaging, aircraft systems status, and Mayday alerting are supported for all TRACKER-equipped aircraft. Demonstrations of TRACKER's features will be shown in the Icarus Instruments Sky Connect booth #2350 at the Heli-Expo in Dallas, TX.

Sky Connect TRACKER is adaptable to any type of flight operation, from medical evacuations to regional commuters to international charters. TRACKER enables aircraft owners and fleet operators to fully customize update rates, event alarms, and status checks to meet their safety and operational requirements. Call 1-866-235-6870 or visit [www.flightexplorer.com](http://www.flightexplorer.com) [www.skyconnect.aero](http://www.skyconnect.aero).



Buoyed up by successful recent sales of its earlier S-76 into the EMS market, **Sikorsky** continue to ride high on the certification of their new baby the S-92. But in the wake of the types failure to attract new orders the company merely identified and confirmed what were nominally unknown existing customers. Norsk Helikopter are to use two on the North Sea and Cougar Helicopters of Nova Scotia signed up for three of the type that were first announced years ago. In addition Sikorsky has nine aircraft under deposit with such respected operators as ERA and East Asia Airlines. In the wake of the Irish order and cancellation sales remain fairly stagnant, but it might be hoped that the recent VFR certification will allow the position to improve.

With final assembly commencing in March, the first S-92 delivery to Cougar is targeted for the Heli-Expo 2004 show in Las Vegas.

Evolved from the proven S-70 Blackhawk and Seahawk aircraft, the S-92 incorporates more than 50 years of Sikorsky civil and multi-mission helicopter experience. The aircraft is available

in a variety of configurations for commercial customers, including offshore oil, VIP transport, airline operations and other missions.

The S-92 reaches speeds of 165 knots and is able to fly more than 500 nautical miles while carrying more payload than current competitors. Operators are also projected to save more than \$200 per flight hour in maintenance costs over the Super Puma, and \$500 per flight hour over the EH-101 (Conklin and deDecker, 2002.)

An example of the S-92 was among the few aircraft types providing customer flights from the on-site heliport at HAI. Although promoted as a new and exciting project, a long term pilot of National Guard Blackhawk helicopters commented on observing the S-92 lift off that its take-off characteristics were *déjà vu* – a Blackhawk with a fatter body.



Like a number of other non US producers of high class equipment **Laserdyne**, based in Queensland, Australia are promoting their flat screen panel through Dallas Avionics to ensure adequate in-country support for the product in the US market.

Laserdyne recognise that displays are the primary interface between human and camera, and that the performance of a superior vision system can be let down by inferior display performance – compromising the operator's effectiveness and devaluing investment.

The designer and manufacturer decided to go the other way - to unlock the full potential of modern vision systems by providing advanced video processing features in a display package that will function in extreme environments.

The result is the Black Opal series of display systems that offer a multi channel display monitor with true sunlight readability in a tough and rugged package.

Each of the models offered offers:

- *Toughness* to provide a display that will function reliability in adverse conditions.
- *Performance* to maximise the capability of the vision system with which it is integrated.
- *Versatility* in allowing the operator to perform a range of tasks under a range of conditions, and
- *Simplicity* of display and control layout without compromising other features.



A significant Black Opal feature, called *MultiVision*, provides the simultaneous display of multiple inputs (2 video and 1 PC input) at full frame rates. The installer can customise up to five different screen layouts

to suit one or more missions, inserting video, as picture-in-picture, into video or PC full screen presentations. These layouts are assigned to a toggle list accessible to the operator.

Another significant feature is an image enhancement function that "cleans-up" obscured images. Obscurants such as smoke, fog, rain, snow, mist and smog are compensated for by image-analysing, white-balance and contrast/colour-boosting algorithms. The improvement in discernible detail can be startling. Three sizes of enhancement window may be chosen and it all happens in real time.

Fuller details can be found at [www.laserdyne.com.au](http://www.laserdyne.com.au) Contact Dallas Avionics or Martyn Zammit at Laserdyne at [laser\\_vic@laserdyne.com.au](mailto:laser_vic@laserdyne.com.au)