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# YEAR IN REVIEW

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**EDITORIAL**

**Andrew Parker** Senior Editor, aparker@accessintel.com
**Chris Sheppard** Associate Editor, csheppard@accessintel.com
**Ernie Stephens** Editor-at-Large, estephens@accessintel.com
**Andrew Drwiega** Military Editor, adrwiega@accessintel.com
**Claudio Agostini** Latin America Bureau Chief
**Joe West** United Kingdom Correspondent
**Contributing Writers:** Chris Baur; Lee Benson; Shannon Bower; Igor Bozinovski; Tony Capozzi; Keith Cianfrani; Steve Colby; Frank Colucci; Dan Deutermann; Pat Gray; Frank Lombardi; Vicki McConnell; Robert Moorman; Douglas Nelms; Mark Robins; Dale Smith; Terry Terrell; Todd Vorenkamp; Richard Whittle.

**ADVERTISING/BUSINESS**

**Joe Rosone** VP & Group Publisher, jrosone@accessintel.com
**Randy Jones** Publisher, 1-972-713-9612, rjones@accessintel.com

**Eastern United States & Canada**
**Carol Mata** , 1-512-607-6361, cmata@accessintel.com

**International Sales, Europe/Pac Rim/Asia**
**James McAuley** +34 952 118 018, jmcauley@accessintel.com

**DESIGN/PRODUCTION**

**Joy Park** Graphic Designer
**Tony Campana** Production Manager, 1-301-354-1689 tcampana@accessintel.com
**Tesha Blett** Web Production Manager

**AUDIENCE DEVELOPMENT**

**Jill Braun** Audience Development Director, jbraun@accessintel.com
**George Severine** Fulfillment Manager, gseverine@accessintel.com
**Customer Service/Back Issues** 1-847-559-7314 rw@omeda.com

**LIST SALES**

**Statlistics**
Jen Felling ,1-203-778-8700, j.felling@statlistics.com

**REPRINTS**

**Wright's Media,** 1-877-652-5295 sales@wrightsmedia.com



Access Intelligence

**Access Intelligence, LLC**
4 Choke Cherry Rd., 2nd Floor
Rockville, Md. 20850 - USA
Phone: 1-301-354-2000, Fax: 1-301-354-1809
E-mail: rotorandwing@accessintel.com

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# Editor's Notebook

## Year in Review: 2011

*By Andrew Parker*

aparker@accessintel.com

Overall, 2011 could be described as a year that included some dramatic ups and downs for helicopters involved in combat. In the commercial market, while nobody can predict the direction of the economy, the continued development of new variants and sales inching forward is fueling a guarded optimism that 2012 could bring a return to more plentiful times.

It's been an eventful year, with the U.S. Special Ops helicopter raid on Osama bin Laden (see coverage in June issue starting on page 10), followed a couple months later by the crash of a 10th Army Combat Aviation Brigade Boeing Chinook that resulted in the deaths of 38 troops (see September issue, page 12).

*Rotor & Wing* publication *Military Insider* made its debut in June 2011, with a second installment appearing in this issue. *Military Insider* is scheduled to appear three times during 2012 and become a regular feature in the years ahead.

Another interesting development in the past 12 months is AgustaWestland's purchase of Bell's share in the BA609 tiltrotor program, now the AW609 (see August issue, page 16). Bell CEO John Garrison says the Fort Worth, Texas-based manufacturer decided to focus solely on the V-22 program, its joint venture with Boeing (see November issue, page 26).

The helicopter featured on this month's cover—Eurocopter's EC145T2—made a couple of key appearances during 2011, with the smoke-filled, Hollywood-style introduction of the variant during Heli-Expo in March, to the flight demonstration of Tango 2, aka the "terminator," at an Oct. 25 customer event in Grand Prairie, Texas (see page 13).

One memory that sticks out in my mind about 2011 is slowly weaving my way to the front of a packed crowd and taking a video of the EC145T2 unveiling, and then doing basically the same thing across the Heli-Expo show floor about 30 minutes later with the introduction of the Bell 407GX and 407AH (see **aviationtoday.com/rw/heliexpo2011/videos**).

Other new and in-development variants made strides in 2011. Among the highlights include the introduction of the AgustaWestland AW189 during the Paris Air Show (see August issue, page 16); Sikorsky's S-97 Raider advancing toward first flight in 2014 (see story, page 23); MD Helicopters winning a U.S. Army training contract (see April issue, page 23); the unveiling of Marenco Swisshelicopter's SKYe SH09 (see April issue, page 12); Russian Helicopters finalizing the consolidation of its manufacturing and service entities (see February issue, page 15); Eurocopter announcing its X4 Dauphin replacement (see August issue, page 14) and flight testing its X3 hybrid demonstrator (see May issue, page 26); and Robinson's R66 receiving a positive response (see February issue, page 24), with CEO Kurt Robinson projecting an upswing in helicopter sales at the beginning of the year (see April issue, page 23).

There were also a number of developments in emerging markets, with the first China Helicopter Exposition taking place in September (see coverage in October issue, page 10) and several OEMs seeking to benefit from the projected growth in helicopter demand in Asia.

One of the things that makes the helicopter industry so dynamic is all the characters and personalities.

Many of the industry figures that *Rotor & Wing* had the opportunity to speak with during 2011—including Turbomeca CEO Olivier Andries (see page 26), Bell's Garrison; Air Methods CEO Aaron Todd (see October issue, page 44); Russian Helicopters CEO Dmitry Petrov (see April issue, page 15); Sikorsky President Jeff Pino (see August issue, page 12); Kaman Helicopters President Sal Bordonaro (see May issue, page 42); UTair President & CEO Andrey Martirosov (see April issue, page 24); Kurt Robinson and others—share a generally optimistic outlook toward the future of the industry.

While financial analysts run the spectrum in terms of where the worldwide economy is headed, most of the insiders we spoke with during 2011 feel that the rotorcraft market has leveled out and is headed toward a steadily rising trend, or at the worst a continuation of the "flat is the new up" economics.

These represent some of the major highlights of 2011, but there are hundreds of additional stories from the past 12 months that are worth a second look (see *Year in Review*, page 32).

If even for just a minute, it's important to reflect back on 2011 as we look ahead to 2012. Add it all up, and it's been a year to remember in the history of helicopters.

*What is your organization's outlook going into 2012? Are you optimistic going into this year's Heli-Expo in Dallas? Please send your comments to* **aparker@accessintel.com**


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(Above) JSC Euro-Asia has ordered two AgustaWestland AW139s. (Bottom) Turbomeca has delivered more than 10,000 Arriel family engines to operators. (Right) Northrop Grumman Fire Scout MQ-8B could form basis for a UK Royal Navy UAS design using the Gazelle.

## DEPARTMENTS



## COLUMNS



## FEATURES

OPERATORS CHOICE



**On the Cover:** EC145T2 flies over the water near American Eurocopter's facility in Grand Prairie, Texas during an October 25 event that included operator questions about the new model. *Eurocopter Photo*

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## VIDEO: AMTC HELICOPTER DISPLAYS

- Check out exclusive videos from Editor-at-Large Ernie Stephens of the helicopters that were showcased during the 31st Air Medical Transport Conference (AMTC) in St. Louis. Footage from the October event can be found at **rotorandwing.com**

## ASK-THE-EXPERT

- Ask questions to three experts on the topics of helicopter aerodynamics, AS9100 quality management systems audits and night vision goggle (NVG) certification at **rotorandwing.com**. Che Masters, certification engineer for NSF-ISR, discusses aerospace quality registration. Frank Lombardi, test and evaluation pilot, provides insights about the science behind helicopter flight. NVG certification expert Jessie Kearby fields questions about NVGs for both military and commercial uses.

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# Feedback



## Putting HEMS Decisions Back into Pilots' Hands

I'm a 15-year HEMS PIC, based at a large university hospital. Hospital-based aircraft are usually leased from an aviation vendor, which also provides flight crews (the medical crews are usually hospital employees). The biggest safety concern in this arrangement is the vendor's surrender of operational control in the interest of "customer service."

Mike Redmon touched on this topic in "*Safety Wish List*" in the May 2011 issue of *Rotor & Wing*. Medical directors dictate which helicopter model the hospital wants, who the lead pilot will be, final say on pilot hiring and firings, and other practices which affect safety, and which therefore ought to be made by aviation professionals, not doctors and nurses. Other problems include a lack of pilot proficiency due to fewer transport requests (I fly less than 100 per year and most flight legs are less than 10 minutes in the large, urban environment we serve). Also, almost all HEMS pilots experience pressure to fly in inappropriate conditions (weather and otherwise) from medical crews at some point in their careers; at some bases this is the norm.

Improving the HEMS accident rate will require that all of these issues are addressed, but the shortest route to fewer accidents is more and better pilot training. Acquiring new technology or adding a copilot might be helpful, but I was a single-pilot aviator in the U.S. Army for many years, handling much more challenging conditions than anything I've encountered in EMS. We didn't have GPS or moving maps, no H-TAWS, no satellite weather, and in the days before night vision goggles (NVGs), we flew unaided in some of the darkest places you can imagine. What kept us alive was training and more training. What we have now is the CTS system (a useful supplement), and an annual checkride. These should never have replaced the pilot strapping a helicopter (or simulator) to his butt and finding the opportunity to just practice, practice, practice.

Name Withheld

## R&W's Question of the Month

**In your view, what are the helicopter industry's biggest stories from 2011?**

*Let us know, and look for your and others' responses in a future issue. You'll find contact information below.*

## Turbomeca Support

I was associated with Turbomeca through SUD Aviation in France in 1966 operating Arthrouste 1B engines on Aloutte helicopters in the Indian Air Force. Since then through years I've operated Arriel 2C engines on Dauphine N3 helicopters in India. Apart from excellent performance of engines, back up service of Turbomeca is excellent. I wish the engine maker continued success in helicopter engine technology.

Wing Commander MK Kulkarni (Ret.)
MD Kulkarni Aviation, India

## From Facebook & Twitter

On our Facebook [**www.facebook.com/rotorandwing**] and Twitter [**twitter.com/rotorandwing**] pages, we've received a large number of responses to the question, *"Based on visual appeal alone, what's the best looking helicopter or helicopters?"* The following represents a selection of what people are saying:

**Brian Cooney**: That's a tough one. I like sleek lines like on the Bell 222, Eurocopter EC155 and even the Kaman K-MAX. Gazelles look cool too and MD500s.

**Bob Pederson:** Sikorsky S-76, in flight, with landing gear retracted.

**Ron David:** I have three faves, the Russian Mi-24, the ole Jolly Green Giant CH-53 Super Stallion, and of course the Hughes 500.

**Luis Celestino**: RAH-66 Comanche and the AH-64 Apache.

**@HalmagianVictor:** For a civil helicopter: Eurocopter EC135. For a military helicopter: Boeing AH-64D Longbow Apache or the Eurocopter EC665 Tiger.

**@vulcanboy607:** It's got to be either the Mil MI-26 "Halo" or the Kamov Ka-32, which is so fugly it's pretty!

**@Apache4D:** The Sikorsky S-76 is without doubt the sleekest most beautiful helicopter in the skies. A stylish machine years ahead of its time on release.

**@vootatico:** Bell AH-1Z Viper, AgustaWestland AW129 Mangusta, Eurocopter AS565 Panther and Sikorsky UH-60 Black Hawk, in this order.

## Clarification

The contact phone number for the Revue Thommen searchlight that appeared in the Hot Products section on page 27 of the October issue is +41-61-965-2346. Thommen can also be reached by e-mail at **Walter.Fischbach@thommen.aero** or on the web at **www.thommen.aero**.

*Do you have comments on the rotorcraft industry or recent articles and viewpoints we've published? Send them to: Editor, Rotor & Wing, 4 Choke Cherry Road, Second Floor, Rockville, MD 20850, fax us at 301-354-1809 or email us at rotorandwing@accessintel.com. Please include a city and state or province with your name and ratings. We reserve the right to edit all submitted material.*

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# Meet the Contributors

**STEVE "ELROY" COLBY** has been in the helicopter field since 1979. His U.S. Air Force career spanned 27 years starting as a helicopter flight mechanic, culminating as a squadron commander weapons instructor pilot at the USAF Weapons School. Elroy now works in defense contracting as a test pilot and senior business development analyst. He has been a *Rotor & Wing* contributor since 2004. Elroy holds CFI, commercial, private and A&P certificates and is dual rated.

**ANDREW DRWIEGA**, Military Editor, is a senior defense journalist with a particular focus on military rotorcraft. He was the editor of *Defence Helicopter* for seven years. Andrew has reported on attachment from Iraq three times (the latest of which was with a U.S. Marine Corps MV-22 squadron), and three times with British forces in Afghanistan (Kandahar and Camp Bastion), as well as from numerous NATO and British exercises. He has reported on rotary forces across the world, and in doing so has flown in a wide variety of rotorcraft on training missions, exercises and operations, including the Osprey, Apache, Rooivalk and many others. He has an extensive military library of around 400 books.

**THIERRY DUBOIS** is a long-time contributor to Access Intelligence publications. He has been an aerospace journalist for 12 years, specializing in helicopters since 2006. He writes on technical subjects, both for professional media and a popular science magazine in France.

**FRANK LOMBARDI**, an ATP with both fixed-wing and rotary-wing ratings, began his flying career in 1991 after graduating with a bachelor's of science in aerospace engineering, working on various airplane and helicopter programs as a flight test engineer for Grumman Aerospace Corp. Frank became a police officer for a major East Coast police department in 1995, and has been flying helicopters in the department's aviation section since 2000. He remains active in test and evaluation, and holds a master's degree in aviation systems-flight testing from the University of Tennessee Space Institute.

**DOUGLAS NELMS** has more than 30 years of experience as an aviation journalist and currently works as a freelance writer. He has served as managing editor of *Rotor & Wing*. A former U.S. Army helicopter pilot, Nelms specializes in writing about helicopters.

**MIKE REDMON** is an ATP rated pilot with CFI, CFII, and MEI privileges. He began flying helicopters for the U.S. Army and then moved to civilian fixed-wing flying. After six enjoyable years in helicopter EMS, he is back to flying airplanes. Helicopters he has flown are the UH-1, OH-58, AH-64, BK-117, A-109E, BH-430 and BO-105.

**CHRIS SHEPPARD** is the Associate Editor of *Rotor & Wing*. Coming from a strong background in journalism and public relations, she was an editor for a leading online newswire for several years. She has covered a wide range of topics, both online and in print since 2002. Chris is currently pursuing her master's degree in Journalism at Georgetown University in Washington, D.C. She can be reached at csheppard@accessintel.com.

**DALE SMITH** has been an aviation journalist for 24 years specializing in business aviation. He is currently a contributing writer for *Rotor & Wing* and other leading aviation magazines. He has been a licensed pilot since 1974 and has flown 35 different types of general aviation, business and WWII vintage aircraft.

**ERNIE STEPHENS**, Editor-at-Large, began flying in the 1980s, earning his commercial pilot's license and starting an aerial photography company as a sideline. In his regular job as a county police officer, he was transferred to the department's newly established aviation unit, where he served as the sergeant in charge and chief pilot until his retirement in 2006. Ernie (aka "Werewolf") has also written for *Rotor & Wing* sister publication, *Avionics Magazine*.

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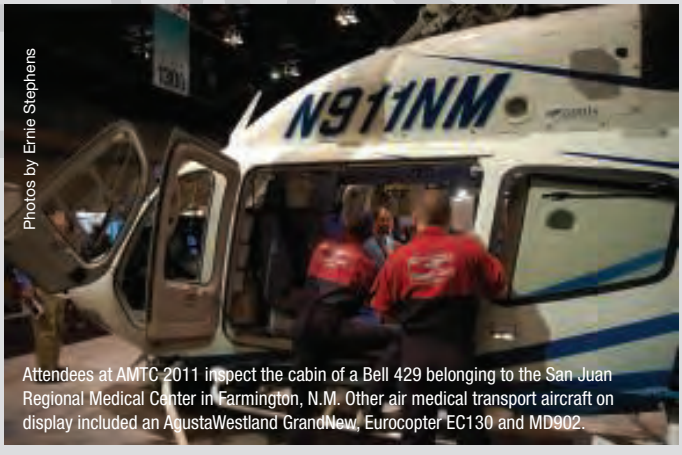
PUBLIC SERVICE | HEMS

# Air Medical Transport Association Holds 31st Convention

Saint Louis, Mo. was the site of the Association of the Air Medical Services' (AAMS) 31st annual Air Medical Transport Conference, which was held October 16-19. AAMS is the industry organization for air medical and critical care transport professionals, which includes pilots, flight nurses, flight paramedics, physicians, and operation support personnel.




Photos by Ernie Stephens

Attendees at AMTC 2011 inspect the cabin of a Bell 429 belonging to the San Juan Regional Medical Center in Farmington, N.M. Other air medical transport aircraft on display included an AgustaWestland GrandNew, Eurocopter EC130 and MD902.

Known primarily as AMTC, the event drew a total of 2,231 air medical professionals from across North America for workshops, seminars, displays and a variety of social events. Industry leaders, from aircraft manufacturers to medical equipment vendors, were represented in the America's Center Convention Complex exhibit hall. A total of nine fully-equipped rotorcraft from AgustaWestland, Eurocopter, Bell and MD Helicopters were on static display for inspection by all in attendance, as well as 162 vendors of medical equipment, flight apparel, and thousands of other industry-related products.

As with all previous AMTC gatherings, a major focus of conversation and training was in the area of air mishap prevention—a direct result of the number of fatal accidents that plague the air medical industry. NTSB and FAA have been considering sweeping regulations to reduce those numbers, including requiring operators to install the latest on-board technology designed to curb obstacle collisions and controlled flight into terrain.

While all operators agree that fatalities in the industry need to be reduced, smaller outfits fear the cost of such upgrades will drive them out of business. But in spite of those fears and the downturn in the economy, this year's conference saw more deliveries and orders for new air medical helicopters—26 American Eurocopters alone—than it has in recent years. Some attribute the bump in new aircraft sales to a need to immediately replace aging aircraft after years of trying to wait out a sluggish economy. Others speculate that operators simply want to get out in front of any potentially forthcoming FAA requirements by purchasing new ships with all of the latest safety-related equipment already onboard. Some of that equipment includes HTAWS, TCAS, NVGs and Cobham's new HeliSAS system, the first two-axis autopilot developed specifically for light turbine helicopters. AMTC 2012 is scheduled for October 22-24 in Seattle, Wash. *—By Ernie Stephens, Editor-at-Large*


This MD902 in operated with Allegheny General Hospital LifeFlight and Metro Aviation is one of six helicopters in the fleet.

To see videos of some the aircraft on display at AMTC 2011, go to **www.rotorandwing.com**

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■ COMMERCIAL | AIRFRAMES

## Eurocopter Displays EC145T2; DRF Orders 25

Eurocopter has received a large fleet order from a longtime operator, as DRF Luftrettung has agreed to purchase 25 EC145T2s. The German air rescue organization plans to replace a fleet of BK117s with the T2s, starting by phasing in five new helicopters from December 2013 until the end of 2015. The other 20 helicopters are scheduled from delivery through 2022. The nearly €200-million (approximately $270-million) purchase will make DRF Luftrettung the biggest single EC145T2 operator to date. Eurocopter introduced the T2 variant during Heli-Expo in March 2011. DRF Luftrettung operates from 31 helicopter stations in Germany, Austria and Denmark.

The DRF order comes shortly after American Eurocopter held an Oct. 25 event at its facility in Grand Prairie, Texas to give operators a close-up look at the Tango 2. The variant features a number of performance enhancements over the EC145 and recently completed hot and high testing, with FAA certification on track for 2013.


Eurocopter's EC145T2 takes to the skies with a BK117 during a recent customer demonstration of the helicopter variant from its facility in Grand Prairie, Texas.

■ MILITARY | UTILITY

## First UH-72A S&S Joins Mississippi National Guard

EADS North America has handed over the initial UH-72A Lakota in the Security and Support (S&S) configuration to the Mississippi National Guard's Company C, 1st of the 114th Security and Support Battalion. Entry into service follows the official rollout for the National Guard, Army and industry leadership in early November, further expanding the roles being played the Active Army and National Guard's newest light utility helicopter (LUH).

The new model with the S&S mission equipment package (MEP) will be dedicated solely to National Guard units to provide states with a greater capability to support civil law enforcement and Homeland Security missions, according to Lt. Col. David Bristol, the Army's product manager for the UH-72A program.

Bristol told *Rotor & Wing* at the AUSA Meeting & Exhibition in October that the National Guard has already started using the LUH for recent national disasters, with UH-72As from the Florida and Mississippi National Guards sent to Haiti for the relief mission there. Guard units are also repositioning the aircraft around high-risk areas based on threat analysis.

The MEP for the S&S-configured Lakota includes a centerline electro-optical infrared sensor, searchlight, analog/digital video downlink, rear observers console with a 15-inch display, an enhanced tactical communications suite, an onboard digital video recorder, 10.4-inch displays and a video management system. The aircraft will also have a GPS address locator with a moving map.

A total of 100 UH-72As are scheduled to receive the S&S configuration. Of those, 16 will be retrofitted from current models. Seven states—Louisiana, North Carolina, Florida, Texas, Mississippi, Kentucky and Arkansas—have been selected to receive the initial deliveries, with crews being trained at Madison County Airport in Huntsville, Ala. "The crews come for two weeks, get trained on the S&S package, then they go back to their units," Bristol noted. EADS (prime contractor on the program) is performing the retrofits at the American Eurocopter facility in Columbus, Miss., where the UH-72As are assembled.

In discussing the UH-72A program as a whole, Bristol explained that a total of 190 Lakotas have been delivered to the Department of Defense, including five for NAVAIR at the Navy Test Pilot School at Patuxent NAS. Of that total, 182 are in operation and eight are in retrofit for the S&S program. "This has allowed the Army to put 23 UH-60 Black Hawks back into combat theaters," he said. A total of $1.6 billion in contracts for the LUH have been issued since the first contract was awarded in June 2006. The UH-72A went into full production in 2007, "and the aircraft has been on schedule all the way. EADS has not missed a delivery." The company has received a total of 237 UH-72A orders through October 2011, from a full program that calls for 345 aircraft through 2015. —*By Douglas Nelms*

MILITARY | UPGRADES

## Boeing Hands Over First Block III AH-64D Apache to U.S. Army

Boeing

U.S. Army Apache Project Manager Col. Shane Openshaw speaks during the delivery ceremony for the first AH-64D Apache Block III in Mesa, Ariz.

The U.S. Army has received its first AH-64D Apache Block III from Boeing. The company will manufacture 51 of the multi-role attack helicopters for the Army as part of a low rate initial production order. According to Boeing, the Army's acquisition objective for the Apache Block III is currently at 690 helicopters, with global defense forces also showing interest in the helicopter.

PUBLIC SERVICE | GOVERNMENT AGENCIES

## Italian Province Adds Firefighting, SAR-Equipped AgustaWestland AW139

AgustaWestland

The Autonomous Province of Trento, Italy will receive a firefighting and EMS-ready AgustaWestland AW139 by the end of the year.

AgustaWestland has completed the delivery of an AW139 to the Autonomous Province of Trento of Italy. The helicopter will be used for EMS, disaster relief and search and rescue (SAR) missions. It will come outfitted with an EMS package to accommodate two patients, a rescue hoist and cargo hook. A second AW139 is slated to arrive in Trento by the end of the year.

MILITARY | UTILITY

## U.S. State Buys Three S-61s

Sikorsky Aerospace Services (SAS) has received an order from the U.S. Department of State for three upgraded S-61s. The utility helicopters will be used to transport diplomatic personnel in Afghanistan and Iraq and will be refurbished to add new composite main rotor blades (CMRBs) and a survivability suite. With this purchase, the State Department now has a fleet of 29 S-61s.

COMMERCIAL | TECHNOLOGY

## Kaman Acquires V-22 Supplier

Bloomfield, Conn.-based Kaman Aerospace Group has announced its acquisition of Bennington-based Vermont Composites, a designer and manufacturer of composite aerostructures. Vermont Composites provides composite structures for the Bell-Boeing V-22 Osprey and the Sikorsky MH-60 Black Hawk, as well as fixed-wing types and unmanned aerial vehicles. The company will become part of Kaman's Composites division, with Vermont's senior management team remaining in place.

SERVICES | MANUFACTURING

## Eurocopter Grows with Mexico Plant

Eurocopter has broken ground on its newest facility, a manufacturing plant in Queretaro, Mexico. The Queretaro facility, located in Aerotech Park adjacent to Queretaro International Airport (QRO), will focus on the production and assembly of tail booms, and will include a maintenance center and workshop. Eurocopter anticipates the plant will ready to start deliveries during 2012.

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AERONAUTICAL ACCESSORIES

MILITARY | ENGINES

## Army Moves Ahead with ITEP

The U.S. Army is progressing on an advanced science and technology (S&T) effort to develop a new engine for its Sikorsky UH-60 Black Hawks and Boeing AH-64 Apaches. The new powerplant will be developed under the Army's Improved Turbine Engine Program (ITEP) and designed to increase shaft horsepower while decreasing fuel consumption. An initial Request for Information was issued to industry in 2009 (See *Rotor & Wing*, September 2009).

Current plans call for materials development decisions to be made during FY12 on the transition of the program into R&D. This will bring it into prototyping "and take it forward eventually into the engineering manufacturing developing phase," according to Col. Thomas Todd, project manager for utility helicopters.

Todd said that the Army, through what is called a "capability portfolio," and through a capability portfolio back in 2010, decided to go forward with this requirement as valid. "The industry had been looking at it as something they might be able to do, certainly in S&T, and we were waiting to see what the S&T program produced. And right now at some of the individual component levels the development is promising. So the Army has decided to move forward with it."

The Army issued its initial announcement for a growth engine replacement in 1998, although launch funding did not become available until the 2007/2008 time frame. "Hopefully, it will be a five to six year program, but that remains to be seen," Todd said. "Right now we are just writing the requirement for that, so we are going to have to wait and see what the requirement is going to be."

The new ITEP engine would be an enhancement to the existing aircraft, with the engine fitting onto the existing engine decks, so there would not have to be another version of the Black Hawk or the Apache, he explained. The new engine would replace the current T700-GE-701C/D engines, with the shaft horsepower increased from the 2,000 shp to the 3,000 shp range. However, "the issue is not a more powerful engine," Todd said. "We have those today. The issue is more powerful engines that are small enough to fit in the same cowling, and at the same time give us significantly better fuel consumption so that we can extend our reach, maybe 10 to 20 percent more."

Initial objectives of the new engine program are based on comparative parameters of the -701C, providing a 25 percent improvement in specific fuel consumption, a 65 percent increase in power-to-weight ratio, a 35 percent reduction in production and maintenance costs, and a 20 percent increase in engine design life. Todd noted that aviation is still going to be important in Iraq and Afghanistan. "With the U.S. military planning to reduce its troops in theater, it will inversely require more mobility. If you think about it, that means more aviation assets. We are going to have to have longer reach and fewer troops servicing an area other troops might have been able to service."

An ITEP engine on the UH-60M would extend the mission radius with an external payload of 9,000 lbs from 35 nm to 73 nm, while the -701D-equipped UH-60M would be restricted to just over 5,000 lbs with a 73 nm mission radius. For the Apache powered by the -701C engine, the new ITEP engine would increase range from 140 to 175 nm and payload from 3,400 to 4,500 lbs.
*—By Douglas Nelms*

PUBLIC SERVICE | UNMANNED

## Texas Sheriff Using ShadowHawk UAS


The Montgomery County Sheriff's Office will use the ShadowHawk UAS for search and rescue missions and with SWAT team operations.

The Montgomery County Sheriff's Office (MCSO) in Conroe, Texas has received an MK-II ShadowHawk unmanned aerial system (UAS) from Vanguard Defense Industries. The UAV will assist the Sheriff's Office with search and rescue (SAR), emergency management and SWAT team operations. The ShadowHawk, which can be deployed from the back of one of MCSO's 72 sport utility vehicles, was purchased with a Department of Homeland Security grant.

SERVICES | MAINTENANCE

## SAS Patents Fleet Management Software

Sikorsky Aerospace Services has obtained a patent for its integrated support system (ISS) for fleet management. ISS combines onboard diagnostics and usage data with troubleshooting and service information, according to the company. The system also provides a helicopter's real-time status and detects worn components while delivering specific maintenance information to ground crews. Sikorsky is developing an ISS platform for the CH-53K and S-70i, with plans to add further helicopter types to the program in the future.

COMMERCIAL | ENGINES

## Turbomeca Signs with Brazil

Lider Taxi Aereo has signed a support-by-the-hour (SBH) contract with Turbomeca do Brasil for 52 Arriel 2 engines. The Brazilian offshore operator flies more than 50,000 hours annually. The agreement includes an option for an additional 24 engines for the company's 12 Sikorsky S-76 C++ helicopters. Turbomeca has also signed a five-tear global support package (GSP) with the Brazilian Ministry of Defense for 100 Makila 2A gas turbines. Brazil's Presidential fleet and all three branches of the country's armed forces fly Turbomeca-powered Eurocopter EC725s.

TRAINING | SPECIALTY

## Eurocopter Trains Chinese Technicians

The Civil Aviation Flight University of China (CAFUC) and Eurocopter have launched an ab-initio training class for helicopter technicians. This first class of 15 students follows a memorandum of understanding (MoU) thatthe two organizations signed in 2010, with a goal of graduating 120 technicians every year by 2015. The four-month course provides 350 hours of classroom and 300 of hands-on training. Students will be awarded a basic helicopter maintenance technician license after completing 650 hours of course work and passing a Civil Aviation Authority of China (CAAC)-approved test.

COMMERCIAL | AIRFRAMES

## China Certifies 429

Bell Helicopter has obtained type certification from the Civil Aviation Administration of China for its 429 variant. The helicopter is now certified in more than 40 countries. Bell officials described the certification as "an important milestone" in expanding its reach in the region.

## PEOPLE

Chromalloy has named **Carlo Luzzatto** as its new president. Luzzatto replaces **Armand Lauzon**, who is now the CEO of Chromalloy and its parent company, Sequa Corp. Luzzatto was previously the co-general manager of the Ansaldo Energia division of Finmeccanica.

StandardAero Business Aviation has appointed **Marc McGowan** as vice president of business development, strategy and product management. McGowan will be based in Tempe, Ariz. and oversee the company's strategy for business aviation, maintenance, repair and overhaul. Prior to joining StandardAero, McGowan spent 20 years with Honeywell Aerospace in a number of positions, including vice president of international defense and space.

Mesa, Ariz.-based Phoenix Heliparts has hired **Chris Murvine** as lead inspector and director of training. He comes from MD Helicopters, where he worked as senor maintenance instructor and field service engineer

The Australian Army's 100th pilot has completed the helicopter qualification course from Army Aviation Training and Training Support (AATTS). In addition to earning her wings, Lt. **Erin Pederick** is also the first Australian Army pilot to receive the Army Flying Badge from Boeing. The award is given to the top graduate of the AATTS training course.

## coming events

### 2011:

**Nov. 28–Dec. 1: Interservice/Industry Training, Simulation and Education Conference (I/ITSEC)**, Orlando, Fla. Contact I/ITSEC, phone 1-703-247-2569 or visit www.iitsec.org

**Dec. 6–7: SAR Asia 2011**, Singapore. Contact AHS Intl., phone 1-703-684-6777 or visit www.vtol.org

### 2012:

**Jan. 18–20: AHS Specialists' Conference on Future Vertical Lift Aircraft Design**, San Francisco, Calif. Contact AHS Intl, phone 1-703-684-6777 or visit www.vtol.org

**Jan. 25–26: Aerial Firefighting**, Sacramento, Calif. Contact Tangent Link, phone +44 (0) 1628 660400 or visit http://www.tangentlink.com/events

**Feb. 11–14: Helicotper Association International Heli-Expo 2012**, Dallas, Texas. Contact HAI, 1-703-683-4646 or visit www.rotor.com

**Feb. 22–24: Association of the U.S. Army (AUSA) Winter Symposium**, Fort Lauderdale, Fla. Contact AUSA, 1-703-841-4300, toll free 1-800-336-4570 or visit www.ausa.org

**March 16–18: Helicopter Association of Canada (HAC) 16th Annual Convention and Trade Show**, Ottowa, Canada. Contact HAC, phone 1-613-231-1110 or visit www.h-a-c.ca

**March 15–16: SAR Europe 2012**, Dublin, Ireland. Contact Shephard Group, phone +44 (0) 1753 727015 or visit www.shephard.co.uk/events

**April 22–27: Medical Transport Leadership Institute**, Wheeling, W.V. AAMS, 1-703-836-8732 or visit www.aams.org

IN MEMORIAM

## Legendary French Pilot Charles Schmitt Passes Away

Charles Schmitt, former director of operations at French operator Héli-Union and a highly respected pilot in the helicopter industry, died in November at age 78. Schmitt had logged a total of 11,800 flight hours. ICAO and other international organizations considered him an expert. Among other distinctions, he had been awarded France's Légion d'honneur order, Médaille militaire (Military medal) and Médaille de l'aéronautique (Medal of aeronautics). He was the only non-medic to have received the Médaille des Samu (EMS medal) from the French association of EMS helicopter users (AFHSH). The association now considers itself "orphaned." Since retiring from Héli-Union, about 20 years ago, Schmitt was a volunteer with the AFHSH, guiding the association through the maze of aviation regulations.

Schmitt was born in France in 1932. He became a helicopter pilot almost by accident, having joined the French Navy. There, he was first rated as a fixed-wing pilot. Then, the Navy arranged a draw for some in the group to become helicopter pilots. His first helicopter ratings were on the Bell 47D and the Piasecki HUP-2, in 1954. In total, during his pilot life, he was type rated on at least 18 rotorcraft.

His civil career started in 1957, when Schmitt became an instructor. Then, Héli-Union hired him as chief pilot in 1962. In 1981, he was one of the founders of the French helicopter group (GFH), the country's helicopter operator lobbying association. He specialized in regulatory issues. Schmitt received prais for his piloting skills and his total trust in other crew members. —*By Thierry Dubois*

■ PUBLIC SERVICE | POLICE

## Baltimore PD Revamps EC120s

As part of a fleet renewal program, the Baltimore Police Department in Maryland has purchased four EC120s from Eurocopter. The aviation department, known as Foxtrot, accumulated more than 35,000 flight hours on the EC120s received between 2000 and 2010. The quartet will be outfitted with front and rear seat consoles for the pilot and a tactical flight officer, with completions set to take place at American Eurocopter's facility in Grand Prairie, Texas.

■ COMMERCIAL | OFFSHORE

## Bristow Purchases Six AW189s

AgustaWestland has received an order for six AW189s from the Bristow Group. The helicopters will be used for offshore transport. According to a Bristow Group official, the AW189s will be "filling key positions" within its fleet in anticipation of the company's "planned retirement of the Eurocopter AS332 Super Puma over the next few years."


USS Tortuga played host to the Japanese Maritime Self-Defense Force's (JMSDF) Sikorsky MH-53E Super Stallion from the Helicopter Mine Squadron 111. The MH-53E was involved in Annual Exercise 2011, which is a joint effort of the U.S. Navy and the JMSDF.

■ MILITARY | COMPLETIONS

## Peru Receives Three Russian Mi-171s

Russian Helicopters has handed over three Mi-171Sh military transports to the Defense Ministry of Peru. The recent delivery is part of a six-helicopter order that includes support equipment and a custom paint scheme. The first batch of Mi-171s arrived in May 2011. All six helicopters will carry out anti-drug trafficking and airborne law enforcement missions for the Armed Forces of Peru.


The Armed Forces of Peru plans to use its Mi-171Sh transports for law enforcement.

■ MILITARY | AIRFRAMES

# Eurocopter Strengthens Surion, KAI Commitment

Korea Aerospace Industries

Korea Aerospace Industries (KAI) and Eurocopter joint venture, KHDS, is reaching the end of its six-year development phase for the Surion. The Korean Utility Helicopter (KUH) program is the replacement for the Republic of Korea (RoK) Army's fleet of utility and transport helicopters. A naval variant of the Surion is also being developed for the RoK Navy. KHDS anticipates the first Surion deliveries in 2012. Eurocopter and KAI set up a sales and marketing joint venture, KAI-EC, in January 2011, projecting a market for around 250-300 Surions over the next decade.

The Korean Utility Helicopter (KUH) Surion is the replacement for the Republic of Korea Army's fleet of utility and transport helicopters.

■ TRAINING | SIMULATORS

## AW Names UAE Training Center

AgustaWestland has designated Horizon Flight Academy's joint venture with Abu Dhabi Aviation (ADA) as an authorized training center for the AW139 in Abu Dhabi. Horizon is a subsidiary of Mubadala Aerospace. The agreement calls for ADA/Mubadala to train pilots using an EASA-approved AW139 Level D full flight simulator (FFS) from AgustaWestland and CAE. ADA's commercial helicopter fleet includes 16 AW139s. AgustaWestland has also established a joint venture with ADA. Under the agreement, AgustaWestland Aviation Services will operate as a sales and service center for AW139 spare parts, accessories, repairs, overhauls, maintenance, modifications and upgrades. Operators in the region will now have closer access to services that were previously only available by travelling to Italy or the U.S.

■ PUBLIC SERVICE | GOVERNMENT AGENCIES

## India Receives First Set of Mi-17s

Kazan, a subsidiary of Russian Helicopters, has handed over the first batch of Mi-17 V-5s to the Indian government. India signed a contract for 80 Mi-17s in 2008. The Indian Air Force currently flies upwards of 200 Mi-8s and Mi-17s.

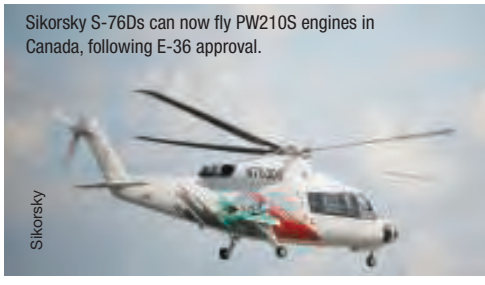
Russian Helicopters

The Indian Air Force has a fleet of more than 200 Mi-8s and Mi-17s, and will add 80 additional Mi-17s.

■ PRODUCTS | ENGINES

## P&WC Engines Earn S-76D Certification

Transport Canada has granted certification for Pratt & Whitney Canada's PW210S engines on the Sikorsky S-76D. The program has achieved E-36 approval following more than 8,700 hours of testing. The S-76D program also marks the launch of the PW210S engine. Sikorsky anticipates approval from FAA and EASA over the next few months, with customer deliveries slated to begin in 2012.



Sikorsky S-76Ds can now fly PW210S engines in Canada, following E-36 approval.

Sikorsky


Eurocopter

Miami-Dade's Aviation Unit now flies four AS350B3s, all of which feature thermal imagers and video downlink systems.

**PUBLIC SERVICE** | LAW ENFORCEMENT

## Miami-Dade Expands AS350 Fleet

American Eurocopter has delivered a fourth AS350B3 to the Miami-Dade Police Department's (MDPD) in Florida. The helicopter will be part of MDPD's Special Patrol Bureau's Aviation Unit. The MDPD come equipped with thermal imagers and a video downlink system that can transmit images to handheld receiver as well as a central location.

**MILITARY** | UNMANNED

## IAI Shows Off Ghost Mini-UAS

Israel Aerospace Industries

The Ghost mini-UAS will be available in 2012.

Israel Aerospace Industries is actively promoting its new lightweight mini-unmanned air system (UAS) intended for urban warfare zones. The Ghost vertical take-off and landing UAS was officially revealed last February, and displayed at both the Association of Unmanned Air Systems Conference in September and the Army's AUSA Meeting & Exposition in October. Nir Salomon, manager of business development for IAI, told *Rotor & Wing* during AUSA that development of the Ghost UAS began "a couple of years ago" under IAI's Malat division, and is still in the process of declassification. Ghost is a battery powered, tandem rotor helicopter, designed to operate at "eye level" in urban areas.

According to Avi Bleser, marketing director of the Malat division, Ghost is capable of flying into a building to provide information on the interior and any dangers to infantry units on the outside. "The flight planning system enables [the operator] to pre-plan the flight inside a building so that the UAS will avoid the walls," he said. IAI added that, among other capabilities, Ghost is "aimed for use by special forces personnel on covert missions."

The UAS has fully automated takeoff and landing capabilities and is "very simple and easy to operate," Salomon explained. It has a 30-minute endurance and can carry a 500-gram (1.1-lb) payload. It uses either a lightweight NextVision electro-optical sensor or IR sensor. "There has been a lot of interest from potential customers," Salomon said. "Obviously Israel, but also numerous other countries to include the United States." IAI's Ghost will be available in 2012. —*By Douglas Nelms*

**TRAINING** | SPECIALTY

## LAH Adds VR/LL Training Courses

Long Beach, Calif.-based Los Angeles Helicopters has established a new vertical reference/long line (VR/LL) training course. In one exercise pilots pick up an air conditioning unit and lower it down onto bolts. A second exercise simulates a power pole being placed into a hole. The two new training courses add to LAH's current exercise offerings for flying medical litters and barrel slings.

**MILITARY** | UNMANNED

## Apache Controls UAS with Longbow Link

Longbow, LLC has completed testing of its unmanned aircraft system (UAS) tactical common data link assembly (UTA) for the Boeing AH-64D Apache Block III. For the first time while in flight, an Apache used the UTA to control the flight path and payload of a Gray Eagle MQ-1C unmanned aircraft. Longbow's UTA, which will be fully integrated into the mission computer of the Block III Apache, allows control of the UAS at long ranges with real-time data. Longbow plans to field the UTA on the Block III Apaches starting in 2012.

**PUBLIC SERVICE** | FIREFIGHTING

## Chinese City Adds Ka-32A Variant

Russian Helicopters has sold the firefighting variant of its Kamov Ka-32A11BC to Ordos City in China. The helicopter, which features a Simplex fighting system, horizontal water cannon, and VSU-5 water dumping system, is slated for delivery in 2012. The order represents the second Ka-32A11BC in the country; the Chinese Arctic and Antarctic Administration currently operates the other.

# Sikorsky Targets S-97 Raider Flight in 2014

## Military X2 variant wraps up preliminary design review stage.

Stratford, Conn.-based Sikorsky Aircraft has completed the preliminary design review (PDR) for its S-97 Raider, going through all the sub-systems and overall system design, and has started the detail design and long lead time parts fabrication, which keeps the aircraft on target to fly in 2014, according to Chris Van Buiten, vice president of Sikorsky Innovations, the technology development arm of Sikorsky Aircraft Corp. Van Buiten added that some 20-plus "suppliers and partners" are involved in the program.

The S-97 is based on technology developed through Sikorsky's X2 experimental helicopter prototype, and the manufacturer intends to enter the helicopter in the U.S. Army's upcoming Armed Aerial Scout (AAS) program. Two prototypes will be built, configured to carry up to six troops.

Of the five major competitors considering the AAS program, Sikorsky is the only one that does not already have a prototype flying. The others are the Bell OH-58 Block II, Boeing AH-6im, EADS North America AAS-72X and AgustaWestland, with either the AW109 or AW119. The disadvantage of not already having a flying prototype is trumped by the advantage of having a future aircraft capable of flying at twice the speed, with double the maneuverability and the capability to hover out of ground effect at 10,000 feet at 95 degrees F, compared to the "6K/95" requirement (6,000 feet/95 degrees F) for the other aircraft, Van Buiten pointed out. He also noted that the S-97 features totally new technology, whereas the other competing helicopters are all new generations of older aircraft, two of which date back to the Vietnam era.

Sikorsky has not revealed the cruise speed for the S-97, but has quoted it as well in excess of 200 knots with a range of 570 km (307 nm). The X2 demonstrator has already exceeded 250 knots using a pusher propeller that generates 1,500 lbs of thrust. The pusher propeller will allow the pilot to fly with it engaged or disengaged. When the prop is disengaged, the Raider operates at very low decibel noise levels.

The S-97 is also being designed to take a variant of the GE CT7-8 engine, an extension of the T700-GE-701D used in the Black Hawk. "The aircraft is being designed from the beginning to leverage the upcoming ITEP (Improved Turbine Engine Program) with power in the 3,000 SHP range," Van Buiten said. The ITEP program is current Army sponsored plan to produce an engine for its UH-60 Black Hawks and AH-64D Apaches that will produce greater shaft horse power while consuming less fuel.

Sikorsky X2 demonstrator's "backbone" and coaxial rotors on display at AUSA in October.

Photo by Andrew Parker

"Sikorsky sees great value in a Raider design that uses a single engine that is common with Black Hawk and Apache," Van Buiten said.

The 701D engines is rated in the 2,000 SHP range while the CT7-8 is in the 2,500-3,000 SHP range.

Van Buiten noted that the S-97 is being designed from the start to be manned by either one or two pilots, or flown totally autonomous as a UAV, depending on the mission requirement. "We call it the optionally piloted aircraft, so the mission commander makes the decision which version to use. No pilot on board, or one pilot plus one observer—or, for a very demanding mission, with two trained aviators up there."

He explained that Sikorsky is already looking at the next size up from the S-97, which would be replacements for the Black Hawk and the Apache after 2020. These would also use technology developed from the X2 program. "There is no formal program yet, but we are getting ready. Those (aircraft) would have the same game changing attributes as the S-97—double the speed and maneuverability and the same 10K/95 HOGE ... but with twin engines." *—By Douglas Nelms*

# HOT PRODUCTS

for Helicopter Operators

## Handheld 406 Decoder Assisting with SAR Available from Techtest

The 12-406-9 is a touchscreen handheld 406 decoder that receives and decodes COSPAS SARSAT distress or test messages. The need to detect and locate downed aircrew has always existed. Accurately pinpointing both aircraft and crew can sometimes necessitate a lengthy search scenario. The increased population of COSPAS /SARSAT (C/S) 406MHz beacons worldwide is aiding the task significantly. In particular, for those able to transmit with embedded GPS, the potential is there for the land or airborne search and sescue (SAR) forces to affect immediate rescue. The Techtest 12-406-9 is specifically designed to detect, locate, and verify any 406MHz beacon transmission, including ELT or ADELT/CPI and EPIRBs. It is able to immediately display the transmitted GPS latitude/longitude location of the beacon if present and, in conjunction with the built-in GPS receiver, display range and bearing information. For more information, visit **www.hr-smith.com**

## L-3 Launches MX-10 Training Course, Gains ADASI Order

L-3 Wescam has agreed to provide eight MX-10 electro-optical/infrared (EO/IR) imaging systems to Abu Dhabi Autonomous Systems Investments Co. The Middle East operator will employ the MX-10 turrets in surveillance missions using the unmanned Schiebel S-100 Camcopter (shown at right). Deliveries of the MX-10s are scheduled to begin in December and run through March 2012. During the Dubai Air Show, L-3 Wescam also announced the establishment of an eLearning training series for the MX Series EO/IR imaging and targeting turrets. The online program covers operation and maintenance skills needed for the MX Series. The 12-hour course is patterned after L-3 Wescam's traditional class courses and supplies operators with a completion certificate at the end of the training program. A sample module is available at **www.wescam.com/cs/training/elearning** and for more on L-3 Wescam courses, visit **www.l-3com.com/wescam/cs/training**

## Meeker-AirFilm Earns STC for Bell 429 Camera & Sensor Mounts

British Columbia, Canada-based Meeker-AirFilm has received an FAA supplemental type certificate (STC) for nose and aft camera, searchlight and sensor mounts on Bell 429s. The STC allows the company to install nose mounts without removing or adjusting avionics equipment by using existing aircraft hole patterns. Clam-shell doors can still be used with the aft mounts in place, according to the company. Both mounts are configured to work with most leading camera, searchlight and sensor equipment brands. Meeker-AirFilm is also awaiting EASA approval for the mounts. For more information, visit **www.meekeraviation.com**

Fall 2011: Training Edition

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# BELL A2D CONVERSION:

## NEW LIFELINE FOR OH-58

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# Contents

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Bell AH-1Z Cobra with Marine Medium Helicopter Squadron 268 takes off as part of a training raid of a simulated terrorist camp from USS Makin Island to Paso Robles, Calif. The exercise also involved Boeing CH-46Es and Sikorsky Ch-53Es. See Simulation & Training News starting on page M12.

## FEATURES



**On the Cover:** In partnership with Corpus Christi Army Depot (CCAD), Bell Helicopter delivered the first OH-58 A2D Kiowa Warrior wartime replacement aircraft in late October. *OH-58D photo courtesy Bell Helicopter.*


rotor&wing

**EDITORIAL**
**Andrew Parker** Senior Editor, aparker@accessintel.com
**Chris Sheppard** Associate Editor, csheppard@accessintel.com
**Ernie Stephens** Editor-at-Large, estephens@accessintel.com
**Andrew Drwiega** Military Editor, adrwiega@accessintel.com
**Claudio Agostini** Latin America Bureau Chief
**Joe West** United Kingdom Correspondent
**Contributing Writers:** Chris Baur; Lee Benson; Shannon Bower; Igor Bozinovski; Tony Capozzi; Keith Cianfrani; Steve Colby; Frank Colucci; Dan Deutermann; Pat Gray; Frank Lombardi; Vicki McConnell; Robert Moorman; Douglas Nelms; Mark Robins; Dale Smith; Terry Terrell; Todd Vorenkamp; Richard Whittle.

**ADVERTISING/BUSINESS**
**Joe Rosone** VP & Group Publisher, jrosone@accessintel.com
**Randy Jones** Publisher, 1-972-713-9612, rjones@accessintel.com

**Eastern United States & Canada**
**Carol Mata** , 1-512-607-6361, cmata@accessintel.com

**International Sales, Europe/Pac Rim/Asia**
**James McAuley** +34 952 118 018, jmcauley@accessintel.com

**DESIGN/PRODUCTION**
**Joy Park** Graphic Designer
**Tony Campana** Production Manager, 1-301-354-1689 tcampana@accessintel.com
**Tesha Blett** Web Production Manager

**AUDIENCE DEVELOPMENT**
**Jill Braun** Audience Development Director, jbraun@accessintel.com
**George Severine** Fulfillment Manager, gseverine@accessintel.com
**Customer Service/Back Issues** 1-847-559-7314 rw@omeda.com

**LIST SALES**
**Statlistics**
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sales@wrightsmedia.com

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Access Intelligence

**Access Intelligence, LLC**
4 Choke Cherry Rd., 2nd Floor
Rockville, Md. 20850 - USA
Phone: 1-301-354-2000, Fax: 1-301-354-1809
E-mail: rotorandwing@accessintel.com

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# RENEWED LIFE

Bell Photos

Bell Helicopter and the U.S. Army's 'A2D' converts OH-58A models to D variants under the Wartime Replacement Aircraft program.

**The U.S. Army and Bell Helicopter have now entered the antepenultimate program to move the Army's armed reconnaissance helicopter fleet well into the 21st Century.**

*By Douglas Nelms*

Combat is hard on helicopters, a known fact. It is particularly hard on those tasked to get down low to find the bad guys. As a result, aircraft attrition occurs through both accidents and enemy action. To alleviate those losses, Textron division Bell Helicopter and the U.S. Army are making progress with a Wartime Replacement Aircraft (WRA) program designed to replace the Army's lost armed reconnaissance helicopters by taking OH-58A Kiowa cabins for conversion into OH-58D variants. Known as the 'A2D' program, the conversion is needed in order to take the U.S. Army back to its requirement for 368 Kiowa Warriors, and is a combined effort between Bell, the Armed Scout Helicopter Program Office, and the Corpus Christi Army Depot (CCAD).

The WRA program is completed in four phases. In Phase 1, an OH-58A

# ELINE FOR THE KIOWA WARRIOR

model Kiowa is stripped down at the Aviation Forward Maintenance Activity (AFMA) in San Angelo, Texas. Phase 2 involves CCAD preparing the cabin for induction into the production line by conducting structural analysis and repairs. In Phase 3, Bell—through its Military Aircraft Assembly Center in Amarillo, Texas—converts the cabin from an A model to a D. The company also installs the wiring harness, fuel cells, instrument panel, firewalls, flight controls, environmental system and other structures. In Phase 4, CCAD repopulates all the components and returns the aircraft to flight.

Turnaround time per aircraft from entry into the program until returning to the Army will initially be two years—six months spent dedicated to stripping down the aircraft, 12 months for the conversion and six months for final assembly and post-production modifications. According to Bell, the

A2D conversions will help the Army maintain its fleet of 368 OH-58 Kiowa Warriors by replacing helicopters lost in combat.

time period is expected to "shorten up considerably" as experience is gained.

The WRA program is part of a three-pronged effort to resolve the issue of an increasingly aged fleet of scout helicopters. The OH-58A was developed in the early 1960s and deployed to Vietnam in 1969. Since then, "A" and "C" models have been converted into "D" under the Army Helicopter Improvement Program (AHIP).

While Bell did build an OH-58B model for sale to foreign militaries, there were no OH-58Bs delivered to the U.S. Army, according to an Army spokesman.

Initially, the OH-58D was just an unarmed, upgraded "C" model, introduced to the Army in 1985. However, beginning with production of the 202nd "D" model in May 1991, all OH-58Ds were produced in the armed Kiowa Warrior configuration. Bell was then contracted in January 1992 to retrofit all the remaining OH-58Ds into the Kiowa Warrior.

Bell delivered the first OH-58A dedicated to the program in June 2011, and CCAD handed over that initial aircraft to the Army's 1st Combat Aviation Brigade, 1st Infantry Division in late October. The second cabin is set for delivery to CCAD by the end of 2011, with a production schedule of one per month starting in March 2012.

The current contract covers 18 cabins, with options for up to 66 cabins in future years. Overall cost for the 18 aircraft cabins is $76.2 million, which does not include post-production modifications and final assembly.

The A2D program is an interim effort to keep the Army at its required fleet of 368 Kiowa Warriors. In October 2010, the Army contracted for eight cabins plus three options for additional cabins, with a total ceiling of 66. The first option was awarded in August 2011 under a contract for 10 OH-58 cabins, accounting for the current order for 18. The two additional options are scheduled to be exercised using FY2012 and FY2013 appropriations.

There are currently OH-58As available for the A2D program to fill requirements under the second and third contract options, according to Lt. Col. Matthew Hannah, Kiowa Warrior product manager. Bell initially built some 2,200 OH-58s, of which there are still 114 in the active Army, including 55 OH-58Cs and 34 OH-58As within TRADOC (training and doctrine) units and 25 OH-58Cs in non-TRADOC units. The National Guard Bureau has an additional 117.

The A2D conversion provides a thicker mil skin and upgrades the aircraft from the 317-shp Allison T63A-700 on the A variant to the Rolls-Royce RR250-C30R/3 rated at 650 shp. This allows an increase from 3,500 to 5,500 lbs MGW.

As an alterative within the contract, the Army can exercise a "new metal" option instead of the conversion cabins. This would replace the conversion process with a new production cabin for a lower cost and more efficient production process. Bell built 39 new production OH-58Ds for Taiwan in the late 1990s. The company plans to submit a proposal to execute the option for new metal later this year.

Hannah said that new metal cabins "provide a capability to resolve the Kiowa Warrior fleet's many issues with overuse and age, and also provide an efficiency path for upgrades in concert with OSD [Office of the Secretary of Defense] guidance."

In describing the Army's plan to revitalize its reconnaissance helicopter fleet, Hannah noted that there are three general approaches available. These include rebuilding current helicopter models, upgrading current platforms or procuring new models. The Army's approach to solving its aging OH 58D Kiowa Warrior problem involves all three—beginning with WRA.

The second program in the Army's reconnaissance helicopter fleet enhancement efforts is the OH-58F cockpit and sensor upgrade program (CASUP) that will add new technology to the OH-58D, transforming it into the OH-58F. The Army, as lead systems integrator, has already begun this program, with the first aircraft scheduled for delivery in FY16 (See *Rotor & Wing*, May 2011, page 22).

One key element of the OH-58F program is moving the mast-mounted sight down to the nose. Mike Miller, Bell's director of business development and former Army experimental test pilot, said moving the mast-mounted sight "provides greater situational awareness to the pilots. They can now look under and close in to the aircraft. So when you're flying over [the enemy] and they pop up and try to shoot you

with an AK-47, you can't see that with a mast-mounted sight, but you can with the nose-mounted sight."

The nose-mounted sight will be the Raytheon-built common sensor payload (CSP) with next generation acquisition and targeting systems. The F model will also have three large color displays in the cockpit. Other improvements include a dual-channel FADEC engine control and a new computer processor, going from a CDS 4 to a CDS 5 operating system to increase both speed and capabilities.

The final program in the Army's efforts to provide combat units with an armed reconnaissance aircraft will be the projected Armed Aerial Scout (AAS) helicopter. Bell currently has a company-funded program in progress to develop an advanced OH-58 aircraft—the OH-58 Block II—designed to meet the anticipated Army's requirement for the AAS. A prototype aircraft has already completed "hot/high" trials, hovering out of ground effect at "6K/95," or 6,000 feet at 95 degrees F, above a max gross weight of 5,500 lbs.

Miller noted that the new "6K/95" requirement is being applied to all of the Army's new helicopter programs—the AH-64D Block III, UH-60M and CH-47F—based on the extreme conditions mission commanders are finding in both Iraq and Afghanistan.

Bell is putting in a more powerful Honeywell HTS900 engine (1,021 shp) into the Block II aircraft with a new tail rotor, new transmission and blades, Miller explained.

The Block II concept is to build on the funded F model program and provides a "menu of options" for upgrading performance. He added that in today's budget environment "the Army needs a low-cost, low-risk path forward with its armed reconnaissance mission, while maintaining research dollars for future programs such as Joint Multi Role," or JMR.

The WRA program is addressing the replacement requirement, while the OH-58F CASUP program is addressing the service life, or obsolescence situation. As for improving the performance needs, Miller said that the new OH-58 Block II would allow the Army to "pick off the menu" as the budget allows.

"If the budget would facilitate a new engine, we can put a new engine on the aircraft," he explained. "Maybe the following year the budget will facilitate a new transmission, so we can put a new upgraded transmission on the aircraft. If the budget will facilitate the whole Block II upgrade, we can do that." Miller said that his job is to make the customer successful, which for Bell means laying out a strategy that provides the Army with a whole menu to meet its requirements and budget.

# GAZELLE UN
# ROYAL NAVY'S FI


**With commercial-off-the-shelf projects seemingly representing the short-term way ahead for military procurement, the UK's Royal Navy may be about to benefit from the U.S. Navy quest for a maritime UAS.**

*By Andrew Drwiega, Military Editor*

# MANNED:
# RE SCOUT UAS


A QinetiQ artist's impression of the Gazelle UAS.

Have you heard about the old helicopter, the new technological application and the customer that needs to spend as little as possible? You have? Okay, I admit that wasn't much of a challenge in these recession-like times. In fact it's commonplace. The old helicopter is the Aerospatiale SA342 Gazelle, the technological application revolves around unmanned aerial system (UAS) management control software, and the prospective customer is the British Royal Navy. Admittedly the initial reaction is one that anticipates another British 'patch-up and make do' plan, but that would not be giving credit to the fact that the players behind this are none other than QinetiQ and Northrop Grumman (the people that brought you Global Hawk and, more in tune with this scenario, Fire Scout and its bigger, newer brother, Fire-X).

But in September 2011 Jeremy Howitt, QinetiQ's assistant technical director with the company's Air Engineering group, announced an intention to integrate the Northrop Grumman Fire Scout vehicle management system (VMS) into the Gazelle helicopter to create a UK vertical takeoff unmanned aircraft system (VTUAS) capability. Howitt formed good links with Northrop Grumman, having led QinetiQ's flight trials program with the T4 vectored-thrust aircraft advanced control (VAAC) Harrier to provide risk reduction for the F-35B Lightning II short takeoff and vertical landing (STOVL). Although the prospective Gazelle vertical UAS (VUAS) customer, the British Royal Navy, has not endorsed the proposal, last year's Strategic Defense and Security Review (SDSR) left capability gaps that all three services are now trying to fill. A basic maritime UAS built on existing technology could, says Howitt, span the gap in maritime intelligence, surveillance and reconnaissance (ISR) until future bigger budgets allowed the development of a built-for-purpose platform that would see the Royal Navy into and well beyond Future Force 2020. The proof-of-concept has already been defined with other platforms in the U.S. Northrop

Grumman's Fire Scout MQ-8B has flown thousands of hours of flight testing and landed on the helicopter decks of U.S. Navy ships while under way.

More recently the company has switched focus onto the Fire-X, described as a medium range VUAS. Fire-X, which is a derivative of the Bell 407 with the software architecture based on the Fire Scout, is currently under trials with the U.S. Navy, but there is an intention to buy 28 of the aircraft from 2014. Fire-X represents one platform for unmanned (or even optionally manned) rotary lift capability being developed across armed forces for an unmanned cargo platform.

USMC is about to test Kaman's K-MAX in Afghanistan and has also been testing with Boeing's A160T Hummingbird. The U.S. Army is also beginning to show similar interest. Northrop Grumman extols the value of the Fire-X in this unmanned cargo role, pointing to its stated capacity to lift over 3,200 lbs. either internally or externally. Endurance is stated to be "more than 15 hours when properly configured."

The first fully autonomous flight of the Fire-X occurred on Dec. 10, 2010 at the Yuma Proving Ground in Arizona. The flight comprised a short hover to confirm the autonomous flight capability, with the intent to extend developing the flight envelope and adding ISR payloads and cargo lifting tests. Since Fire-X is based on Bell's 407, the OEM would be providing logistical support.

This is all potentially good news for the Royal Navy. Paul Meyer, sector VP and GM of the Advanced Programs and Technology division at Northrop Grumman Aerospace Systems, said the speed which Fire-X was developed "shows that a low-risk, fast-track solution can be safely flown using the proven MQ-8B Fire Scout's unmanned systems autonomous flight architecture." George Spongberg, Northrop Grumman Fire-X program manager, added that "the expertise of Northrop Grumman in unmanned systems combined with Bell's rotorcraft knowledge is what makes Fire-X so successful. We've been able to share key insights throughout development—allowing a seamless transition of autonomous flight systems software to a new airframe." QinetiQ runs its own fleet of five Gazelles at Boscombe Down airfield in Wiltshire, UK. Boscome Down is an aircraft testing facility formerly owned by the UK's Ministry of Defence but now operated and managed by QinetiQ.

It is also home to the Rotary Wing Test and Evaluation Squadron (RWTES). This is a tri-service squadron that's basic duty is to test and evaluate rotary wing aircraft and associated equipment and weapon systems to generate evidence to support recommendations for Military Aircraft Release/Release to Service. As such, the skills are readily at hand to undertake such a project involving the Gazelle. The conversion would be carried out at Boscombe Down, while the flight test work for the demonstrator program would be conducted at the QinetiQ West Wales UAV Center.

Without doubt the Gazelle is an old aircraft, although the airframes will have been maintained over the years to the Ministry of Defence's standards. The first flight of a Gazelle helicopter (AS340) was on April 7, 1967 using the same engine and rotors as the Alouette, from which it was designed. It was introduced into active service in 1973 with the French and British Armies as well as the Serbian and Egyptian Air Forces. The Gazelle received power from a single Turbomeca Astazou IIA turboshaft engine providing 860 hp. It acquired a reputation for its speed, versatility and clean lines and was used in both attack/reconnaissance and utility configurations. The relatively spacious interior (for the time) provided five seats for crew and passengers. Within the British forces they were used effectively during the Iraq war in 2003 as part of a hunter/killer team with TOW carrying Royal Navy Lynx helicopters of 847 Naval Air Squadron.

But the Gazelle could be useful as a short-term solution in regard to a number of its qualities. It would be able to carry not only sensor systems but also a maritime search radar, noted Howitt. ISR requirements were identified and confirmed through the Royal Navy's participation in Operation Ellamy, the UK's contribution to the protection of Libyan citizens under the wider NATO Operation Unified Protector, as well as through other experiences such as the protection of shipping against piracy off the Somali coast.

What the Northrop Grumman partnership offers QinetiQ, and therefore potentially the Royal Navy, is the years of testing mission equipment packages onboard Fire Scout and now Fire-X in cooperation with the U.S. Navy. This seems to be as fast-tracked as is possible these days, with the obvious acknowledgement that the Gazelle is an entirely new platform that would have to undergo the usual systems integration and flight trials. But the platform in this case should be less of a problem. They are readily available with flight experience still residing within the British Army.

Howitt considers that the project could well retain an optionally manned element to it as with the Fire-X demonstrator. Optionally manned still provides the military with the capability for operational flexibility (although obviously this is not the case with the older Fire Scout). The intent is not to add another platform into the mix without an increase in flexibility, as was recently stated by the U.S. Army Aviation leadership when discussing its requirement for an optionally manned Armed Aerial Scout. So although the Gazelle would clearly offer only a short-term solution, both QinetiQ and Northrop Grumman believe that this would offer the Royal Navy a cost-effective way 'to gain valuable, early operational experience with a VTUAS with a view to re-hosting the system in a more capable airframe as part of the Future Force 2020," he said.

In summary, Howitt sees that there would be a significant carry over of 95 percent of the Fire Scout's systems, with the obvious expectations of those needing to be aircraft specific. "It will look like a Gazelle but, in reality, it's a Fire Scout," he concludes.

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# SIMULATION & TRAINING NEWS



## Virtalis Introduces Helicopter Crew Reality Training

UK-based Virtalis has provided three helicopter crew reality (HCR) systems to the Defence Helicopter Flying School and FB Heliservices. The HCR units are operational at the Royal Air Force (RAF) Shawbury and Valley stations. HCR allows the school to train pilots and crew for three armed forces in the UK. According to Commander Mike Greenland, chief flying instructor, Virtalis can "see at once whether the crew are scanning correctly and using the right techniques. There is a microphone system built into the HMD, so we can talk to the students." He added that the HCR includes engine noise during communications to simulate the same conditions the crew would face trying to communicate in flight. Computer-generated 3D models of the area around RAF Shawbury and RAF Valley are programmed into the HCR to practice missions and the system can be adjusted for emergency landing training. Shadows and wind movement over land and water are also incorporated so that crews can conduct visual cue communication scenarios.


Helicopter crewmembers try out the virtual reality environment of Virtalis' HCR training system.

## Fort Campbell Employs Non-Rated Crew Member Module


The U.S. Army's 101st Combat Aviation Brigade has incorporated cutting-edge virtual reality technology for Boeing CH-47 Chinook and Sikorsky UH-60 Black Hawk training at Fort Campbell, Ky. The non-rated crew member manned module (NCM3) uses virtual reality glasses that were made specifically for Army trainees to practice gunnery tasks and sling load/hoist operations. NCM3 can link with the unit's aviation combined arms tactical trainer so that crew chiefs and soldiers can communicate with the pilot across different simulators. Pilots can also simulate various weather conditions and lighting situations. "It creates thunderstorms, and ... you can actually hear the thunder," Sgt. 1st Class Richard Madill told Megan Locke of the *Fort Campbell Courier*, adding that users can "see the lightning."

Sgt. Weston Williams of the 101st Combat Aviation Brigade sits in UH-60 Black Hawk gunner's seat at the non-rated crew member manned module, which recently went online at Fort Campbell. The simulator also allows crew to train for sling load and hoist operations in the UH-60 and Boeing CH-47 Chinook.

## Marines Conduct Raid of Simulated Terrorist Camp

Boeing CH-46E Sea Knights, Sikorsky CH-53E Super Stallions, Bell UH-1Y Venoms and AH-1Z Vipers with the Marine Medium Helicopter Squadron 268 (Reinforced), 11th Marine Expeditionary Unit have completed long-range training exercises. The training involved the ground combat unit flying from the USS Makin Island 130 miles inland, to a simulated terrorist training camp. The unit set up a refueling station in Paso Robles, Calif. for the exercise. The MEU is preparing for deployment to the Western Pacific and Middle East.

## Rotorsim Begins NH90 Training

AgustaWestland and CAE consortium Rotorsim has launched a joint NH90 training program (JNTP) for the Netherlands Ministry of Defence. The facility will include an NH90 full mission flight trainer (FMFT) that can be set up for the NH90 tactical transport (TTH) and NATO frigate helicopter (NFH) variants. Rotorsim has received Level C qualification for the TTH version from the Netherlands Ministry of Defence and its Military Aviation Authority. Level D qualification is expected in early 2012. In addition to Netherlands military training, the FMFT will be used for third-party operators, including the Royal Norwegian Air Force and the Royal New Zealand Air Force. The agreement also involves a multi-year contract for Rotorsim to operate and maintain the NH90 simulators.

## Elbit Inks ANVIS/HUD Repair Deal

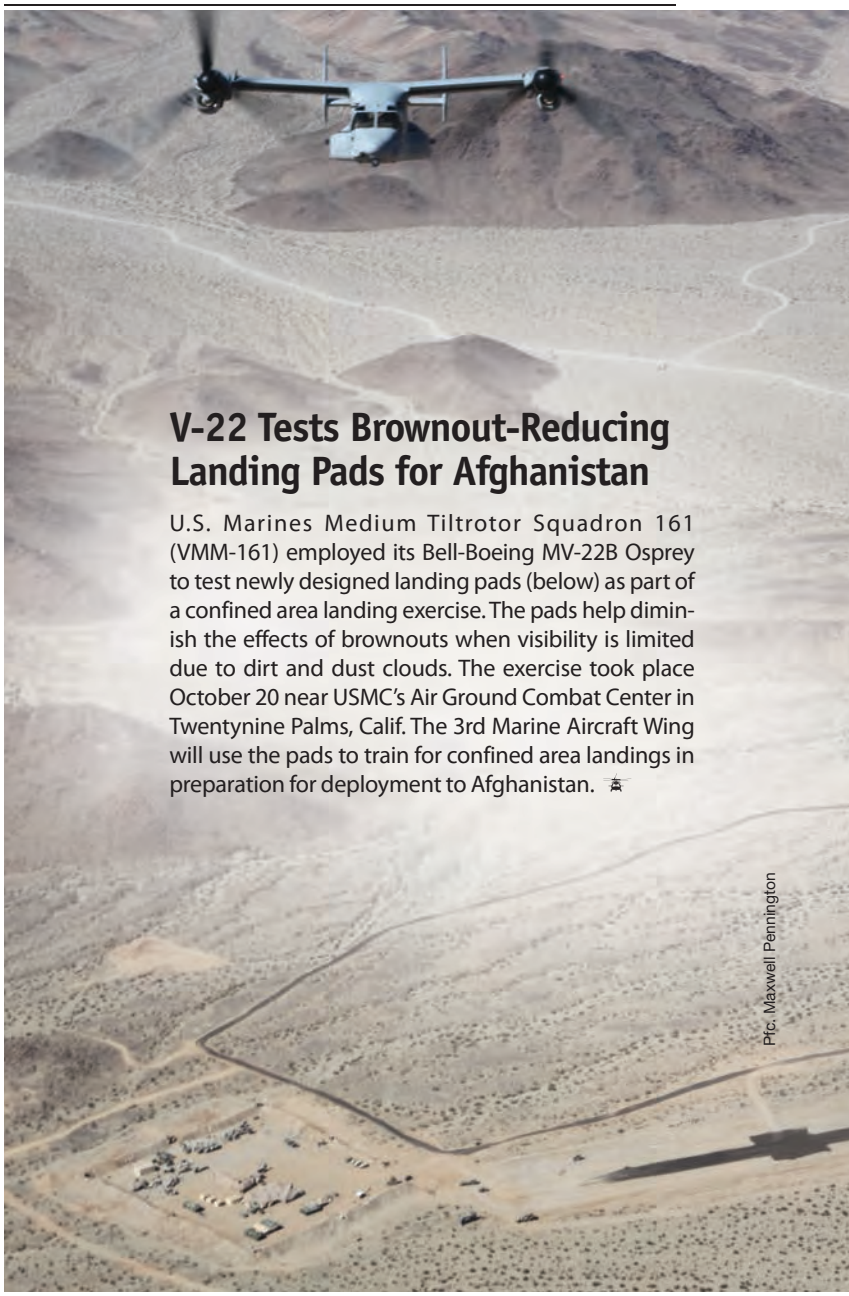
Elbit Systems of America has received a $23-million maintenance contract from the U.S. Army for its aviator night vision imaging system/head up display (ANVIS/HUD). The indefinite delivery/indefinite quantity (IDIQ) contract follows a prior IDIQ agreement for ANVIS/HUD depot level repairs. Maintenance on the systems will run until 2016 at Elbit's facility in Talladega, Ala.

Under a separate contract, the company has won a Boeing Military Aircraft bid to supply color helmet mounted displays (HMD) for the Bell-Boeing CV-22 Osprey. Work on the U.S. Air Force Special Operations Command-operated V-22s will take place at Elbit's facility in Fort Worth, Texas.

In addition to the new contracts, Elbit has opened a repair facility with the Netherlands Ministry of Defence. The avionics hub will be part of the Logistic Center Woensdrecht in support of the Royal Netherlands Air Force (RNLAF).

## Presagis Updates Simulator Software

Quebec, Canada-based Presagis has released version 11.0 of its HeliSIM software, along with FlightSIM 11.0 for fixed-wing aircraft. The latest updates include a user-interface framework for Linux and Windows platforms, allowing operators to create unique environments for specific training needs. The HeliSIM upgrade also includes a new attack helicopter model of the Eurocopter Tiger.



## V-22 Tests Brownout-Reducing Landing Pads for Afghanistan

U.S. Marines Medium Tiltrotor Squadron 161 (VMM-161) employed its Bell-Boeing MV-22B Osprey to test newly designed landing pads (below) as part of a confined area landing exercise. The pads help diminish the effects of brownouts when visibility is limited due to dirt and dust clouds. The exercise took place October 20 near USMC's Air Ground Combat Center in Twentynine Palms, Calif. The 3rd Marine Aircraft Wing will use the pads to train for confined area landings in preparation for deployment to Afghanistan.

Pfc. Maxwell Pennington

## Fort Stewart Soldiers Practice Sling Loads

The U.S. Army's Quartermaster School in Fort Lee, Va., has completed a mobile sling load inspector certification course (SLICC) for the 4th Infantry Brigade Combat Team, 3rd Infantry Division from Fort Stewart, Ga. The course trained soldiers on basic sling load operations, including certification to inspect sling-loaded cargo on Boeing CH-47 Chinooks and Sikorsky UH-60 Black Hawks. During the four-day course—with 40 hours of classroom time and one day of practical application training—soldiers prepped various pieces of battlefield equipment for helicopter pick up, including a Humvee and an M119A1/A2 Towed Howitzer. The soldiers also learned how to properly signal the helicopter crew throughout all phases of loading and equipment pickup. During the final portion of the course, soldiers hooked the Howitzer to a Black Hawk with an A-22 cargo bag.


Soldiers from the 4th Infantry Brigade Combat Team, 3rd Infantry Division, hook up an M119A1/A2 Towed Howitzer and an A-22 cargo bag to a Sikorsky UH-60.

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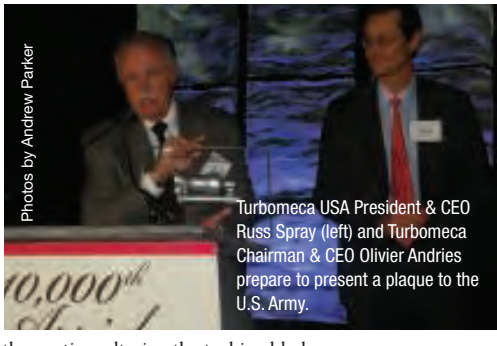
# OPERATOR'S CHOICE

*We're taking a different approach to our Editors' Choice section of the past couple of years to shift the focus onto operators—what do they use, what do they prefer and what overall lessons can be gleaned from those who fly helicopters daily? Operator's Choice will be a regular feature during 2012 in tandem with our long-standing Operator Profiles. Keep an eye out as we develop the Operator's Choice concept throughout the year.*

## Following an Oct. 27 handover of the 10,000th Arriel engine to the U.S. Army, Turbomeca invited *Rotor & Wing* for a wide-ranging update from company executives, including Chairman & CEO Olivier Andries, Turbomeca USA President & CEO Russ Spray, and Philippe Couteaux, director of clients.

*By Andrew Parker, Senior Editor*



Photos by Andrew Parker

Turbomeca USA President & CEO Russ Spray (left) and Turbomeca Chairman & CEO Olivier Andries prepare to present a plaque to the U.S. Army.

By definition, having 10,000 of just about any product makes it an Operator's Choice. For Turbomeca, what started as an engine design in 1977 has turned into a workhorse, comprising a fleet of more than 10,000 engines that have accumulated more than 32 million flight hours and spawned 29 different variants. Among the platforms that the Arriel has served include the Eurocopter EC130, EC135 and EC155, Sikorsky S-76, AgustaWestland A109K2 and Chinese AVIC AC312/AC311.

PEO Aviation Chief of Staff Randy Harkins (left) and Lt. Col. David Bristol, UH-72A program manager, accept a plaque marking the 10,000th Arriel engine.

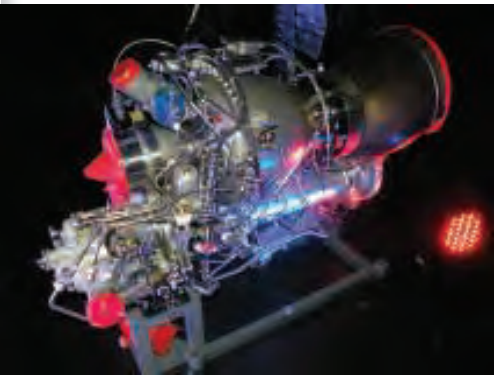
Turbomeca presented the ceremonial 10,000th Arriel to the U.S. Army Oct. 27 during an event in front of hundreds of employees in Grand Prairie, Texas. On hand to accept the engine—which will go into one of the Army's EADS North America UH-72A Lakotas—were PEO Aviation Chief of Staff Randy Harkins and Lt. Col. David Bristol, UH-72A program manager. Also present was American Eurocopter President & CEO Marc Paganini.

Turbomeca Chairman & CEO Olivier Andries explained that while its original designers did not envision back in 1977 that such a wide number of applications would develop from the Arriel, there are several reasons for its success. Chief among these is the design of its compressor, while other factors include the engine's reliability and performance. Andries said that Tubomeca has "capitalized on our existing architecture" by "squeezing the lemon" in developing multiple Arriel variants through the years—changing the coating, altering the turbine blades and adding new materials, for instance. When asked how many more times the lemon can be squeezed (the company recently developed the Arriel 2+, with the Eurocopter EC145T2 as its launch customer), Andries replied "no more," pointing to the next-generation TBM800 as a future platform.

According to Andries, Turbomeca, which has a workforce of 6,000 employees worldwide, is aiming to deliver 1,000 powerplants across its engine lines during 2011, a 25 percent increase over 2010 deliveries of 800. The uptick also applies to the maintenance, repair and overhaul (MRO) sector of the business, with an estimated 1,500 engines repaired in 2011, a boost from the 1,300 repaired the previous year.

# ARRIEL MILESTONE:

## 10,000 OPERATORS CHOOSE TURBOMECA ENGINE



"Basically we have suffered from the consequences of the economic crisis that occurred in 2008, and in the trail of this economic and financial crisis, the helicopter market overall has suffered—especially the light helicopter segment, although not too much the higher part of the market related to medium and heavy helicopters for the oil and gas industry."

As a consequence, he continued, "Our production dropped in 2010. So we were at 1,000 engines in 2009, we decreased production to 800 in 2010, and in 2011 basically the message is: We're coming back."

Looking ahead, Turbomeca sees "growth in the coming years, which is a combination of the renewal market for the western countries, in the U.S. and Europe, and the new helicopter markets in all the countries that are emerging, like China."

Andries added that Turbomeca "wants to leverage" cooperative efforts with India, China and other up-and-coming markets, including Malaysia.

"For example, at the moment, there are 600 helicopters flying in China for 1 billion, 300 million people. So it's less than in Mexico [around 700 helicopters total], can you believe that?"

As China opens its airspace to more commercial operators, he continued, "There's going to be a booming market for business aircraft as well as helicopters. We want to be positioned for that. India's the same, Russia, Brazil, Malaysia and Mexico, so there's significant opportunities that we'll try to capture."

Philippe Couteaux, director of clients and vice president/general manager of airframers, said that while the majority of Arriel business today takes place in North America and Europe, the mix will start to shift over the next decade.

"Take the example of China today, 600 helicopters—80 percent of those are military," he said. "Look at India, it's about the same, more like 90 percent. But that will change."

### Sample of the more than 1,500 Arriel Operators Worldwide

#### Offshore:
- Bond Helicopters
- CHC
- COHC
- Eimasa
- Era Helicopters
- Esso Australia
- Heli-Union
- Lider
- MHS Aviation
- Norsk Helikopter A/S
- Pawan Hans
- PHI
- Senior Taxi

#### Corporate:
- Michelin
- Toyota
- Lucky Gold Star
- Copterline
- Air Corporate

#### HEMS/ Air Medical:
- ADAC Luftrettung
- Air Methods
- Elilombarda Srl
- DRF
- Inaer
- Lifenet
- Native Air
- OAMTC
- Omniflight
- Portneuf Medical Center
- REGA
- SAF–Helicap
- STAT Medevac
- Travis County

#### Parapublic:
- ADAC
- Indian Coast Guard
- Finnish Border Guard
- Royal Flight Oman
- French Sécurité Civile
- Texas Department of Safety
- Tokyo Fire Department
- U.S. Coast Guard
- U.S. Customs

#### Law Enforcement:
- Algerian Police
- Bundespolizei
- Cola
- CHP
- Direccion General Trafico
- French Gendarmerie Nationale
- LAPD
- Maryland State Police
- NSW Police
- Policia Foral
- Royal Flight Oman
- UK Police
- Victoria Police

#### Charter/ Air Taxi:
- Heli Air Monaco
- Hélicoptères de France
- Heli Hong Kong
- Lufttransport
- Maverick
- Taxi Aereo Marilia
- Toho Air

#### Tourism:
- Blue Hawaiian
- Ecocopter
- Heliocean
- Helisul
- Maverick Helicopters
- Mont Blanc Helicopters
- Papillon Grand Canyon
- Sundance & Liberty Helicopters

#### Utility:
- Air Zermatt
- Canadian Helicopters
- Coast to Coast
- Coyotair
- Great Slave Helicopters
- Pegaso
- Heliportugal LDA
- Helisécurité Maintenance
- RTE-STH (French Electricity)
- RTE-STH
- Helog AG
- PDG
- Starlite Aviation
- US Helicopters

#### VIP:
- Laffon
- Yann Arthus Bertrand
- Richard Green

# MISSION EQUIPM
# WHAT POLICE OP

*By Ernie Stephens, Editor-at-Large*

Next to helicopters that are used for air medical operations, no other non-military rotorcraft feature as much special mission equipment as law enforcement helicopters do. What began with an officer hanging out the door of a Bell 47 with a pair of binoculars and a hand-held radio in the 1960s has now become a high-tech man-and-machine system with an impressive array of equipment. From forward-looking infrared to radios capable of communicating on thousands of frequencies, the choices of what to equip a helicopter with are nearly endless.

*Rotor & Wing* checked in with several law enforcement outfits to see what they were flying, and how their ships were equipped. The below agencies were representative of the average city, county, state and federal departments that provide services to diverse communities across the U.S.

Of course, larger police departments with bigger budgets have more equipment, but the size of the fleet and the quality of the equipment load-out were also driven by the crime rate in that jurisdiction. (It's just a fact of life that the fewer the problems, the lower the priority to fund police operations in general, and airborne assets in particular.) Add those factors to fluctuating financial resources, public interest, and the ever-changing political climate, and any inspection of a department's helicopter fleet will be, at best, only a here-and-now snapshot.

With that said, the following is a quick look at seven police helicopter operations, and their airborne law enforcement assets.


This Howard County (Md.) Police helicopter is typical of many Bell 407s equipped for police work. Under its belly are a nose-mounted video/forward-looking infrared camera system, a digital downlink antenna mounted amidships, and an aft-mounted searchlight.

## Fairfax County Police

With one Bell 407 in the hangar and two Bell 429s due for delivery by January 2012, the Fairfax County Police in Northern Virginia cover an area of 407 square miles just west of Washington, D.C., plus provide medevac services to critically injured citizens. The crew's new aircraft will be equipped as follows:

- **Police Radios:** Technisonic TDFM 7000 and TFM 550
- **Forward-Looking Infrared:** L3 Wescam MX10
- **Searchlight:** Trakkabeam M800
- **Moving Map:** Aerocomputers
- **Night Vision Goggles:** ITT 4949 Pinnacles

## Honolulu Police

Operating one MD520N and one MD500E, the Honolulu Police work a variety of patrol missions in a geographic environment that includes everything from ocean shoreline to lush, green mountains. With just five aviators, the Helicopter Section finds the following equipment a reasonable fit for their purposes:

- **Police Radios:** Ericsson Digital Trunking
- **Forward-Looking Infrared:** FLIR 7000
- **Searchlight:** Spectrolab SX-16
- **Moving Map:** Aerocomputers
- **Night Vision Goggles:** ITT 4949 Pinnacles

OPERATORS CHOICE

# ENT: PERATORS WANT

Today's modern police helicopter has an impressive array of equipment. The large color monitor on the left side of this Texas Department of Public Safety Eurocopter AS350B3 can display images from its L-3 Wescam video camera (shown) and forward-looking infrared, or its Aerocomputers moving map system.

Photo by Ernie Stephens

## Las Vegas Metro Police

According to the popular travel ads, "What happens in Vegas, stays in Vegas." But while it's happening, the Las Vegas Metro Police will be keeping an eye on it from one of its airborne assets, which consists of a Bell 407, two Bell HH 1H Hueys, and four MD Helicopter MD500Fs. The unit's mission equipment includes:

- **Police Radios:** Harris Open Sky
- **Forward-Looking Infrared:** Stark Aerospace POP300
- **Searchlight:** Spectrolab SX-16
- **Moving Map:** MetaMap
- **Night Vision Goggles:** ITT Pinnacles

## Mass. State Police

With three Eurocopter AS355N Twin Stars and one EC135 flying out of three bases around the region, the Massachusetts State Police is the only police agency in the U.S. that routinely patrols in twin-engine helicopters. Their crews use the following mix of technology:

- **Police Radios:** Technisonic TDFM 7300
- **Forward-Looking Infrared:** one Star Sapphire and one Star Sapphire HD
- **Searchlight:** Spectrolab SX-16
- **Moving Map:** Aerocomputers

## Metro Nashville Police

Serving the undisputed home of American country music, the Metro Nashville Police patrol 528 square miles of city and waterways aboard two MD Helicopter MD500Es, four Bell OH-58s and one McDonnell-Douglas OH-6. The fleet is equipped with the following gear:

- **Police Radios:** Technisonic 648
- **Forward-Looking Infrared:** FLIR 8500
- **Searchlight:** Spectrolab SX-5
- **Moving Map:** Avalex

## Texas Department of Public Safety

With the second largest state in the U.S. to serve, it comes as no surprise that the Texas DPS has 15 bases located across more than 268,000 square miles of both densely populated and urban territory. The fleet consists of 14 Eurocopter AS350s, one EC135 and six Bell 206Bs. The most common equipment loadout is as follows:

- **Police Radios:** Technisonic TDFM 6000, TDFM 7000, and Motorola XTS 5000
- **Forward-Looking Infrared:** L-3 Wescam DS and TS series
- **Searchlight:** Spectrolab XS-16 (some with in-flight change-over NVG filters)
- **Moving Map:** Aerocomputers
- **Night Vision Goggles:** ITT 4949 Pinnacles

## U.S. Park Police

The U.S. Park Police, one of the oldest uniformed federal police agencies in the country, provides airborne law enforcement and medevac services for all federal parks and parkways in the greater Washington, D.C., area. Its crews, however, can be also be deployed to incidents hundreds of miles in any direction. The Aviation Division is also the primary airborne police and medical platform for the White House and Congress. With two Bell 412s and one Bell 206L based less than two miles from the U.S. Capitol, the agency's blue and white aircraft carry the following, plus a few secret national security items:

- **Police Radios:** Wulfsberg (now Cobham) RT5000/C5000
- **Forward-Looking Infrared:** FLIR 8500
- **Searchlight:** Spectrolab SX-16
- **Moving Map:** Aerocomputers
- **Rescue Hoist:** Goodrich

# RAF SAR UPDATE


**_Rotor & Wing's Military Insider_ provides a first-hand report from the annual Royal Air Force SAR Conference, which took place during the 70th year of the founding of the service.**

*By Andrew Drwiega, Military Editor*

This is a landmark year for the Royal Air Force (RAF) in that it is celebrating 70 years of conducting search and rescue (SAR) operations over land and sea around the UK (1941–2011). Disappointingly, it is also facing up to the potential end of its involvement in this activity.

Although the Soteria Consortium (comprised of CHC Helicopter, Thales UK and the Royal Bank of Scotland) had been selected at the end of 2010 to take over the SAR-Helicopter (SAR-H) contract under a private finance initiative (PFI), the British Government was left with no alternative but to overturn the appointment when it was discovered that a CHC employee had received sensitive information from a military source during the bid process.

The result of this decision has been to create a dilemma regarding the future of the SAR Force. With the SAR-H contract now presumably needing to be re-bid, the short-term continuation of the Sea King fleet in terms of maintenance, repair and overhaul (MRO) also needs to be revisited as out-of-service dates had been set around 2017. This has a knock-on effect in terms of the entire Ministry of Defence Sea King fleet, as the type is also in operated with the Royal Marine Commando Helicopter Force (CHF), which was supposed to exchange its Sea Kings for RAF AgustaWestland AW101 Merlins. These in turn had been freed up when the decision was made this summer to buy another 14 CH-47 Chinook helicopters from Boeing to expand the RAF's support helicopter capability. Maintaining a small number of Sea Kings for the SAR Force would present the MoD with an expensive bill, not what it needs at a time when defense budgets are being slashed with frightening regularity as the government tries to handle the budget deficit it inherited from the previous Labor administration.

The most immediate need has been for the Department for Transport (DfT) to create something of an emergency contract for the continuity of the Maritime Coastguard Agency's (MCA) helicopters, as its contract with CHC Helicopters expires in 2012—a date deliberately timed so that the RAF, Royal Navy and MCA fleets could all be wound-down at the same time as the PFI contract took over and new Sikorsky S-92 aircraft came into service. This Gap SAR Helicopter Service contract was put out for tender in July (the S-92 fleet is earmarked to be transferred to the Republic of Ireland) and is planned to run for six years (with a one-year extension option). The four bidders for this Gap SAR contract are Bond Offshore, Bristow, CHC Helicopter and lesser-known Ipod Consortium (comprised of Era Helicopters and British International). As the bid deadline was early October, the submissions have been under consideration by the DfT and an announcement is expected by mid-January 2012. Bidders could elect to provide a service for the southern bases—Lee-on-Solent and Portland—or the northern bases at Isle of Lewis and the Shetland Islands, or both north and south. The total value of the contract for the total coverage area is estimated by the DfT at around £200-£250 million ($315-393 million).

## Focus on Excellence

Away from this confusion, the annual RAF SAR conference, held at the SAR

headquarters, RAF Valley, Anglesey, went ahead as planned in early October 2011. Group Capt. Frazer Nicholson, the current SAR Force Commander, hosted the event and was eager to pay tribute to all who had gone before. The conference was told that in its history, SAR personnel had been awarded six George Medals (usually a civil award for "great acts of bravery," but one that can also be granted to military personal for similar acts that were performed when not in the face of an enemy. Up to 1993 (when it was discontinued), SAR personnel also received 51 Air Force medals in recognition of their bravery.

Speakers this year represented a diverse range of organizations. Gary Parsons of the Morecombe Bay Search and Rescue spoke about operating hovercraft out in the bay, where in 2004, 21 Chinese cockle pickers were drowned by the rapidly incoming tide. The volunteer search and rescue unit serves the bay, located on the shoreline of northwest England. Its tides are notorious, and to increase the organization's ability to perform rescues it has just bought airboats from the U.S. (more akin to powering tourists around sites such as the Everglades in Florida), but in this case excellent for going out into the bay over saturated sand/quicksand.

In addition to other speakers that included Ian Rideout, Operations Director, British Red Cross in Northern Scotland, Warrant Officer Karl Wightman from the UK's Defence SERE Training Organization, and Jean-Charles Cornillou, technical expert from the French Ministry of Transport, who outlined the country's SAR operations, taking into account France's diverse overseas territories including La Reunion and New Caledonia in the Pacific, as well as French Guyana and French Polynesia.

Commander Bill Sasser with the U.S. Coast Guard addressed the lessons learned from Hurricane Katrina (and subsequently Hurricane Rita), the twin storm systems that caused so much damage and flooding to large parts of New Orleans and the neighboring southern coast areas. This area was around 90,000 square miles with storm surge destruction recorded up to 12 miles inland.

One of the main problems during the rescue effort was: "Where do you take people you have just rescued in an area devastated on such a scale?" The nearest unaffected cities were around 70 miles away so immediate safe haven areas were classed as lily pads—freeway bridges, higher areas of dry land—somewhere that would be a little safer and could be massed ready for the next stage (whenever that came). He said that the difference between the Coast Guard aircraft—some of which returned back to station immediately on the tail of the storm after flying out of its path—and 'Big Army' aircraft that flew in later, was the number of crews. USCG had several crews per aircraft that could be rotated whereas the Army aircraft flew in with one crew. When they reached the end of their flying time and needed some rest, the aircraft went down as well until they were rested and ready to go again.

Other problems included the need to de-conflict aircraft from different organizations; the different communications systems between the various rescue agencies; and sometimes a lack of mutual understanding and cultural differences in how to manage tasks and define success.

Sgt. Chris Bradshaw, a member of 202 Squadron, gave a gritty description of his four-month tour in Afghanistan earlier this year (March to July). Bradshaw, a SAR crewman, joined the standing CH-47 Chinook's Immediate Response Team based out of Camp Bastion in Helmand Province as a paramedical with the onboard Medical Emergency Response Team (MERT). This is a four-person medical unit that is despatched with every IRT call and comprises a doctor, nurse and two paramedics. Basically, having a Chinook fully equipped to cope with casualties as soon as it lands cuts down the Golden Hour waiting time for badly injured troops. The medically equipped Chinook means that badly wounded soldiers can be anesthetized and stabilized with blood and plasma as soon as the aircraft lands. He also praised the small party of RAF Force Protection soldiers that fly on every mission to protect the medical team: "They really got stuck in every time," said Bradshaw, adding that they also got "hands-on in the aircraft helping us to save lives."

Bradshaw also praised the ever-present AH-64D Apache escort that always accompanies each IRT Chinook mission. Usually two aircraft, he described the Apache as "eyes-on all the time and absolutely awesome in support." Its only drawback was the extra time needed to get airborne due to the complexity of the aircraft and its systems, and its lack of pace compared to the Chinook.

But in the current British Area of Operations, which has shrunk over recent years, most casualties can be reached in little over 10 minutes flying time. Bradshaw undertook five different pre-deployment courses before going to Afghanistan which, he said, included everything from home to deal with battlefield trauma to how to operate on a helicopter, and the obvious SERE (Survival, Evasion, Resistance and Escape) course.

A number of presentations were made to SAR Force personnel at the end of the conference. Master Aircrew Chris Bodium received a clasp to his Long Service and Good Conduct (LSGC) medal. The clasp is only received 15 years after the award of the LSGC. Bodium spent the first few years of his career on Nimrod Maritime Patrol aircraft of 201 Squadron flying a total of 2,200 hours. In 1988 he moved over to SAR operating on the Wessex Mk2 helicopter before exchanging that for a Sea King. During his career he has taught all aspects of SAR. Flight Lt. Mike Castle, a qualified helicopter instructor, also received a Commander in Chief Commendation among others who were mentioned.

# PROGNOSIS: 2012

## What would you like to see in the pages of *Rotor & Wing*?

In an effort to provide a snapshot of the hundreds of stories in the helicopter industry that we cover each year, *Rotor & Wing* has assembled a list of more than 300 items published from January to November 2011. These news stories, features and product announcements ran in the pages of the print magazine—this doesn't include our daily Top Stories at **rotorandwing.com**, web-only features, e-letters such as the weekly Collective [sign up at **www.aviationtoday.com/rw/collective_form.html**] or monthly Military Insider, or special publications like Heli-Expo Show Day. The list does not cover the entire spectrum of *Rotor & Wing*'s various offerings—it is just a sampling of our coverage, as there are many additional stories available online and through our other distribution channels. One reason we wanted to undertake this exercise is to gather feedback about what readers want and open the door of communication with those companies that might warrant additional coverage. We're constantly trying to find ways to improve. What would you like to see in the pages of *Rotor & Wing*? What areas should we focus on during 2012? Which topics, events, markets and companies do we need to cover more? Please e-mail your suggestions to: **editor@rotorandwing.com**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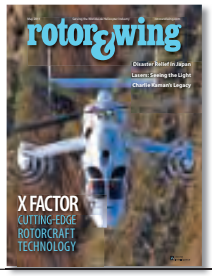
|  | U.S. Army | Aviation Commander Crutchfield Sets JMR Objective at 2030 | 12 |
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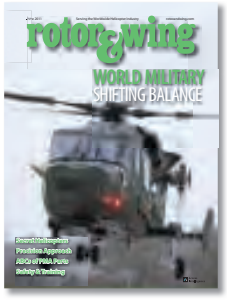
|  | Sikorsky | Helicopter Experts: Stealth Not the Only Reason for Secret Mods | 10 |
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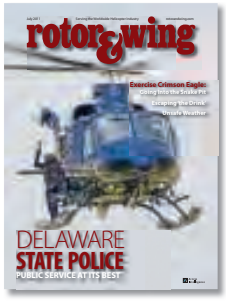


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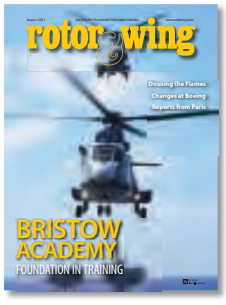


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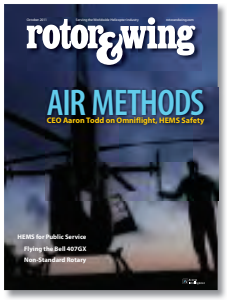


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# Leading Edge

*By Frank Lombardi*

## Levels of Pilot Gain

The many varieties of helicopter models in the world today are flown by an equally large variety of pilots. Although we could spend pages telling stories and giving examples of lots of colorful individuals, for now we'll limit the conversation to just two types: low-gain and high-gain pilots.

In technical words, "gain" is what engineers call the ratio of response to error. Pilot gain describes the level of aggressiveness in pilot control activity. It is dependent on training, aircraft dynamics, the task at hand, stress level, and also individual temperament.

The concept is much easier to understand intuitively than mathematically. Riding your bike on a wide sidewalk requires a small degree of precision, with little risk of getting waffled by a car, and so your steering inputs are relaxed and minimal, or low-gain. Riding on the street while trying to keep the tires on the solid white line requires a greater level of attention. Add to that the high stress of getting hit by a car if you veer off the line, and your steering inputs become high-gain. They get much more frequent and deliberate, with a tendency to over-control. In fact, your performance in this case might remind you of your earlier days of learning how to ride.

So what does any of this have to do with flying helicopters? As operators of machines seemingly capable of magic, we like it when helicopters to do what we ask without physically or mentally tiring us out too much in the process (making us look like great magicians). Since manufacturers need to appeal to all pilot types and skill levels, a large part of evaluating the flying qualities of a new helicopter design involves test pilots flying repeated closed-loop tasks at various levels of pilot gain and assessing how it affects their workload.

Almost all of operational flying involves closed-loop tasks—the pilot wants the aircraft to do something, he makes a control input; the aircraft responds; the pilot judges response with feedback through his eyes and his body; his brain processes it and decides if it is in error from what is wanted; he makes another input to correct, and so on. The time to process the info, make a control input, and have the aircraft respond creates time lag in the system. The gain level used by the pilot during the task depends on how hard he's trying to maintain his goal. As it turns out, this can have a direct affect on the stability of the pilot-aircraft system, and therefore affects pilot opinion of how the helicopter handles, especially as gains increase during "tight" tasks.

Tight tasks are those that require an exceptionally high degree of accuracy, like flying an instrument approach in poor weather, holding crosshairs on a target, or landing on a small platform. During flight test, engineers look for instances where the combination of high gains and time lag can cause the pilot to get out of phase with the aircraft and begin an oscillation by doing the wrong thing at the wrong time, driving the system toward instability.

This is what is commonly called a pilot-induced oscillation (PIO), a subject worthy of its own article. Serious PIOs are not common events in certified aircraft, thanks to thorough flight tests, which uncover potential problems. Still, I'm sure I'm not the only one out there who once or twice quietly thought they were the "Ace of the Base" for holding a rock-solid, hour-long OGE hover during a mission, only to come back to the platform and make everyone sea-sick for the last ten seconds of the flight—a direct consequence of my increased gains driving a bit of an oscillation in the hover as I tried to dial in the perfect landing.

The adaptability of the human pilot adds to the difficulty of using cut-and-dry math when evaluating aircraft for flaws. Gain alone cannot be used to judge task difficulty. Many tasks exclusively require higher gain. But there are plenty of pilots who naturally fly all the time using higher gains.

Have you ever observed someone fly a super-smooth precision approach, only to look over and see the stick darting all around the cockpit, so fast that the aircraft doesn't even seem to respond? Unfortunately there tends to be a negative connotation or inexperience associated with high-gain pilots because newbie pilots tend to use excessive gains as they learn.

However, such pilots do not necessarily display lesser skill, as evidenced by their ability to accomplish their task with accuracy. A former R-22 pilot will most likely exhibit higher gains in all tasks than a former S-92 pilot. For this reason, there exists rating scales for test pilots designed to help standardize their qualitative opinions of handling qualities exhibited by the helicopters they test—but that's a topic for yet another time.

# Around the World

*By Steve "Elroy" Colby*

## Diamond in the Rough

Under the umbrella of NATO Training Mission-Afghanistan works a small but highly effective group assigned to NATO Air Training Command, or NATC for short. This group's truly coalition composition is made up of forces from the U.S., Croatia, Mongolia, Czech Republic, Hungary, Italy, Portugal, Canada, Jordan and the UK.

Pledges for personnel support from Colombia, Spain, Lithuania, Latvia, Ukraine and Greece round out this melting pot air corps assigned to directly support the Afghan Air Force (AAF). The NATC mission statement speaks volumes about their sizable and important objective: "Set the conditions for a professional, fully independent and operationally capable Afghan Air Force that meets the security requirements of Afghanistan today ... and tomorrow."

These NATO forces provide rigorous training, support and doctrinal guidance for an Air Force active since 1924. This fledgling Afghan Air Force matured through the years and was upgraded and formed more along Soviet lines in the 1950s. The AAF reached its peak size in the period between 1989 and 1996, where there were actually five Afghan Air Forces. In 2001 the remainder of the AAF was decimated and in 2005 began the rebuild process with help from U.S. and coalition forces. The NATO forces there now are an evolution of organizations from the U.S. Army's control to today's U.S. Air Force control of the 438th Air Expeditionary Wing. The organization will see its final growth spurt this year from 167 assigned in 2007 to a peak 477 planned for 2011.

The AAF that they support has a unique demographic in that their youngest pilot is 23 years old and the oldest is 57. The average age is 43; significantly older than the flight suit clad aviators to which most western countries are accustomed. The AAF, made up chiefly of Russian aircraft, includes 56 total comprised of: An-26, An-32, and C-27 airplanes, and Mi-17 (multiple variants) and Mi-35 helicopters. In the coming six years, the plan is to grow the fleet size to 146 aircraft and the personnel structure from 4,035 to 8,017 airmen. The growth in aircraft will be filled by Mi-17, basic rotary wing training aircraft, C-27s, L-39 replacements, fixed-wing training aircraft, basic fixed wing utility aircraft, a light airlift and ISR platform and a close air support platform. Construction for this burgeoning Air Force is under way at the three main operating bases—a little over 50 percent complete at Kandahar Air Base and almost 85 percent complete at Kabul Air base. Construction is just starting at Shindand AB in the west. Work at the detachments and Air Units has yet to commence.

The "Big Air School" teaches fundamentals, including professional military education, English language training, general education, literacy, aviation, maintenance and mission support activities.

A fascinating aspect of this training includes the immersion "Thunderlab," a compound of coalition forces where only English is spoken. This technique, as proven in stateside DLI facilities, works exceptionally well. With syllabi and stepped professional military training tailored for enlisted and officer core development, this school stands to shine in the development of a professional air force.

In spite of the obvious challenges of language, resources and manpower, this diverse group has experienced significant successes over the past few years, including support of a non-combatant evacuation of Kyrgyzstan, rescues near Jalabad, Kandahar, and Salang, extraordinary support of regional floods including more than 2,000 saves in a single day, and the Pakistan HA/DR. They also set up a rotary wing CAS arm using the Mi-35 and Mi-17 Hind helicopters.

Within the force structure there is the Ministry of Interiors Air Interdiction Unit which, equipped with Mi-17s, have a mission essential task list that includes: air assault (counter narcotic interdiction), air movement (counter narcotic personnel and equipment), CASEVAC and general support missions in support of the Ministry of Interior. With a future force planned for four bases—Kabul (HQ), Shindand, Mazer E-Sharif and Kandahar—the future is bright.

## THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY

### SURPLUS SALES OFFER

Sealed bids for the following surplus sales offer will be accepted at the address indicated below until 11:00 AM on the due date indicated and will then be publicly opened and read in the bid room. Documents can be requested by calling 201-395-3410 or emailing mdemic@panynj.gov.

Send Bids to: The Port Authority of NY&NJ, Att: Bid/RFP Custodian, Procurement Department, 2 Montgomery Street, 3rd Floor, Jersey City, NJ 07302.

**Surplus Sales Offer No. 272 - Sale and Removal of Helicopter Spare Parts and Tools, Sold as One Lot** - Assorted spare parts and tools compatible with Sikorsky S76A++ and /or S76C+ helicopters; and parts, hardware and tool kits for helicopter models including Bell 222 and B0105. Inspection date is 12/15/11 at 10:30 a.m. at Teterboro Airport, Teterboro, NJ. Contact Margaret D'Emic at 201-395-3410 or mdemic@panynj.gov to confirm attendance.

**BID DUE DATE: 1/6/12**



**Ground Handling**


# advertiser index

# Public Service

*By Mike Redmon*

## Lessons Learned in Kindergarten

While getting your rotorcraft ratings, the main focus is on the technical side of aviation. LTE, dissymmetry of lift and autorotations are examples of subjects/skills we work hard at mastering. We study hard to pass written and oral exams. After gaining our commercial certificate we then worry about how to get to some pre-determined amount of flight time or how to gain an ATP. One part of aviation that's never discussed or focused on during training is our ability to interact with other people.

From a pure piloting standpoint, there usually isn't much difference between a 1,500-hour and an 8,000-hour pilot. Notice I said "usually." I have been surprised at both ends of the spectrum. I flew with a guy with an alleged 1,500 hours over a 20-year career as a National Guard-commissioned officer who scared the pants off me. He didn't last more than a couple of weeks at our company. I also went to FlightSafety with an older pilot who definitely had over 10,000 hours of flight time but couldn't fly better than your average 20-hour student pilot. I honestly think he had vision problems because that is the only excuse I could conjure up for the poor fellow. He also didn't last more than a month on the payroll. We were lucky he didn't kill anyone when he took off with the SAS disengaged and almost put the tailrotor into a hangar. Taking those extreme cases off the table, what usually separates pilots after 1,500 hours is their interpersonal skills.

The funniest jokes have a grain of truth in them so everyone chuckles when some always-cranky pilot says, "I love aviation but it's the people I can't stand." Assume you are in a position to hire a pilot. If someone told you the 8,000-hour pilot was cranky all the time and generally ticked everyone off, would you hire him or the 1,500-hour pilot? "Attitude determines your altitude" is a cheesy cliché that might be seen on a high school poster, but in the real world it is very important. The last thing managers want to deal with is someone who has no interpersonal skills. Jerks generally don't get the job.

In the HEMS world the medical folks run the show. If a pilot treats the nurse or medic like "self-loading baggage" and hides out in the pilot office for 12 straight hours, that pilot better hope he makes no noticeable mistakes. I'm sure the same is true for other forms of helicopter flying. We've all seen pilots "let go" for small flying infractions that shouldn't even be worth a mention from the lead pilot. The infraction is usually just an excuse because everyone is tired of dealing with them. Is it fair that Pilot A gets fired for being 20 minutes late while no one cares that Pilot B was 30 minutes late the week prior? No, but it is the reality in most organizations, aviation or non-aviation.

I was a manager in a factory for a couple of years after finishing with active duty. I was extremely busy, and if someone was repeatedly a pain to deal with, I'd eventually tire of it and cut no slack for a minor mistake and fire him. Bosses are the same in every industry. They just want employees who treat their job with some degree of seriousness and who also get along with other team members.

I have two small children—a 5-year-old boy and a 7-year-old girl. In school they are learning the basics of life: Be nice. Use the magic words—Please, Thank You, You're Welcome. Clean up after yourself. Say you're sorry if you hurt someone's feelings or make a mistake.

If the prior shift pilot didn't wash the helicopter like he was supposed to, then don't get upset about it and bad mouth him to the medical crew. Give the other pilot the benefit of the doubt and just wash it for him and forget it ever happened. Treat your fellow coworkers with compassion and understanding. If they need a mentor then do it without being a "know it all." Go the extra mile for people. The lessons my children are bringing home are nice reminders of how everyone should act. Some of the most important lessons in life are the lessons we learn in kindergarten.

# Coming Up in rotor&wing

## January 2012:

**Annual Reports—**As we approach the start of each new year, *Rotor & Wing* surveys its advertisers, key vendors and suppliers in the helicopter marketplace, and we ask them to provide our readers with an updated profile of their company and operations. We ask them to tell us how they are doing, what important changes they have made in the past year, and to provide an update on what new products, initiatives or innovations we might expect to see from them in the coming months. After all, in the turbulent market and world economy we live in today, the one true constant is change!

**2012 Rotorcraft Outlook Panel—**We take a slightly different approach this year by asking each of the top executives of the vendor companies participating in the Annual Reports issue to answer a *series* of questions regarding their own personal and corporate outlook for the coming year, as well as for the industry as a whole. The compilation of these answers always produces an interesting and insightful prediction of what we might expect to see over the course of the next 12 months.

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## February 2012:

**Heli-Expo Expectations—**The helicopter industry revolves around the hallmark annual event, set to take place this year in Dallas from February 11-14. Heli-Expo 2012 is poised to bring hundreds of operators, suppliers and vendors from around the commercial rotorcraft industry. We'll supply the 4-1-1 on who's coming, what they're bringing to display and what to expect during the three-day event.

**Operator Profile—**In anticipation of Heli-Expo, we'll profile a large commercial operator that deals with many of the challenges of running a sizeable fleet. Special focus will be given to the operator's training program and practices.

**Commercial Market Outlook—**We'll talk with representatives from diverse commercial market segments—offshore, HEMS, tourism, air taxi, corporate, etc.—to pull together a snapshot that details how various sectors are performing and the outlook for 2012 and beyond.

**Columns—**Leading Edge, Frank Lombardi; Public Service, Ernie Stephens; Safety Watch, Terry Terrell; Military Insider, Andrew Drwiega; and Around the World.

**Bonus Distribution:** Heli-Expo 2012, February 11-14 in Dallas, Texas.

# Military Insider

*By Andrew Drwiega*

## Committee Doublespeak

The following quotes are taken from the official British government response made to the latest House of Commons Defence Committee findings and questions on how British forces are managed, prepared and used operationally. These comments are from the Fourth Report of Session 2010–12 on Operations in Afghanistan published July 17, 2011. The government's response to this report was published Oct. 17, 2011.

*"Going into Helmand was not dependent upon the withdrawal from Iraq although there might be pinch points such as logistics and helicopters."*

One man's 'pinch point' is another man's 'severe lack' of helicopter lift. During the initial phases of the British Parachute Regiment's into Afghanistan, support was thinly spread, especially when the Regiment was forced to defend isolated and widely located Platoon Houses around northern Helmand Province, each of which became a mini-Alamo, cut off and far away from friendly troops and road re-supply, and relying sporadic Chinook flights, often into 'hot' landing zones (LZs).

*"Commanders on the ground have sufficient helicopter flying hours available to them to complete the core tasks they have been given."*

How do you decide how many flying hours is enough? Fighting a war rarely aligns to pre-set through life maintenance costs set when the platform was being acquired. The British AH-64D Apache force, when deployed to Afghanistan in 2007, quickly exceeded (by a long way) the hours that had been set prior to deployment. Again, what is a core task? Daily re-supply; troop repositioning; medevac of the wounded?

*"The UK operates in Afghanistan as part of a coalition and capabilities such as helicopters and close air support are a pooled resource, tasked by ISAF. There is no 'reliance' as such of UK troops on the helicopters of other countries. UK troops will often be supported by other nations' helicopters and vice versa."*

This presumes there is an equality of helicopters supplied by other ISAF nations. Until the U.S. Marine Corps entered Helmand Province as part of the surge, the next most populous force to the British were the Royal Netherlands Air Force (RNAF), but their Apaches were based at Taren Kowt in Uruzgan Province, and Kandahar airfield, largely supporting activity in their region. Canadian Forces, a valued partner and key player, suffered greatly in terms of re-supply and casualty evacuation in the time before they were able to field helicopter support of their own. Tasking one nation's helicopter resources to support another nation's urgent need has been somewhat of a headache for most of the time in Afghanistan. It is not simply a matter of calling another base and saying: "We have troops in contact—a TIC—all our aircraft are busy, so could you send one of yours over in the next 30 minutes?" One example can be found in an incident that occurred in September 2006 when British troops walked into a minefield near Kajaki Dam and several were injured and in critical need of extraction. The aircraft required were American HH-60s with hoists, but going through the NATO release authority to get the aircraft would, they were told, take several hours. One section of the report is listed below because I'd like to get feedback from other national military operators on the points made.

*Recommendation 19. We are not convinced that UK Forces yet have access to sufficient helicopter hours. We recommend that, in response to this Report, the MoD set out how the new helicopters delivered into theater have impacted on the availability of helicopter hours, any outstanding delivery of helicopters and how much reliance and use we are making of helicopters from the USA and other countries.*

*The MoD has always focused on the capability being delivered in terms of helicopter flying hours that are available to commanders on the ground. ... This allows us to take into account not just the number of helicopter airframes in theater, but also other issues such as the number of crews, spares and maintenance provision. This is how we have managed to deliver a 140 percent increase in the flying hours available from a doubling of the number of helicopters. [It goes on to say that since November 2010] there has been no additional helicopter capability delivered to theater, but the pool of suitably equipped helicopters that could be deployed to theater has been expanded. ... The MoD will continue to keep the availability of hours under review, taking into account factors such as military demand, platform capability and wider fleet sustainability. From time to time this may require changes to the mix of airframes available but we will always ensure that commanders have sufficient flying hours to complete the core tasks they have been given.*

Please e-mail your comments to: **adrwiega@accessintel.com**

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