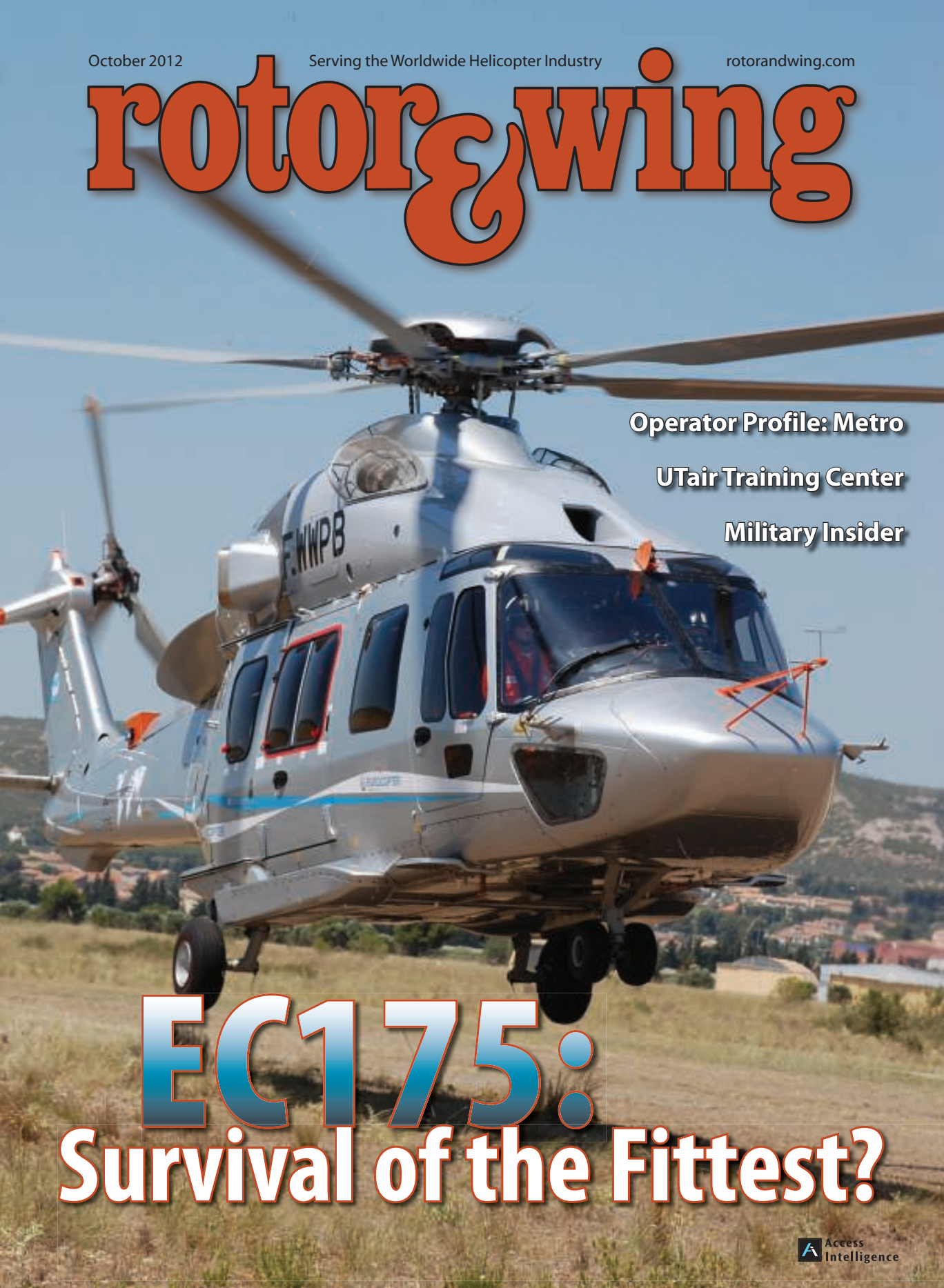
October 2012 Serving the Worldwide Helicopter Industry rotorandwing.com

rotor&wing



Operator Profile: Metro

UTair Training Center

Military Insider

EC175: Survival of the Fittest?

Access Intelligence

FIRST-class service no matter where you're going.

The M250® FIRST network™ is the most diverse and customer focused gas turbine engine support network in existence. With more than 4,500 operators relying on the M250 engine every day, no engine is more prominent among helicopter and light aircraft applications. The M250 FIRST network offers extensive, quality products and convenient and responsive field support from 33 authorized facilities worldwide. No matter where you are, the M250 FIRST network ensures unparalleled service and reduced operating costs. Exactly the service you expect for a world class engine.

Trusted to deliver excellence

www.rolls-royce.com

Rolls-Royce

rotor&wing

EDITORIAL

Andrew Parker Editor-in-Chief, 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; Keith Brown; Tony Capozzi; Keith Cianfrani; Steve Colby; Frank Colucci; Dan Deutermann; Ian Frain; Pat Gray; Emma Kelly; Frank Lombardi; Elena Malova; Vicki McConnell; Robert Moorman; Douglas Nelms; Mark Robins; Dale Smith; Terry Terrell; Todd Vorenkamp; Richard Whittle.

ADVERTISING/BUSINESS

Joe Rosone Senior Vice President, Aerospace Group, 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

Gretchen Saval Graphic Designer
Tony Campana Production Manager, 1-301-354-1689 tcampana@accessintel.com

AUDIENCE DEVELOPMENT

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, LLC

Donald A. Pazour Chief Executive Officer
Ed Pinedo Executive Vice President/Chief Financial Officer
Macy L. Fecto Executive Vice President, Human Resources & Administration
Heather Farley Divisional President, Business Information Group
Sylvia Sierra Senior Vice President of Corporate Audience Development
Robert Paciorek Senior Vice President/Chief Information Officer
Michael Kraus Vice President of Production & Manufacturing
Steve Barber Vice President, Financial Planning and Internal Audit
Gerald Stasko Vice President/Corporate Controller
Alison Johns Vice President, E-Media, Business Information Group

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

BPA WORLDWIDE
AMERICAN BUSINESS PRESS ABP

Editor's Notebook

aparker@accessintel.com

Finding the Funding

By Andrew Parker

The helicopter equivalent of "if you build it, they will come" has got to be "if you provide the funding, they will acquire." None of the "need" for helicopters that fueled year-over-year growth before the global economic slowdown in 2008 has gone away—simply the money to acquire them.

Dublin, Ireland-based Milestone Aviation Group is offering one possible solution for operators. Started in August 2010 with $500 million in equity seed capital raised through a group of investors led by co-founder and Chairman Richard Santulli, the company has expanded rapidly with the recent finalization of a fleet purchase for 19 additional Sikorsky S-92s and the closing of a series of debt facilities totaling $400 million, including a $265-million debt facility from Deutsche Bank. I had the opportunity to interview Santulli—who founded fixed-wing fractional ownership provider NetJets in the mid-1980s (and served as Chairman and CEO until August 2009) after getting his start in the helicopter leasing business—about the evolution of rotorcraft financing.

Rotor & Wing: What will the debt facilities allow Milestone to do?

Santulli: The good news is it proves that we can get debt. I laugh, but the market was looking at us saying, "you're a very young company," which obviously we were. A lot of the banks looked at us like a commercial airplane lessor, and we kept telling them that if you're looking at us that way, you're going down the wrong road. The reality was not too many financial analysts are actually that knowledgeable about helicopters. The fact that we were a young start-up, and add to that there weren't a lot of helicopter-specific financiers, it made it very difficult to do.

R&W: What is Milestone's outlook?

Santulli: We'll just keep growing. When we first started doing debt deals, we had a bunch of letters of intent. With the whole European crisis, it made it tough to get a debt deal done. But that's changed now, and we're very comfortable with our position in the market. Today we have a very large standing.

R&W: Why the S-92?

Santulli: We bought the EC225 also. When we were looking at the marketplace, we realized that more and more is being done farther offshore. You look at oil production around the world and it's father offshore, so you need helicopters with more range that can carry more people, like the S-92 and EC225. We look at the S-92 as obviously a huge factor in the oil and gas market, but we also look at it as a very successful SAR machine. So it's the combination of search and rescue, and primarily oil and gas, that we love that helicopter.

If you look at the supply of heavies, and the supply rates, and you look at where they're going to be against the demand—especially if you assume the retirement of helicopters that are 25 years or older—the disparity between supply and demand is just very, very large.

R&W: What other helicopters types is Milestone interested in?

Santulli: We're talking to everybody. Eurocopter with the EC175 and AgustaWestland about the AW189. We're waiting for the [Sikorsky S-76] D model to be certified as well.

R&W: What's the response been from operators?

Santulli: It's been terrific. You know, I did this back in 1980, and really the interesting thing is, most of the operators don't want to lease. That was true back in the '80s and it's true now—most operators would prefer to own the asset. Any time there's a new tender out there—not just the renewal of a contract—that means an operator has to acquire a new piece of equipment. And a lot of operators don't have the balance sheet, especially with the heavies, to actually debt finance, or put up 20 to 25 percent to do the debt financing. So we've convinced a lot of the operators by saying, "Listen, we'll provide 100 percent of the financing, it's true you're not going to own the asset but we're going to give you a fixed rent and if you can make money on the contract, then bid it." If you can't, you shouldn't bid a contract anyway, whether you own it or not.

Then also Bristow and CHC, the fact that we've announced deals with big operators, it really showed a lot of the other operators that, "Wait a minute, if these guys are leasing, then why shouldn't we?"

R&W: What role does the global economy play in an operator's decision to lease vs. buy?

Santulli: Well, first off, the banking market has been dramatically reduced, there are not as many banks willing to provide debt financing. Secondly, I just think that it's the fact that the operators now realize that the equipment costs so much more than it did 10 years ago because they're drilling so far offshore. And in order to compete they need access to the capital, from any source they can get it. All the operators we do business with, they do debt financing as well, but the question is, what's the appropriate balance? There is an appropriate balance—they should own some helicopters, and if they want to grow their business, unless they have big balance sheets, they're going to have to lease. There's no question about it.


It’s about your business
Challenging times require superior answers. AgustaWestland rotorcraft redefine mobility by setting new levels in luxury, comfort, performance and safety.
Maximise your time and be where it counts.
LEADING THE FUTURE
agustawestland.com
AgustaWestland
A Finmeccanica Company

THIS MONTH FROM rotor&wing

Personal|Corporate | Commercial | Military | Pub

(Above) Kamov Ka-27, image courtesy of Russian Helicopters. (Below) Bell 47 in Australia. *Photo by New Dawson.* (Right) Allegheny Life Flight Eurocopter EC145. *Photo by Ernie Stephens.*

FEATURES

On the Cover: Metro Aviation operator Life Air Rescue started out with a Hughes 500D, quickly upgrading to a BO105, then a BK117 and ultimately the EC135 (example shown here). *Photo by Jennifer Robison Photography. Graphic design by Gretchen Saval.*

DEPARTMENTS

COLUMNS

Vol. 46 | No. 10
October 2012

24

ONLINE

www.rotorandwing.com

EXPANDED TRAINING & MILITARY COVERAGE

- Didn't get enough from Military Insider and Training News? Find more at **www.rotorandwing.com/military** and **www.rotorandwing.com/training**

SIGN UP FOR THE *ROTOR & WING* COLLECTIVE

- Subscribe today for our free weekly e-letter for helicopter news—The *Rotor & Wing* Collective, which features an in-depth Story of the Week, Top News Picks, Helicopter Jobs and links to *Rotor & Wing*'s Facebook and Twitter pages. Sign up now by visiting: **www.aviationtoday.com/rw/collective_form.html**

WHAT DO THE EXPERTS THINK?

- 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.

DIRECT TO YOUR DESKTOP: CHECK YOUR E-MAIL

OCTOBER 1:

- Digital edition of *Rotor & Wing* October 2012. Electronic version with enhanced web links makes navigating through the pages of *Rotor & Wing* easier than ever.

WEEK OF OCTOBER 15:

- *Rotor & Wing*'s Military Insider e-letter. Get the latest updates from helicopter defense companies around the world, from Military Editor Andrew Drwiega.

WEEK OF OCTOBER 22:

- HOT PRODUCTS for Helicopter Operators—Latest in equipment upgrades, performance modifications, training devices and other tools for the rotorcraft industry.

TO SUBSCRIBE TO ANY OF OUR EXCLUSIVE EMAIL PRODUCTS, GO TO: WWW.ROTORANDWING.COM

Get connected:

Become a fan of *Rotor & Wing* on facebook

Follow us on twitter @rotorandwing

The editors welcome new product information and other industry news. All editorial inquiries should be directed to *Rotor & Wing* magazine, 4 Choke Cherry Rd., 2nd Floor, Rockville, Md. 20850, USA; 1-301-354-1839; fax 1-301-762-8965. E-mail: rotorandwing@accessintel.com. *Rotor & Wing* (ISSN-1066-8098) is published monthly by Access Intelligence, 4 Choke Cherry Rd., 2nd Floor, Rockville, Md. 20850, USA. Periodical postage paid at Rockville, Md. and additional mailing offices. Subscriptions: Free to qualified individuals directly involved in the helicopter industry. All other subscriptions, U.S.: one year $89; two years $178. Canada: one year $99; two years $198; Foreign: one year $129; two years $258.
POSTMASTER: Send address changes to *Rotor & Wing*, P.O. Box 3089, Northbrook, Ill. 60065-3089, USA. Change of address two to eight weeks notice requested. Send both new and old address, including mailing label to Attn: *Rotor & Wing* magazine, Customer Services, P.O. Box 3089, Northbrook, Ill. 60065-3089, USA or call 1-847-559-7314. E-mail: RW@omeda.com. Canada Post PM40063731. Return Undeliverable Canadian Addresses to: Station A, PO Box 54, Windsor, ON N9A 6J5.

Publication Mail Sales Agreement No. 40558009

Feedback

Response to Queen's Jump from an AgustaWestland AW139 at the Olympics

Your question as to what I think of the Queen's para jump during the Olympics opening ceremony (*Rotor & Wing*, September 2012, page 8) has prompted me to respond: I think it gives us all hope for the future.

If the Queen can takes such risks in this nanny state then so can we. Mind you she had been practicing using a wing suit and using cardboard boxes to soften her landing prior to her big day.

It does sadden me to think that for whatever reason a higher jump from 4,000 feet was canceled by a UK Air Show. We can but hope she will appear once again at the end of the Paralympics, just to show that it is not only James Bond that can persuade the Queen to make such a brilliant entry. We are her obedient servants.

Geoff Dinsdale

Expanding Robinson Training to East Coast?

I am sure Robinson's training course is a great program (see "Safety from the Start," *Rotor & Wing*, September 2012, page 38). The problem is that it's only offered on the West Coast and scheduling into the course requires a commitment sometimes months in advance. Are there any plans to conduct a course on the East Coast?

Lawrence E. Davis

From Facebook

The following comments appeared at: **facebook.com/rotorandwing**

R&W's Question of the Month

What more needs to be done to address accident rates in the HEMS industry?

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

(Responding to a diagram showing circulation control for MD Helicopters' NOTAR system.)

Wow, I did not know the tail boom shape had so much influence on flight dynamics.

Kahlil Francis

So it uses a type of spoiler with the thruster? I think a standard strake would accomplish the same effect.

Nicholas R. Seay

(Responding to a photo of the AgustaWestland AW139 used in the Olympic Games in London.)

What I thought was an incredible PR scoop by AgustaWestland was totally ignored by the Italian press and national TV broadcasting. So much for an Italian-designed, Italian-built helicopter making the opening ceremony of the London Olympic games with Queen Elizabeth on board.

Paolo Ferreri

(Responding to the question, "In your opinion, what operator has the best logo in the helicopter industry?")

160th SOAR(A)—NSDQ!

Pat Geddes

Helijet

Oli Cavanaugh

Acadian Ambulance!

S. Robert Sliger II

Helicopters of Nicaragua, "Helinica"

Martin Aguilera

LifeNet Air Methods

Aurelio Cuervo

MedFlight Great paint scheme! :)

Amanda Ball

Corrections

Night Flight Concepts was mistakenly credited with hosting the Night Vision Awards at ALEA in a story on page 14 of the September issue. Aviation Specialties Unlimited (ASU) hosted the awards. ... In the May 2012 issue on page 32, the surname of contributor Elena Malova was misspelled. *We sincerely regret the errors.*

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, USA, fax us at 1-301-354-1809 or e-mail 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.

A Visionary Investment.

Glass panel technology lets you see so much more than analog gauges, and it's an investment that pays for itself compared to expensive gyro overhauls and unexpected downtime. Aspen's visionary Evolution Flight Display System retools your helicopter with reliable, advanced EFIS technology – at pricing that makes it your smartest investment.

With extensive avionics compatibility, unique expandability, and easy software upgrades, Evolution glass delivers capabilities that reduce pilot workload, increase aircraft utility, and future-proof your aircraft for NextGen equipment mandates.

With helicopter PFD solutions starting about $12K, investing in quality certified glass panel technology is more affordable than you might think.

aintenance Costs Expand Anytime with One or Two MFDs • Reliable solid-state ADAHRS • Eliminate Mechanical Gyro Maintenance Costs Expand Any
Weight, Compact Broad Nav/Comm Compatibility • Easy Software Upgrades • Easy, Flexible Installation • Light Weight, Compact Broad Nav/

EVOLUTION
FLIGHT DISPLAY SYSTEM

Evolution 1000 Pro H PFD: See More. Spend Less.

ASPEN AVIONICS™

www.aspenavionics.com/helicopter

■ MILITARY | AIRFRAMES

Ding, Ding: Seconds Out for Round Two of 'Marine One' and CRH (CSAR-X)

AgustaWestland and Northrop Grumman will partner to develop a helicopter based on the AW101 Merlin for upcoming bids for the USAF Combat Rescue Helicopter and the Navy's Marine One Presidential Helicopter replacement.

AgustaWestland and Northrop Grumman announced on Sept. 18 that they will team up "to respond to anticipated requests for both the new U.S. Air Force Combat Rescue Helicopter (CRH) and the Navy's recently announced program to develop a new 'Marine One' Presidential Helicopter." A statement noted that the aircraft will be U.S.-built and based on the AW101 Merlin, with Northrop Grumman placing the bid.

Previously AgustaWestland teamed with Lockheed Martin offering the U.S. Navy the VH-71 Kestrel. However cost overruns saw the price escalate to over $13 billion for 28 helicopters and in June 2009, President Obama took the opportunity for a "quick political win" in terms of cutting the heavily criticized program and the U.S. Navy canceled the contract.

It is already intended that in the summer 2013 the Presidential fleet will include 14 MV-22B Osprey tiltrotors serving with Marine Helicopter Squadron 1 (HMX-1) at Marine Corps Air Station Quantico, Va., for use in the support role. They replace the CH-46Es. The Air Force released a draft Request for Proposal (RfP) for its CRH in mid-September. Expectations are for a fleet of 112 helicopters to replace the existing 148 HH-60G Pave Hawks. Deliveries will be spread over 13 years. The previous $10-billion program for 141 aircraft was named CSAR-X and was won by Boeing with its HH-47 Chinook back in November 2006. However, both Sikorsky (offering its HH-92) and Lockheed Martin (putting forward its AgustaWestland AW101) challenged the decision and early the following year the U.S. Government Accountability Office (GAO) found in their favor on the basis that "the Air Force's actual evaluation of the Most Probable Life Cycle Cost (MPLCC) was inconsistent with the required approach as set forth in the solicitation."

With Sikorsky, Bell Helicopter and Boeing all likely competitors to the new teaming arrangement between Northrop and AgustaWestland, watch out for old wounds to be reopened and knives drawn again. If anything, the absolute value of these programs to the eventual winner is much higher this time around. *—By Andrew Drwiega, Military Editor*

■ PUBLIC SERVICE | SAR

Thai Air Force Orders Four SAR-Equipped EC725s

Eurocopter EC725 in SAR configuration.

Eurocopter

Eurocopter has signed an agreement with the Royal Thai Air Force to provide four EC725s in the search and rescue configuration. Eurocopter currently supplies both the Royal Thai Army and Royal Thai Police with helicopters. The new EC725s are expected to begin arriving in 2015.

■ MILITARY | AIRFRAMES

UK MoD Fleet Adds First Puma Mk2

Eurocopter has delivered the first Puma Mk2 to the UK Ministry of Defence. Eurocopter is in the process of upgrading three additional Pumas, which are currently conducting flight tests. In total, 24 MoD Puma Mk2s will receive upgrades such as ballistic protection, defensive aids, flight management systems, glass cockpits, new Makila 1A1 engines, modern avionics and communications suites.

Eurocopter

The Ministry of Defence has received the first of 24 Puma Mk2s.

■ COMMERCIAL | AIRFRAMES

Russian Helicopters Secures Orders for 52 Mi-171s, 18 Ka-226s

Russian Helicopters has agreed to facilitate major fleet upgrades for two operators—Poly Technologies of China, which has purchased 52 Mi-171Es, and NefteGazAeroCosmos, which will take delivery of 18 light Ka-226TGs for utility work in Russia. The manufacturer has also formed a partnership with Ramenskoye Design Co. (RDC), which will supply avionics for the Ka-52 Alligator and other Russian variants.

Under the contract with Poly Technologies, Rosoboronexport will hand over the initial Mi-171Es before the end of 2012, with the remaining 44 scheduled in 2013 and 2014. The helicopters will come equipped with Klimov VK-2500-03 engines, Safir 5K/G MI auxiliary power units and enhanced transmission systems designed for higher altitude operations. Ulan-Ude Aviation Plant will produce the 52 aircraft. This isn't the first time the two companies have worked together, as Poly Technologies placed an order in 2009 for 32 Mi-171Es.

The Ka-27 (shown here) is one of the models under consideration in the Ramenskoye avionics deal.

Russian Helicopters

The NefteGazAeroCosmos research and production center will receive the first six Ka-226TGs in 2013, with the remaining dozen scheduled for arrival in 2014. The helicopters will feature KBO-226TG avionics and other equipment designed to assist with long-distance operations in limited visibility and night conditions. The Ka-226s will also feature additional fuel tanks for two Turbomeca Arrius 2G1 engines. Gazprom Avia will operate the helicopters along natural gas pipelines in service with Russian oil producer Gazprom, conducting repair work, cargo transportation and passenger movements. The Ka-226TG can carry up to eight people, including one pilot.

The first portion of the seven-year contract with Ramenskoye Design covers avionics packages for the Kamov Ka-52 Alligator starting in 2013 and running until 2020. The companies have also established a framework agreement to modernize the pilot and navigation systems on the Ka-27, Ka-27PS and Ka-29. Ramenskoye Design will replace existing analog equipment with glass cockpits including multi-function LCD screens. Systems for the Ka-27, Ka-29, Ka-28M and Ka-31M will be built around an update of the avionics used in the Ka-52 Alligator and Ka-31.

■ MILITARY | AIRFRAMES

PZL-Swidnik Introduces Optionally Piloted SW-4 Solo

The PZL-Swidnik SW-4 Solo on display during the International Defence Industry Exhibition in early September.

Poland-based AgustaWestland subsidiary PZL-Swidnik took the wraps off its SW-4 "Solo" helicopter program during the International Defence Industry Exhibition (MSPO) in Kielce, Poland. The prototype is what the company calls a "Rotorcraft Unmanned Air System/Optionally Piloted Helicopter" (RUAS/OPH). PZL-Swidnik plans to market the aircraft—designed for both land and maritime missions—as a multi-role platform capable of a wide variety of homeland and battlefield missions.

In the manned pilot mode, the light, single-engine RUAS/OPH can transport a pilot and four passengers, the same as its manned-only predecessor the SW-4 Maluch. In unmanned mode, PZL reports that it can perform surveillance, target acquisition, reconnaissance, environment monitoring, ground survey, and cargo-carrying missions.

Both Boeing Aircraft and Kaman Helicopters have optionally manned aircraft flying. Boeing's Little Bird, based on the MD Helicopters design, is well into its flight testing stage, while a pair of Kaman/Lockheed Martin K-Max unmanned aerial trucks (UATs) are currently flying missions with the U.S. Marine Corps in Afghanistan. PZL-Swidnik says its RUAS/OPH prototype will make its maiden flight with a pilot onboard in the coming months, and be flown remotely sometime in 2013. —*By Ernie Stephens, Editor-at-Large*

Innovation. Reliability. Performance.

Your mission relies on your aircraft, and at Aeronautical Accessories the success of your mission is our number-one priority. We're committed to delivering fast, personalized service backed by an extensive inventory and the expertise you've come to expect. That's why customers rely on our personalized approach to meeting their unique parts and accessories requirements.

www.aero-access.com | sales@aero-access.com | 1-800-251-7094

Aeronautical ACCESSORIES™

PUBLIC SERVICE | DISASTER RELIEF

Special Report: Flying Environmental Recovery/Support in the Wake of the Exxon Valdez Oil Spill in 1989

Rotor & Wing Safety Watch columnist and HEMS pilot Robert "Terry" Terrell spent the better part of three years in Anchorage, Alaska following the Exxon Valdez oil spill in March 1989, organizing air operations for Exxon, flying helicopters for Era Aviation and working with the VECO Corporation, producing a comprehensive oil spill response plan for British Petroleum and the State of Alaska. The following is Terry's observations and impressions about what helicopters and other aviation resources did to help repair the damage caused by the natural disaster. The two-part story appeared in The R&W Collective weekly e-letter. The complete version is available at **www.rotorandwing.com**, *and see Terry's latest Safety Watch column on page 62.*

"One of the first things I did when I got to Valdez was board a helicopter."

Aside from the many more commonly publicized extremes of scale noted in conjunction with Alaska's Exxon Valdez oil spill, aviation activities in the disaster's aftermath were undertaken in a quantity, and at an undeniably high quality, previously unknown to industrial emergency operations involving large scale logistics support. Exxon, finding itself suddenly thrust into the epicenter of a seemingly insurmountable environmental calamity, public relations firestorms notwithstanding, was tasked with the almost overpowering challenge of responding to an unprecedented and overwhelming predicament in a realistically constructive way. It was quickly recognized by company officers that the logistics obstacles posed by the prospects of moving a wide-ranging spectrum of personnel and materials to distant and often difficult geographic sites could only be accommodated through the expedient use of a diversified array of marine and aviation resources, and, despite some media interpretations otherwise, no time was wasted in beginning to procure and activate a system which was to accomplish exactly that.

Before the organizational phases of Exxon's response were complete, a virtual armada of aircraft, in excess of 90 participants ranging from light helicopters to C-130s, and comprising an extensively organized air task group supporting an offshore workforce of nearly 14,000 members, was working virtually around the clock. By the close of the second season's follow-on activities, in September 1990, some 51,600 flight hours, largely representing high-workload helicopter and floatplane operations across remote and hostile environments, had been recorded on behalf of the overall effort, with virtually no mishaps and only a handful of incidents having been encountered, and with no loss of life whatsoever.

Early Response

Exxon, logically, began the aviation portions of this vast industrial emergency response by utilizing resources already in place. Era Aviation, long a vital and primary fixture on the Alaska air transportation scene, and additionally controlling a comprehensively active set of Valdez bases, was able to begin assigning helicopters to the area immediately. As further advantage, the company's regularly scheduled Convair 580 heavy shuttle aircraft provided large capacity cabin linkage from Anchorage, interfacing with commercial carriers from the "Lower 48," augmenting the limited coverage provided by Exxon's corporate aircraft. Veco, Alaska's mammoth petroleum service company and the entity which, eventually, would be exclusively contracted to design and accomplish the physical oil spill cleanup of shoreline areas, was on the scene right away from Anchorage. A.E. (Bert) Hartley, Veco's senior executive and acting operations officer, said at the time of the incident: "When my phone rings in the middle of the night, I usually start for the airport before I even answer it, and this time I felt that I was late already. One of the first things I did when I got to Valdez was board a helicopter. To say that I was to do that many more times over the next several months would be the most disproportionate understatement of the project."

Helicopters were, in fact, comprehensively indispensable throughout the entirely of post spill activities, but were especially valuable in March 1989, during the initial hours and days of the emergency. Reconnaissance, of course, was a first priority, as was the immediate deployment of large numbers of highly leveraged decision makers who felt rightly compelled to witness previously unimaginable conditions before an implementation plan could begin to be formulated. Float-equipped Bell 206 JetRanger helicopters were most readily available, and were well-suited to quickly getting small observation parties from Valdez to Bligh Reef, where the Exxon Valdez had come to such an abrupt halt, but larger and heavier Bell 212 helicopters proved to be even more useful. They were the flexible workhorses which allowed larger groups, often with photographic and various other recording equipment, a workable cabin from which sometimes critical improvisation could be accomplished.

WHEN LAW ENFORCERS DEPEND ON IT, WE'RE RIGHT ALONGSIDE.

Good news for all law enforcement operators. Whatever platforms you use for your search and rescue, Goodrich has a hoist that's ready and available.

Whether you operate AS350s, EC145s or A109s, there's a Goodrich hoist you can rely on to provide the perfect solution.

Goodrich is unique in providing the translating drum technology, which has the highest reliability in the industry and no fleet angle restrictions. And Goodrich has the lowest life cycle costs.

So whichever platforms fly your missions, depend on Goodrich to be right there with you.

For more information about Goodrich rescue hoists, email sis@goodrich.com

www.goodrich.com

right attitude/right approach/right alongside

GOODRICH

PEOPLE

FlighSafety International has promoted **Ron Ladnier** to director of military business development for the company's simulation facility in Tulsa, Okla. Ladnier has worked at FlightSafety following his service with the U.S. Air Force. The company added **Bert Sawyer** as director of military programs for the Tulsa location as well. Sawyer served with the Air Force and Tulsa Air National Guard prior to joining FlightSafety in 1990.

Grand Prairie, Texas-based American Eurocopter has named the members of the 2012 Vision Zero Aviation Safety Award Blue Ribbon Committee. The award recognizes air medical operators who have reached a high level of safety within its organization. Members of the committee include: **Bill Bryant**, president of Sierra Healthcare Group in Golden, Colo., with more than 25 years of air medical experience; **Chris Bryant**, retired Army aviator and current fleet safety manager for American Eurocopter; **Chris Eastlee**, president of the Air Medical Operators Association (AMOA); **Eileen Frazer**, executive director of CAMTS, **Ed MacDonald**, a retired Army major, former president of NEMSPA, previous co-chair of the AAMS/CORE safety committee and prior chairman of AMSAC; **Greg Pagano**, director of operations for the Health Care District of Palm Beach County's Trauma Hawk Aeromedical Program in West Palm Beach, Fla.; and **Jason Schwebach**, the administrative director for Carolinas Healthcare System's transport service, MedCenter Air.

Professional Resources in System Management (PRISM) has selected **Chris Young** as vice president of helicopter aviation services. Young is a former Sikorsky SH-60B Seahawk instructor pilot for the U.S. Navy and has worked with CJ Systems Aviation Group and Sikorsky Aircraft. He will assist with safety management system (SMS) solutions.

Commander **James Miller** has assumed leadership of the U.S. Navy's

Helicopter Maritime Strike Squadron Seven Four (HSM-74) Swamp Foxes, based out of Naval Air Station Jacksonville in Florida. Miller relieves Commander **Joseph O'Brien**, who has led HSM-74 since 2010. Both Miller and O'Brien have received the Defense Meritorious Service Medal and have flown more than 2,400 flight hours.

Cassidian has chosen **Bernhard Gerwert** as CEO and added him as a member to the EADS Executive Committee. Gerwert replaces former CEO **Stefan Zoller**. Gerwert served in the air systems and Defense Electronics departments of Cassidian from 2004 to 2011 and has been the chief operating officer since 2011.

coming events

2012:

Oct. 3–4: Helicopter Safety Advisory Council (HSAC), Houston, Texas. Contact HSAC, phone 1-337-344-1869 or visit www5.verticalgateway.com/hsac/Home.aspx

Oct. 22–23: Police Aviation, Kuala Lumpur, Malaysia. Contact Tangent Link, phone +44 (0) 1628 660400 or visit www.tangentlink.com/events

Oct. 22–24: 2012 Air Medical Transport Conference, Seattle, Wash. Contact AAMS, phone 1-703-836-8732 or visit www.aams.org

Oct. 22–24: AUSA Annual Meeting, Washington, D.C. Contact AUSA, phone 1-703-841-4300, 1-800-336-4570 or visit www.ausa.org

Oct. 30–Nov.1: Helicopter Military Operations Technology Specialists' Meeting (HELMOT XV), Williamsburg, Va. Contact AHS Intl, phone 1-703-684-6777 or visit www.vtol.org

Nov. 6: High-Rise Aerial Firefighting & Rescue, Dubai, UAE. Contact Tangent Link, phone +44 (0) 1628 660400 or visit www.tangentlink.com/events

Nov. 6–8: Dubai Helishow 2012, Dubai, United Arab Emirates. Contact Mediac Communications and Exhibitions, phone +44 (0)1293 823 779 or visit www.dubaihelishow.com

2013:

Feb. 20–21: Avionics Europe 2013, Munich, Germany. Call 1-888-299-8016 or visit www.avionics-event.com

March 4–7: HAI Heli-Expo 2013, Las Vegas, Nev. Contact HAI, 1-703-683-4646 or visit www.rotor.com

March 18–20: 9th Annual CHC Safety & Safety Summit, Vancouver, Canada. Contact CHC, phone 1-604-232-7424 or visit www.chcsafetyqualitysummit.com

March 25–28: 56th Annual AEA International Convention & Trade Show, Las Vegas, Nev. Contact Aircraft Electronics Assoc., phone 1-816-347-8400 or visit www.aea.net


Sgt. Rashawn D. Price


Public Affairs Specialist 3rd Class Richard Brahm


Petty Officer 1st Class Matthew Schofield


Photo by Lt. Shay Williams

From left to right: Soldiers with the 1020th Vertical Engineer Company, 527th Engineer Battalion, Louisiana Air National Guard unload a Sikorsky UH-60 Black Hawk filled with Hurricane Isaac emergency relief supplies; Coast Guard MH-60 Jayhawks prepare for Hurricane Isaac's arrival; U.S. Coast Guard Rear Adm. Roy Nash, commander of Coast Guard District 8, surveys areas the damage left behind by Hurricane Isaac; Coast Guard helicopters patrol the greater New Orleans area.

CORPORATE | VIP TRANSPORT

AgustaWestland Signs with Kaan Air

Turkey-based Kaan Air has placed an order for two AgustaWestland AW169 and one AW139. The sale represents the first AW169s to enter service in Turkey. All three helicopters are earmarked for corporate transport use. Kaan Air is an authorized distributor for AgustaWestland in the country.

AgustaWestland's AW169 makes its entrance in Turkey thanks to a recent order by Kaan Air.

SERVICES | CERTIFICATION

Aviation Specialties Adds EC155 STC

Boise, Idaho-based Aviation Specialties Unlimited (ASU) has obtained supplemental type certification for the Eurocopter EC155. ASU recently completed its first of three EC155 variants for the University of Michigan, as part of a joint effort with the school and Metro Aviation. Pentastar Aviation will operate the helicopters.

PUBLIC SERVICE | EMS

AirMed Partners with Med-Trans

Augusta, Ga.-based Med-Trans has teamed up with AirMed to operate AirMed's air medical services for Georgia and South Carolina. As the aviation partner, Med-Trans will operate fixed-wing aircraft along with AirMed's helicopter fleet. Med-Trans will add a new Eurocopter EC135P2+ to compliment AirMed's AgustaWestland AW109E Power and AS355NP Ecureuil.

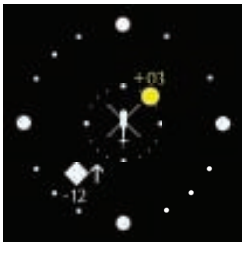
SERVICES | APPROVALS

Ornge Lands FAA Flight Clearances

The FAA has granted Canadian EMS operator Ornge permission to fly its helicopters in U.S. airspace as needed. Prior to this, the operator was restricted from entering U.S. airspace except for patient transfers conducted by fixed-wing aircraft. Ornge's rotorcraft fleet is now allowed to move patients from a scene in one country to a hospital in the other when proximity is an issue.

When you fly helicopters, looking for trouble becomes a full-time job.

That's why you fly with Garmin® GTS™ traffic alerting.
It can provide that "extra set of eyes" you need to help see-and-avoid other aircraft in busy airspace. Garmin's GTS™ 800/820/850 family of ADS-B enhanced TAS and TCAS I systems are the only ones offering CLEAR CAS™ – a patented Garmin technology that correlates both active and passive surveillance (including 1090 MHz ADS-B "In") to give you the best, most accurate picture of all the moving targets[1] in your vicinity. Detail-rich display cues make for easier target identification and monitoring[2] – while expanded audio alerts in an ATC-like spoken format ("Traffic. Two o'clock. High. Two miles.") tell you exactly where to look for oncoming traffic, so you don't have to interrupt your "eyes out" scan to check a cockpit display when fast response is critical. Garmin GTS: It's the protective edge you need for the kind of missions your helicopter flies.



Follow the leader.

NASDAQ **GRMN**

[1] From other transponder-equipped aircraft.
[2] Display compatibility varies. See Garmin website or dealer for details on display requirements and compatibility.

Garmin.com

GARMIN®

SERVICES | MAINTENANCE

PAG Expands Atlanta HQ

Precision Aviation Group (PAG) is stretching out with an expansion of its headquarters in Atlanta, Ga. that opened in July. The maintenance and repair complex now encompasses more than 80,000 square feet and will incorporate PAG's wheel, brake and nondestructive (NDT) shop, which currently fills 3,500 square feet. The company's previous expansion in 2010 raised its square footage more than 50 percent. The current expansion—PAG's fourth in 12 years—will also house logistics, an engineering department and warehouse areas. According to President & CEO David Mast, PAG has allotted space for additional growth, with a goal to "expand what we have, and give us space for the future."

While there are no plans to move any of PAG's subsidiaries to Atlanta, as that would "detract from our ability to service our customers," Mast said that expansion plans were underway for some subsidiaries located outside Atlanta. Aero Technology Inc.—an avionics and accessories provider that PAG acquired in 2011—is currently renovating its location at Long Beach Intl Airport (LGB). Mast added that Lafayette, La.-based Precision Heliparts has increased in size with a recently opened distribution facility, with plans to add a repair station. PAG acquired Gardner Aviation Services in March 2011, launching a subsidiary—Rotorcraft Services Division (RSD)—in early 2012 at Peachtree City Airport (FFC) in Atlanta. All together, PAG and its subsidiaries—Precision Heliparts, Aero Technology, Gardner, Precision Accessories & Instruments (PAI), Precision Heliparts Canada and PAI-Canada—encompass a total of around 150,000 square feet across North America.

COMMERCIAL | TOURISM

HFS Adds 407GX Duo to Fleet

Bell Helicopter has handed over a pair of 407GXs to New York-based Helicopter Flight Services. The delivery represents the first time the 407GX will perform sightseeing flights. The helicopters join the operator's fleet of five Bell 407s and a Sikorsky S-76. Both 407GXs are outfitted with a Quiet Cruise kit to reduce external noise for operation in residential areas of New York City.

SERVICES | MAINTENANCE

Chile Establishes AW Service Center

AgustaWestland has partnered with AVIASUR to open a service center for maintenance and support in Santiago, Chile. The facility, located at Arturo Merino Benítez International Airport (SCL), will service commercial helicopters. AgustaWestland has 17 helicopters operating in Chile including, eight AW119 Koalas, seven AW109s, one Grand and one W-3A Sokol, with the country's first GrandNew slated for delivery later this year.

SERVICES | CERTIFICATION

EASA Grants JTI Fuel STC for R44

Nashua, N.H.-based JTI Air Holdings has received certification from the European Aviation Safety Agency (EASA) to use its automotive gasoline to fuel Robinson R44s. JTI's European representative, Joop van Weele of Holland, will sell the supplemental type certificate (STC) for operators and pilots using the alternative fuel. The automotive fuel is a replacement for leaded helicopter fuel, which is discontinued due to environmental concerns.

HOT PRODUCTS

for Helicopter Operators

Solar-Powered Heliport Lighting System Supports Night Landing and Lift-Off

Avlite Systems solar-powered heliport lighting for emergency, temporary or permanent helipads and helidecks offers helicopter crews a safer place to lift-off and land during night flights or in low-visibility conditions. Meeting ICAO's Annex 14 and CAP437 Offshore Helicopter Landing Areas recommendations, this world-first, solar-powered heliport lighting system is self-contained and easy to install. The radio-controlled solar heliport perimeter lights give over 50 hours of continuous operation at both CAP437 and ICAO Annex 14 Touchdown Lift-Off perimeter light intensities and come ready for operation straight from the box supplied with the frangible mount assembly. The solar flood light (also radio-controlled) provides uniform surface lighting across width of the helipad while the optic's 'hood' prevents potential glare to pilots upon approach. Just one of Avlite's radio controllers can control multiple solar Avlite fixtures including; heliport beacons, taxiway lights, obstruction lights, lighted windsock and other products. The radio controller supports several operational modes including 3-step intensity adjustment and switching the system between visual and IR. The solar Pilot Activated Lighting Control (PALC) can also be integrated with the system for remote operation of an unmanned heliport. Visit the company on the web at **www.avlite.com**

High Frequency Demands Higher Quality 50 ohm MicroMATES Assemblies

MicroMATES from PIC Wire & Cable are engineered to advance microwave coaxial cable technology and serve Ku and X Band frequencies. Manufactured with minimum 200° C rating on all materials plus Inner Flat Braid or Strip Braid, High Temp Polyimide Foil, Dual Braided Shields and Silver Plated Copper throughout. Military/ Defense Applications include SatCom, MUMT, and Command and Control. Two-week lead time on many assemblies. In addition to MicroMATES, the PICMATES Line of Interconnect Solutions for the Civil, Military and Parapublic/First Responder Helicopter Sectors also includes RF MATES, VideoMATES, and DataMATES. Take flight with over 40 years of proven success in recognized aerospace programs worldwide. At Pic Wire & Cable, we aim to: Improve Platform & System Performance; Lower Total Costs; and Reduce Development & Manufacturing Schedules. For all your advanced electronic applications, there's only one PIC. For more information call 1-800-742-3191 or visit the company on the web at **www.picwire.com/rotor**

HEATCON Composite Systems Provides Positive Pressure Repairs

A large number of composite repairs can be accomplished by a Hot Bonder, utilizing vacuum pressure for material compaction. However, there are many instances for which the Structural Repair Manual (SRM) stipulates that a positive pressure, typically up to 50 psi, must be used, as that created by vacuum alone is insufficient for carrying out large area repairs on major components. In such instances, up until recently the only alternative to utilizing an Autoclave was to combine vacuum with a 'Dead Weight,' such as sandbags, in order to achieve the equivalent of the required positive pressure. As it is difficult to achieve pressure uniformity over the repair area, plus the fact that sandbags act as a huge 'heat sink,' most repair stations without an Autoclave would either decline the job, or subcontract the repair to a facility with one. Our patented HCS3100 (Series) Portable Autoclaves are custom built semi-portable pressure vessels. They are designed to provide controlled temperature, vacuum, and pressure during composite and metal

bond repair processes. The positive internal pressure applied to the repair enables operators to achieve the higher pressure when required by aircraft manufacturer repair manuals. Heat is applied only where required using specially constructed silicone rubber heat blankets. This method results in reduced operational costs and fewer problems due to temperature induced part damage. For more information, visit **www.heatcon.com**

Tech-Tool Plastics Provides Cabin Comfort Clear View Windows for Eurocopter AS350/355s

Thanks to Tech-Tool Plastics Cabin Comfort windows, Eurocopter AS350 AStar and AS355 TwinStar operators can enjoy clear views essential for safe flying. Tech-Tool's wedge-style Cabin Comfort windows provide increased crew and passenger shoulder and elbow room throughout the AStar's cabin. In addition to added visibility and comfort, Tech-Tool's Cabin Comfort windows add a customized appearance at an affordable price. Windows are available in standard clear or custom gray tinted acrylic. Vibration-free slide camera windows are available for aerial photography. The company fills most orders within 24 hours. Tech-Tool offers standard and customized windows for the most popular models from Bell, Eurocopter, MD Helicopters, Robinson and Schweizer. Tech-Tool Plastics has manufactured and supported helicopter replacement windows for nearly 50 years. Tech-Tool's affordable, high-quality windows are FAA, EASA, ANAC and Transport Canada approved. They meet or exceed OEM standards, are easy to install, and fit every time. For more information, please visit **www.tech-tool.com**

OPERATOR PROFILE: METRO AVIA

Shreveport, La.-based company operates 93 helicopters and eight fixed-wing aircraft supporting 27 medical facilities from 68 bases around the United States.

By Pat Gray

Photos by Pat Gray

I met Todd Stanberry early in the morning a few hours before an impending hurricane was due to arrive in Central Louisiana. Todd explained that he was Metro Aviation owner Mike Stanberry's son and that he would be conducting a tour of the facility. During the tour, Todd related the story of how his father started Metro Aviation 30 years ago.

The year was 1982. The economy was still in recession, unemployment was at a 42-year high at 9 percent, Air Florida lost a Boeing 737 in the Potomac River in Washington, Pan American lost a Boeing 727 in New Orleans, and Britain went to war with Argentina about ownership of the Falkland Islands. With the economy in the dumps and aviation with a black eye, this does not sound like the most opportune time to do a start-up helicopter business, but success sometimes has a knack for timing that defies logic. Enter Mike Stanberry, president and CEO of Metro, which is celebrating its 30th year of existence in 2012.

Stanberry's roots were attached to a successful contracting business that provided soil erosion control along highways and in subdivision developments in a four-state area centered in Baton Rouge, La. Being a fixed-wing pilot, he used an airplane for trips to widely scattered work sites, often ending a flight close to his business but not close enough to avoid being delayed by a lack of ground transport. The solution was learning to fly a helicopter, then purchasing one for his exclusive use. The first helicopter was an Enstrom but after soloing and getting his rotorcraft endorsement, Stanberry began to think about expanding.

On a deer-hunting trip, he met a banker who was having a lot of trouble getting his correspondent bank's checks and notes to the Federal Reserve Bank in New Orleans. With knowledge of a helicopter pickup service operating in Florida, Mike drew up a plan for his friend, who was so impressed he helped Mike purchase two Hughes 500Ds and one Hughes 300. The pickup service contract, being a hand shake deal, went south almost immediately due to the bank being sold and the new owners not being interested in the service. He sold one 500D and moved the remaining 500D and 300 to Shreveport, where he had access to a family hangar at the downtown airport.

Stanberry came up with a plan to combine EMS and ENG services into a single flight. He approached the Schumpert Medical Center (a trauma center) and Channel 12 Eyewitness News, both in Shreveport, for a joint helicopter use. When a newsworthy accident happened, the helicopter pilot would pick up a cameraman, then, almost next door, an EMT or nurse from the hospital, load them up and proceed

Helicopter undergoing work at Metro's completions facility in Shreveport, La.

to the accident scene, shooting film from the air and the ground. After landing, the film canister was put on the helicopter along with the patient, the cameraman would remain at the scene and the film, the EMT and the patient were flown back to Shreveport. To make this possible, Stanberry found a California company that made a litter kit that would fit into a Hughes 500. That early kit may have been the motor that has generated Metro Aviation's leading role in EMS completions and flight operations.

Expansion

The next move was adding a BO105 to the company for use on the Schumpert Medical Center EMS contract. This aircraft came with a Keystone-MBB-Helidyne EMS kit that was in need of some modification. Mike Stanberry had hired a mechanic, Milton Geltz, while still in Baton Rouge. Geltz designed an EMS completion for the BO105 that included a stainless steel floor that soon proved superior to anything on the market. Since those small beginnings, Metro, with Milton's guidance, has amassed 30 supplemental type certificates (STCs) for full EMS completion packages including single-pilot IFR and avionics for the Eurocopter AS350, BK117, BO105, EC130, EC135, EC145 and EC155. With the early days behind them, the company has grown to encompass operating 93 helicopters and eight fixed-wing aircraft supporting 27 medical facilities operating from 68 bases throughout the country.

The completion business at Metro Aviation revolves around the fabrication and installation of helicopter interiors, almost exclusively for Eurocopter helicopters. The major thrust of that business is for EMS completions, but they also do law enforcement, executive and offshore completions as well.

Having identified two business venues, I then asked what other industries they were involved in and the answer was "nothing." Mike is adamant that those are his core businesses and they will remain with them and not venture out of their area of expertise.

Geltz, who has been with Metro Aviation since 1982, is the lynchpin for the company's operations, serving as managing director. For many years he was also director of maintenance and completions manager. If you ask anyone, they all say he does everything. He is a FAA Designated Airways Representative (DAR) for maintenance with F and T ratings that allow him to function in behalf of the FAA and issue airworthiness certificates and experimental certificates for maintenance. On the manufacturing side Geltz can issue and approve conformity inspections for STCs. His real job is the day-to-day management of the company. In a nutshell, he said Metro's business is to fly helicopters, maintain helicopters and modify helicopters. Those three requirements have surface simplicity but they carry loads of responsibility to customers and employees.

The current "hot button" for Metro is its safety management system (SMS) program. Identifying, evaluating and reviewing risks in every part of the company's business but with intense focus on helicopter flight operations. SMS gives the framework to evaluate and work through gap analysis to locate omissions. The old way of launching a helicopter on a flight and if it returns in one piece, you considered it a successful flight, no longer applies. Every single aspect of a flight mission is laid out and inspected, analyzed and given approval or cancellation if risk factors are exceeded. When the flight is approved, additional oversight is brought to bear through Metro's Operational Control Center (OCC).

The OCC could be considered the heartbeat of the SMS program as it applies to flight operations. At first glance it appears to be a flight tracking station but it goes far beyond tracking. Metro has written soft ware that integrates pilot currency, aircraft serviceability, satellite communication and tacking with Google Earth overlays,

weather overlays and soon to come a TAWS overlay that will provide a five-mile buffer around each helicopter as they proceed on their routes regardless of their location. The dispatcher will be able to warn the pilot of any hazard within that buffer. Among the people who work at the OCC, all have attended a dispatcher's school and the manager, Mike Walsted, is a licensed dispatcher. The plan is to make this unit comparable to a Part 121 dispatch center.

Through some purchases from North Flight Data Systems, Metro has acquired some black box avionics from OuterLink that, combined with the STCs, positions Metro with full blown flight data recorders that will be installed in all of its aircraft. These units are capable of voice and video on 10 pre-programmed events with each of those having 10 sub-events. The company continues to increase their oversight capabilities.

Mike Stanberry and Kenneth Morrow, Metro's head of finance and business development, pointed out the two different concepts for EMS operations. They referred to them as traditional and non-traditional. Morrow emphasized that Metro Aviation is a private company while most of the big EMS operators are owned by public and/or equity capital companies. As a privately held company Metro Aviation has more freedom to guide its destiny and has opted for the traditional concept by remaining solely a helicopter operator and only bid their services specifying a monthly fee that covers operating costs and an additional fee for flight hours. The non-traditional concept involves offering the customer a complete package of services such as billing and staffing. As a result, they end up with more medical personnel (doctors, EMTs, flight nurses) on the payroll than pilots and mechanics with the attendant overhead and problems like added accounting, scheduling and basing of personnel.

There is an approved heliport next to the headquarters building, but I have a hard time referring to 160,000 plus square feet as a helicopter hangar. Todd Stanberry, who's current title is

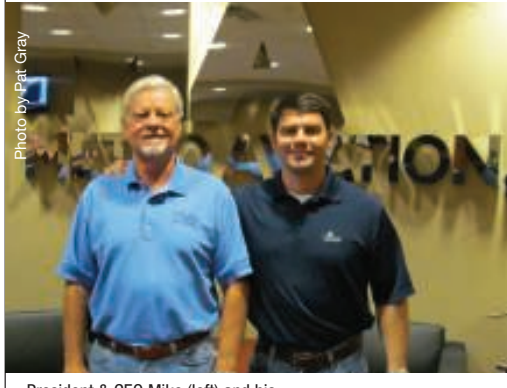


Photo by Pat Gray

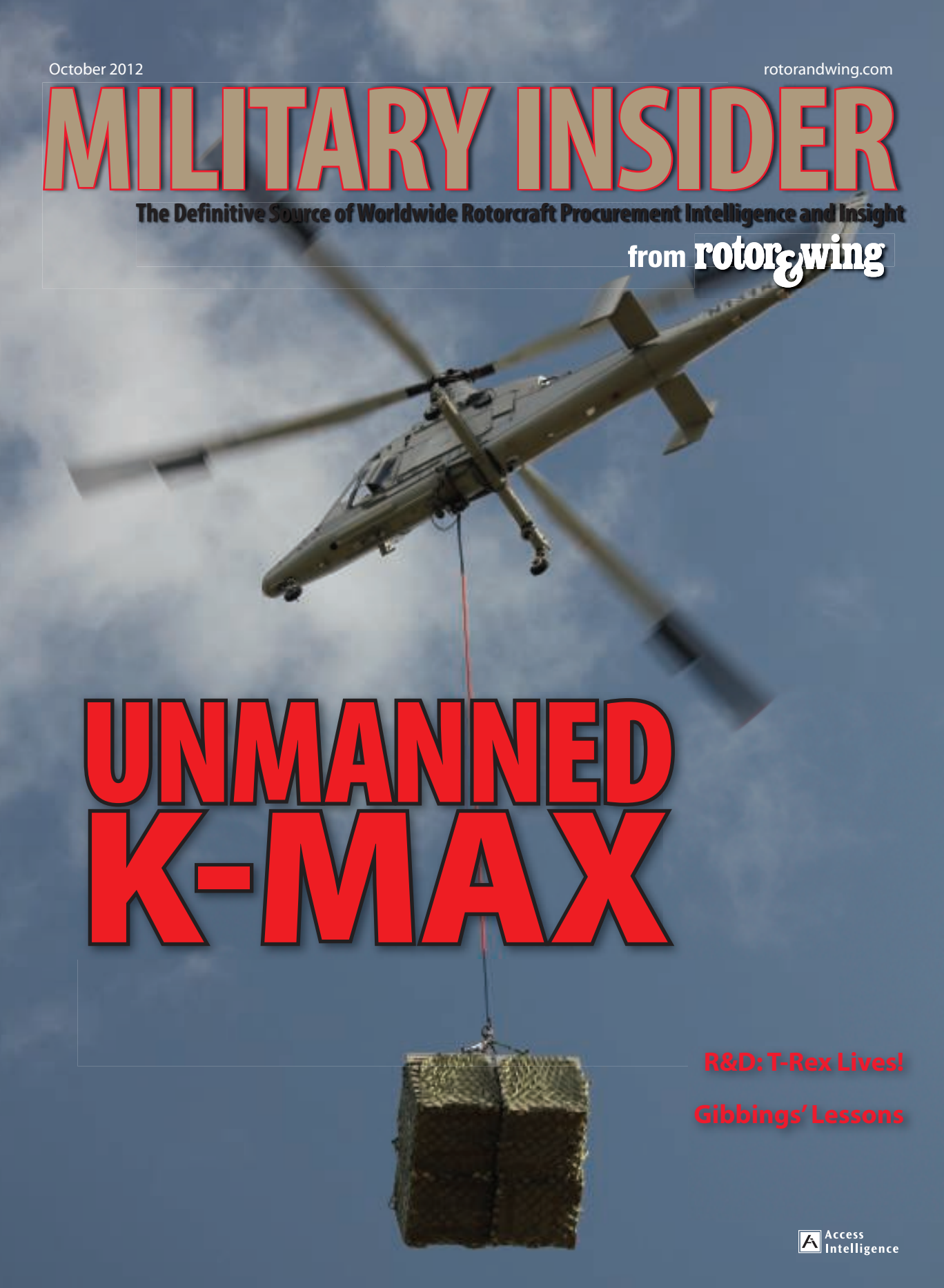
President & CEO Mike (left) and his son Todd Stanberry at Metro Aviation headquarters in Shreveport.

October 2012 rotorandwing.com

MILITARY INSIDER

The Definitive Source of Worldwide Rotorcraft Procurement Intelligence and Insight

from rotor&wing



UNMANNED K-MAX

R&D: T-Rex Lives!

Gibbings' Lessons

Access Intelligence

TopOwl. Designed by pilots for pilots to make the right decisions

Recent conflicts have seen TopOwl®, the world leading Helmet Mounted Sight & Display for helicopters, demonstrate its operational efficiency and ability to increase mission success rate. With TopOwl, the pilot is able to fly, designate and target, at lower altitudes, even during extremely dark nights. Providing an unequalled level of comfort, TopOwl enables pilots to complete multi-hours night vision with maximum level of efficiency. TopOwl is combat proven. It has been chosen by 16 countries for their army, navy and/or air force attack and transport helicopters. Currently in full-rate production, TopOwl is operational on 6 major helicopter programmes and enables decision-makers to reach decisions that deliver better outcomes.

To find out more, scan the QR code or visit **thalesgroup.com**

Image: ©Thomas Goisque

THALES

Together • Smarter • Safer

Military Insider

By Andrew Drwiega

Reflections on a Career in Flight Testing

When Andrew Strachan, chairman of the Royal Aeronautical Society's Flight Test Group, said that every politician and journalist should hear Society Fellow David Gibbings' lecture on "The Helicopter Development Process: from Concept to Service," he was right.

People on the outside of an aircraft development program rarely get an insight into the sheer volume of work that is involved in an aircraft's development journey. Gibbings' lecture covered all the bases, from the initial procurement dilemma of what to buy all the way through to the aircraft's introduction into service. The creation of the specification documents resulted in a very complex matrix with project compliance at the heart across all areas: from design through to rig demonstrations and flight demonstrations. Any non-compliant features will have to be thrashed out although this may lead to mutual agreement.

Gibbings is an ex-Royal Air Force (RAF) navigator whose career began in the late 1940s. On leaving the service he held positions with Fairey Aviation as a flight test navigator and propulsion development engineer, latterly working on the tip jets of the Rotodyne British compound gyroplane. He even got to fly in it as a flight engineer.

When Fairey became part of Westland (now AgustaWestland) he worked on the military Scout and Wasp helicopters, as well as the Gannet AEW aircraft. In 1967 he was appointed flight test engineer for the Lynx and flew on the prototype's first flight. Subsequently he became icing trials manager then in 1980 was promoted to deputy chief flight test engineer in 1980 and chief flight test engineer in 1989, retiring in 1993.

Gibbings has much sympathy with those whose job it is to procure equipment. "One of the things you quickly learn is that the new requirement won't match the one you want to build them," he said.

Flying rate, said Gibbings, was not necessarily a true measure of progress as some tests are weather dependent (icing, hot and high)—and the right conditions need to be waited for or sought out elsewhere.

Almost a necessary evil are the marketing requirements involving the prototypes putting on demonstrations and displays at air shows. "They say they want it for a week, then something breaks which we have to fix and it invariably costs us another two weeks to put it back to how it was," he recalled.

By the time the tests have progressed to the avionics, the feeling is "the toy has grown up" into an aircraft. At the first flight we expect the whole factory to turn out—and so they should. One of the key factors should be the telemetry display: "We need to read at a glance what is happening." Gibbings went on to point out that the design of the test aircraft crew stations was important, as well as a conceived allocation of test parameters to individual test aircraft.

The vehicle flight tests take between 100-150 hours then again the same with the systems tests. "Never design a new aircraft with a new engine," was a Gibbings' observation. In terms of testing the avionics he advised using a mature aircraft with the highest available standard of equipment. "Eventually you end up with the mission system tests on the whole aircraft. This is where you have three pilots with 10 opinions between them."

Deck landing tests are some of the most difficult to run in a good sequence. "Ideally you want a calm day at the start and end up with a force 6 gale to allow for gradual progression in difficulty. That never—well, rarely—happens."

For most involved directly in testing, Gibbings stated that the "design freeze" usually comes too early for those intimately connected to the program and nearly always causes problems. To the outsider it must be a decision akin to buying a computer—then is never a perfect time, although in this case the customers are waiting. He added that international collaboration can easily double the timescale of any development program: "Everyone wants the lead technology and there is a need to allocate the new/high technology tasks as well as establishing ownership of the design authority."

I got the chance to ask his impressions of the ever-increasing impact of better computing power and whether, as a test pilot, he considered that the community in general would benefit from greater openness. He answered by saying that technology creates its own problems while solving others, and that sharing testing results would be valuable but he still didn't see how this could be done without each developer losing their hard and recently won competitive edge.

The final irony, he said, was that when all the testing had been completed and the aircraft was entering service, the process to identify its replacement had usually already begun—at least in theory.

Contents

Military Insider

Eurocopter's EC725 was a focal point during Poland's MSPO. *Photo by Frederic Lert.* Read more about the Eurocopter EC275 at www.rotorandwing.com.

DEPARTMENTS

FEATURES

On the Cover: Unmanned Lockheed Martin/Kaman K-Max carrying cargo in Afghanistan. Read more about the K-Max at www.aviationtoday.com/rw. *Photo courtesy Kaman. Cover design by Gretchen Saval.*

The editors welcome new product information and other industry news. All editorial inquiries should be directed to *Rotor & Wing* magazine, 4 Choke Cherry Rd., 2nd Floor, Rockville, Md. 20850, USA; 1-301-354-1839; fax 1-301-762-8965. E-mail: rotorandwing@accessintel.com. *Rotor & Wing* (ISSN-1066-8098) is published monthly by Access Intelligence, 4 Choke Cherry Rd., 2nd Floor, Rockville, Md. 20850, USA. Periodical postage paid at Rockville, Md. and additional mailing offices. Subscriptions: Free to qualified individuals directly involved in the helicopter industry. All other subscriptions, U.S.: one year $89; two years $178. Canada: one year $99; two years $198; Foreign: one year $129; two years $258.
POSTMASTER: Send address changes to *Rotor & Wing*, P.O. Box 3089, Northbrook, Ill. 60065-3089, USA. Change of address two to eight weeks notice requested. Send both new and old address, including mailing label to Attn: *Rotor & Wing* magazine, Customer Services, P.O. Box 3089, Northbrook, Ill. 60065-3089, USA or call 1-847-559-7314. E-mail: RW@omeda.com. Canada Post PM40063731. Return Undeliverable Canadian Addresses to: Station A, PO Box 54, Windsor, ON N9A 6J5.

rotor&wing

EDITORIAL
Andrew Parker Editor-in-Chief, 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; Keith Brown; Tony Capozzi; Keith Cianfrani; Steve Colby; Frank Colucci; Dan Deutermann; Ian Frain; Pat Gray; Emma Kelly; Frank Lombardi; Elena Malova; Vicki McConnell; Robert Moorman; Douglas Nelms; Mark Robins; Dale Smith; Terry Terrell; Todd Vorenkamp; Richard Whittle.

ADVERTISING/BUSINESS
Joe Rosone Senior Vice President, Aerospace Group, 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
Gretchen Saval Graphic Designer
Tony Campana Production Manager, 1-301-354-1689 tcampana@accessintel.com

AUDIENCE DEVELOPMENT
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, LLC
Donald A. Pazour Chief Executive Officer
Ed Pinedo Executive Vice President/Chief Financial Officer
Macy L. Fecto Executive Vice President, Human Resources & Administration
Heather Farley Divisional President, Business Information Group
Sylvia Sierra Senior Vice President of Corporate Audience Development
Robert Paciorek Senior Vice President/Chief Information Officer
Michael Kraus Vice President of Production & Manufacturing
Steve Barber Vice President, Financial Planning and Internal Audit
Gerald Stasko Vice President/Corporate Controller
Alison Johns Vice President, E-Media, Business Information Group

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

BPA WORLDWIDE
AMERICAN ABP BUSINESS PRESS

Aviation Today

Your First Destination For Global Industry Intelligence

Aviation Today is your Internet-hub for market intelligence and business resources. Our editorial staff makes your job easier by providing expert analysis of the issues which affect your business every day, including:

➤ **Aircraft valuation** ➤ **Airports/ground services** ➤ **Avionics** ➤ **Cargo/freight forwarding** ➤ **Finance** ➤ **International coverage of major, regional, and start-up airlines** ➤ **Navigation** ➤ **Rotorcraft** ➤ **Safety**

***Aviation Today* Publications Include:**

- *Air Safety Week*
- *Aircraft Value News*
- *Avionics* magazine
- *Rotor & Wing* magazine

Plus, with Aviation Today, you'll receive these great resources right at your fingertips:

- Aviation Today's E-letter
- Calendar of Industry Events
- Industry Links
- Job Board
- Podcasts
- Social Networking
- Videos
- Webinars
- White Papers

Visit www.aviationtoday.com today!

For more information call +1 (888) 707-5812 or email clientservices@accessintel.com.

17781

Military Report

MILITARY | AFGHANISTAN

Apache Pilot With a Difference; He's Been a JTAC as Well


Sgt. Russ Nolan RLC 2011

Captain Wales prepares his Apache for a mission during Exercise Crimson Eagle.

A British Army Air Corps Captain has just deployed to Camp Bastion in Helmand Province, Afghanistan for his second tour of duty. Hardly headline news until the name Captain Wales is mentioned, aka Prince Harry and third in line to the throne of the British Royal Family.

The news incited an immediate response from alleged Taliban sources who claimed that they would now do their best to kill or capture him. Was the recent attack against Camp Bastion that killed two U.S. Marines and damaged aircraft already being planned; was it carried out with the fractional odds of actually killing him; or was it in response to the film that has already claimed the life of the U.S. Ambassador to Libya and three of his colleagues? Probably a combination of all three reasons giving those Taliban commanders enough to incite and motivate a small attacking force who must have known it to be a virtual suicide mission—estimates say around 20 were involved with up to 17 being killed. The base is isolated in a barren desert and away from the cover provided by the Green Zone. What will concern the base security is that the attack could be mounted without detection, although its outcome was hardly in doubt.

When Prince Harry, a WAH-64D Apache pilot, arrived at Camp Bastion on Friday, Sept. 7 it was openly reported by the media. A news blackout had surrounded his previous deployment in early 2008 until his cover was blown, first in an Australian magazine and then followed up by a U.S. website. He was quickly withdrawn once the story was out.

Flying in a British Apache helicopter as a co-pilot gunner (CPG), the position he was qualified for following his completion of Exercise Crimson Eagle in Arizona in February this year, means he will be directly involved in the ISTAR and close-air support that the Apaches carry out on a daily basis. Certainly he is more vulnerable when flying, but the Taliban have long wanted to shoot down Apaches and other International Security Assistance Force (ISAF) helicopters, a task that for the most part they have found difficult to do.

Read the full story online at www.rotorandwing.com

SERVICES | MILITARY

Eurocopter Delivers Upgraded German CH-53GAs

The first modernized CH-53GA aircraft has been handed over to the German armed forces (Bundeswehr) by the Eurocopter Military Support Center, with another 39 aircraft to follow over a three-year period. The plan to update the aircraft reaches back to 2007 when it was decided to extend the design life of the aircraft from 6,000 to 10,000 hours. This should allow them to operate beyond 2030.

Eurocopter is carrying out the upgrade, and not Sikorsky. When the German government decided to procure 110 CH-53Gs from Sikorsky in 1968, one of the conditions was that German companies VFW-Fokker (now absorbed into Eurocopter) and Dornier would assemble all but two of the helicopters. In 2001, Eurocopter updated all CH53-Gs in the fleet. By 2007, 89 CH-53s were still in service and this figure is expected to reduce to a maximum of 66 by 2014.

All of the German Army's (Heeresflieger) CH-53s, referred to as medium lifter helicopters, will be rebadged as German Air Force (Luftwaffe) aircraft in January 2013. In total 66 aircraft will transfer to the Luftwaffe as Hubschraubergeschwader 64 at two locations: Laupheim and Schonewalde/Holzdorf. These will comprise the CH-53GS/GE/GA aircraft that have been gradually upgraded over the last decade and will comprise: 20 CH-53GS (Special) aircraft; 6 CH-53GE (Enhanced) and the most recently updated 40 CH-53GAs (Advanced).

The CH-53GA (German Advanced) upgrade is being carried out by Eurocopter Germany's Donauworth facility near Munich and involves structurally strengthening each airframe to repair fatigue built up over use, and the rewiring of each aircraft's electrical system.

Read the full story online at www.rotorandwing.com

■ MILITARY | TRAINING

Second Major EDA Helicopter Exercise for 2012 to Lift Off in Belgium

Exercise Green Blade, scheduled for Sept. 17 to Oct. 5 in Belgium, is the second major multinational helicopter training exercise organized by the European Defence Agency this year. It follows hot on the heels of Exercise Hot Blade (see *Rotor & Wing*, August 2012, page 44), which was held in Portugal from July 4-19.

Whereas Hot Blade's ambitions are to train multinational helicopter crews in a wide range of joint operability tasks, Green Blade has been specifically organized to focus on multinational special force cooperation using helicopters. It is running alongside the dedicated special forces Exercise Pegasus.

Special forces personnel include those from seven EDA member states: Belgium, Germany, Italy, Luxembourg, Austria, Ireland and Spain (as well as Canada for the Pegasus exercise). Helicopter support in the form of 18 aircraft will come from Belgium (A109 light), Germany (UH-1D utility) and Italy (CH-47 heavy lift and A129 attack).

Hosted by the Belgian forces, with the helicopters based at the Kleine Brogel airbase, the two exercises involve a NATO AWACS as well as F16s, C130s and unmanned aerial vehicles (UAVs). A Belgian B-Hunter UAV will support special forces, particularly during personnel recovery missions.

Around 65 helicopter day and night missions are planned during the period, during which the complexity will increase as the exercise develops. These will include insertion/extraction, direct action, personnel recovery, and intelligence, surveillance and reconnaissance (ISR). According to the EDA, there will also be a range of convention tasks and non-tactical training opportunities particularly in the fields of night vision goggle (NVG) usage, nap-of-earth flying and some kinetic training with guns.

Green Blade 2012 exercise logo.

EDA capabilities director Peter Round said: "We fight together, and so we have to work together, pooling our resources. An exercise like this is the best way to deliver high quality training in these challenging times." *—By Andrew Drwiega, Military Editor*

T-REX LI

NACRA's new flying testbeds are proving their worth by reducing cost and time for systems testing and evaluation.

By Douglas Nelms

NACRA Testbed for Rapid Warfighter Response and Experimentation, or T-Rex.

Photos by Douglas Nelms

YES!

The U.S. Naval Aviation Center for Rotorcraft Advancement has now entered its second phase, or "NACRA 2.0", as of last June, according to NACRA Director Timothy Gowen. Movement into the second phase gives NACRA a stronger entry into the area of technology development while building stronger ties with research scientists and engineers throughout the military and civil rotorcraft industry, he told *Rotor & Wing*.

NACRA was created in 2008 under a 2005 BRAC mandate to develop a center for advancement in rotorcraft technology (See *R&W*, July 2010). Phase I was to focus on areas such as program management support, science and technology (S&T), research and development (R&D), advanced concepts, rapid prototyping, sustainment, education and investment.

That focus has nurtured an environment where advanced technology can be developed throughout the rotorcraft community and tested on NACRA's flying test beds.

Gowen noted that NACRA is not involved in the development of improved helicopter airframes. Ideas that are being tried today in rotary wing aircraft such as Sikorsky's X2 or Eurocopter's X3 were tried back in the '60s, but were severely limited by the materials, flight control systems and propulsion systems of the day. But with the improvements in those areas, the manufacturers are making aircraft that fly faster, farther and safer.

So while the airframes and powerplants will be basically the same, just better, the biggest paradigm will be in the systems that improve the efficiency and capabilities of the aircraft. In the 1960s and '70s, when the turbine engine powered helicopter was coming into its own, the major cost of the aircraft was in the airframe and powerplant. Only a small percentage by dollar value went toward the avionics and analog "steam gauge" instrument panel, and weapon systems were of the "shoot and hope you hit something" variety. Today that is reversed, with the major emphasis being on digital multi-functional panels, advanced communication avionics and GPS-INS navigation systems and sophisticated "fire and forget" laser guided weapons.

"So that is where we see the opportunity to bring about changes in [black] boxes and avionics systems and survivability," Gowen said. "We can't boil the ocean, we can't build our own helicopter better. What we are doing at NACRA is making what we can influence better, increasing the efficiency, improving the communications (throughout the industry), and focusing on being a force multiplier in areas where there are potential improvements that will make a difference."

The mission laid out for NACRA 2.0 is simple—progress the Naval rotary wing R&D acquisition, testing and evaluation community through technology development and demonstration, strategic analysis, education and communication. In other words, "Improve Naval rotary-wing aircraft for current and future warfighters."

One of the most important practical hands-on applications for that mission is the capability of "T-Rex," or Testbed for Rapid Warfighter Response and Experimentation. These are two USN UH-1Ns that NACRA has acquired and configured to flight test potential future aircraft systems and sensors.

The first "T-Rex" was delivered in late 2010 (See *R&W*, Nov. 2010) and was recently joined by the second. The two

Without NACRA support, the FMV initiative would likely be delayed one year and would have added $3.2 million to the USMC bill."
-Lt. Col. Tim Fetsch

are equipped with instrumentation racks and electrical systems that allow them to become system simulators for virtually any rotary wing type platform. These simulators operate totally independent of the helicopter itself. This allows systems and/or sensors to be tested—and often recalculated, or tweaked—in flight without the requirement for special flight clearances or regression testing.

"We worked with a contractor last year who was developing software [for an advanced threat warning system], so we put the system into the mission computer, with the contractor company engineer in the back monitoring the data from their sensor that was hanging outside the aircraft. He was tweaking the software codes live while in the aircraft to enhance it more."

NACRA is entirely self-contained with its own test pilots, flight test engineers and staff. While it is part of the NAS Patuxent River complex, it does not compete with the Navy test squadron, he said. "We offer a totally different capability, which is to put something on the aircraft, test it and give the person or organization that is interested a quick turn around on whether it works or doesn't work."

NACRA resides within Naval Air Warfare Center for R&D acquisition, testing and evaluation, which gives it Rapid Warfighter Response capability, allowing it to put together a "Tiger Team" of experts who can very quickly develop, research and test a program to determine if it is viable. "We have the ability to test something from the warfighters to determine if it will work, then give them back an answer within three or four weeks," Gowen said. NACRA can also provide a limited "quick-look report" in days rather than the months that standard demonstration testing facilities often take.

Smart phone and T-Rex being used as part of 4G LTE cellular testing.

NACRA has already completed testing and demonstration of two U.S. Marine Corps H-1 programs, a digital interoperability initiative program, or digital systems upgrade (DSU), and a full motion video (FVM) data transmission program. Testing results

Quote from Lt. Col. Tim (Toolman) Fetsch, H-1 Requirements Officer at USMC headquarters:

"NACRA T-Rex testbed has been extremely beneficial to the H-1 program. Two H-1 digital interoperability initiatives ... digital systems upgrades (DSU) and full motion video (FMV) ... have relied heavily upon T-Rex to conduct flight demonstrations for the purpose of risk reduction and to accelerate fielding.

Each of the initiatives operates on tight timelines and within constrained budgets, and NACRA delivered on both accounts. For DSU, T-Rex's cabin configuration allowed for side-by-side comparison of two different methods of aircraft implementation, providing invaluable information optimized system implementation. Without T-Rex PMA-276's aggressive fielding timeline for DSW would be impossible. Additionally, NACRA quickly approved a fourth quarter FY11 demonstration for PMA-276's FMV initiative, which addresses the capability gaps outlined in UUNS #11061UA. The demonstration is critical in obtaining FY12 common data link RDT&E funding from the Air Force and validation for a recently submitted FY13 OCO issue sheet. Without NACRA support, the FMV initiative would likely be delayed one year and would have added $3.2 million to the USMC bill."


NACRA has already completed DSU and FMV programs for the Marine Corps using two H-1s.

for the FVM alone has already saved the USMC one year in implementing the system and $3.2 million in costs, according to Lt. Col. Tim (Toolman) Fetsch, H-1 requirements officer at USMC headquarters.

NACRA supports a wide range of organizations to include NAVAIR program executive officers and aviation program managers, Office of Naval Research, National Rotorcraft Technology Center, academia, industry and the Defense Advance Research Projects Agency (DARPA). This support includes being a test center for engineers trying to determine the viability of possible technological solutions. Engineers from anywhere within the rotorcraft community can approach NACRA with a project proposal to see if it will work

"For instance, we can take ideas that come to them from things they've seen in the civilian market, such as a collision avoidance system, and test it to see if it will work in military aircraft."

In one test, NACRA examined a civilian CAS for the Bell-Boeing V-22 Osprey program. "The CAS was a great piece of gear, but unacceptable because the V-22 has a mesh windshield that was blocking off all the antenna coverage. So a simple thing like that saved the program manager from making a large investment, then realizing a couple of years down the road that the windshield was blocking all the coverage."

The key is that NACRA provides a forum for people to use when they have a helicopter issue and are looking for someone to check it out. "Whom do they talk to? They don't talk to program managers because it isn't a program of record, so it's not any program that has acquired any resources to it. They wouldn't go to any of the engineering conferences because it could cross several conferences. They wouldn't go to the test and evaluation committee because there is nothing to test. So where do you go if you have an idea or issue or want to talk to somebody in NAVAIR?" Gowen said. "We want to be that initial entry point," he continued. "Even if we don't solve the issue, we can pull the right guys together to ensure they are talking."


T-Rex mission computer rack.

NACRA has already completed several technology demonstration projects in 2011, including an advanced threat warning data-gathering system and the full motion video/data transmission system with 4G LTE (long-term evaluation) digital operation.

This year it is continuing with 4G LTE cellular communications with sea trial testing. This system essentially turns the helicopter into a flying mobile telephone cell tower. While the ability to transmit and receive real time ground-air-ground audio/visual communications has been available for years, it traditionally requires relatively large receivers/transmitters.


Pilot connects into the mission computer rack at the back of T-Rex.

The new 4G system will allow individuals on the ground, or water, to communicate using smart phones and smart tablets such as iPhones and iPads. These trials resulted from the growing threat of piracy off the horn of Africa and the Navy's urgent mission critical requirement for a hand-held portable maritime C2 system for the Counter-Piracy Task Force.

This will allow Navy SEAL boarding parties to have direct communications with their ship during and after the boarding operation.

NACRA is also tasked with more mundane projects, to include the expansion of condition-based maintenance for rotary-wing aircraft and the evaluation of fiber optics to improved capabilities and performance of the aircraft while reducing total operating costs.

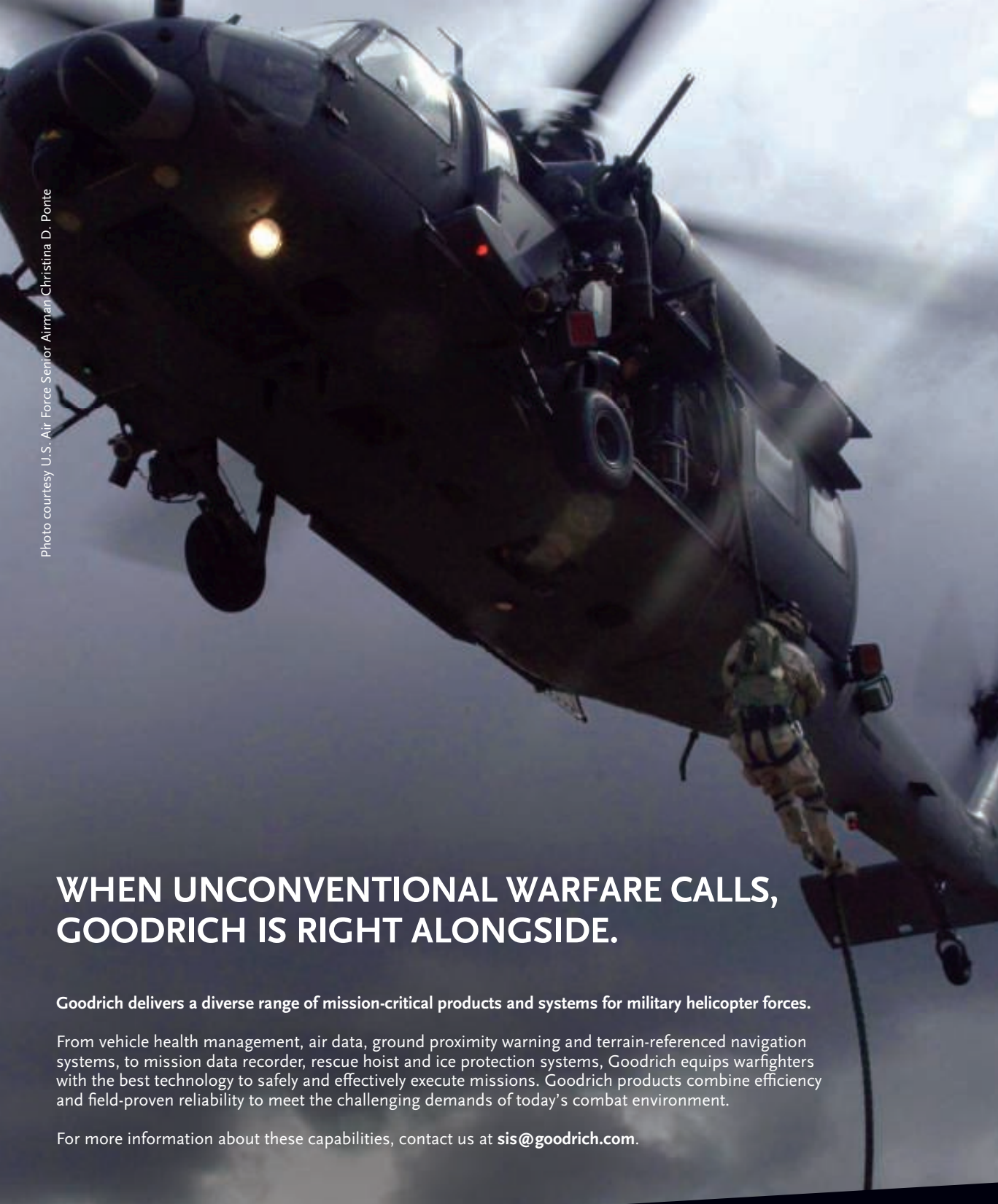


Photo courtesy U.S. Air Force Senior Airman Christina D. Ponte

WHEN UNCONVENTIONAL WARFARE CALLS, GOODRICH IS RIGHT ALONGSIDE.

Goodrich delivers a diverse range of mission-critical products and systems for military helicopter forces.

From vehicle health management, air data, ground proximity warning and terrain-referenced navigation systems, to mission data recorder, rescue hoist and ice protection systems, Goodrich equips warfighters with the best technology to safely and effectively execute missions. Goodrich products combine efficiency and field-proven reliability to meet the challenging demands of today's combat environment.

For more information about these capabilities, contact us at **sis@goodrich.com**.

right attitude/right approach/right alongside

www.goodrich.com

GOODRICH


Photo by Pat Gray

One of several areas for completions work at Metro's facility in Shreveport.

director of business integration, led a tour through the facility. A very large part of the area is used for completions and has the aura of an assembly line with multiple helicopters in various stages of assembly. Todd explained that the hangar has undergone three separate expansions in the past five years. There were the usual engine shops, a blade shop, component overhaul, paint area, avionics, and a machine shop with computer-driven drill presses, lathes and various finishing tools—all very impressive.

As we entered the parts room, Todd explained that Metro's fleet is 100 percent Eurocopter and that Eurocopter has 80 percent of the EMS market worldwide mainly because the airframes are better suited for that market. Pointing out the many bins of parts, he stated that Metro has over 14 million dollars of inventory and probably the highest ratio of inventory to operational helicopters in the industry. Is this good? The CFO would argue against it, but Mike Stanberry's feeling is that because of the long lag time in ordering engine and airframe parts, this is more of a safety issue rather than financial. To him, safety is paramount in every phase of his business.

Outlook

Mike Stanberry is almost obsessed with improving safety. He is the chairman of the Air Medical Operators Association (AMOA) a group that claims to have 92 percent of all U.S. EMS operators as members. He is convinced that all helicopter FAR Part 135 operations can be as safe as airline operations who fly under Part 121. There are a lot of other helicopter operators out there who share this same belief. He does not doubt that it will take a lot of work to get there. One of his projects within AMOA is a proposal to share information and data, similar to OCC sites, with smaller companies that cannot afford to install and staff their own centers, for a small charge, and if that's not affordable, then give them free access. Metro's own study has shown that 90 percent of all EMS accidents were caused by the pilot in command (PIC) failing to abide by the FARs or company policy. Oversight by an OCC would certainly eat into this statistic.

Metro's move toward greater safety follows a well-defined program. Key steps include:

- Continue to refine the operational control center;
- Increasingly tighten oversight on operations;
- Give pilots quarterly Instrument Proficiency Training flights. Every pilot is required to fly with another line pilot and complete a checklist that is almost a duplicate of an IFR check ride;
- 100 percent of Metro's fleet, including backup aircraft, is night vision equipped;
- Metro is in the process of completely equipping their fleet with HTAWS. (50 percent done);
- Offer a training program using full motion simulation for every pilot; and
- Tying it all together with the SMS program.

During the interview, Todd Stanberry, who is being groomed to eventually take over the company, explained that six years ago Metro partnered with Flight Safety International to produce the world's first Level D full motion EC135 simulator. Situations like inadvertent instrument meteorological (IIMC) conditions, which cannot necessarily be duplicated in actual flight, can easily be programmed into the simulator and reproduced. The result is higher proficiency and confidence for pilots when and if situations arise during actual flight leading to a safer overall program.

The Stanberrys said the greatest compliment they ever get is to do work for their competitors and the helicopter manufacturers. The business is now international in scope and value. An example is when a foreign or domestic operator buys a helicopter for EMS work, they want it delivered from Eurocopter completed and ready to go. Eurocopter will ship the green, stripped unit to Metro Aviation, which will perform an A-to-Z completion with the latest EMS kits including avionics, Metro's own STC'd air conditioner, even the paint job. The aircraft will then be shipped back to Eurocopter ready for delivery to the operator.

Photo by Ernie Stephens

WPAHS's Eurocopter EC145s are equipped with top-of-the-line medical equipment. (See story on page 40.)

Metro Aviation and Life Flight

One of Metro Aviation's contracts is with West Penn Allegheny Health Systems (WPAHS), a network of six hospitals and several outpatient facilities in the greater Pittsburgh area that also provides helicopter EMS. Five green and gold Eurocopter EC145s with the words "Life Flight" in bold letters (see photo on page 39) are based—one apiece—at Butler County (BTP), Greensburg-Jeannette Regional (5G8), Indiana County (IDI) and Rostraver Airports, as well as Canonsburg Hospital Heliport (PA67). One MD900 serves as a backup aircraft when one of the EC145s goes out of service for maintenance.

Each duty aircraft, while owned by the hospital system, is staffed by a pilot employed by Metro Aviation, plus two "critical care, prehospital" registered nurses provided by WPAHS. The crews work a 12-hour shift, six days in a row (half daytime, half nighttime), followed by six days off. Start times are staggered across the bases, so that no more than one crew is conducting a changeover at the same time.

Licensed airframe and powerplant technicians, who also wear Metro Aviation uniforms, are stationed at each location, with a maintenance manager and two additional A&Ps available as floaters and heavy maintenance providers at the Butler County hangar.

The entire Life Flight program is run by Jim Palafoutas, a 17-year employee of WPAHS and a 30-plus year veteran first responder. "We fly approximately 2,100-2,200 missions per year," said Palafoutas, who steps away from his management chores often enough to fly crew aboard an aircraft—a requirement for maintaining his currency as a paramedic. The oldest aircraft, the MD900, has 6,500 hours of flight time, while the 2009 Eurocopter EC145 has the least with 120 hours on its Hobbs meter.

Metro Aviation did the completion work on WPAHS's aircraft, and ensured that all five EC145s were as identically equipped as possible. They were delivered with Technisonic TDFM-680 and TFM-550 UHF transceivers for air-to-hospital communications, and Garmin 330, 530, and 430 GPS/radio units for navigation and ATC contact. An EMS Sky Connect satellite telephone is also aboard. Flight safety is aided by the GMX-200 moving map system, a Honeywell M-21 early warning ground proximity warning system, SX-5 Night Sun searchlight, and ITT AN/AVS-9 series F4949 night vision goggles.

"Some landing zones are at 3,000 feet, so we're all trained to fly with goggles," said one of the crewmembers. "Even a nurse riding up front will wear them for safety."

Currently, "the majority of our missions are VFR, with 35 percent of them being flown at night," explained Palafoutas. A feasibility study is currently underway to see if instrument approach technology can be installed at all of the airports and medical center landing pads in the system—an important feature for a mountainous region that is often plagued by obscuration. For more photos visit www.rotorandwing.com

"FlightSafety training has been integral to Bell's legacy of accomplishment."

JOHN GARRISON JR.
President and CEO, Bell Helicopter

John Garrison Jr. draws upon his expansive military and manufacturing management experience as he continues to build upon Bell Helicopter's legacy of support for customers worldwide. Garrison was named CEO in July 2009. He joined Bell's parent company, Textron, in 2002 and was named president of its industrial segment in 2007. In that segment, he led operational improvements in new-product rollouts for E-Z-GO, Jacobsen, Greenlee and Kautex. Prior to joining Textron, he held senior management roles with Azurix and Case Corporation. He holds an MBA from Harvard University and a bachelor's in engineering from the United States Military Academy. Garrison served 10 years in the U.S. Army as an Airborne Ranger and taught at the United States Military Academy.

Bell, a name synonymous with helicopters, designed and built its first helicopter from scratch in just six months in 1942. It has been making and improving helicopters ever since. To date, it has delivered more than 35,000 aircraft worldwide.

Bell, the first to obtain certification for a commercial helicopter and the inventor of tilt rotor aircraft, places as much emphasis on customer service and support as it does on the quality and utility of its helicopters.

The company maintains key supply and service centers in Europe, Canada and Singapore as well as in the United States, pledging to be second to none when it comes to the customer experience.

An essential component of that support is training at its own Customer Training Academy and through the factory-authorized training by FlightSafety International.

"Our dedication to increasing customer mission productivity and value means we make no compromises when it comes to safety," says Bell President and CEO John Garrison Jr. "We chose FlightSafety as our training partner to help ensure pilots' and crews' skill sets are as state-of-the-art as the Bell aircraft they operate."

FlightSafety international

The Most Trusted Name in Training.

For more information, please contact any of our Learning Centers or call Scott Fera, Senior Vice President, Marketing: 718.565.4774. Our headquarters are at the Marine Air Terminal, LaGuardia Airport, New York 11371-1061. Email: sales@flightsafety.com

flightsafety.com **A Berkshire Hathaway company**

SURVIVAL OF THE

Photo by Andrew Drwiega

By Andrew Drwiega, Military Editor

Can Eurocopter's new EC175 muscle its way onto the UK SAR tender list by 2013?

Watching an EC175 test aircraft performing a series of climbs, turns and hovers at a satellite airfield cum-training ground near Eurocopter's Marignane headquarters showed not only an aircraft well on the way to certification, but talking to its flight test crew revealed the continuing headlong development rush that has been a company trademark since its inception in 1992.

While there is a growing sense that the AgustaWestland AW189 and Sikorsky S-92 are the front running candidates for the UK's re-running Search and Rescue-Helicopter (SAR-H) requirement, being managed by the United Kingdom's Department for Transport (DfT), Eurocopter has developed a new aircraft that has been tailored to SAR and offshore work. Its challenge is to muscle its EC175 aircraft into contention for the UK job in the same way that it has already successfully done with oil and gas operators.

The Maritime Coastguard Agency, part of the DfT, currently operates out of four bases: Stornaway, Sumburgh, Portland and Lee-on-Solent. CHC provides the service with four Sikorsky S-92s operating from the Scottish bases while three AgustaWestland AW139s serve the two bases on the south coast of England. Breaking past this established line-up is Eurocopter's biggest challenge.

Indeed, should the EC175 be selected for the SAR-H role it would present Eurocopter with the best possible sales platform in terms of search and rescue customers for its new seven-ton helicopter. Winning the requirement for the heavier, long-range EC225 (there will potentially be two types of aircraft selected for SAR-H, the second for longer range out-at-sea missions) would be the icing on the cake (although unlikely). That is not so much of Eurocopter priority and the EC225 order backlog for civil/military aircraft will keep its production line healthy without it.

Both the EC175 and the slightly heavier eight-ton AW 189 have yet to be certified, so both share this risk in the eyes of the DfT. The EC175 is expected to gain certification in at the end of the year with the AW189 close behind it in early 2013. Both are scheduled to enter service in 2014 and are looking at similar mission profiles. This would allow them to have both gained certification by the time the DfT makes its decision in March 2013 and awards the 10-year SAR-H contract.

UK SAR Helicopter Procurement Options

- Lot 1 will deliver the service at, or in the vicinity of, Sumburgh, Stornoway, Culdrose, Leconfield and Valley with a minimum rescue capacity per aircraft of eight casualties/survivors (two of which are capable of being stretchered) and a minimum radius of action of 200nm (250nm at Stornoway).
- Lot 2 will deliver the service at, or in the vicinity of Lee-on-the Solent, Chivenor, Prestwick, Lossiemouth and Wattisham with a minimum rescue capacity per aircraft of four casualties/survivors (two of which are capable of being stretchered).
- Lot 3 will deliver the service requirements of both Lot 1 and Lot 2.

FITTEST?

Eurocopter EC175 in flight.

Three potential operators now remain in the race to win all or part of the DfT's 10-year contract: Bristow Group, Bond Offshore and CHC Scotia (the previous winners before cancellation). Customers for the EC175 include Russia's UT Air (15 aircraft), France's Heli-Union (4) and Belgian company Noordzee Helikopters (10) and Bristow. Operators already signed for the AW189 include the Gulf Helicopters (15), Era Group (5), Exclases Holdings (2) and Bond Aviation.

AgustaWestland's enticement to the Ministry of Transport lies in the promise that if the AW189 is selected for the SAR-H role, then "all SAR-configured AW189s will be assembled at AgustaWestland's Yeovil factory, not just those for SAR-H, but all AW189s sold worldwide."

Advisory Boards

Eurocopter set up customer advisory boards involving the SAR and oil and gas communities to seek opinion and guidance on the development and equipping of the EC175 and were surprised by several of the suggestions that challenged their perceived beliefs on what the market wanted. Most significant was the discussion over the cabin concept. The customers wanted a change to the cabin making it wide, full and flat.

"The cabin concept is huge and flexible to allow a lot of configurations which are continually the subject of discussions with customers," said Laurant Vautherin, vice president and EC175 program director.

When discussing the EC175 as an aircraft for UK SAR, Vautherin says that operators can be assured that they will get their aircraft on schedule: "We think the risk [to the DfT] is low—and this is an important part of our statement. First the customer can get the performance of the aircraft before the DfT has to award the tender. There will be no question regarding certification."

He clarified this belief further: "If you look at the moment when the aircraft are supposed to be delivered—beginning 2015—we will have delivered all the customer aircraft planned for 2013-14. That is more than 30 aircraft including some in the UK. There will be no industrial issues concerning our ability to deliver the helicopters as they require them."

Most of the initial customers are in the oil and gas sectors that quickly accumulate high operating hours and will be building the knowledge base concerning the aircraft and its maintenance before the SAR helicopters would enter service.

As far as Vautherin is concerned the only risk concerns the SAR mission package, but states that Eurocopter's experience in not only providing SAR aircraft but also CSAR EC725s such as those operated by the French Air Force would lead them into recommending state-of-the-art equipment with proven capability. "The development of the mis-

sion package concept has already started so that we can deliver aircraft ready-to-go within 2014 ahead of the requirement," he stated. Eurocopter's delivery schedule will see 10 aircraft placed with four different customers by the end of 2013 with a further 20 delivered in 2014.

Some of the most recent work during the summer comprised hot and high trials in the mountains around southern France and more precise tests such as those involving the floatation devices for the oil and gas market.

The two aircraft test program (PT1 and PT3) had accumulated more than 300 flight hours by June together with a further 200 hours of ground tests. Importantly there was also the successful test of the 30-minute dry gearbox run as well as a cabin evacuation trial. The first production aircraft, S01, is due to be ready by the beginning of October and will also enter the test program. Production aircraft S02 will be the first delivered to a customer.

Due to the initial orders for oil and gas missions that is where most of the basic trial demonstrations have been directed. "We are at the critical time in terms of compliance," states Vautherin, "and the most important test for our customers was the 30-minute dry gearbox test. Naturally in this sector the cabin evacuation test is very important for safety. I can say that we not only reached the certification target but exceed it by far. As you know Eurocopter is very keen on safety—what I remember is we need to complete evacuation of the cabin in 90 seconds and it was achieved in less than 30 seconds."

At the beginning of the year there was a marked increase in the aircraft's performance. New technologies together with the use of a five-bladed main rotor and three bladed canted tail rotor have improved lift in the hover with power provided by two Pratt & Whitney PT6C-67E engines (Eurocopter has experience of the canted tail rotor through its involvement with the NH-90).

Vautherin said that a decision was made early in the design of the EC175 to utilize mature technology and minimize risk. The usual question of what level of innovation to incorporate against using state-of-the-art but mature technology came firmly down on the tried and tested side. "We have used technologies that are known to Eurocopter. Their engine is the latest in a trusted line from Pratt & Whitney."

Earlier in the year, Richard Dussault, vice-president marketing at P&WC said that the PT6-67E engine "incorporated the latest Full Authority Digital Engine Control (FADEC) system that reduces pilot workload and provides the most advanced diagnostic capability in the market. This means our engine is easier to fly, provides fast and accurate control and is easier to maintain, so operators can focus on their mission."

Those who have flown it have commented on the stability of aircraft, low vibration low and ease of piloting. A man who subscribes to all of these views is Eurocopter's chief test pilot Alain Di Bianca. Following a brief flying demonstration for *Rotor & Wing* he confirmed that in his opinion "the EC175 flies very well, almost by itself. It has excellent visibility outside the aircraft which is obviously very important and valuable for both SAR and oil and gas missions."

He complemented the "abundance of power available—the engine has the capability of rapid response to the need for more power" as well as the "improved stability, particularly in turbulence." But also was keen to draw attention inside the cockpit. "There has been a conscious effort to take out unnecessary displays.

Trials have confirmed to Di Bianca a comfortable cruise speed of between 140-155 knots, although this can be pushed up to 200 knots. He added that the canted tail rotor is both efficient and well sized for the power that the aircraft requires. His longest flight (at the time of the discussion) had been three hours and the maximum weight he had flown was 7.5 tons. He complimented the less than five minutes engine start from cold.

Di Bianca concluded that SAR operators should be aware that the hoist will operate from the right hand side of the aircraft but that plenty of fuel would be available for longer missions due to the 2,136 kg internal fuel capacity. In summary, he believes that Eurocopter has developed a helicopter with all the attributes demanded the SAR /oil and gas mission profiles.

As a footnote to this article, the DfT is boxed in regarding the process of the SAR tender and the timetable for implementation. It has to contemplate opting for an aircraft, be it the EC175 or the AW189, at the start of its service life. Considering the importance of the decision in terms of replacing a tried, trusted and yes, old Royal Air Force and Royal Navy operational capability based on the venerable Sea King, that no operational test and evaluation of the new replacements has been sought. While all of the operators have huge amounts of experience, they all want the contract.

Even in times of financial restriction, one would have thought that the DfT would have been more comfortable making such a decision based on some measure of independent assurance and verification.

Department for Transport: Timetable for Implementation of SAR-H

Notify Short-listed Bidders
July 23, 2012

Dialogue Meetings
(Phase 2 – Boot Camp)
July 24-Sept. 11, 2012

Return of Revised Proposals
(Phase 3)
Oct.15, 2012

Issue ISFT
Nov. 23, 2012

Return of Final Tenders (Phase 4)
Dec. 14, 2012

Notification of Intention to Award Contract (Phase 5)
March 7, 2013

Sign Contract
March 19, 2013

IT'S TIME FOR A NEW PAIR OF GLASSES

TRILOGY™
ELECTRONIC STANDBY INSTRUMENT

If you're planning a glass panel upgrade, pair it up with a glass standby that matches your primary. Certified to the FAA's highest Level A standards, the Trilogy Electronic Standby Instrument (ESI) displays all the vital flight cues on a compact 3.7-inch screen, while its internal lithium-ion battery and NVG compatibility assure you're never in the dark. With the Trilogy ESI, your standby instrument resembles your primary glass instrument, easing the transition in a crisis.

Avionics Systems

L-3com.com

NEW AUSTRALIAN BODY SET TO GRAPPLE WITH GROWING PAINS

By Emma Kelly

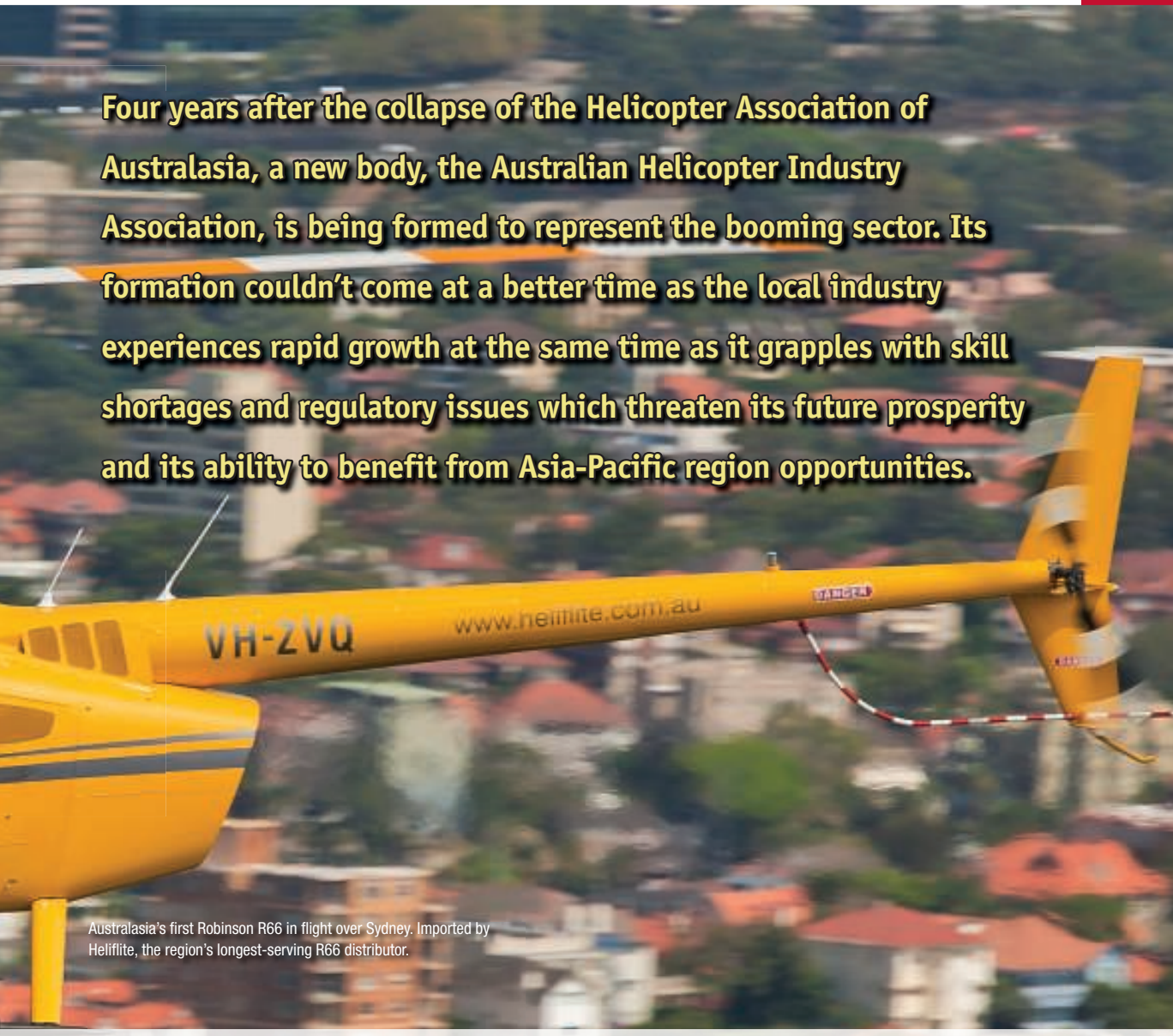
blueskyhelicopters.com

Australia's helicopter industry is set to have its first representative body since the collapse in 2008 of the former Helicopter Association of Australasia (HAA) with the formation of the Australian Helicopter Industry Association (AHIA). The move couldn't come at a better time for the local industry as it experiences phenomenal growth, largely on the back of a booming energy and resources sector, but at the same time faces "a lot of pressure points obstructing development of the helicopter industry," according to Rob Rich, a former HAA president and ex-general manager of Chopperline Flight Training, who has spearheaded the formation of the new body.

The HAA was formed in 1984 after a dispute with Australia's Civil Aviation Safety Authority (CASA) over the Sydney CBD heliport at Darling Harbour, but the association folded in 2008 after 26 years of service to the Australian helicopter community. Its demise was a result of a change in its business model, with the association employing salaried staff for the first time, and the effect of the global financial crisis.

A catalyst for the formation of the AHIA was the death in August 2011 of well-known and respected ABC helicopter pilot Gary Ticehurst in a night helicopter accident at Lake Eyre in South Australia. Ticehurst was a former president and committee member of the HAA and drove numerous projects for the industry. "It has taken Gary's death to jolt people into doing something positive for the industry once again," says Rich.

Four years after the collapse of the Helicopter Association of Australasia, a new body, the Australian Helicopter Industry Association, is being formed to represent the booming sector. Its formation couldn't come at a better time as the local industry experiences rapid growth at the same time as it grapples with skill shortages and regulatory issues which threaten its future prosperity and its ability to benefit from Asia-Pacific region opportunities.



Australasia's first Robinson R66 in flight over Sydney. Imported by Heliflite, the region's longest-serving R66 distributor.

The Australian helicopter industry today is a very different one to that represented by the HAA in its early days. The helicopter fleet is undergoing an expansion which is showing no signs of abating, says Rich. The industry growth rate is 11.4 percent—or three times that of the Australian economy. The fleet has doubled in the past 10 years—from just 980 to 1,964 by the end of the fiscal year 2011/12 at the end of June—and it is expected to double again in only seven years. The AHIA says 3.5 helicopters have been added to the register every week since July 1, 2011, or more than four new jobs each week. When the HAA collapsed in 2008 it was representing a fleet of 1,450. In comparison, the AHIA notes that the country's fixed-wing general aviation fleet is almost in recession, with a growth rate not even reaching one percent.

The piston fleet dominates, representing 64 percent of the total fleet, with an extra 155 pistons entering the fleet in fiscal year 2011/12. Robinson helicopters account for 59 percent of this fleet, with the R22 leading at 531 and the R44 following with 467 registered. Then come the Bell 47 (78), Hughes-Schweizer 269 at 53 and RotorWay (51). The single-engine fleet has slowed to a growth rate of three percent, with numbers increasing from 488 to 502. The top five helicopters in this class are the Bell 206 (227), Eurocopter AS350 (134), Hughes 369 (25), Eurocopter 120 (26) and Bell OH-58 (18).

The multi-engine sector grew 7.6 percent during the year to 211 helicopters. In June, the top five registrations


MH-60 lands on HMAS Ballarat in this 2009 photo.

Royal Australian Navy

were the Bell 412 at 33, Kawasaki BK117 (31), Sikorsky S-76 (29), Eurocopter 332 (22) and AgustaWestland 139 (11). The AHIA predicts that the multi-engine fleet will more than triple from 211 to 756 over the next seven years, with substantial growth expected over the next two years on the back of heavy industry growth in the north of Australia, particularly major oil and gas projects.

Growth in the sector overall is being driven largely by the demands of Asia for energy and mineral resources, while search and rescue (SAR) and helicopter emergency medical service (HEMS) operations are also increasing in line with demands for improved emergency services in remote areas.

Some 60 percent of the Australian helicopter industry is located within the Northern Territory, Queensland and Western Australia, which boast growth rates at least twice the GDP thanks to growing energy and mining industries.

But with growth comes challenges, with skills shortages and training issues at the top of the list. There is already a shortage of instructors and it is only going to get worse, predicts the AHIA. Rich says the transfer of Australian Army and Navy helicopter pilot training to a civilian contract under the Helicopter Aircrew Training System (HATS), scheduled from early 2016, will drain the country's 30 flying training schools of highly experienced staff. "The lack of night, instrument and night vision goggle instructors even now is becoming critical," says Rich. In addition, there is a skill shortage in engineering trades.

The local industry needs to seek training and consultancy business opportunities in the wider Asia-Pacific region where a rapid growth of the rotary industry is expected in the near term. China, for example, despite having a small helicopter fleet today, has the potential to lead helicopter ownership tables in the future, with disaster relief, rescue and aeromedical operations all set to be growth areas in the country. The Australian helicopter industry also faces regulatory hurdles, with the AHIA pointing to long delays and inefficiencies with CASA's pilot licensing and examination system, and a raft of regulatory changes set to impact the sector. "Agencies, such as CASA need our help when planning to regulate new technology heading our way," Rich recently wrote on the Bladeslapper Internet forum for the Australian helicopter industry.

In particular, operational performance standards for heavy helicopters is an area in which the AHIA needs to be involved, as well as the introduction of the new CASA Part 133 rule, covering the use of rotorcraft in Australian air transport operations, and the Part 142 training rules, and the new CAAP 92 relating to landing areas. "We must accept the fact we are hurtling down the path to translate a lot of our operational standards into those used within Europe and the United States ... some standards will need to be addressed before they become law," says Rich.

The AHIA should also be involved in the rewriting of the instructors manual and needs to look at why so many students are failing the commercial pilots license examinations when the syllabus and exam have not changed.

The AHIA is set to discuss challenges facing the sector at its planned inaugural annual general meeting (AGM) at Brisbane International Airport on November 3.

Also to be confirmed at the AGM will be the AHIA's committee. A temporary volunteer steering committee leading up to the AGM has been appointed, with Sydney-based Peter Crook named steering committee president. Crook is a former Bell Helicopter sales executive and now heads up his own consultancy PKC Aviation which specializes in sourcing and selling helicopters, pre-buy inspections, certificates of airworthiness, finance, insurance, freight, maintenance, repair and overhaul activities. Sydney-based Mark Scrymgeour is steering committee vice-president. Scrymgeour, who holds a commercial helicopter license, is the fleet logistics manager for refrigerated transport company Fridgelog and was formerly the national franchise development manager for Caltex Australia. He brings extensive executive experience from other transport related industries to the role, says Rich. Brisbane-based Rich, who is now an aviation marketing consultant, is steering committee secretary/treasurer and also responsible for AHIA business development, membership and expositions.

The AHIA also plans to celebrate the CASA helicopter register passing the 2,000th helicopter milestone at the AGM in November.

The official launch of the AHIA is planned for next year's Australian International Air Show at Avalon in Victoria in February. The association will use Avalon to showcase the local helicopter industry with a view to promote the industry's capabilities to the

wider Asia-Pacific region in order to win business from the region. "This is a wonderful opportunity to promote ourselves as best we can," says Rich. The former HAA ran a similar Helicopter Showcase at Avalon and allowed the industry to display helicopters and its capabilities

The organizers of the Avalon show, Aerospace Australia Limited, are offering to help the fledgling association by supporting an AHIA Helicopter Conference to be held during the show at the Melbourne Convention Center, as well as providing facilities for displays, presentations and conferences at the air show site during the trade days. The AAL was due to finalize its commitment to the AHIA at its board meeting at the end of August.

The AHIA will be a not-for-profit organization that will provide wider coverage of the industry than the HAA, which was effectively a pilot association, says Rich. "In the past, this suited the needs of an industry then operating relatively unsophisticated rotorcraft, where logistic and maintenance support requirements were minimal. Today, more expensive and technically advanced helicopters are coming into service and the logistical and technical support industry has developed substantially due to the increasing number of civilian and military heavy helicopters," he adds.

The AHIA structure will include a national executive, six branches which will mirror CASA boundaries and divisions focusing on areas such as new operational roles, advances in technology and industry groups including SAR, HEMs, offshore, mustering, training, police and CASA regulatory issues. The AHIA will also establish links with international bodies, including the U.S. Helicopter Association International.

Rich elaborates: "The aim of the overseas links is to be part of the enormous growth in helicopter training activities which will occur in the Asian region, in much the same way as Australia supported the Asia-Pacific airline industry pilot training programs."

Marianna Efremova Photos

FLIGHT SIMULA
FIND OASIS AT

UTair Training Center, located in Tyumen—one of the most important industrial and economic centers east of the Urals and a vast oil-rich region stretching from the Kazakh border to the Arctic—is recognized throughout the industry for its high level of professionalism and commitment to safety and excellence. *Rotor & Wing* went to the heart of the facility to learn more about the company's training programs.

By Elena Malova

The UTair Training Center in Tyumen dates back to 1967, when it was a training facility unit for the Tyumen Civil Aviation Department. Later it developed into a Personnel Training Center (PTC) and was registered as a non-commercial partnership that soon grew into one of the largest civil aviation training centers in Russia. UTair Aviation and its subsidiaries, UTair Engineering and Center of Transport and Services, established the center. The facility contains training infrastructure for engineers and pilots, and has trained pilots, flight attendants, mechanics and technicians for more than 50 years. Currently, 18,000 students from Russia, Colombia, Turkey, China, Sudan, Nepal, Africa and Peru attend UTair's training classes every year.

Vladimir Demkin, UTair training center director, is a rotary and fixed-wing

Mi-8 (left) and Mi-26 trainers.

TION, TRAINING RUSSIA'S UTAIR

pilot and has flown Mil Mi-26s, Mi-8s and Tu-154s. He also holds the position of deputy flight director at UTair Aviation.

In 2011, Eurocopter certified the UTair training facility, meaning that pilots and mechanics were authorized to train in Russia to Eurocopter standards. Therefore, PTC became the 20th training center in the global Eurocopter training network and the first without Eurocopter shareholding participation. The center is approved for AS350 and AS355 type ratings.

The successful operation of the center shows the high professional degree of UTair and the company's commitment to complying with international requirements. It enjoys the full support of helicopter manufacturers and has secured communication on best practices and the latest training materials.

UTair Training Center provides a "complete and dedicated training environment," where students are able to "achieve their objectives in the most efficient manner. PTC consists of an administration center, a flight simulator training facility, lecture halls, instructor briefing offices and a library with Mil and Eurocopter manuals and references," explains Demkin.

"Our success lies in our sophisticated pilot training programs, along with effective management systems and qualified instructors," says Demkin. "Very experienced pilots come from the Ministry of Internal Affairs, Ministry of Defense and other governmental structures around the world. They all go through what we call here 'an adaptation program' and after certain procedures start working with us."

PTC's philosophy "is to teach pilots to do their job well," he adds. "Certainly it includes effective and adaptable procedures, an applied operational knowledge, good and confident managing skills. All these are taught and then put into practice via roleplaying immediately. We have identified specific objectives and designed real-life situations to achieve them. Theory and practical training are integrated strategically for maximum productivity."

Personnel

Today's highly competitive passenger air transport market presents airlines with ever more demanding requirements in terms of flight safety, reliability and service quality. In order to maintain and go beyond these parameters, it is essential to have highly qualified personnel.

Flight personnel as of May 22, 2012	
First Officers	700
Co-pilots	822
Navigators	61
Senior flight crew	88
Other flight crew	459
Cabin crew	2156

One of UTair Aviation's priorities is to implement a targeted human resources policy based on the principle of continuous professional advancement of employees through regular training and recertification as well as attracting young people willing to develop their knowledge and potential.

UTair is the proud employer of more than 6,000 highly professional specialists. Over 4,500 employees are dedicated to the maintenance and operation of the airline's helicopter and fixed-wing fleet. Upwards of 50 percent of the company's employees are certified to conduct international flight operations. Currently UTair Aviation employs more than 13,000 highly qualified specialists.

One More Step to Improve Safety

Apart from being a leader in the Russian helicopter world, UTair is one of the world's largest actors in the helicopter services market. It operates a wide range of aircraft and, therefore, a wide range of simulators of these aircraft. The UTair Training Center in Tyumen boasts the first and only Mi-26T full flight simulator operated in Russia. The FFS has all that is needed for full flight simulation. It uses an 8-channel visual projection system on a spherical screen. It features the modeling of a wide number of sceneries, with a very high level of detail and search/selection of landing pads, and ensures wide view angles including bottom hemisphere. The visual system provides imagery required for Level D FFS and imitation of various weather conditions from fair to severe. The Instructor Operation Station allows to effectively control all the stages of the training. It enables creating and editing exercises, entering and canceling failures, executing pre- and post-flight debriefings, documenting flight and crew training results.

"The future of helicopter flight training leads to helicopter simulation. New FFS allows UTair which is among leaders of the world helicopter market and one of four biggest Russian airlines alongside with other airlines trained at the UTair Training Center to increase flight safety of their helicopters," says Vladimir Demkin.

"Now we have a state-of-the-art simulator to hone pilots' aviation skills in a safe environment," says Vladimir Kapustin, deputy of the PTC Head. "I'm happy we are able to practice in a low-risk environment. We can recreate numerous types of challenging weather conditions through the simulator and we also train for night operations."

One of UTair's Mi-26 pilots notes that a certain percentage of the flight deck contains original equipment in the actual Mi-26. "This level of realism provides positive benefits," he points out. "We touch the actual controls and when we fly the aircraft. I very much enjoy my time in the new simulator."

Demkin says simulators are "a safety issue. I believe each airline should have simulators. Here at UTair we don't count when it comes to safety."

The UTair Tyumen training center also has Mi-8MTV and Mi-8T simulators, which Transas Group supplied in 2004. Transas provides the upgrading of the earlier-commissioned Mi-8/17 helicopter simulators thus the Flight Training Center has versatile simulators in which two fixed spherical screens are permanently used, while cabins are changed depending on the needs.

Technology

The number of accidents in 2011 once again prompted Russian authorities to reconsider the question of safety thoroughly. Structural changes and increased budgets gave a new breath to the Russian flight simulation industry. Dinamika and Transas are the key companies which develop and produce flight training devices for both the military and civil aviation. While military flight simulation is well developed, not more than 70 aircraft simulators are being used in civil aviation, only 10 of which were developed in the past decade and are fully compliant with international standards. The UTair Training Center has taken its way for a future breakthrough and is investing a lot of capital to integrate the simulation technology, which will provide the impetus for improvement and growth.

Reference

Center for Scientific and Technical Services (CSTS) Dinamika designs and produces aviation training equipment for flying crews and maintenance engineers, equipment ranging from interactive CBT to full flight simulators. It is a prime contractor of the Russian Air Force, which implies high quality and engineering quality in regard to development, certification, logistics and supply, and aftersales support. Dinamika's developments include full flight simulators for the MiG-29, MiG-31and Su-33 fighters, and Mi-24P, Mi-28N/Mi-8MTV, and Mi-17–1V combat and transport helicopters. Overseas, the Navy Training Center in Mexico operates a Mi-17-1V full flight simulator.


Corridor at the UTair Training Center.

Transas develops and supplies airborne and maritime equipment, advanced onboard navigation systems and simulators in the highly competitive international market. The company has especially made its mark in the field of helicopter training devices, both complex simulators and procedural trainers. The pallet of training products covers practically the entire range of Russian-made rotorcraft. Full mission simulators are available for the Ka-31/Ka-32 naval helicopter, the Ka-52K attack helicopter and the Ka-60 multirole helicopter. The portfolio also includes simulators for the Mi-8/Mi-17 multirole helicopter, the Mi-24/Mi-35 gunships, the Mi-26 heavy-lift helicopter and the Mi-28 attack helicopter.

aviation professionals network

www.avpronet.com

The Interactive Hub for Aviation Pros



CONGREGATE...CONNECT...CONVERSE

Aviation Professionals Network is the premier space dedicated to aviation professionals. Become a part of this dynamic community where industry insiders congregate and connect with Aviation Today editors, colleagues and clients. Niche groups offer venues for members to get input or expertise on specific topics, search for partners and find opportunities.



www.AvProNet.com *Join Today, it's free!*


TRAINING NEWS

CAE Secures Russian Training Agreement

Russian Helicopters and CAE have agreed to work together toward developing training and simulation programs for pilots, mechanics and other operators of Russian-built rotorcraft. Under a memorandum of understanding, the two companies will examine joint projects such as flight simulators and pilot training at the Helicopter Academy based at the National Helicopter Building Center in Tomilino. In addition to CAE giving Russian Helicopters access to simulation technology at existing locations around the world, the two companies plan to discuss the creation of new training centers in Russia and other countries around the globe.

Helicentre Trains With Cabri G2

Leicester, UK-based Helicentre Aviation has obtained approval to provide training on the Guimbal Cabri G2, making it only the second UK flight training organization (FTO) to have such a rating. Helicentre will offer commercial pilot's license CPL(H) and private pilot's license PPL(H), flight instructor and type-rating courses for the Cabri G2. The company also added a second Cabri G2 to its fleet, from Guimbal's UK distributor, Cotswold Helicopter Centre.

Helicentre Aviation

Helicenter has received approval for training on the Guimbal Cabri G2.

Helicentre Aviation

Helicenter Aviation has added a second training Cabri G2.

Photo by Sgt. Anthony Ortiz

A Bell-Boeing MV-22 hovers over the Marines of the Combat Logistics Regiment 2, 2nd Marine Logistics Group as they perform helicopter support team training during Enhanced Mojave Viper (EMV). The Marines are training in anticipation of deployment as a Marine Air-Ground Task Force (MAGTF) for Operation Enduring Freedom in Afghanistan.

South Korea, AW Team for Mil Training

AgustaWestland has inked agreements with Firstec Co., a defense and security equipment manufacturer, and Dodaam Systems, a training and simulation developer in the defense industry. The partnership is the first step toward developing military service and training centers in South Korea. The contracts also cover logistics support and training for the Republic of Korea Navy's helicopter fleet, which includes 23 Super Lynx Mk99s.

Thai Army Receives Last Enstrom 480B

Enstrom Helicopter has handed over the final 480B trainer as part of a 16-helicopter order, which will double as utility platforms, to the Royal Thai Army. The helicopters are equipped with Cobham EFIS systems, dual electronic/analog flight instruments, Honeywell radar altimeters and dual Wulfsberg RT-500 transceivers. The RTA's Enstrom fleet was a vital part of rescue efforts during the 2011 Thailand floods.

Era Bolsters NVG Training Programs

Lake Charles, La.-based Era Training Center has received FAR Part 142 approval for its training program for the AgustaWestland AW139.

The approval gives Era Group subsidiary the ability to issue pilot certificates following ground instruction and training in the flight simulator training device (FSTD), including ATP and type ratings, ATP add-on rating, type rating only and recurrent training. The Era AW139 simulator is qualified as an FAA Level 6 training device.

Era Training Center has also expanded its night vision goggle (NVG) program, which offers instruction in emergency medical services (EMS), search and rescue (SAR), and other scenario-based training.

Era plans to incorporate NVGs into its existing Part 142 certificate in fourth quarter 2012.

Bedford, Texas-based Night Flight Concepts is supporting the Era program under an agreement that includes pilot, flight instructor and maintenance technician courses.

Pilot training will include the night vision readiness virtual terrain board (VTB), NVIO (which is a computer-based training program) and flight training in the Eurocopter AS350B2.

Coming Up

November 2012:

in rotor&wing

The Dubai Helishow—Our team of writers will provide a preview of what to expect November 6th to 8th at this year's 5th edition of the Dubai Helishow—the only all-helicopter show hosted in the Middle East region. Look for news and updates at www.rotorandwing.com leading up to the event and visit www.dubaihelishow.com for more information. Don't miss our Dubai Show Day coverage at the show and Post-Show digital edition.

Protecting the Olympic Games—After the spectacularly uneventful London games, Andrew Drwiega reports on the success of the helicopter units and fleets involved and the various roles and missions that were assigned to each.

Engine Maintenance—A helicopter's engine is its biggest component, and represents the single-largest recurring expense for most operators. Mark Robins provides a glimpse into the latest trends in engine maintenance and testing.

The Evolving Marriage: In-Flight Data Monitoring and Flight Tracking Services—As long as you have the pipeline between your base and your aircraft installed, what else can you do with it?

Product Focus: Rotor Blades—Military Editor Andrew Drwiega takes a look at all the latest developments in rotor blade technology.

Columns—Public Service by Lee Benson; Military Insider by Andrew Drwiega; Law Enforcement Notebook by Ernie Stephens; and Around the World.

Bonus Distribution: Nov.6-8, Dubai Helishow 2012 in Dubai, UAE.

advertiser index

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. 283 - 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 Oct. 16, 2012 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: October 25, 2012

Leading Edge

By Frank Lombardi

Failure Testing

You're at work again. The mission of the day involves a longer flight than usual, so you decide to brush the rust off your autopilot skills and engage some upper modes. It is a bumpy day, but the system appears to be handling it well. Suddenly a severe gust of wind catches you, kicks the autopilot offline, and almost gives you some impromptu unusual attitude training. You grab the controls, reacting to the change in flight path and aural tones alerting you to the autopilot's disengagement. With the aircraft back under your control, you can feel its reluctance to obey your commands as obediently as usual. Looking at your advisory panel, you see the reason: your stability augmentation system (SAS) has malfunctioned. You disable the SAS in accordance with the published emergency procedures. The change in handling qualities is not unmanageable by any means. Still, you prudently terminate the flight and bring the aircraft to a suitable airfield for a safe landing and maintenance without incident.

Helicopters are machines whose safe range of operation is constrained by the limits of mechanical and structural integrity. Performance is maximized by slowly expanding the flight envelope to approach these limits, but only through extensive testing to keep the level of risk acceptable. Engineers and helicopter pilots, while very different, are the same in one respect: neither likes surprises. They both know that despite all the forethought and planning, things break. Most professional aviators try to keep their knowledge and skills at their peak in order to best handle whatever in-flight emergency may come when the odds turn against them and a failure occurs. Yet when those odds do turn, it is nice to know that a lot has already been done to keep things as "fail-safe" as possible.

In the civilian world, Parts 27 and 29 of the Federal Aviation Regulations (FARs) define the airworthiness standards for Normal and Transport category rotorcraft (the military consults the various Aeronautical Design Standard documents, i.e., ADS-33 etc.). It is here that you will find all the design requirements for certification. Not only requirements for normal operation, but also requirements that must be met in the event of failure of any critical structural, mechanical, electronic, or supplemental piloting system. In essence, they are the part of the FARs that mandate surprises be kept to a minimum.

Before flight testing of failures can take place, a significant amount of preparation and planning is required. As systems become more complex, engineers conduct failure mode and effect analysis (FMEA) on individual systems to determine the probability of component failure and the effect of these failures on the helicopter as a whole. This provides a theoretical view of "what is the worst that this system can do to the helicopter?" Failures of structural components such as rotor heads, blades, gearboxes, etc., would be immediately critical as they imply loss of the helicopter, and cannot be allowed to happen in service, so fatigue testing to develop life-limits on parts is obviously done early in the design phase to bring the probability of their failure down to an insignificant level. Beyond this, the most important failures are those that affect the flight path of the aircraft, and for these the test methodology employed always remains the same. As in all testing, an incremental buildup method is used. Only one parameter at a time is varied, especially in the case of critical components such as flight control systems and powerplants, where a failure can quickly take the aircraft from a safe flight condition to a potentially hazardous one.

Using the example flight above to keep within the scope of this article, a look at section 27.672 of the FARs will show the requirements for a failure of "stability augmentation, automatic, and power-operated systems." In general, the method that the regulations like to follow is that some means of alerting the pilot must first be provided for any failure of a system that can affect the operation of the aircraft; the pilot must then have ample time to react; and finally the aircraft must be controllable in its degraded state after the initial failure.

Warnings can take the form of sounds, lights, captions, or a combination thereof. Total reaction time after the failure will be a combination of helicopter and pilot response time. Helicopter response time is the time between the failure occurring, and the pilot becoming aware of it. Pilot response time spans from the time of awareness to taking action on the controls. Re-examining the above hypothetical flight, it can be seen that all the elements in the fail-safe nature of the system worked as they should, and aided in ensuring a safe landing.

The next time you are in a room full of your peers telling your "There I was..." story, quietly take a minute to appreciate the efforts taken by engineers and test pilots to purposely introduce failures into working systems and progressively make such failures harder to deal with, in order to define the normal flight envelope and develop emergency procedures for the aircraft you fly. Without them, you may not be here to tell the story at all.

advertising sales reps

Carol Mata
6409 Nasoni Cove
Austin, TX 78749
512-607-6361 Office
512-426-1579 Cell
cmata@accessintel.com

Randy Jones
320 Decker drive, Suite 249
Las Colinas (Irving) TX 75062
972-713-9612 Office
214-679-4615 Cell
rjones@accessintel.com

James McAuley
Cortijo LoCota, 42, Casa Las Flores
Santa Rosalia,
29551 Campanillas Malaga, Spain
Tel/Fax: +34 952 118018
jimediaservices@aol.com

Safety Watch

By Robert "Terry" Terrell

EMS Helicopter Safety, 2012 Perspective

In the early days of civilian EMS helicopter activities it was comparatively easy to identify that aviation operators were creating many of their own safety problems by promoting their product as a function of trying to fulfill sometimes excessively optimistic marketing promises through consequently intensified operational heroics. This translated into "getting the patient flown, no matter what."

Today's safety issues, however, are less obviously generated, existing in a relatively refined environment of aviation and medical operational specialties and stemming from what must be described as a widened pattern of somewhat complex human cause factors. The AAMS Conference at the end of 2002 was treated to a meaningfully helpful analysis of poor safety performance statistics at that time, developed by the University of Chicago's Aeromedical Network, and UCAN was able to isolate the following realities, which continue as accepted elements in safety performance today:

• Takeoffs and landings, or departure and terminal flight segments, have traditionally been envisioned as the most dangerous flight mission phases, but it turns out that en-route phases, over the years, are statistically more dangerous. Even though we understand that en-route phases are artificially weighted in significance by their consumption of more raw time in any mission profile than other flight phases, it would seem that static cruising flight in helicopters should be relatively uneventful. Yet 36 percent of major accidents occur in this phase, eclipsing departure segments, destination maneuvering and scene operations. Cruise flight, it turns out, is the flight phase during which most POOR OPERATIONAL DECISIONS are made.

• Night flying is more dangerous in EMS helicopter aviation than daylight operations. As a consistently evident general statistic, less than 40 percent of all flights are accomplished at night, yet more than 50 percent of recorded accidents occur in darkness. Of accidents eventually classified as weather related, more than 85 percent occur as night operations.

• Human errors and deficient personnel performance factors, especially for pilots, are involved in nearly 80 percent of all mishaps. Chief among these human failings is faulty in-flight decision making; the dominant example of which entails incorrect decisions to continue into deteriorating weather, often driven by the perception of mission urgency. Disregard for program weather minimums before takeoff is far less a problem than the temptation to press on during en-route phases when weather can actively deteriorate. Accordingly, IFR qualification and competency, so that recovery from inadvertently encountered weather can be reliably accomplished, is shown to be irreplaceably valuable to safe EMS flight operations, as is regular program review of correct prioritization between mission urgency and conservative aviation discipline.

• Pilot experience levels are a clearly identifiable factor. Surprisingly, relatively junior pilots, below 3,000 hours of flight experience, and relatively senior pilots, having recorded over 6,000 hours, are statistically less accident-prone than those middle seniority pilots of between 3,000 hours and 6,000 hours. (Most Vietnam-era pilots, traditionally comprising the majority of EMS operations in years past, usually show more than 6,000 hours of experience. That group, interestingly, will be concluding its participation over the next few years, a math reality that is certain to affect fleet average pilot experience levels.)

• Crew coordination demands, to include multiple radio use workload, traffic avoidance in high density airspace, and task interruption due to frequently required multi-tasking, particularly when compounded by marginal weather and poor visibilities, can compromise safety margins dramatically. Recently introduced technological innovations, such as NVG equipment, can provide improved safety performance in peripheral ways, but these additions to the working environment also represent ancillary layers of operational complexity, along with increased opportunity for distraction from fundamental decision-making, and they cannot eliminate the most dangerous elements that continue to contaminate EMS safety performance.

These days we are not seeing the horrific accident rates which plagued EMS helicopter operations during the early 1980s, nor are we enjoying the relatively safe halcyon days of the middle 1990s, when EMS activities had matured and the number of substantively experienced participants matched the volume demands of the time. Our safety challenge today consists mainly of hiring, training and correctly using high quality pilots, who can deliver superior judgment and effective leadership. **Read the full column at www.rotorandwing.com**

NATIONAL TRAINING AND SIMULATION ASSOCIATION

THE WORLD'S LARGEST MODELING & SIMULATION EVENT

I/ITSEC | INTERSERVICE/INDUSTRY TRAINING, SIMULATION & EDUCATION CONFERENCE

NAVY USMC AIR FORCE '12 ARMY INDUSTRY

Why I/ITSEC?

- 19,000 Industry Professionals
- Over 550 Exhibiting Companies
- 160 Technical Sessions/Tutorials

THE POWER OF INNOVATION

ENABLING THE GLOBAL FORCE

Save the date!
December
3-6, 2012
www.iitsec.org

A ITEC Affiliate of NDIA
National Defense Industrial Association

DECEMBER 3-6, 2012 ▶ ORLANDO, FLORIDA

(THINK INNOVATION)

Our commitment to ongoing investment in technology and product development provides Eurocopter customers with innovations in flight safety, reduced operating costs and improved environmental performance.
How to make helicopters that work better.

Thinking without limits

AMERICAN EUROCOPTER

AN EADS NORTH AMERICA COMPANY