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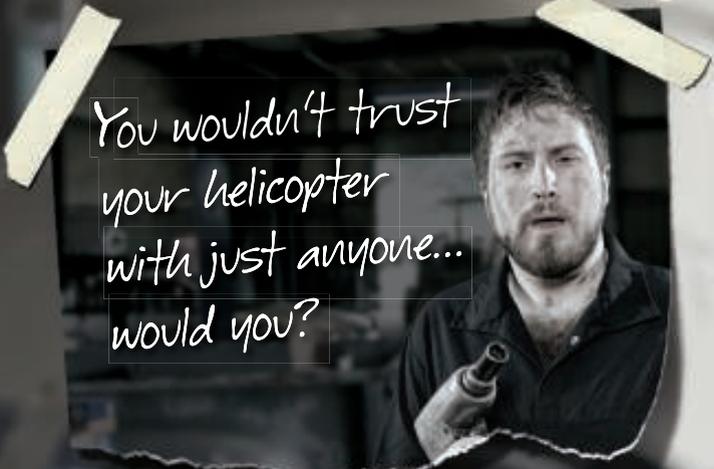
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AW609 *Cleared for Takeoff*

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Editor's Notebook

People Drive Recovery, Not Just Products

aparker@accessintel.com



By Andrew Parker

Writing this while on a plane back from Dallas after a busy and eventful Heli-Expo, I'm finally getting the chance to finish a thought that struck me early on during the non-stop four-day event.

Let's be honest—the world's largest rotorcraft event is about people. As much as “the blitz” of new helicopters, equipment, upgrades, technology developments, STC programs and the spectrum of unveilings is important to the helicopter industry, people are what drive the economy, and the slow but steady recovery that many are predicting.

It was the first Heli-Expo in a long time where industry legend Frank Robinson didn't make an appearance, with CEO Kurt Robinson—resembling his dad—talking about a doubling of production and a positive response to the R66 turbine.

“Businesses are just people,” said Lynn Tilton, owner of MD Helicopters, during her annual press conference (see story on page 16).

“In the end, across 76 companies, I can tell you, our success is determined by the people who stand together to move [the company] forward into the future.”

Bell CEO John Garrison emphasized the importance of people in the development of the 525 Relentless, with hundreds of the company's employees in attendance wearing black shirts with a red “R” during the Feb. 12 launch. (See story on page 12. To watch a video of the unveiling, visit www.rotorandwing.com)

Russian Helicopters CEO Dmitry Petrov reported that the company's group of a dozen subsidiaries pro-

duced 265 helicopters during 2011. Russian Helicopters employs around 40,000 people in total.

“This year we will produce more than 300,” he explained, “so our sales and output will experience a steady level of growth of about 20 percent annually, in terms of both units and revenue.”

Petrov predicts that Russian Helicopters will “maintain the same pace in the coming years. Why I can be confident in saying this is we have an extensive and diversified firm order backlog,” including, on the military side, with the Russian Ministry of Defence through 2020.

“We've also experienced great sales in the domestic market—civil helicopters both for exports and for large commercial operators inside Russia.” As a result, the company's sales are expected to reach approximately U.S. \$5 billion, Petrov added.

People are a big part of NetJets founder and former CEO Richard Santulli's success. All of his senior management team “came with me” to his latest venture, Milestone Aviation Group, a helicopter leasing company that was founded in 2010 after raising \$500 million in private equity. Santulli is chairman of the Dublin-based company.

During Heli-Expo, Milestone announced orders for 16 Eurocopter EC225s and three Sikorsky S-92s, in addition to establishing a global support partnership with Turbomeca covering engines and maintenance. Santulli also noted recent agreements worth \$25 million with Bristow and \$75 million with CHC.

Santulli explained that after leaving NetJets, his team asked whether

the business jet market was really a sustainable long-term business due to its cyclical nature.

“We went back and looked at the helicopter business at the same time and realized that of the four major OEMs, only one had a financing company under its belt. The other three didn't,” he said. “When we studied the oil and gas business, and EMS, we realized that there's a leasing demand, especially globally.”

Back to the point: The helicopter community resembles a family—albeit more of a large, extended family with lots of squabbling, internal rifts over viewpoints and discussions about how to best improve safety—but a family no less.

The people in this industry are what makes it so dynamic, and what drives much of the dedication that goes into making helicopters as safe and reliable as possible. The International Helicopter Safety Team (IHST) continues to push forward with efforts to reduce the accident rate by 80 percent, adding a new partner, Russia and the CIS, to the global effort to increase safety. (See story on page 26.)

Of course, helicopters and equipment—the “nuts and bolts,” if you will—are major drivers of the economy. While each year's new product releases and updates are very important, as simple as it sounds and as many times as it's been said, it all boils down to people. 🚁

For more photos, videos and post-show news from Heli-Expo 2012, visit www.rotorandwing.com and our dedicated landing page for the event: www.aviationtoday.com/rw/helixpo2012 

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(Above) Matt Zuccaro, holding scissors, officially opens Heli-Expo 2012 to the public. (Bottom) Close-up of the Texas Department of Public Safety's Spectrolab searchlight on an Eurocopter AS350B3. (Right) Bambi Bucket releases water during a firefighting demo on the Heli-Expo show floor.

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On the Cover: AgustaWestland AW609 (formerly the BA609) during a Feb. 11 demo flight at the manufacturer's facility in Arlington, Texas. *Photo by Ernie Stephens, Editor-at-Large*

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HELI-EXPO 2012 COVERAGE

- Visit www.rotorandwing.com for Heli-Expo news, photos, videos and other reports from the show floor. There you will find a link to our Heli-Expo 2012 page, where all the show happenings can be found in one place: www.aviationtoday.com/rw/heliexpo2012. You'll also find links to *Rotor & Wing's* Facebook, Twitter and LinkedIn pages, where you can share your own commentary, photos, videos and insights about the event. 

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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.

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

WEEK OF MARCH 26

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

WEEK OF MARCH 26

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

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Feedback

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Aerodynamic Braking

After reading Ernie Stephens' *Sikorsky S-92 Pilot Report* (February 2012, page 32), I thought I would take a couple of moments to identify some clarifications regarding the article.

FlightSafety does not train nor does Sikorsky recommend "aerodynamic braking." While that specific reference is not used in the Rotorcraft Flight Manual, the guidance in the RFM does include the following phrases: "Use collective to cushion landing" and "After touchdown, neutralize cyclic and simultaneously reduce collective to minimum." The danger is a potential for the main rotor system to come into contact with the tailboom. That situation is always a bad thing. In fact, braking capability in a rolling landing event is improved once all gear are on the ground once the collective is lowered and the cyclic is neutralized. This is due to the negative lift (not very much) and increased friction that is available in that situation.

In the paragraph that starts, "Of special interest..." Mr. Stephens mentions the "in-flight diagnostic system." I have to assume that he is referring to the health and usage monitoring system (HUMS) identified one paragraph earlier. While he correctly indicates that the aircraft can perform a track and balance examination, it's misleading to claim that the system makes the appropriate adjustments to permanently correct the problem while cruising at altitude. The track and balance sub-routine Mr. Stephens references is actually only collecting vibration data, analyzing and generating a recommended adjustment schedule to be accomplished by a technician once the aircraft returns to the ground. It remains very much a hands-on technique of correcting track and/or balance issues with weights, turns of flats, bending trim tabs, etc. Additionally, that very HUMS function is actually making and storing those calculations any time the aircraft is

R&W's Question of the Month

What do you think of Bell Helicopter's decision to name its 525 super medium transport 'Relentless'?

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

operated in any of the predetermined regimes for specified period of time. Those are then downloaded with the rest of that flight's data collected for review by maintenance technicians. The system recognizes when those regimes are flown and the data is captured without prompting by the pilot. However, the pilots can command track and balance data collection when such a need exists.

In the next paragraph, the sentence that includes "that same set of force generators" appears to be a continuation of the previous thought but is actually unrelated. The force generators are associated with the built-in vibration control system (labeled AVC on the left overhead panel in the cockpit). Those force generators (either three or six pairs) do isolate rotor vibrations and produce a counter vibration of up to 500 lbs per pair that effectively tunes out the undesirable vibratory loads. However, with the exception of the preproduction flight test prototypes, the system cannot isolate, or tune out the vibrations in or to a particular area of the aircraft.

Lastly, only a small percentage of the main rotor blades are titanium. That material is limited to the erosion strip along a portion of the leading edge. The blades themselves are fiberglass skin, a graphite and nomex spar, and a nomex honeycomb core. The article suggests the entire blade is titanium, which would be somewhat prohibitive. Despite some of the desir-

able attributes of titanium, it would not be a suitable primary ingredient in the manufacture of any M/R blades.

Casey Duke
Director of Pilot Training
FlightSafety International

From Facebook

The following comments appeared on *Rotor & Wing's* Facebook page: www.facebook.com/rotorandwing



(Responding to a photo of the new Bell Helicopter 525 Relentless):

Wow, there is a cool ride! Can't wait to see the numbers!!

Jeff Labbe

[It] looks like a Bell 214ST and an AgustaWestland AW139 had a baby.

William Riddell

Can I get that to go with missiles, rockets and guns, please?

David Shahal

Wow, nice!!! I see the Sikorsky S-76 and AgustaWestland AW139 in this design.

Emile Sheriff

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.

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Meet the Contributors

CLAUDIO AGOSTINI, aerospace and defense consultant, has been engaged with helicopter market competitive intelligence for more than 20 years. He has been writing for *Rotor & Wing* about helicopters in Latin America since 1999.



He has also been engaged with local helicopter events and seminars since 2002, and regularly provides support in some areas to the Brazilian Association of Helicopter Pilots (ABRAPHE) in São Paulo, where he is based. Although not a licensed pilot, he's had the opportunity to fly in a wide range of helicopters, from the Robinson R22 up to the Mil Mi-26, in many parts of the world.



LEE BENSON is the retired senior pilot for the Los Angeles County Fire Department. Before he was named senior pilot, Lee ran the aviation section's safety and training programs, including organizing the section's yearly safety meeting with other public agencies and the press.

ANDREW DRWIEGA, Military Editor, is a senior defense journalist with a particular focus on international military rotorcraft. He has reported on attachment from Iraq three times (the latest of which was with a U.S. Marine Corps MV-22 squadron), and three times with British forces in Afghanistan (Kandahar and Camp Bastion), as well as from numerous exercises. He has flown in a wide variety of rotorcraft including the MV-22B Osprey, AH-64D Apache, Rooivalk and many others.



PAT GRAY is our "Offshore Notebook" contributor, having flown in Gulf of Mexico helicopter operations for 20-plus years. Prior to that, he was in Vietnam in 1958 as a young paratrooper. He retired from the Army Reserve as a chief warrant officer 4, with more than 30 years active and reserve service. Gray's civil helicopter experience covers crop dusting and Alaska bush, corporate, pipeline and offshore flying.



ROBERT MOORMAN has written for more than 25 years about the aviation industry, including rotorcraft. His articles have ranged from topics on commercial, regional, cargo, maintenance, training, safety, information technology and business aviation, to the U.S. military. Moorman runs his own freelance writing and communications business in the Washington, D.C., area.

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

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ERNIE STEPHENS, Editor-at-Large, began flying in the 1980s, earning his commercial pilot's license and starting an aerial photography company as a sideline. In his regular job as a county police officer, he was transferred to the department's newly established aviation unit, where he served as the sergeant in charge and chief pilot until his retirement in 2006.

TERRY TERRELL gained his early aviation experience as a U.S. Navy fixed-wing instructor and U.S. Coast Guard aircraft commander, where his service included SAR in Sikorsky S-61s. Terry served as a cross-qualified captain and safety special projects officer with Houston's Transco Energy, and later with Atlanta's Kennestone AVSTAT Helicopter Ambulance Program and Georgia Baptist LifeFlight. ✈️





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■ COMMERCIAL | AIRFRAMES

Bell 525 Relentless, Eurocopter EC130T2 Debut at Heli-Expo

Two dramatic launches—mood music, helicopters behind screens and clever audio visual presentations—accompanied the launches of the Bell 525 Relentless super medium transport (SMT) and the Eurocopter EC130T2.

While you can find the full specifications elsewhere in this news section, Bell President & CEO John Garrison told a packed audience that this was “Bell on a mission to revitalize our commercial business.” He also keenly emphasized Textron’s belief in the helicopter business after years where Bell has, to some extent, been seen as the weakest OEM among the four major helicopter makers. It lost international market share and has seemingly suffered from its long-term commitment to the development of the tiltrotors—both the military V-22 and civil BA609.

However, it has now rid itself of any further responsibility for the (now re-badged) AW609—unless AgustaWestland manages to turn it into a military aircraft in the future (and then we are led to believe it may have an interest again). The V-22s are nicely into production and have served with the U.S. Marine Corps and Air Force in war zones, but the now steady acquisition has poured regular income into the company’s coffers, even if the Department of Defense cuts back on production. And now a new five-bladed, 10-ton helicopter, the Bell 525 Relentless has been launched with the corner just having been turned from the bad times of the last few years.



Eurocopter’s EC130T2 will feature Turbomeca Arriel 2D engines.



Bell took the wraps off its 525 Relentless super medium transport on Feb. 12 in Dallas.

The crowd then moved, well hiked if truth be told, from one end of Heli-Expo to the other to see Eurocopter’s launch. The clock stuck midday ... and we waited, and waited a little longer for the throng to make it over to this second unveiling. Emphasizing Eurocopter’s historic pedigree going back to the early European pioneers—George Wolf, Juan de la Cierva—the curtain pulled back the wraps on the EC130T2, a Turbomeca Arriel D2-powered single engine helicopter. Its improvements were said to include 10 knots higher cruise speed, 2 percent less fuel consumption, better hot and high performance and a higher sling load of 30 percent. Six out of seven new customers lined up to support Eurocopter (see photo, page 30) by saying the company had delivered what they had asked for in this type of machine—among them Maverick, Papillon, Enloe (an EMS provider) and Blue Hawaiian. Quotes included: “The day we flew it, you hit 100 percent”; “You made a good helicopter even better,” and praise for it being cost-effective. Eurocopter was even happier with the current orders—105 between the seven launch customers! —By Andrew Drwiega, Military Editor



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■ PRODUCTS | TILTROTOR

AgustaWestland AW609 Gets Back on Track (Again)

Photo by Ernie Stephens

AgustaWestland's AW609 during a Feb. 11 demo from its new facility in Arlington, Texas.



As the biting sub-zero wind blew across Arlington Airport Municipal, the gathered members of the press waited for the AW609 to take off and begin its pre-Heli-Expo demonstration flight. The occasion centered around AgustaWestland's invite to the press to visit its new facility at Arlington, the location of the AgustaWestland Tiltrotor Company.

This is where AgustaWestland is going to continue with the certification process, taking over from Bell Helicopter. The agreement for AgustaWestland to become the sole owner of the 609 program became effective on Nov. 15, 2011, although as Robert LaBelle, management director, stated there will still be up to 100 Bell employees involved (including test pilots) on a subcontractor basis.

The plan is to gain FAA certification by the first half of 2016 followed by EASA validation in Europe. "Customer deliveries will begin soon after," said LaBelle. Surprisingly, the two test aircraft have only flown 630 hours since they were built. LaBelle says that the program is now to push through to certification with a budget that will not be cut. Another two test aircraft will join the second flying AW609 in Cascina Costa, Italy, the third from 2013. LaBelle said that the company currently expected a production run of between 450 to 500 aircraft.

There are still 40 customers waiting for their tiltrotors, with 70 aircraft in the order books. The actual price per aircraft is going to be released, according to the AgustaWestland, around two years before production begins.

Vertical takeoff weight is still set at 16,800 lbs., although the company is looking into trying to increase that for short takeoff/landing missions. The range is 700 nm at a maximum speed of 275 knots. Fifteen percent of the flight envelope remains to be tested as well as deicing certification, which will be conducted on the third aircraft.

In the contractual hand-over AgustaWestland has secured the transfer of intellectual property rights, three prototype aircraft, existing certification credits, production tooling and test rigs.

In flight, the AW609 was relatively quiet, even in aircraft mode, and pleasing on the eye as it went through fly-bys, high performance turns and passes and other maneuvers with the nacelles at 50 degrees. The 'elephant in the room' as far as the

future sales of the AW609 are concerned is that the first flight of the Bell-Agusta 609 occurred on March 7, 2003, nearly nine years ago. Its predecessor, the Bell XV-15, first flew on May 3, 1977. And now at best customer deliveries will begin in 2016. There is little doubt that AgustaWestland's commitment is genuine in putting the weight of the company—and its reputation—behind finally certifying the AW609. But at what cost to the customer per aircraft—and what will Eurocopter's X3 and Sikorsky's X-97 technology demonstrators feed into their product lines by that time? —By Andrew Drwiega, Military Editor

AW609 Shows Its Capabilities

Members of the media attending Heli-Expo in Dallas were treated to an aerial performance of the AgustaWestland AW609 tiltrotor. The demonstration flight took place at Arlington Municipal Airport (KGKY), just outside of the aircraft's local hangar. At the controls was senior program test pilot Pietro Venanzi.

The AW609—formerly the BA609, when Bell Helicopter was a partner in the program—launched from an area just out of sight of the crowd, and made its initial pass with the engine nacelles tilted slightly forward to produce what appeared to be about a 25-knot air taxi. It then paused in front of the wind-chilled spectators, where it performed smooth, hovering pedal turns through the 15-knot wind. Then, off it went.

A few seconds later, Venanzi returned at low altitude, driving the AW609 with its rotors in full airplane mode. The white and red aircraft blasted past the onlookers at well over 150 knots before executing a series of banking and twisting maneuvers with the agility of a bird of prey.

The demonstration concluded with a slower recital performed directly in front of the crowd at approximately 50 feet above the taxiway. With its rotors pointed straight up in helicopter mode, the aircraft slid from side to side, performed pirouettes, and ducked its nose, as if to be bowing to the appreciative audience. Venanzi then glided the aircraft into a run-on landing, and taxied it back its hangar. —By Ernie Stephens, Editor-at-Large

MILITARY | AIRFRAMES

Sikorsky CEO Jeff Pino's View from the Top

Igor Sikorsky “thought the helicopter was only here to save lives,” said Jeff Pino, president and CEO Sikorsky at the start of his Heli-Expo briefing. “We’ve kind of counted how many lives have been saved by Sikorsky—and come up with two million!” Was he joking?

According to Sikorsky’s own archives, the first civilian helicopter rescue took place on Nov. 29, 1945, when a Sikorsky R-5 rescued two men stranded on a floating oil barge on the East Coast. That gives us 66 full years (as I write this in February 2012). That’s 30,303 lives saved per year—or 83 people on average every day since 1945. Wonder where they got the figures from?

The next set of figures, Pino was bound to have spot-on. He announced that the company registered \$7.4 billion in sales for 2011, which he said represented a “tremendous growth path since 2005.” He views Sikorsky and Eurocopter as equals.

“We’re starting to change the pie between the U.S. government and the rest of our revenue sources,” he said. All three of the business segments were now delivering helicopters, but the big numbers are still with the Department of Defense: “125 Black Hawks, 66 Naval Hawks and six other major mods that we just don’t talk about,” but could be flying over a terrorist hideaway in foreign lands as we speak—he might have added.

Civil Segment Wins Over Nine

“From height of market back in 2008 we have seen a downward trend as the market went through capitalization issues, but at the end of 2011 we brokered over 26 S-92 orders in December alone,” he said.

“A couple of things drive our position in the civil market. Historically, it has always been a nine passenger and above kind of world. And that’s still driving the marketplace,” Pino stated. The age of that nine-plus passenger fleet is a factor too, around one third of it is approaching 30 years of service. Many of the offshore oil contracts require aircraft of only 10 years old—so that’s why the exhibitor floor at Heli-Expo will be busy, he explained.

Gorilla in the Room

The military business is “70 percent of our company—worth \$4.5 billion in 2011 (more than the whole of Sikorsky in 2007). It has grown 20 percent annually compound growth rate over the last five years—our programs of record with the DoD are the envy of the industry.” Black Hawk and Naval Hawk will continue “at the level of today for the next 15 years and there’s nobody else here who can say that,” he said. But we are still going to position ourselves to make up



Photo by Andrew Parker

Jeff Pino addresses the press at Heli-Expo 2012.

military shortfall with international work. There are over 1,000 international Hawks flying today—we also delivered our first international Black Hawks from Poland,” including three to Saudi Arabia and one to a customer in Mexico.

Military budgets are coming down—its a historical cycle, he says. A peak in Vietnam, a peak during the Reagan years, and a peak that has just passed, “but we still look forward to our next multi-year being signed in July this year.”

The thing Sikorsky is “most proud of is that our Black Hawks have flown 1.4 million combat flight hours without one Class A accident caused by material defect or workmanship defect by our factory. Seventy percent of accidents are due to controlled flight into terrain. We are currently in negotiation/and been selected for another \$5 billion of international orders, and there are another \$8 billion that we are also chasing,” he explained.

“The CH-53K is the only ongoing government funding program—same design spec but will lift 27,000 lbs. more. I want to tell you that at this point in time the program is running absolutely perfectly. We have three aircraft on the production line and we will fly the aircraft in 2014. The program of record is for 200 aircraft (with another 100 in the works). We think everything else in the DoD is slipping.”

The Future

“What we’ve asked our engineers to do is focus on three bright and shiny objects—as they like to do. The speed of the helicopter; actualization (self-awareness and environmental awareness); and to allow optionally piloted helicopters.”

This year, Sikorsky will “begin not only hub-mounted vibration, but testing on rotor blades that can morph themselves, when an application can be punched [in] to say I want the rotor system for the next 20 minutes to be quiet, fast and that lifts. That’s in Q2. Then a fly-by-wire Black Hawk will do a complete resupply mission in Q2—with a crew and without a crew with full autonomy. In our labs we have actually auto-rotated a Black Hawk autonomously.”

When money doesn’t come to industry from government and private industry puts up the money, “we can do it [a project] in about of a quarter of the cost and time,” he concluded.

—By Andrew Drwiega, Military Editor

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- Sikorsky S-76D – West Palm Beach, FL*
- Pilatus PC-12 NG – Dallas, TX*
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- Bombardier Global 6000 – Columbus, OH*
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- Embraer Legacy 500 – St Louis, MO[‡]
- Embraer Legacy 600 – St Louis, MO; Houston, TX; Paris, FR
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- Gulfstream G280 – Dallas, TX*
- Gulfstream G450 – Dallas, TX*
- Gulfstream G450 – Hong Kong*
- Gulfstream G550 – Dallas, TX*
- Gulfstream G550 – Hong Kong*
- Gulfstream G650 – Savannah, GA*
- HondaJet – Greensboro, NC*

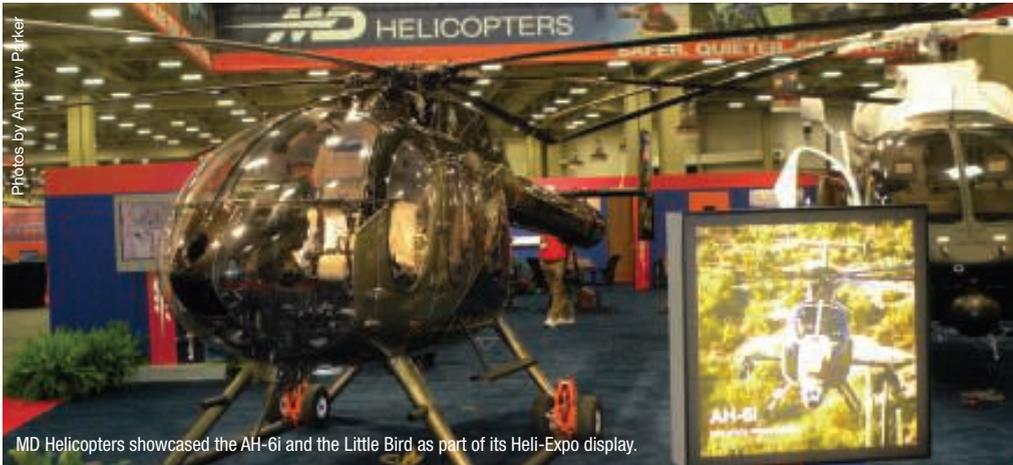
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Photos by Andrew Parker

MD Helicopters showcased the AH-6i and the Little Bird as part of its Heli-Expo display.

■ PRODUCTS | AIRFRAMES

A Modern Love Affair: Lynn Tilton and the U.S. Army

Lynn Tilton's press conference at every Heli-Expo is always one keenly anticipated by the media, as Tilton herself freely admitted: "They come more to see what I am wearing than what I am saying."

But MD Helicopters is now less in need of her flamboyance than at any time since Patriarch Partners (her investment company) took control in 2005. The clincher to this change has been that MD Helicopters has now tasted the so long-forbidden fruit of U.S. Army purchasing and the revenue it generates.

In March 2011, MD Helicopters won the contract to supply six MD530F helicopters through the Department of the Army to be used in Shindand, Afghanistan to train Afghan Air Force pilots. There are a further 54 options outstanding. The contract is categorized as Non-Standard Rotary Wing Aircraft (NSRWA).

"That brought us together as a company," said Tilton, adding that she has never been more proud of her employees' reaction when given "the opportunity to perform."

"We proved ourselves to be more than valid. We delivered six helicopters in six months to Afghanistan and we are now assisting in the training Afghanistan pilots... We took a group of people [MD employees] and pushed them hard so that they could taste success."

This resulted in 2011 being a year of "stability and finding our balance to move forward," something she has demonstrably longed for during the hard times of working to return the 'lame duck' company back to respectability and credibility. For the Army to partner with her again, after the dark days early on of bad feelings when they selected Bell's ARH-70A Arapaho (later canceled) armed reconnaissance helicopter instead of her Little Birds, represents a great achievement. It is not something that would have happened even two years



Lynn Tilton speaking during her Heli-Expo 2012 press conference.

ago. In fact, this one event was "the highlight of her year." Tilton can also see further military riches on the horizon as Boeing pushes the AH-6i into the world market as a mini-Apache "with attitude." There is a first order of 24 aircraft with more to follow. She's had setbacks too. When the helicopter EMS contract for the Saudi Red Crescent and its potential to rapidly widen into a Gulf Cooperation Council project fell through, she personally lost millions of dollars over the deal.

"Next year we will be talking about our new aircraft," she concluded. "I am excited about the future—more excited today than I have felt in a long time." She is still backing America and the rise of China and its strategic inroads into American business and way of life fires the "just bubbling below the surface" patriotism that she is (in)famous for. Perhaps an example of this new confidence is the fact that she was talking about a NOTAR roadshow to educate "the masses" about the benefits that technology brings over the standard tail rotor.

"We need to start marketing that with great force," she said. If Tilton has moved to addressing such issues, the days of merely fighting for survival look to be in the rear-view mirror.

—By Andrew Drwiega, Military Editor

■ SERVICES | REPAIRS

CTI Opens \$15M Whirl Tower

Sikorsky Aircraft subsidiary Composite Technology Inc. (CTI) invited local officials to its Dallas-Fort Worth rotor blade repair facility on February 14 for the opening of its new whirl tower. The \$15-million “rig” and control room are diagnostic tools used to conduct controlled tests of rotor blades under simulated operational conditions.

When damaged or repaired blades need to be tested, CTI technicians can mount them on the whirl tower’s high-tech rotor hub, along with a master that is known to be completely flawless. The tower then rotates the blades while sophisticated lasers identify the changes required to make the test blades match the master blade.

As an authorized rotor blade repair station for several aircraft manufacturers, CTI is capable of testing any blade on the whirl tower—regardless of who manufactured it, or the direction the blade was designed to rotate in—as long as it has a master to work from.

“This is twice as large as any whirl tower in the Sikorsky family, and we’re the largest helicopter company on the planet,” said Sikorsky President Jeff Pino. “This will hold the Marine Corps’ Super Stallion rotor blades, and that’s a helicopter that can lift 88,000 pounds.” To take a video tour of CTI’s whirl tower, go to www.rotorandwing.com



Photo by Ernie Stephens

A technician inspects a blade mounted on CTI’s new whirl tower. The system uses computers and lasers to compare test blades to a perfect “master” at operational rotation speeds.

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■ COMMERCIAL | MARKET OUTLOOK

Honeywell Forecast: Asia, Latin America Emergence Continues

While the future is inherently hard to predict (especially when it comes to the economy), the more than 1,000 chief pilots and flight department managers who were questioned for Honeywell's 14th annual Turbine-Powered Civilian Helicopter Outlook plan to buy "strong" in 2012, but are uncertain about 2013 and beyond. The survey, which represents a pool of operators flying almost 2,500 helicopters, examines the five-year period covering 2012 to 2016. Rolls-Royce decided not to conduct a rotorcraft forecast this year, according to a company spokesman.

Despite "lingering tight credit conditions" and a large fleet of used aircraft available, manufacturers are projected to deliver between 4,700 to 5,200 helicopters over the course of the half-decade, which "still" amounts to an increase over the previous five years of 2007 to 2011—a period that includes the downturn that started in 2008. In the short term, the outlook is very positive—up 30 percent over 2011. Examples of this were apparent during Heli-Expo, with a number of new purchases announced, including Eurocopter securing orders for 105 EC130T2s from seven launch customers.

But it gets a little cloudy after that, with operators holding cards closer to their vests. Concerns about slow economic growth "has increased the level of uncertainty in purchase plans past 2012," according to the report. Purchasing could increase in the short and long terms if "political and general

economic conditions improve," it continues. The development of the Chinese market could offset some of the "softness" experienced in other regions such as the U.S. and Europe, which are expected to see a decrease in fleet replacement and expansion purchases.

Latin America has the highest rate of replacements and additions among all regions classified in the survey (broken down into North America, Europe, Latin America, Asia and Middle East/Africa), with around 40 percent in 2011. While that represents a decrease from 2010's record number of about 60 percent, the figure places the region among the highest in the world. Asia and Latin America are tied for the world's third largest markets, following North America and Europe. Global demand for new turbine helicopters is split roughly 50-50 between North/South America and the rest of the planet, according to the study.

For the 2012 iteration of the outlook, Honeywell asked respondents about satisfaction levels and whether they would recommend the current helicopter they fly. With the disclaimer that there were "many other makes/models currently in production that received excellent scores" but didn't make the top five, the quintet that accounts for 45 percent of all specific make/model responses consists of the AgustaWestland AW109, Bell 407 and 429, Eurocopter EC130/AS350 series and EC145. — *By Andrew Parker, Editor-in-Chief*

■ COMMERCIAL | OFFSHORE

Bond, Lider, ASES Order Sikorsky Variants

Sikorsky has signed with Brazilian operator Lider Aviacao to provide three S-92s. Lider will use the helicopters for offshore oil and gas transport for Petrobras. The purchase adds to Lider's fleet of four S-92s and 42 S-76s. Sikorsky expects deliveries to begin later this year.

Mexican operator Aeroservicios Especializados (ASESA) has reached an agreement with Sikorsky for assembly, service and support opportunities with UH-60 Black Hawks. The Mexican Air Force, Navy and Federal Police fly a combined fleet of 21 UH-60L and UH-60M Black Hawks, with the Federal Police receiving another two helicopters this year. ASES is a subsidiary of Grupo Lomex, an offshore oil and gas operator.

Also expanding its S-92 fleet is Bond Aviation Group, with an order for 16 new helicopters. The purchase is the largest one-time order for the variant. Each of the helicopters will be equipped with an ice protection system for the main rotor blades, a satellite flight following communications system, two life rafts that are auto-deployable, and five flotation devices. The modifications are required by EASA for offshore oil and gas operations in the North Sea. Bond parent company, World Helicopters Group, expects deliveries to begin in 2013.



Photo by Andrew Parker

Marcenco Swisshelicopter brought its SKYe SH09 to Heli-Expo for the second year in a row, unveiling the high-visibility cockpit for the helicopter, which features Sagem displays.

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■ TRAINING | PUBLIC SERVICE

Enstrom Displays JGSDF Trainer



Enstrom has started delivering 30 TH-480B, single-engine, turbine helicopters to the JGSDF. The aircraft will be used primarily for helicopter training.

Heli-Expo 2012 served as the backdrop for showing off one of 30 Enstrom TH-480B aircraft purchased by the Japanese Ground Self Defense Force (JGSDF) for use as its primary helicopter trainer. The blue and gold, single-engine turbines began replacing the force's aging fleet of OH-6 trainers in early 2011.

"The total design of this helicopter is built around training," said Jerry Mullins, president and CEO of Enstrom. "The visibility [and] seating arrangement is important to training."

The TH-480Bs were built at the Enstrom plant in Menominee, Mich., and shipped to Aero Facility Co., Enstrom's representative in Japan, for final delivery to the JGSDF. — *By Ernie Stephens, Editor-at-Large*

■ PRODUCTS | AVIONICS

Garmin Obtains Robinson R44 Approval

Olathe, Kan.-based Garmin has received an FAA supplemental type certificate (STC) for its G500H installation on the Robinson R44. Garmin announced the STC program at Heli-Expo 2011 in Orlando. The approval allows Garmin dealers to install the G500H on models of the R44 equipped with a 10-hole instrument panel. Those with seven or nine-hole panels will be able to install Garmin's PMA'd parts kit, which will replace the instrument panel with a Garmin-designed assembly optimized for the G500H. —

■ SERVICES | MAINTENANCE

Cadorath Expands on Multiple Fronts

Cadorath Aerospace highlighted a number of recent developments during Heli-Expo. The company introduced its new AeroParts website, which serves as a resource for parts repairs, exchanges and sales. Cadorath has also acquired a machining shop in Winnipeg and two CNC Machining Centers to offer additional support for its Bell Helicopter and Rolls-Royce component rework programs. The developments come after Cadorath handed over a Bell 206L3 to PJ Helicopters in Red Bluff, Calif. The firefighting and utility operator has a fleet of 19 helicopters, including the 206B3, 214B, 407, UH-1 and MD500. —

■ COMMERCIAL | OFFSHORE

Greenwich Buys into Helivia

Summit Aviation parent company, Greenwich AeroGroup, has acquired an economic interest in Rio de Janeiro-based Helivia Aero Taxi, marking the company's entrance into the Brazilian market. Helivia services the oil and gas industry, flying missions to rigs as far out as 120-160 miles offshore, with a safety record that caught Greenwich's attention, according to Gerry Goguen, executive vice president of Greenwich. "It has a 24-year history of operation with no accidents, with more than 200,000 hours of flight," he said.

According to Greenwich CEO Jim Ziegler, as part of its 60 percent economic investment in Helivia—the maximum allowed for foreign investors in Brazil—the operator is adding four helicopters to the fleet, consisting of two Eurocopter BO105s for onshore flights and two Sikorsky S-76C+ variants for offshore missions, with plans to add a third S-76.

Goguen will be working with Helivia's founder, Helio Ribeiro, to develop and implement business strategies to compete in the Brazilian market.

Ziegler stated that the company intends to modify Helivia's current fleet of two BO105s and two S-76Cs from VIP configuration to offshore by adding seats, life rafts, converting windows to push-out windows, and installing emergency locator transmitters (ELTs).

Goguen said that the first step in the new partnership would be "evaluating safety programs" and whether there is a need to add AgustaWestland variants or more S-76s. "We need a larger fleet like our competitors [in the region]," said Goguen.

"The Brazilian oil and gas industry is booming and we see an opportunity to invest up to \$50 million in Helivia over the next few years," added Ziegler. — *By Chris Sheppard, Associate Editor*



Tangent Link Photos

Croman Corporation's Sikorsky S-61 empties its belly tank.

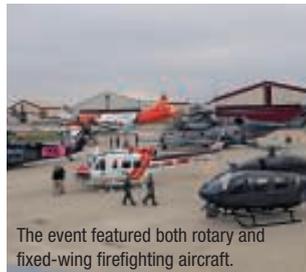


S-61 douses the field below.

■ PUBLIC SERVICE | FIREFIGHTING

Tangent Hosts Aerial Firefighting Show

UK-based Tangent Link hosted the Aerial Firefighting International Airshow and Conference in January. More than 150 attendees, including civil, government and military, converged upon McClellan Airfield in Sacramento, Calif. to see the latest in fire-suppression helicopters and technology. Event sponsor, Russian Helicopters, displayed its Kamov KA-32, with the U.S. Marine Corps featuring the Bell-Boeing MV-22 Osprey. Tangent plans to follow this show with the High-Rise Aerial Firefighting and Rescue Conference during the Dubai Helishow in November 2012. ✈



The event featured both rotary and fixed-wing firefighting aircraft.

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■ COMMERCIAL | EVENT COVERAGE

Commentary: CEOs Miss Huge Opportunity at Forum

This year's CEO Forum was shunned by most of the leading CEOs—I guess they were too busy with the grin and grip duties with the flurry of new orders (mostly saved to announce at the show) to come and make the forum what it should be, a gathering of rotorcraft giants challenging each other over issues of the day.

Is this really too much to hope for—or expect—at such an occasion, one that prides itself as THE event of the industry? The stands are grand and the visitors plentiful, according to forum moderator and HAI's executive vice president and corporate secretary, Edward DiCampli: "A day and a half in, we've broken the attendance record of 18,500 visitors and 650 exhibitors." The job fair was going well, industry was pleased with itself—but the punters who had come to hear the mighty speak were short-changed, again.

Surely when such a golden opportunity presents itself, and is actively promoted, to get the world's rotorcraft leaders together, put them on the stand and get them debating issues of the day, it is a failure of commitment when it does not happen. The pilot or engineer at the door, paying to get in and learn about his future, deserves more than this.

This is Heli-Expo, HAI's blue-ribbon event. The one day in the year when the HAI management could arm-twist the CEOs around a table and host a serious discussion, the resulting comments from which could send messages of import far wider than just the regular show and trade media.

Plaudits indeed to the CEOs who did take their time



Enstrom's Jerry Mullins (shown here at the 2011 Forum) and MD Helicopters' Lynn Tilton were the only two CEOs at the CEO Forum.

Photo by Ernie Stephens

to attend: Enstrom President & CEO Jerry Mullins and Lynn Tilton, CEO of MD Helicopters. They were joined by AgustaWestland's Louis Bartolotta, executive vice president of marketing and sales for North America, who launched into a pitch for the AW189, AW169 and AW139; Bob Hastings, senior vice president of communications and government affairs for Bell Helicopter; and Anthony DiNota, vice president of commercial sales, marketing and customer support for American Eurocopter.

What was called for was a thundering session that would pack out the standing room in the back—with more crowding the doors to get in. Instead, it was little more than corporate videos and well-spun messages that could be seen down every aisle of the exhibit area—and as a result the Forum ballroom was two-thirds empty (and I'm being generous)! —By Andrew Drwiega, Military Editor

■ PRODUCTS | NIGHT VISION

Aviation Specialties Awards NVG Operators



Photo by Chris Sheppard

NVG award winners at Heli-Expo.

ASU hosted its 2nd annual Night Vision Awards ceremony on February 12, recognizing law enforcement, EMS, public safety and transport operators.

Travis County STAR Flight took home the Mark of Excellence, with Texas DPS awarded for Community Awareness. Five-Year Service awards were given to REACH Air Medical Services, STAT MedEvac in Baltimore, Md., and Florida's Collier County MedFlight. LA County Fire Department's Air Operations Unit received a 10-Year Service award and Helicopters Otago from New Zealand was given the International Advancement award.

■ COMMERCIAL | ENGINES

Rolls-Royce Powers Up M250 for Bell 407, MD600

A new upgrade kit is available for the Rolls-Royce M250, which supplies power for the Bell 407 and MD600. The value improvement program (VIP) will lower fuel burn by 2 percent and raise hot/high performance by up to 5 percent, without increasing the weight of the engine, according to the company. Rolls-Royce received FAA certification for the upgrade—which incorporates modifications to the engine impeller and diffuser, using technology from the RR300 and RR500 programs—in late 2011 and will offer the kit to operators by the end of first quarter 2012.

Honeywell and Rolls-Royce joint venture Light Helicopter Turbine Engine Company (LHTEC) is also reporting that the CTS800 engine recently topped 100,000 hours in service. That figure covers a fleet of more than 500 CTS800s that serve a number of helicopters, including the Sikorsky X2 and AgustaWestland T129, with the engine also set to power the AgustaWestland AW159 when it enters service in the late 2012/early 2013 timeframe.

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UK-based Step Change in Safety has appointed Bristow Helicopters Capt. **Tim Glasspool** as co-chairman of its Helicopter Safety Steering Group (HSSG). Glasspool is the head of flight operations for the European business unit at Bristow and is a member of the British Helicopter Association (BHA)'s Council of Management. He also represents the European Helicopter Association (EHA) as a member of the Safety Standards Consultative Committee (SSCC) for EASA.



Twirly Birds, the helicopter pilot organization, awarded the 2012 Les Morris Award to **Elfan Ap Rees** (right) during Heli-Expo 2012. Ap Rees is the founder of The Helicopter Museum in Somerset, England and is a noted author, historian and pilot. Following his first helicopter flight in 1960, Ap Rees became a pilot and has flown in more than 80 helicopter types.

Christophe Tourné has joined Saint-Gobain Performance Plastics (SGPPL) as global marketing manager of the aerospace for the process systems business unit. Tourné will oversee the development of customized high-performance technologies and comes to SGPPL from KAPPA Optronics, where he was a key account manager and sales engineer.



Montreal, Canada-based Presagis has named **Jean-Michel Brière** vice president of sales, marketing and client services. Brière was previously with 20-20 Technologies as vice president of marketing and partnership development. Brière will be in charge of global marketing efforts at Presagis.

The Professional Helicopter Pilots Association International (PHPA)'s pilot member, Captain **Jay Slagel**, received the Helicopter Association International (HAI) Pilot of the

Year award during Heli-Expo 2012 in Dallas. Slagel was honored for landing a Sikorsky S-92 with 18 passengers aboard after the helicopter experienced a tail-rotor failure. PHPA also elected **Steven Rush** as its next president. Rush is one of the founders of the PHPA Council and is president of Office and Professional Employees International Union (OPEIU) Local 102. Rush has more than 12,000 flight hours and 8,000 simulator hours. Rush replaces former PHPA president Capt. **Butch Grafton**, who served in that role since the organization's inception in 2002.

Robert Laird has joined AAR as vice president of business development for the Asia Pacific region. Laird will be responsible for directing growth and company expansion for AAR in Asia. Laird was previously the vice president of Asia sales for Boeing, and comes to AAR with 30 years of experience in the aviation industry. ✈

coming events

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

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

April 3–6: 55th Annual AEA International Convention & Trade Show, Washington, D.C. Contact AEA, phone 1-816-347-8400 or visit www.aea.net/convention

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

May 1–3: AHS Intl. 68th Annual Forum and Technology Display, Fort Worth, Texas. Contact AHS Intl, phone 1-703-684-6777 or visit www.vtol.org

May 17–19: 5th International Helicopter Industry Exhibition (HeliRussia), Moscow, Russia. Contact HeliRussia, phone +7 (0) 495 958 9490 or visit helirusia.ru/en

May 23–24: Heli & UV Pacific 2012, Queensland, Australia. Contact Shephard Group, phone +44 (0) 1753 727015 or visit www.shephard.co.uk/events

Sept. 4–7: European Rotorcraft Forum 2012, Amsterdam, The Netherlands. Contact National Aerospace Laboratory NLR, phone +31 88 511 3165 or visit www.erf2012.nlr.nl/index.html

Sept. 26–27: The Helicopter Show, Luffield Abbey, England. Contact The Helicopter Show, phone +44 (0) 20 8330 4424 or visit www.thehelicoptershow.com

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

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:

May 21–23: AHS Intl. 69th Annual Forum and Technology Display, Phoenix, Ariz. Contact AHS Intl, phone 1-703-684-6777 or visit www.vtol.org ✈

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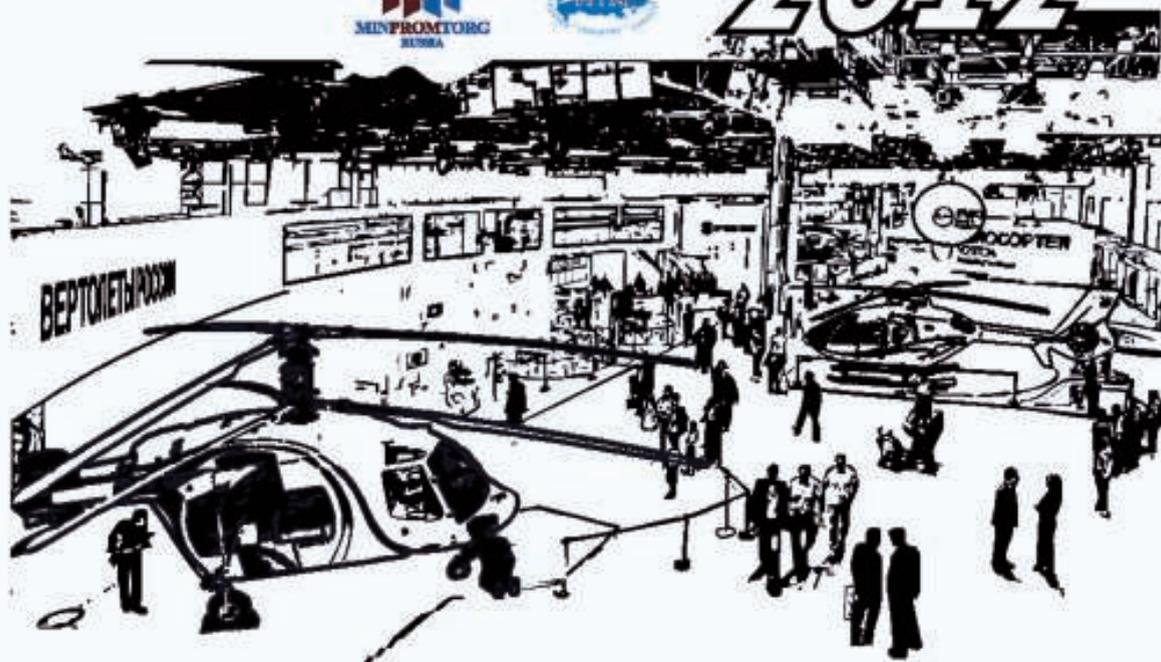
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2012



■ TRAINING | SMS

IHST Teams with Russia, Holds Safety Town Hall

During Heli-Expo, the International Helicopter Safety Team (IHST) held a town hall meeting open to all pilots, safety managers and anyone interested in helicopter safety issues. Attendees raised a number of concerns, including the lighting on wind towers and heliports that is currently invisible to night vision goggles (NVGs) in LED green, blue and red. Infrared transmitters are being fielded for placement on towers, but until then flight crews are forced to look under goggles.

The recent decision to allow unmanned aerial vehicles to fly in the National Airspace and the risk it will pose to general aviation was also addressed. A joint task force has been formed between the U.S. Air Force and FAA, and the group is currently working on the issue.

Pilots who have experienced intermittent GPS signal interruptions during flight also voiced their opinions.

IHST stated that there are a number of visual devices under production that can identify wires several thousand meters in front of the aircraft and display them for early detection by aircrews. Another device in development would allow pilots to transition from IFR to VFR in live time and use the visual display to land the aircraft.

Several pilots at the town hall mentioned they would like to have a central website to access and identify tower light status that is not shown on Notams. IHST representatives said they will address all of these issues.

Following the Town Hall, IHST announced an agreement with Russia and the Commonwealth of Independent States



Viktor Ruklinski announces the CIS' intent to partner with IHST.

(CIS) to create IHST-CIS. The CIS is comprised of Russia, Armenia, Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Moldova, Tajikistan and Uzbekistan. After studying similar organizations in Europe and the U.S., Viktor Ruklinski, director of the CIS Interstate Aviation Committee, said the group elected to partner with IHST.

“We’ve chosen the direction we want our [organization] to work, based on the experience of IHST,” said Ruklinski, adding that the IHST-CIS initiative has been presented to the aviation administrations of the region for their support. After a year, the IHST-CIS plans to present a report on what the organization has been able to achieve in lowering the helicopter accident rate in Russia and the CIS. —Compiled by Rotor & Wing staff



Left to right, Turbomeca USA President & CEO Russ Spray and Turbomeca Chairman and CEO Olivier Andries present a plaque to Metro Aviation President Mike Stanberry and Managing Director Milton Geltz recognizing Metro as the launch operator for the Eurocopter EC145T2, which receives power from Turbomeca’s Arriel 2E.

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Donaldson Hosts Inlet Barrier Filter Briefing During Heli-Expo

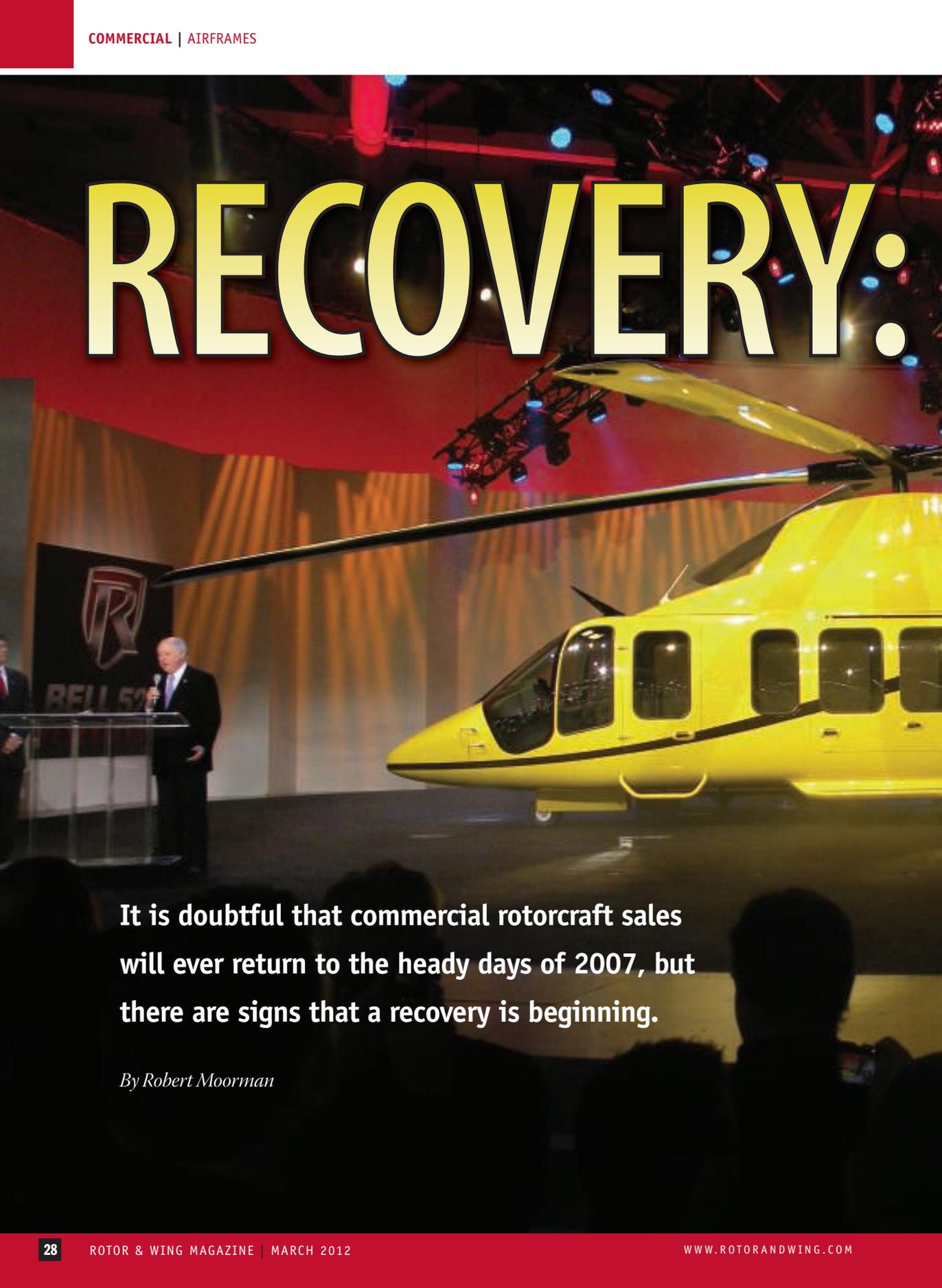
St. Louis, Mo.-based Donaldson Aerospace & Defense president Mike Scimone held a workshop, “*Engine Protection—Realizing Return on Investment (ROI) Quickly*,” explaining the benefits of inlet barrier filter (IBF) systems from foreign object damage, which can range from the usual dust, dirt and rocks to the unusual, including tree frogs and bats. Scimone related a story where he was performing an engine teardown on an MD Helicopters’ MH-6 Little Bird when he discovered a bat in the engine. Scimone displayed filters at various life cycles, with 15 being the maximum advised for Donaldson filters, to demonstrate the filter’s ability to “catch everything and keep everything out.” Scimone also presented a return on investment study of an operator with a fleet of 24 Bell 206s. “The numbers were pretty brutal ... without the IBF they were going to spend \$6.9 million” over eight years, whereas with the system, the operator only spent \$2.9 million over that same time. The session followed several operators in the U.S., Africa and the Middle East choosing IBFs for civil and military fleets. More information is available at: www.donaldson.com/en/aircraft —By Chris Sheppard, Associate Editor



Sikorsky Aerospace Services Launches Helotrac 2X

Sikorsky Aerospace Services (SAS) has unveiled a new software system for Sikorsky’s commercial helicopters, Helotrac 2X. The new web-based software is an upgrade of Helotrac RL and allows operators to access compliance information and links to OEM bulletins, FAA airworthiness directives and maintenance tracking records. Monitoring and maintenance reports, including projections, history and archives, are part of Helotrac 2X, along with the ability to interface directly with interactive electronic technical manuals (IETMs). The software is available for the S-70i, S-76, S-92 and S-434, as well as other helicopter types and fixed-wing aircraft. SAS expects that inventory maintenance work orders and ground support asset tracking (GSATS) will be available for the software before the end of 2012. For more information, visit www.sikorsky.com

RECOVERY:

A yellow Bell 520 helicopter is the central focus, displayed on a stage. The background features a red wall and a large 'R' logo on a screen. A man in a suit is speaking at a podium to the left. The scene is lit with dramatic stage lights, including spotlights and blue and red ambient lighting. The overall atmosphere is that of a formal product launch or presentation.

It is doubtful that commercial rotorcraft sales will ever return to the heady days of 2007, but there are signs that a recovery is beginning.

By Robert Moorman

REAL OR IMAGINED?

Bell uncovered its 525 Relentless during Heli-Expo 2012 with a production that resembled a rock concert. *Photo by Andrew Parker*

2011 was supposed to be the year of recovery for rotorcraft manufacturing, but volatility in the financial markets plus ongoing debt woes for some European countries prompted buyers of all stripes to wait and forecasters to rethink their initial prognostications. Even with noteworthy orders and deliveries in certain segments in 2011, such as the offshore oil and gas business, euphoria was replaced with cautious optimism, prompting a more sober assessment for 2012.

"We think the worst is over, but it will take a while for rotorcraft manufacturers to be in the same position they were before the global financial crisis," said Douglas Royce, aerospace analyst for Forecast International, who writes an annual report on the Light Commercial Rotorcraft market. [Forecast

defines the light commercial rotorcraft segment as helicopters with a maximum gross weight under 15,000 lbs./6,800 kg.]

Forecast International projects that makers of light commercial rotorcraft will ship 16,857 light helicopters worth around \$59 billion between 2011 and 2020. The total includes production of more than 5,925 piston-powered and 10,932 turbine-powered rotorcraft. OEMs are forecast to ship 5,959 single-engine turbine and 4,973 twins in the light commercial category over the next decade.

Manufacturers and operators remain hopeful for 2012, but some officials caution readers not to pop the Champagne cork just yet. "It all depends on how you define recovery,"

offered Larry Roberts, vice president of the Commercial division for Bell Helicopter, a Textron company. "I don't think we will ever get back to the 2007 sales level, but we have started to see positive movement in the market."

Roberts said Bell's commercial bookings more than doubled in 2011 compared to 2010 and he thinks 2012 will show a further increase in sales.

Heli-Expo will have occurred by the time this article is published, but the show is a good barometer to gauge the health and future direction of the industry. "The major OEMs have indicated to us that they would have major unveilings of new product lines," said HAI President Matt Zuccaro. "And they have made the largest commitment (in terms of dollars) to the show in years."

If the recovery for much of the rotorcraft industry occurs during the later half of 2012, it would be due mainly to the oil and gas industry, analysts contend. This market segment threw the OEMs a lifeline in 2011 and is expected to be a major factor in this year's turnaround.

"The commercial rotorcraft market was hugely cushioned by resource extraction demand for oil and gas," said Richard Aboulafia, vice president analysis for the Teal Group. The situation runs counter to the history of economic downturns. When the economy sours, resource prices typically drop. Not this time. "This is the first economic downturn where oil and gas have stayed stubbornly expensive," he said. "This is totally counter-intuitive, but that is the silver lining" for commercial rotorcraft manufacturing.

Another problem: timidity on the part of corporations particularly. "Corporate profits are excellent," Aboulafia added. "They just need the confidence to start spending money."

Cash, as a percentage of total corporate assets, has reached a high "of over 7 percent," Aboulafia said, referring to data compiled by the U.S. Bureau of Economic Analysis. "Corporations are just sitting on gobs of cash."

Not everyone believes that 2011 was a bad year for rotorcraft sales. Eurocopter delivered 503 helicopters in 2011 and posted orders for 457, compared with the 346 helicopters sold in 2010. The 2011 orders included initial firm orders for the new EC175 as well as big bookings for the EC225 from CHC Helicopter, CITIC Offshore Helicopter Co., Bristow Helicopters and RTE. The company also received orders for 25 EC145T2s from German air rescue organization, DRF Luftrettung. Eurocopter also delivered its 1,000th Dauphin, 1,000th EC135 and 100th EC225 in 2011.

Dominique Maudet, executive vice president for business and sales, said Eurocopter too thought 2011 would



Eurocopter CEO Lutz Bertling (left) with representatives from six of the seven launch operators for the EC130T2—Maverick, Papillon, Blue Hawaiian, Scandinavian Helicopter Group, Air Commander, Europavia and Enloe FlightCare. The group ordered a total of 105 helicopters, with 50 of those coming from Maverick.

be a flat year for sales, "but the end of the year was much better. We sold 100 helicopters in December alone." Eurocopter's share of the civil market has risen to 45 percent, he added.

American Eurocopter confirmed the sale of 26 helicopters to nine customers in October 2011. From the single-engine product lines, the U.S. subsidiary announced sales of 10 aircraft to operators, which included emergency medical services (HEMS) operators. These included one AS350B3 for EagleMed LLC, four AS350B3s for Air Medical Resource Group and five EC130s for Milestone Aviation.

Robinson Helicopters of Torrance, Calif. is another manufacturer that continues to grow, despite the continued market challenges.

Sales of the R44 and R66 "continue to come in at a steady rate," said Kurt Robinson, president and chairman.

In 2011, the company produced 356 helicopters—212 R44s, 88 R66s and 56 R22s, more than double 2010's production of 162. Because of rising demand, the company continues to increase production.

"Last year, we went from less than one R66 per week to three per week," Robinson said. "And now we're trying to produce six per week. We've got a little over a year backlog and are trying

to reduce that by increasing production."

With corporations trying to reign in spending, they're opting for the R66 as opposed to the higher-priced turbine equipment, explained Robinson, when asked about the growing popularity of the R66. "If you compare the R66's operating costs to the other turbines on the market, it is substantially lower," he said.

But the real surprise in 2011 was the "tremendous success" in sales of the 15-seat, medium-sized twin-engine AgustaWestland AW139, said Forecast's Royce.

Weststar Aviation Services of Malaysia signed a contract for 10 AgustaWestland helicopters last year, five AW139s configured for offshore transport and one AW139 for VIP transport, as well as two AW169s and two AW189s. SFS Aviation of Thailand ordered one AW139, while Blueway AS took delivery of the first of five AW139s for offshore transport operations in Nigeria. More sales to offshore operators are expected soon.

At Sikorsky Aircraft, the talk centers on the new S-76D, a variant of the ubiquitous S-76, but with a lot more features.

The S-76D has two more powerful Pratt & Whitney PW210S engines,

which received FAA certification in early December 2011. This certification follows the issuance of another on the engines by Transport Canada on Oct. 14. Sikorsky expects to receive European Aviation Safety Agency (EASA) validation of the Canadian type certificate soon.

Other features of the D model include all-composite rotor blades; Thales integrated avionics system and autopilot; health and usage monitoring system (HUMS); and an active vibration control system. An optional Rotor Ice Protection System (RIPS) for all-weather capability is offered.

Delivery of the first aircraft to the launch customer is slated for 2012.

Sikorsky officials said the company is testing three prototype S-76Ds and two others will join the program this year. The S-76D is expected to meet a variety of civil roles, including executive transport, HEMS, and offshore oil and gas.

Sales of the twin-engine medium sized S-92 continue. Sikorsky has delivered 151 S-92s to operators worldwide since 2004, of which 25 are engaged in search and rescue (SAR) operations. In late December 2011, Sikorsky completed production of an S-92 for operations by CHC Helicopter on behalf of the Irish Coast Guard for SAR missions.

Fort Worth, Texas-based Bell's civil business continues to improve. In 2011, Bell delivered 125 commercial rotorcraft. Among them were 55 Bell 407s and 28 were 429s, according to Textron spokesman David Sylvestre.

In January 2012, Bell announced that the 429 was selected from a field of competitors by the Turkish National Police to enter final negotiations for an award for 15 429s with an option for five additional aircraft.

Also that month, Bell announced that it received Transport Canada approval for a 500-pound weight increase for its Bell 429 that will bring its maximum gross weight to 7,500 pounds. The increased gross weight

means greater range and loiter times and should translate into more sales of the 429 to law enforcement and air ambulance operators, which wanted better performance from the 429.

Industry observers were anxious to see whether Bell would launch new rotorcraft to better compete in the civil arena. The company provided additional details about the much-publicized new long-range, 16-passenger 525 Relentless super medium transport, which was revealed at this year's Heli-Expo in Dallas. Relentless, formerly known as Magellan in the development stages, could help Bell regain some of the commercial market it lost to competitors. While the Relentless launch looks promising, Bell is not expected to announce a replacement for the JetRanger anytime soon.

"We're trying to determine whether to use existing Bell technology or develop new technology," Roberts noted. He said the company would want a new helicopter that could exist "reasonably isolated from competition to make it worth the investment."

Meantime, Bell continues strengthening its operations worldwide. "We have not been as aggressive in the European market, so we're reestablishing our presence there," Roberts said.

Bell continues to expand its support facility in Prague by obtaining a Part 145 certificate and training rotorcraft maintenance technicians on various Bell products. The Prague center would soon add completions work.

Later this year, Bell will open its new sales and support facility in Singapore. It's already opened a new business office in New Delhi and increased the size of its South American sales force.

Asked what is Bell's current share of the market, Roberts said it depends. If one considers the "installed base"—all Bell helicopters operating worldwide today—the manufacturer has 40 percent of the market. If one considers new sales, Bell is close to 30 percent globally. If one considers deliveries, Bell

has between 18 and 20 percent of the market, he said.

As for western-made heavy lift equipment, there's not much on which to report. Erickson Air-Crane did not sell any heavy lift equipment in 2011 and declined to talk about 2012 orders because the company is in the process of going public.

Russian Helicopters JSC, a holding company of the Russian rotorcraft industry, was forthcoming about recent news. The subsidiary of UIC Oboronprom opened an office in the Socialist Republic of Vietnam and the Ka-32A11BC helicopter received a type certificate in Brazil. The company also appointed Emirates Corporation Trading Agencies to provide sales, marketing and technical support for the Mi-34C1 light single-engine helicopter. The company is actively marketing the Mi-34C1, Ka-226T, Ka-32A11Bc, Mi-171A2 and Mi-38 helicopters for rescue and firefighting roles in the Middle East and North Africa.

Russian Helicopters produced 260 rotorcraft in 2011, of which 130 are civil models intended for commercial use, according to company spokesman Roman Kirillov.

Details on the modernization of its bestseller Mi-171A2 were scheduled to be divulged during Heli-Expo. The company also intends to soon market for commercial use the Mi-38, Ka-62 and light Ansat.

Traditional markets for Russian made helicopters are India, China, South America, Africa and South Asia. "We hope to broaden activities in Europe, where the Ka-32A11BC was certified in 2009 for commercial use," Kirillov said.

Market Opportunities

The energy markets remain strong. Consequently, the offshore oil and gas business will continue to be the leading market segment for rotorcraft sales in 2012, according to several industry

experts. But the experts also contend that aerial law enforcement/surveillance will see a resurgence in sales in 2012. This market suffered last year due to declining local, state and federal budgets. But budgets are expected to improve and the need for EMS equipment remains strong.

"We are in the midst of a very strong sales trend for the S-92 for offshore oil," said Sikorsky's Bob Kokorda, vice president of sales and marketing. "We saw a significant increase last year over the prior year. We saw an increase not only in volume but also in the number of aircraft ordered in each sale. And we are seeing new fleet buyers ordering the aircraft."

Sikorsky declined to provide exact sales figures for 2011 and orders for 2012, but Kokorda said there has been "more than a three-fold increase in 2011 versus 2010. And we're seeing that trend continue in 2012."

Helicopters such as the S-92 are becoming more popular with the energy companies because rigs are being built further out into the ocean and they need transport that can carry several rig workers as far out as 200 nautical miles, he said.

Sikorsky has frequently updated the S-92 since it was first introduced into service in November 2007. The S-92 rotor protection system, which is very

popular with North Sea operators, is now operating with over 98 percent reliability, Kokorda reports. The manufacturer also continues to improve the aircraft's HUMS onboard the aircraft.

As for new opportunities, Sikorsky is tapping into the Brazilian offshore oil industry market. The Gulf of Thailand, which is opening up to oil exploration because of soon-to-be-signed treaties, and the Arctic are two other regions in which the S-92 will do well, he said.

One trend worth noting: state and local governments are buying helicopters to augment federal border patrol efforts. The U.S. government is now using unmanned aerial vehicles to patrol the southern border with Mexico and helicopters will augment those efforts, according to Foley.

The same story of need-versus-available-funding also applies to the HEMS market, which has stabilized, analysts contend. EMS grew quickly between 2000 and 2008, in part, because of changes in insurance regulations that made it easier to get into the EMS business. The market suffered during the recession, but has since stabilized, which should prompt additional sales in 2012, Royce said.

As for geographic opportunities for rotorcraft, it depends on whom you ask. North America, Europe and Latin America had 30, 30 and 20 per-

cent, respectively, of the civil rotorcraft market, according to Honeywell's 2011 rotorcraft forecast. But those percentages are likely to change (see page 18).

Eurocopter's Maudet believes that sales of rotorcraft in North America and Europe will remain flat in 2012, while the biggest growth for Eurocopter will occur in Latin America, Eastern Europe, Asia and Australia.

For Bell, "we see much more aggressive movement in the Asia Pacific region, which includes India and China," noted Roberts. Latin America will remain a good market for Bell helicopters.

Several analysts queried believe China will be good for helicopter sales, in part, because of the Chinese government announced plans to liberalize the low-altitude restrictions. But the lack of maintenance and service capabilities throughout China remains an impediment to increased sales.

"I don't think you're going to see large orders for rotorcraft in China coming in the next five years," said Royce.

"Everyone keeps saying that China is open" to sales and operations of western made helicopters, said Robinson. But the operating altitudes and areas in which to operate rotorcraft "is still very restricted," he said. "China is expected to go through another 'evolution' in 2015. We will see," he added.

Robinson Helicopters sold several helicopters to Australia, New Zealand, Brazil, South Africa and Russia, and the company expects these countries will continue to buy its equipment, said the president.

Pent up demand in the corporate world, continued need for offshore transport by the very profitable oil and gas business, and the slow recovery of EMS, law enforcement and other sectors will most likely make 2012 a better year for makers of commercial rotorcraft. But we've heard that message before. For now, the safest prognosis is cautious optimism. 



Roberto Garavaglia, AgustaWestland senior vp of marketing, with the AW189 at Heli-Expo.



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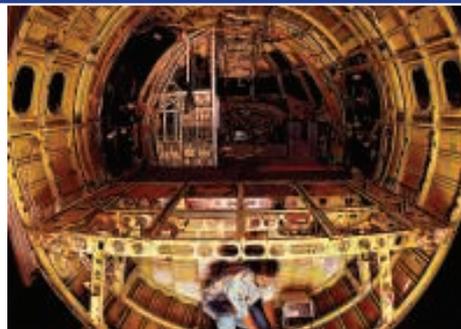


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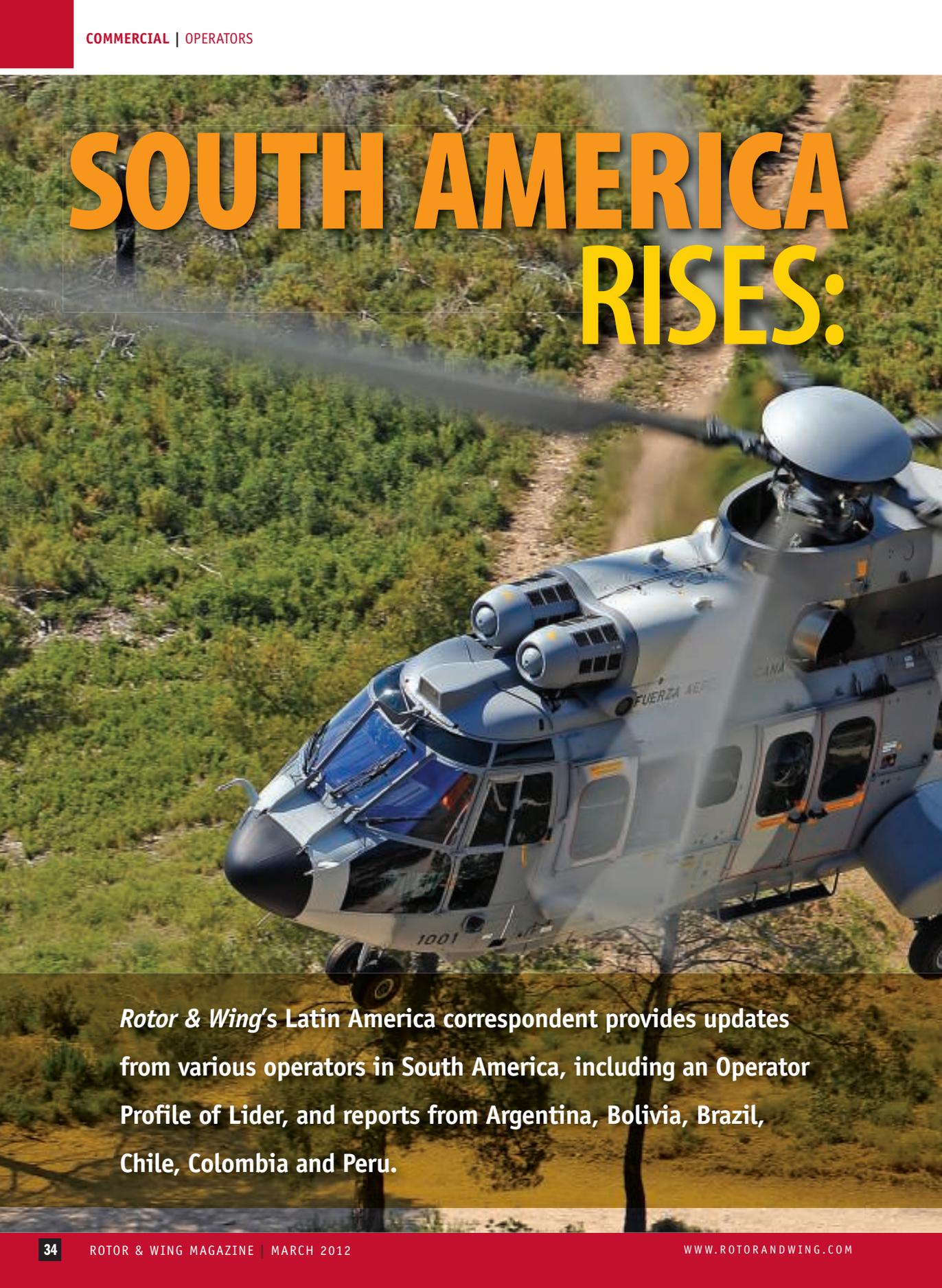
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SOUTH AMERICA RISES:

A Bell 412 helicopter is shown in flight, viewed from a high angle. The helicopter is grey and white, with the number '1001' visible on the side. It has two engines and a large rotor. The background is a dense green forest with a dirt path visible. The helicopter is flying towards the left of the frame.

Rotor & Wing's Latin America correspondent provides updates from various operators in South America, including an Operator Profile of Lider, and reports from Argentina, Bolivia, Brazil, Chile, Colombia and Peru.

OIL & GAS MOVES ECONOMY

Eurocopter's Helibras subsidiary recently reached an agreement to provide spare parts and support for the Brazilian Armed Forces fleet of 50 EC725s (example shown here). Three have already entered service, with the remaining 47 set for delivery starting this year.

By Claudio Agostini

The helicopter transportation business in South America is a highly competitive business like in many other areas throughout the world. But the diversity and varying weight of factors like economic development, geography and geopolitical intra- and extra-regional policies and aspirations of its 13 countries and three territories

creates multiple challenges and motivations with mixed success in the short term.

A number of local small/medium companies for international standards and some significant competitors had served these markets for years. The growing economy in some of these countries and the still-called globalization is gradually changing this scenario,

requiring companies with more capital investment, working capital, and personnel with more technical and operating/logistical experience, mainly in complex systems like offshore and also onshore operations. As result, mainly in the past 10 years, some large and aggressive foreign companies are entering these markets through partnerships, limited ownership of local companies

Eurocopter/Anthony Pecchi

in line with each country's regulations and other types of agreements. Recent oil and gas discoveries in many coastal areas are increasing the number of helicopters operating in this region. This situation is particularly noticeable in Brazil, where mainly due to the pre-salt offshore boom, a considerable number of not-available-before heavy helicopters to support the 300-km distant from coast operations are being required.

Argentina

In Argentina, Helicópteros Marinos—operating since 1978 and associated with French operator Heli-Union since 1983—has much of its operations supporting the oil and gas business with a fleet that includes Eurocopter AS350 B/B2/B3s, AS355 F1/F2s and EC145s, the SA330J Puma and Sikorsky S76A+. Recent discoveries of top-quality onshore shale reserves provides new positive forecast for oil and gas operations. On the Atlantic side of the country the areas around the disputed Malvinas/Falkland Islands that after decades of speculation and recent years of disappointments, is believed to have huge reserves of oil, about 300 miles from the coast. Canadian operator CHC is supposed to have at least two helicopters plus one AS332L2 for logistical support in that area.

Bolivia

The largest operator in Bolivia also had its origins in a company created in France in 1984 that started South American operations as HeliAmerica in 1997, covering Argentina, Bolivia and Peru, mainly dedicated to seismic and magnetometry operations. With a current fleet of nine helicopters consisting of a Bell 212 and eight Eurocopter variants—two AS350B2s, four AS350B3s and two AS355s—the operator employs pilots from various nationalities, including France with more than 3,000 hours of experience



Russian Helicopters

Brazil's Helipark Taxi Aero recently ordered a multi-role Ka-32A11BC from Russian Helicopters for cargo sling transport and delivery. The helicopter is slated for handover later this year.

on rotary aircraft, including over 1,000 hours long line experience.

In the short term, HeliAmerica is concentrating its operations and efforts on the Bolivian market, mainly for the oil and gas industry, according to Colin Dunlop, commercial manager. Though this does not rule out a continued presence in Peru and possibly future operations in Colombia and in Brazil. There are signs of renewed activity in Bolivia, with two seismic projects in 2011, and at least three projects in the pipeline for 2012, said President Pierre Galipon, a French-born pilot who lives and flies in Bolivia since its foundation. In 2002 while bringing a helicopter from Canada to Peru, Galipon was forced to land under radio instructions from the Revolutionary Armed Forces of Colombia (FARC) over Colombia's border near Ecuador, being held for 103 days of captivity in a FARC's rebel-controlled territory. Fortunately, they were all released and got their helicopter back.

Brazil: Lider Profile

Lider Taxi Aereo was founded in 1958, based in Belo Horizonte, state of Minas Gerais, and currently Lider Aviação operates the largest helicopter fleet in Brazil with more than 60 units. This business segment is the company's

most profitable among its five primary operating units—Helicopter Service, Maintenance, Chartering, Ground Handling and Aircraft Sales.

The helicopter history for Lider starts at the beginning of the 1970s. In 1973, the company won a bid to provide services to Petrobras State Oil & Gas Co. for offshore services along the Brazilian coast and purchased eight Sikorsky S-78Ts.

Currently Lider's helicopter fleet consists of the Bell 206, 212, 412 and Sikorsky S-76A, S-76C+, S-76C++ and S-92. The introduction of heavy helicopters into its operational portfolio allowed Lider to gain competence and positioning with newer and more sophisticated aircraft for the Brazil's pre-salt deepwater fields. In 2009, the Houston-based Bristow Group acquired a 42.5-percent interest in Lider, with approximately 20 percent of the voting rights, complying with Brazilian aviation regulations limiting foreign ownership. The agreement also included that for five years, "Bristow will have the right to provide 100 percent of lease requirements from Lider as well as 50 percent of Lider's total medium and large helicopter requirements that Lider would otherwise fulfill through the purchase or finance lease of helicopters."

Lider helicopter maintenance/service centers are located at Sao Paulo's Congonhas Airport for Eurocopter and Bell; Rio de Janeiro at Jacarepagua Airport for Eurocopter, Bell and Sikorsky, as well as composite repairs; Brasilia Airport for Eurocopter, AgustaWestland and Bell and paint facilities. With more than 20 fixed-base operators (FBOs) around the country, helicopter bases supporting mainly offshore and onshore operations are located in the following cities: Rio de Janeiro-RJ, Macaé-RJ, Vitória-ES, Salvador-BA, Tefé-AM, Porto Urucu-AM and Itanhaem-SP.

Other business units include Lideravia Insurance, CAE Simuflite's training programs exclusive Brazilian representative, CT Brasil, a joint venture with Composite Technology Inc. based in Jacarepagua for Bell 204/205/206/407/212,412, Sikorsky S-76 and AgustaWestland AW109 blade repair services. Lider Aviação, today the largest executive aviation company and helicopter operator in Latin America with more than 2,000 employees, 26 FBOs and a total fleet of more than 90 aircraft, also has various successful internal programs in its portfolio. Some of them, like Lider's Trainee Program and the Internal Promotion Policy, took Eduardo Vaz—who entered the company as a trainee—to his current post of CEO.

According to the Brazilian Association of Helicopter Pilots (ABRAPHE), the country's scenario ahead clearly remains positive, favored by local economy development, the huge expansion of offshore operations and two large international events to be held in 2014 (FIFA World Cup) and 2016 (Olympic Games). As a result, all of these will require the expansion and modernization of the helicopter fleet for many services and support activities. Furthermore, new technologies are accessible. The operator's need for heavier and more equipped aircraft implies directly in the formation/training of

more pilots to successfully support the safely growing of the sector. ABRAPHE is engaged to promote actions aimed to the professional development of country's flight schools and to work with federal civil aviation authorities on a code revision to create a permanent federal program for the professional formation of the aviation workforce, according to ABRAPHE's President, Cmdr. Rodrigo Duarte.

Chile

Trans-Andean Chile's great geographical and climatic diversity with logistical difficulties requires a strong professional helicopter support services from companies like INAER Helicopter Chile, established in 2006 and one of giant Spanish INAER's arms in South America. The other arm is located in Peru. The Chilean based fleet comprises three Bell 407s, one Eurocopter AS350B3 and three Bell 212s that are supported annually from Spain by three Kamov KA32A11BCs, one Bell 407 and one Eurocopter AS350B3 during the fire-fighting season. Firefighting, oil and gas, mining, tourism, forestry, hydroelectric, EMS and other aerial support operations are expanding in Chile.

Colombia

Colombia's oil and gas sector has experienced considerable growth during the past few years, becoming an attractive destination encouraging foreign investments and providing better security conditions for operators. Founded in 1999, Aeroregional became Helistar in 2005 with new shareholders. The operator's current fleet covers 18 helicopters, including a number of Bell 206/212/412s, one Eurocopter EC145, one Mil Mi-8 and one Mil Mi-171—most of them built from 2007 to 2011. Three new EC145 are expected to arrive from Eurocopter Mexico between 2012 and 2013 to support services for local Ecopetrol,

one of the four main petroleum companies in Latin America.

Peru

Founded in 1994, the largest helicopter operator in Peru, Helisur, has a distinguished characteristic: its whole fleet is Russian helicopters, currently 11 Mi-8 MTVs configured for both internal and external cargo loads, and six Mi-171s. After some years operating Russian-made helicopters, in 1999 the company became UTair's South American subsidiary, which includes a local maintenance center certified by the Mil Moscow Helicopter Plant and future expansion into a Mil maintenance, repair and overhaul (MRO) center for South America as result of Helisur's planned future operation contracts in countries like Chile, Brazil, Colombia and Bolivia. Twenty pilots, 20 copilots and 23 flight engineers comprise the flight team mainly for oil and gas, mining and special cargo operations.

The helicopter business in South America is becoming deeply engaged with the energy/oil and gas markets as new offshore and onshore discoveries in Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Peru and Venezuela are attracting packages from global foreign investors, among them the largest helicopter operators. Most researches on prospective energy markets as the World Energy Outlook shows that oil and gas will remain dominant at least throughout the first half of this century. For instance, in Brazil current known reserves are projected to be available for the next 15 to 35 years, depending mainly on the extraction and production (E&P) policies. Even with different scenarios—technological, political/strategic and others—helicopters will remain an important part of the process. 🚁

For additional information about operators in South America, visit www.rotorandwing.com 

TRANSF



S-61 cockpit upgrade from Vector Aerospace. Image courtesy Vector

Operators like Ascent and CSC are taking advantage of upgrades that allow their cockpits to step into future.

By Dale Smith

If you're looking for a bright spot in any sector of aviation, the best place to start is the helicopter segment. The rising price of oil along with the continued growth of EMS and SAR have helped helicopter manufacturers maintain rather healthy production numbers.

In fact, at last year's Heli-Expo, Honeywell's annual Turbine-powered Civilian Helicopter Purchase Outlook

predicted that upwards of 4,400 new helicopters will be delivered through 2014. While we don't know how those numbers are actually playing out, if the predictions are even ballpark close, that's pretty darn good.

And while that's really good news for the OEMs, it does pose a bit of a dilemma for both large and small commercial operators who need to upgrade their fleets to take advantage of emerg-

ing opportunities. You see, while the delivery numbers look great, the vast majority of those new helicopters are already spoken for. In short, if you need a new helicopter in 2013, you had better have ordered it in 2010.

So the world's operators are being forced to fly their current helicopters longer than before. And while that may have been a problem in years past due to antiquated electronics, thanks to an



FORMING

OLD INTO NEW:

AVIONICS UPGRADES FOR HELICOPTERS

expanding array of aftermarket options, with the right upgrades a decades-old helicopter can do practically anything a brand new model can do. And, as the old saying goes: At a fraction of the cost.

"When it comes to avionics upgrades, operators have a variety of good choices available to them today," explains Elvis Moniz, vice president of operations for helicopter MRO Vector Aerospace Corporation's operation in Langley, British Columbia. "Modernized helicopter flight decks offer a great deal of safety benefits through reduced pilot workload, enhanced situational awareness and increased mission capabilities," he adds. Vector is one of a number of

helicopter MROs offering a variety of avionics and instrument upgrades for a growing list of legacy helicopters including the Bell 205/206/407, UH1H, Eagle 212 Single, Eurocopter AS350, 355FX, Sikorsky S-76, S-61 and others.

Moniz says the upgrades could range from simple to sophisticated. "For example, new digital audio systems offer simplified integration and more reliable communications," he points out. "And the introduction of video into the cockpit using relatively low-cost camera systems offer greater pilot awareness of the aircraft's immediate surroundings."

No matter what kind of airframe they're mounted in, there's no debating

the numerous and dramatic safety and operational advantages flight crews get from a panel full of glass displays and advanced systems. But, as Moniz explains, the benefits even extend to when the aircraft is not flying.

"Today's packages, for the most part, offer excellent reliability with reduced [component] size and weight, at a reasonable cost," he says. "For example, in most cases, traditional analog gyros can be easily replaced with solid-state AHRS (attitude and heading reference systems), which eliminate the requirement for periodic overhauls."

Reducing overall maintenance costs and unscheduled downtime is an



Vector Aerospace completed this panel upgrade in a Eurocopter AS355FX cockpit.

often-overlooked benefit to an avionics upgrade. Operators should take into consideration “the mid-to long-term savings that new-generation equipment will offer,” Moniz believes. “In many cases, over 40 analog instruments and devices can be replaced with three solid-state, digital LCD displays. All of which have the same part number.”

Reduced spares inventory, elimination of ongoing overhaul costs of gyros [and mechanical instruments], lower AOG related costs and less system troubleshooting downtime are all factors that contribute to reducing operating costs, according to Moniz. Even if you don’t have the budget for new glass, a frequently overlooked avionics upgrade is the replacement of aging wiring. While not a simple task, swapping out decades-old wiring and connectors can pay great dividends in reducing downtime and unscheduled maintenance costs.

And while most avionics additions are discretionary, some operators are going to be faced with mandatory upgrades like those required by the pending NPRM for EMS and commercial operators to install H-TAWS and possibly lightweight aircraft recording systems by late 2014. There’s no firm decision yet, but having things like that in play can certainly

impact any panel upgrade plans you might have in the near future.

Installation

While all avionics packages and glass displays may look the same, there’s a huge difference in how they are installed in a helicopter compared to an airplane.

“Helicopters are subject to some of the harshest environments. And we have found that many operators fail to consider the importance of the physical installation of the new equipment and subsequently try to save money by selecting the shop with the lowest installation cost,” Moniz says. “The fact is the equipment will only perform as good as the wiring installation behind it.”

Moniz stresses that no matter what type of upgrade you are thinking of performing make sure you work with/through an experienced shop. “That is key to a quality upgrade, which will allow the new equipment to operate to its full reliability and potential,” he notes.

Of course a good installation starts with good planning. “Experienced shops have the ability to offer customers realistic, proven solutions tailored to the operator’s mission requirements and budget,” Moniz adds. “Good shops will

also offer pilot/maintenance training and a comprehensive data package detailing the installation to aid the [operator] in any future maintenance or additional upgrades.”

One last thought on installations: Moniz also warns about operators “falling in love” with a particular piece of equipment and not taking the time to research to see if there’s a supplemental type certificate (STC) available for that unit on their helicopter.

“What may seem to be a good system in a magazine or described by a salesman can become an upgrade effort riddled with additional integration costs and delays,” he explains. “Unless the upgrade is already approved, operators can get caught in significant certification delays if they select an integrator with limited certification experience on the specific equipment and aircraft platform.”

Bottom line—don’t let any shop go to school on your project.

CSC AUTECS-61

Type familiarity was a big reason CSC AUTECS chose to fly its legacy Sikorsky S-61N’s from its base in the Bahamas all the way to Vector Aerospace’s facility in Vancouver, British Columbia. “We were under a tight deadline and knew the

depth of [Vector's] experience with the S-61," explains CSC AUTEC's director of maintenance, Jeff Mitchell. "The first ship required some new [non-avionics] STCs to be done. That was big."

Mitchell says that while the helicopter's avionics upgrades included four new Rockwell Collins multi-function displays, AHRS, Mode S transponders, upgraded radar altimeters, and a pair of Garmin GN530s—which all contributed to creating fleet commonality and greater operational safety—the biggest benefit came from completely changing out the 40-plus year old wiring and connectors.

"We were always chasing wiring problems. No more. They [Vector] stripped it down to the bare hull. Every wire, connector and terminal board came out and was replaced with new push-type connectors, circuit breakers and wiring," he notes. "We did our first upgrade in 2006 and have not had to change a Rockwell Collins AHRS unit yet."

He also explained that while CSC AUTEC is not a high-hour operator, the operator does fly in one of the harshest and most corrosive environments imaginable. On top of that, thunderstorms in the Bahamas can get pretty nasty.

"We experienced a direct lightning strike a while back. It was severe enough that it blew our external load off of the aircraft," he says. "It cost \$1.7 million to replace the rotors and rebuild the entire power train, but none of the new avionics or systems were impacted. We didn't even blow out a light bulb."

Mitchell says that along with choosing Vector because of their experience with the older Sikorsky model, they also selected avionics that were proven to be able to stand up to both the rigors of helicopter operations and harsh environmental conditions.

CSC AUTEC's primary mission is in support of the Atlantic Undersea Test and Evaluation Center, or AUTEC. The company's helicopters are used to retrieving targets and testing torpedoes used for training by the U.S. Navy, which means dispatchability is critical.



Ascent Helicopters recently updated its Bell 205A++ with a Sagem glass panel.

Mitchell says that looking back, there is only one thing he would have done differently with the S-61 upgrade program; "I would have done it a lot sooner! It has exceeded our expectations in performance and reliability," he adds. "The upgrades dramatically improved our fleet reliability and greatly reduced our overall maintenance hours and costs."

Ascent Bell 205A

Trent Lemke, president of Ascent Helicopters, says that when the company started a total refurb project on its Bell 205A++ they set out to "pretty well deck it out with all the latest and greatest mods we could get."

One of those mods included a new Bell 212 nose assembly, which involved a 212-style instrument panel. "At the time we didn't have any instruments to speak of so it wasn't like we were scrapping anything," Lemke says. "So we decided to go all-out and install the Sagem glass [integrated cockpit display system, or ICDS]. We had our in-house engineers redesign the wiring harnesses. We got rid of all the inverters and the like. It worked out really well."

Along with being a VFR helicopter charter service, Lemke explains that the company does a lot of specialty work including heli-skiing, firefighting, medevac, power line construction and mining exploration. "We spend a lot of the bush with both of our mediums [the company also operates a Bell 212 and a 206L], so they're decked-out pretty well," he says.

"What's really nice about the Sagem is that it has direct video input. We work with FLIR and video cameras a bit and we can have those images come directly to the pilot's display. The pilot being able to see what's on the hoist is a big benefit," Lemke adds. "Another thing I really like is being able to switch either of the displays to show the engine instruments."

Those displays are "really helpful when we're doing heli-skiing. You have to really concentrate on your outside reference points—all you see are three flags in a complete whiteout," he notes. "With this system I can switch the engine instruments to be on whichever display is in front of me. It's just a quick glance down to see them. With the standard (mechanical) installation, you can't do that."

Other than the usual glitches, the only negative Lemke experienced during the refurb was the system's certification. "We were the first Bell medium to get glass, so we had some delays for certification issues. It was a bit frustrating. But other than that we are very happy with how it all worked out," he says. Lemke adds that he's sure the upgraded panel has helped his overall business. "People look at it and they don't see a run-of-the-mill helicopter. They see a very modern aircraft. We definitely have operators who recognize the effort we've put into it and are loyal to us because it shows we are trying to improve our product," he says. "They can see that effort with the glass cockpit." ✈

UK SAR:

Maritime Coastguard Agency AW139 that is currently operated by CHC from Portland and Lee-on-the-Solent in the south of England.

AgustaWestland



By Andrew Drwiega, Military Editor

UK Search and Rescue now looks like it will be operator-led from 2017 onwards. Bristow and CHC will provide the interim Maritime Coastguard Agency coverage while the new service takes shape and the military Sea Kings are withdrawn.

REWORKING THE MODEL



The Department for Transport (DfT) is contemplating that the future of the Search and Rescue Helicopter (SAR-H) service in the United Kingdom could be given to a single operator or pair of operators rather than to a consortium of companies as happened in the last SAR-H competition. The Soteria Consortium comprising CHC Helicopters, Thales UK and the Royal Bank of Scotland won the original Private Finance Initiative (PFI) contract. However, that was cancelled in 2011 following irregularities in the bidding process. The new contract award is expected early in 2013.

Industry reports are suggesting that the award of the UK's Interim SAR competition, the contract to run the Maritime Coastguard Agency's four helicopter bases on a short-term contract, is the forerunner of this idea.

On Feb. 8, 2012, Mike Penning, the Parliamentary Under-Secretary of State for Transport at DfT, announced that an Interim SAR contract had been signed with Bristow Helicopters to operate search and rescue services from Stornoway and Shetland. He added that a separate contract has been signed with CHC Scotia to operate the MCA's southern bases at Portland and

Lee-on-the-Solent. "Operations under both contracts will commence by the time the existing MCA service contract expires, and will continue until June 2017. Both contracts will be managed by the MCA," he said. The current contract for the four bases is managed by CHC with Sikorsky S-92 helicopters flying from the Scottish bases and AgustaWestland AW139s operating in southern England.

Penning continued by saying: "procurement is now under way for longer-term arrangements which will see search and rescue contracted nationally. Operations will commence under

these longer term arrangements during 2015 and the future contractor for the UK will assume responsibility for the MCA capability during 2017.”

The Secretary of State for Transport, Justine Greening, reported to the House of Commons on the same day that the new contract for the whole of UK SAR would be for a period of 10 years, with the Royal Air Force and Royal Navy continuing to provide cover until the new operator could begin to take over.

“It is my intention that the contract I let will require this to be the first part of the new service to become operational. This will ensure that the Ministry of Defence is able to meet its previously announced intention to withdraw from service and retire its fleet of Sea King HAR3/3A helicopters by March 2016. The replacement for the capability currently provided by the MCA will follow on from this. This transition will ensure continuity of service,” she said.

Greening further added that “the introduction of a modern fleet of fast, reliable helicopters will lead to major improvements in the capability available from the present mix of helicopters. Modern helicopters operating from 10 full-time bases can not only continue to meet all current service requirements but also provide faster flying times to a large part of the UK search and rescue region, as well as providing a more reliable service. This will therefore be reflected in the new contract.”

The current SAR helicopter capability is delivered by a combination of MCA, Royal Air Force (RAF) and



Stornoway Sikorsky S-92 during its 200th mission in 2010.

Royal Navy (RN) Westland Sea King helicopters at 12 bases around the UK mainland as follows—MCA: four bases at Lee-on Solent, Portland, Sumburgh and Stornoway; RAF: six bases at Chivenor, Wattisham, Valley, Boulmer, Leconfield and Lossiemouth; RN: two bases at Culdrose and Prestwick.

In a statement made on Nov. 28, 2011, Penning stated that the number of future bases would be reduced from the current 12 to 10. “Under the plans published today, search and rescue operations at RAF Boulmer would end in 2015 and at Portland when the MCA contract expires during 2017. The winning bidder will be then be expected to operate from 10 locations around the UK, but provide at least the same level of service as at present.”

It has been suggested that the spread

of capability could be divided with five stations operating smaller helicopters while the other five would operate larger helicopters. The plan would be to spread capability around the country for close inshore, distant offshore and mass and greater capability. The operational range for the small and large helicopters has been set at around 170 nm and 200 nm, respectively. The rescue capability would be for eight passengers and two stretchers for the larger aircraft, and four passengers and two stretchers for the smaller helicopter. The current Sea Kings can take 12 passengers and two stretchers.

But one of the most concerning aspects of the transfer of search and rescue helicopter operations from the military to civilian ownership is the lack of night vision goggle (NVG) certification currently available for civilian operators.

The Civil Aviation Authority has been very slow to develop a policy on this and currently each set of NVG goggles has to be qualified against a specific aircraft and its NVG-

Aircraft	Max Speed (VNE)	Cruise Speed	Range	Max T/O
CHC S-92	165 kts/ 305 km/h	151 kts/ 280 km/h	880 nm	12,020 kg (internal)
AW139	167 kts/ 309 km/h	165 kts/ 306 km/h	1,250 nm	6,400 kg
Sea King	129 kts/ 238km/h	111 kts/ 207 km/h	1,352 nm	9,707 kg

friendly cockpit. Unlike the military, who are fully trained in night vision goggle usage with crews using them on a daily basis when deployed operationally to Afghanistan, there looks to be no provision for the civilian operated service to offer anything close to this current night capability.

At the moment only the police air support units are allowed to operate night vision goggles, but they are required to come off NVGs below 500 feet—something that would be virtually impossible to comply with in terms of providing a daily SAR capability. Current RAF and Royal Navy Sea King crews continually use NVGs during search and rescue tasks, both on land and at sea. And the prospect of having to come off them below 500 feet is, say those who have served the service, precisely when NVGs are most required. Without NVGs, flying in support of the



Swanage Coastguard

RAF SAR and mountain rescue, North Face Tryfan, Snowdonia.

mountain rescue service at night would be severely limited. Until the DfT, MCA and CAA get together to resolve

this issue, one critical element of the SAR helicopter mission portfolio will remain dangerously exposed. ✈

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Public Service

By Lee Benson

It's About Safety



In my last Public Service column (*"Orphan Treatment,"* January 2012, page 64), I wrote about the NTSB Public Aircraft Safety meeting on December 1 in Washington, D.C. To recap, this meeting was held to discuss the proposed efforts by some that may lead to the elimination of public aircraft operations. Some may think that statement a little beyond politically correct. After all, it's all about safety isn't it, really?

Since that conference I attended the Tangent Link Aerial Firefighting Conference held in Sacramento, Calif. in January. At the conference someone whom I respect approached me about my previous article. This gentleman was concerned that I had cast the proceedings in perhaps to negative a light. He felt that the public safety operators had made greater progress with NTSB and FAA than I portrayed. As I promised my friend, I have reread the article attempting to see his point, but failed. I will restate that the comments by John Allen, the Director of Flight Standards, were well-balanced.

NTSB Board Member Mark Rose-kind revealed a genuine professional interest in understanding the issue and Matt Zuccaro had several good suggestions. But I think that the regulators as a whole fail to understand the unique responsibilities and challenges that face many public operators. These responsibilities generate mission profiles that are well outside typical commercial operations. These profiles, in turn, generate equipment and flight technique requirements that are not normally associated

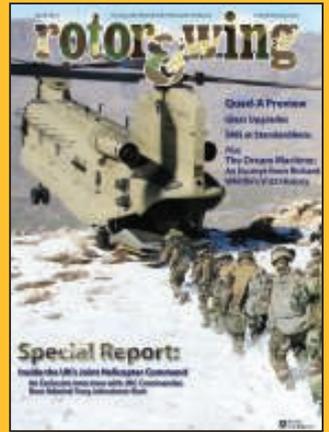
with commercial operations. There are those that hold the position that the public operators should hold a FAR Part 135 cert and then apply for exemptions for those flights that fall outside of the regulations pertaining to normal commercial operations. I know a few commercial operators out there who are sounding a collective, "Yes," when they hear the exemption point of view. To them I proffer the following points. Where would the use of night vision goggles (NVGs) in the commercial EMS market be if the public operators had not moved that ball forward? Nowhere, is the answer. In the mid-1990s when the first public agencies started moving toward NVG flight, the FAA's position regarding the technology was completely opposed, with the chance that an exemption would have been allowed at nil. Rocky Mountain Helicopters should also get credit for promoting the use of NVG. Their efforts including legal action in the 10th Circuit Court of Appeals in 1992 led to the first commercial NVG flights in 1999. That's the point—Rocky won its case in 1992 and it took until 1999 to move forward.

When public agencies recognized the need for swift water rescue techniques in the Los Angeles basin, that required hovering over a stream moving at 35 miles per hour with a rescuer suspended on an uncertified rope system—remind me again of what you think the chances are that the FAA would have written an exemption. Here's the deal: operations like this and others save lives every day. There are risks involved, yes, but there's a risk getting out of bed. What I didn't

say loudly enough in my last column is that the public agencies need to spread this word loud and clear. I know that there are a few public operators that have spent the time and resources to engage their representatives by traveling to Washington, D.C., and making their voices heard—but a few are not enough. Those of you working for public operations that employ certified aircraft and whose mission profile is consistent with the FARs should be just as concerned. What happened to the requirements to serve and protect your constituents after 9/11? I know of several agencies that have embraced equipment and tactics that can only be accomplished with out-of-the-FAR-box operations and equipment.

Manufacturers also need to consider this issue. I've heard OEMs begrudge surplus aircraft and therefore public operations in the past because they weren't able to sell new aircraft. Today, I think that concern has been mitigated by the steady move by many past public operators of surplus equipment towards new certified equipment. How many of those programs do you think could have proceeded directly from no aircraft to new or used certified aircraft? Many spent several years of budget to bring these aircraft up to flying condition. Yes, they may have spent as much as buying a used aircraft in the first place but the one-year budget wasn't there. I could go on about the amount of non-certified systems that have been tested on public aircraft, etc., but I hope that you see the other side of this coin by now! 🇺🇸

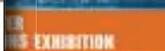
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Safety Watch

By Terry Terrell



Achieving Experience

When I was 19 years old I knew everything. After all, I had a private pilot license. Looking at life from the perspective of unchastened youth, I can recall an unflinching belief that all things were imminently achievable. The possibility of penalties for failure did not show up for me at the time on any imaginable radar screen. Having risen above all apparent peers with a flying hobby beginning in high school, I was certain that I was infallible, and that I was destined for perpetually unbridled success, aerial and otherwise. It didn't bother me in the least that I remained years away from appreciating that I was in dire need of experience, the most valuable of all personal assets, in aviation and in life.

During this time I remember basking in the privilege of flying an F-33A Bonanza from NAS Barbers Point, Hawaii, to Kauai, the Garden Island, accompanied by an inordinately trusting companion, who would later, astonishingly, persevere long enough to become my wife. We had a fine holiday, returning to the airport after dark for our return flight back to Oahu. The tower was closed and the night was moonless, and the Bonanza had only a single piston engine, but since I was an active duty crew chief/swimmer in Navy Sikorsky H-34s during that period, I was not at all intimidated by a mere 100 miles of Pacific Ocean.

Our departure was as smooth as the airfield was quiet, and we climbed to a comfortable eastbound VFR altitude, flying a heading and watch-

ing the lights of Kauai recede to a soft glow behind us. No VOR reception was available for the first half of the 40 minute flight, but I began to look for Honolulu's lights after cruising for 20 minutes or so, maintaining a course that was bound to put us within navaid range in short order. When not even a dim glimmer on the horizon ahead appeared after half an hour, I began to tune ADF equipment, scrutinizing things a little more closely. I caught a beacon, and got the needle on the RMI to point weakly, but that couldn't have been right, because the bearing didn't make sense. I finally got around to checking the heading card against the wet compass, and was jolted into remembering everything I was supposed to know about gyroscopic precession, since the DG disagreed with the whiskey compass by about 110 degrees, and I quickly came to terms with the fact that we were headed straight for Tahiti. Fortunately we had plenty of fuel on board (though not enough for Tahiti), and I corrected our heading, eventually seeing Oahu's lights and finding HNL, impressing my innocent travel mate, who mercifully never had to contemplate, as I had so quickly and so deeply, just how much water is out there southwest of Hawaii.

Years later, as I was enjoying Coast Guard HH-3F pilot transition training armed with many layers of aviation experience I had not possessed in Kauai (as well as a realization that I could not swim 100 miles after all), I was reminded of my open ocean encounter by an incident which mirrored the earlier heading confusion

episode closely, on a larger and more consequential scale. A Sikorsky H-3, staging out of Coast Guard Air Station St. Petersburg in Florida, had executed an extended Gulf of Mexico search west of Tampa. The Coast Guard version of the S-61 was configured to fly 300 nautical miles offshore, hover for 20 minutes, and return to base with comfortable fuel reserves, so exhausting an HH-3F to bingo fuel is not easy, but it can be done, especially if heading errors are allowed. Somehow, this aircraft and crew, after the long hours and many twisting turns required within a complex search pattern, were victims of heading gyro splits, and they ended up flying south out of their search, instead of east, back to St. Pete. No lives were lost, but by the time the errors were noticed, fuel status was not sufficient for a return to base. As a result of this incident, those of us preparing to command H-3s were assigned an additional course of NFO navigator training back at Navy Pensacola, so I ended up with tripled reinforcement of specific experience in the science of confirming heading validity and accuracy.

Wise philosophers have long attempted to describe and illuminate the immense value of experience to the general human cause. Some have said that experience is a good school, but that the fees are high. Others have noted that experience teaches only the teachable. But for constructing and confirming quality in aviators, experience has no equal. After all, good judgment comes from experience. Unfortunately, though, experience comes from bad judgment. ☞

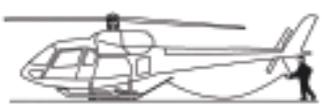
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Training Focus

By Mike Redmon



Never-Ending Pursuit of 'Numbers'

Back in 1971, Harry Reasoner eloquently discussed why helicopter and airplane pilots can display such differences in outlook. There is one thing that pilots, regardless of category aircraft flown, will always have a keen interest in. That one thing is "numbers." From the moment a person decides to pursue flying, the numbers are always at play.

As a student pilot the number of flight hours accumulated will always be present as a barrier in one form or another. As a civilian pilot you need 40 hours of flight time to be eligible for a private pilot's license. Doesn't matter if you are a reincarnated Igor Sikorsky and can perform autorotations by just reading a book. The number that is paramount in your student pilot life is 40. Contrary to FAR Part 1, you will log Hobbs time but your CFI won't care because he is also in his own little pursuit of a different number. In the CFI's case he needs to get to at least 500 hours to be eligible for Part 135 employment. At some point you will be flying with a CFI and he will be logging PIC time and you will also be logging PIC time. You will be well-schooled in the differences between logging PIC and acting as the PIC, which you will log with excellent penmanship and detailed descriptions of what the flight entailed. You will also log

simulator time as flight time in a never-ending pursuit of the numbers. Again, you will read FAR Part 1 but decide to ignore it because some other pilot says it is OK since its a Level D sim.

The military trained aviator isn't immune from this pursuit of the flight time number. I remember wasting entire days as a WO1 because I would volunteer to be some maintenance test pilot's sandbag co-pilot. I might log 0.3 hours of high quality flight time reading the maintenance checklist while some MTP tried to smooth the rotors on an Apache. I wasn't going to make PIC or get senior wings unless I got some more numbers in my logbook.

I made PIC on May 17, 1995 with a grand total of 530.2 hours of total flight time. I can think back and remember how knowledgeable and skilled I felt as a genuine Pilot in Command. I will think about that feeling when I read some accident blurb where a 500-hour pilot crashed a perfectly good helicopter.

Your number goal will change as your career progresses. Instead of being all about total flight time it will morph into being about time in type, mountain time, IMC time, offshore time, EMS time or glass cockpit time. All numbers on a piece of paper that will you will still pursue. Eventually, when you are finally settled into a

long-term position, your logbook will slowly become dusty. You will go weeks without logging time. If you do log time it might be a monthly summary of hours flown from your Part 135 crew endurance spreadsheet. The remarks section of your logbook will be blank. At this point in your career it may appear that the pursuit of the numbers has ended but in reality it has only shifted.

The numbers that start to matter are the numbers on your paycheck or the number of zeros in your 401K. It is still a pursuit of numbers written on paper.

The final number pilots will be worried about is the age number. As a young pilot you only think about the race to your next destination. You never think about how the race is going to end because at 30 years old the end of flying is inconceivable. I am currently in my mid-40's and recently had the enjoyment of seeing some retired pilots during a social occasion. These retirees were great pilots in their day—great pilots who I looked up to and admired. Those great pilots are now retired and I got a glimpse of life after aviation/work. I think the journey and the pursuit of numbers is better than the destination and the dread of numbers. Enjoy the journey and your own little pursuit of numbers while it lasts. 🍷

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Offshore Notebook

By Pay Gray

Fish Spotters

Flying helicopters in the Gulf of Mexico can give one a sense of ownership of our low-level airspace. I mean like when we cross the beach outbound in our helicopters for distant oil rigs, why would you think of airplanes cluttering up the sky at 1,500 feet or less? We share those altitude levels around airports of course, and some utility patrols and perhaps weekend recreational flying. But over the ocean, in single engine airplanes, without floats? The answer: fish schools for commercial purposes.

A “pogy” is a 12- to 15-inch fish that runs in schools numbered in the thousands. The Gulf surrendered 379,727 metric tons in 2009 and will probably exceed that number in 2011. Once processed, the fish product is used as a very high protein additive to numerous products such as animal feeds for poultry, cattle, swine and pet foods.

During my flying days over the Gulf of Mexico, I often admired the business-like efficiency of the fish spotter airplanes at work. In hindsight, I can think back and recall more than a few instances when I inadvertently came upon their intense flying patterns above a bevy of fishing vessels, not really understanding what it was all about. Recently, in talking with other active helicopter pilots in the Gulf area, it has become obvious that I was not alone in my ignorance.

The major player for pogy fishing on the Gulf coast is a company called Omega Protein, headquartered in Houston, Texas. I interviewed the company’s chief pilot, Duane Davis, and safety pilot Joe Fain, both long-time employees. They began by explaining how a typical fishing operation was conducted. The airplanes they fly are Cessna 172 RGs

and Cessna 182s, all with long-range fuel tanks. The airplanes take off from scattered bases along the Gulf at first light. They are assigned different altitudes, roughly from 5,000 feet down to 1,000 feet. They search for fish, usually from the beach out to three miles. On rare occasions, they go as far as 25 miles out. Omega Protein will usually field up to 20 airplanes a day, initially dispersed from Alabama to Texas.

They are searching for a “rip” or a school of pogies that have surfaced which they usually do in the early morning. When they find enough in one area to be commercially viable, they call in the “steamers” to begin netting operations. These ships are from 150 to 180 feet long and have two “purse net” boats resting on their sterns. When launched, the purse boats let out a 1,500-foot net that will encircle the school of fish.

The hard part of the Cessna pilot’s job begins when the steamers arrive at the fish site. First, he must call in the other airplanes to assist him. It is up to the pilot to guide the steamers to the fish and position it to maximize the catch. Winds, tides and currents can complicate this procedure and it requires a high degree of concentration by the pilot to fly the airplane and work the steamer. He is actually working three boats, the purse boats and the steamer. When the other airplanes arrive, each pilot will work one steamer, and they can number as many as 10, stacked similar to an IFR holding pattern. Often, at the same time, helicopter traffic will begin to build as they leave shore bases and head out to sea, usually on direct routes to a destination. Most are VFR, some IFR. As it happens, these routes will, on many occasions, take them through a netting operation.



This activity then becomes the critical point for air traffic alertness, especially so by the helicopter pilots operating in or transiting the area. By now it should be obvious that the airplanes are making left turns in a counter-clockwise direction, at scattered altitudes, most of their attention directed to the boats below them. Even though there are airspace agreements in place between the helicopter operators and the fish spotters it does not always work out. I asked Davis what he thought is the biggest threat for potential airspace conflict. First, he made it clear that he is aware of about 20 close calls per week during the season. He defines a close call as any time they have to make an aggressive maneuver for avoidance.

Most of these involve helicopter flights over the boats. The spotter airplanes use altitudes at 500-foot increments and the helicopters use the HSAC recommended altitudes in quadrants starting at increments of 700 feet. Many of the helicopter pilots use GPS latitude/longitude for position location when nearing a fishing operation. When southbound, a departure point would be of much more value. They have no time to be looking up coordinates on a sectional.

It’s important to note that helicopter pilots could be more helpful in the courtesy arena by not looking down at the fish and saying, “Wow, you guys sure have a lot of pogies down there.” It’s a very competitive business and you’re basically announcing, via VHF to the other fishing companies, the location and amount of fish. All of the competing companies use radio scramblers for locations and rendezvous points in an effort to keep the competition uninformed. 🚫

Coming Up

in rotor & wing

April 2012:

12th Aviation Battalion Profile—A closer look at the U.S. Army's Air Operations Group, which provides aviation support for the Military District of Washington (MDW), with rotary-wing aircraft at Davison Army Airfield, Fort Belvoir, Va.; and fixed-wing aircraft based at Andrews AFB, Hickam Field, Hawaii and Ramstein AFB in Germany. Includes a Unit Profile of the 12th Aviation Battalion at Davison that flies UH/VH-60s and UH-72s in support of the Pentagon. Doug Nelms will cover the mission and fleet of the 12th, including special requirements to fly in the Army's VIP detachment, training, minimum hours required and equipment such as avionics.

More Heli-Expo Coverage—Unfortunately, we weren't able to fit all of our Heli-Expo photos and news write-ups from the *Rotor & Wing* editorial team into the March print edition. We'll feature additional coverage in the April print edition. In the mean time, look for more photos, videos, interviews and reports from the show floor at www.rotorandwing.com

Columns—Leading Edge, Frank Lombardi; Law Enforcement Notebook, Ernie Stephens; Training Focus, Keith Cianfrani; Military Insider, Andrew Drwiega; and Around the World.

Bonus Distribution: Quad-A, April 1-4 in Nashville, Tenn. AEA, April 3-5 in Washington, D.C.

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Military Insider

By Andrew Drwiega

Military Snapshots from Heli-Expo 2012



During Heli-Expo, the U.S. Federal budget was announced with the confirmation that the Department of Defense will indeed spend \$486.9 billion less than was planned in last year's budget (savings to be gained through reductions in force structure and modernization). The headline was that base defense spending will reduce by 1 percent to \$525.4 billion in 2013, while DoD Overseas Contingency Operations funding will fall by 23 percent (primarily gained from the end of operations in Iraq and the planned drawdown of forces in Afghanistan.)

Most of the CEOs and industry leaders are already looking away from the U.S. to other international markets. Only Roberto Garavaglia, senior vice president for marketing at AgustaWestland, held out some expectation for future DoD spending, saying that his company was still hopeful of competing in the VXX Presidential helicopter replacement program, the U.S. Air Force CSAR replacement, the Air Force's Common Vertical Lift Support Program (CVSLP), the Army Armed Aerial Scout (AAS) and the Joint Multi Role (JMR) program. Most other manufacturers only view AAS as a near-term possibility.

What has been interesting is the rise of smaller, normally civil sale-based helicopter manufacturers such as Enstrom into the training/utility end of the military market. Jerry Mullins, speaking at the CEO Forum, said that 2011 had been the best year in Enstrom's 52-year history. The company completed 12 out of 16 orders for the Royal Thai Army for turbine trainers and Mullins said there was an expectation for up to another 16

aircraft. The second of 30 helicopters had been delivered to the Japanese Ground Self-Defense Force and Mullins confirmed Enstrom as the winner of the Ukraine Border Guard competition, with an initial order of three helicopters, but potentially rising to 24 aircraft. He also said that he understood how important supporting the local operator was in these type of 'big wins' to a company the size of Enstrom. Perhaps more international military buyers will look to simplicity and low cost in the next few years over those of much bigger manufacturers.

Back with the big dogs and Bell CEO John Garrison announced that the AH-1Z Cobra and the UH-1Y have been deployed together by the U.S. Marine Corps for the first time. This must be a relief to the Marines, as they have endured many years of waiting. The original upgrade contract to transform the H1's (AH-1W to Z and UH-1N to Y) was signed in 1996—15 years before this first deployment. The ambition, now achieved, was to create two helicopters with design commonality (which now stands at 85 percent through common tail boom, engines, rotor system, drive train and avionics). The new designs are good—with the Marines deployed praising the new lift capability of the UH-1Y (the crew chief no longer has to run alongside the aircraft while it gets airborne), but the process has been long.

In fact, the first AH-1Z flew in December 2000. Many delays to the program ended with a four-year operational evaluation that concluded in 2010. Following this the U.S. Marine Corps were finally able to clear the aircraft as

combat ready just before entering full rate production. USMC is expected to receive 189 AH-1Zs (both new and remanufactured), with production running through to 2019.

So with no outstanding U.S. military contracts visible, the OEMs are turning to what they can find elsewhere in the world. Europe, the western part anyway, has its pockets turned inside out as the Euro-zone battles to save itself as an economic entity. Russian and Chinese military markets are closed to western OEMs, so the heat will be turned up to sell to India, the Middle East, the Far East and more than ever; Latin America.

The competition is increasing for the small to medium-sized military orders and the participation of Russian Helicopters, with its two design bureaus and five helicopter plants, is intent on improving its position as both a civil and military helicopter provider to the world markets. CEO Dimitry Petrov revealed that both Mil and Kamov are working on their own advanced high-speed helicopter projects, where the best will be selected for further prototyping. Petrov said that, in the current financially restrained times, the market wouldn't be prepared to pay the high prices they once had, something that would be in the Russian's favor. With a much-increased focus on improving the supply chain and providing training, not to mention increased dialogue with western engine and avionics providers, the intent to take market share is a real one. "We have now attended Heli-Expo three times," said Petrov.

"This is not so much a public relations exercise as a working tool for engagement with our new partners." 🇺🇸

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