

March 2013

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Art of Success

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Editor's Notebook

Signs of Progress

By Andrew Parker



aparker@accessintel.com

For many in the helicopter industry, the weeks leading up to Heli-Expo are among the busiest times of the year—second only to the actual event. It's also one of the most exciting seasons of the year, as thousands come together to watch manufacturers and suppliers uncover their newest products and latest innovations.

Just about everyone looks for signs of progress, and decision-makers within the industry are predicting that 2013 will build on the momentum of the past couple years and continue the recovery from the low point of 2009.

The hard work that people within the industry have put in over the past three to four years is starting to pay off. While some manufacturers and suppliers wait to make formal announcements at the show, others have painted a picture of a healthy outlook for 2013 and into 2014.

In this month's issue, Robert Moorman provides a snapshot of commercial market trends for the past 12 months (see "Let the Good Times Roll," starting on page 36), while looking forward into the future.



Bell's introduction of the 525 Relentless was one of the biggest announcements at Heli-Expo 2012. What will grab the headlines at the 2013 version of the event?

Sikorsky is planning to detail its largest-ever single order of S-92s in Las Vegas, only a couple weeks after

the first S-92 delivery under a 16-helicopter order to Avinics Group, parent company of Bond Offshore Helicopters (see story on page 28).

Robinson Helicopter CEO Kurt Robinson anticipates that 2013 will continue a northward trend, with the Torrance, Calif.-based manufacturer selling 517 helicopters in 2012, up from 356 the year before. Robinson is currently on backlog for the R66 until Sept. 1, 2013 based on current production of five copies per week.

Eurocopter is reporting €6.3 billion in revenues for 2012, or approximately \$8.4 billion USD, a growth of 15 percent over €5.4 billion in 2011 (see story on page 16). The all-time high in revenue comes with 475 total deliveries in 2012, despite a steady decrease in deliveries each year since a high of 588 in 2008. Customer support activity (at 47 percent) has exceeded production (45 percent) in terms of business activity at Eurocopter.

Following the introduction of the 525 Relentless last year, Bell didn't provide many details heading into the show about this year, but a recent report from parent company Textron indicates that revenues for the Hurst, Texas-based helicopter maker rose \$139 million in fourth quarter 2012 in contrast to the same period in 2011. Segment profit went up \$10

million, which reflects "higher volume and mix," according to Textron. Bell's backlog also increased to \$7.5 billion,

up \$1.2 billion from the close of third quarter 2012.

AgustaWestland comes into Heli-Expo following the Feb. 12 arrest of Finmeccanica CEO Giuseppe Orsi in Italy over corruption charges stemming from a \$748-million contract with the Indian military for 12 AW101s (see story on page 12). Finmeccanica's board of directors acted quickly to appoint Alessandro Pansa as CEO and chief operating officer to take over Orsi's role. As of mid-February, current AgustaWestland CEO Bruno Spagnolini was also under house arrest.

The annual "Russian Hour" returns to Heli-Expo this year on Tuesday, March 6 at 1:00 pm in room N110 of the Las Vegas Convention Center. Russian Helicopters will display its advanced-technology Kamov Ka-62, which feature Turbomeca Ardiden 3G engines, and Mi-171A2 in the U.S. for the first time. In addition, the manufacturer plans to detail its new joint project with AgustaWestland.

Also in this month's issue, Dale Smith highlights a sector that has continued to show strength throughout the global economic downturn. "Helicopters Allow O&G Producers to Go Deeper, Further Offshore," starting on page 44, explores a market segment that is displaying little indication of slowing down.

There's no shortage of excitement heading into this year's Heli-Expo. If the next few weeks are as eventful as early February has been, we're in for a "breakout performance" by the helicopter industry during 2013, which makes sense, considering this year's show is in Vegas. ✈

For Heli-Expo 2013 reports and photos before, during and after the show, visit www.rotorandwing.com





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(Above) HAL Dhruv at Aero India. (Below) ESG Trakkabeam searchlight on an EC135. (Right) RAVCO Bell 206B3. See more news in the Heli-Expo Show Day and at www.rotorandwing.com.

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2009, the year when the bottom dropped out of the civil rotorcraft industry, seems a distant memory, as 2013 becomes the year of sustained recovery. *By Robert Moorman*

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The commander of the Metropolitan Police Service spoke with *R&W* before retiring after nearly 20 years. *By Andrew Drwiega*

On the Cover: Bond Offshore Eurocopter AS365 N3 on an offshore platform. *Photo courtesy of Bond*

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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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WEEK OF MARCH 1:

- Digital edition of *Rotor & Wing* March 2013. Electronic version with enhanced web links makes navigating through the pages of *Rotor & Wing* easier than ever.

WEEK OF MARCH 19:

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

WEEK OF MARCH 26:

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

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Feedback

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Close to Home

I wanted to thank Ernie Stephens for his well-written article on the two Atlanta Police Officers that were killed while doing their job (see "Officers Halford and Smiley: Men of Honor," February 2013, page 48). It was very close to home for me because I was part of that unit for 27 years and had worked with Officer Halford at different times. I was a pilot and part of keeping the helicopters maintained. Thank you again for your kind words.

Robert Birky
Buchanan Ga.

OH-6 Platform

After reading the letter from Mr. Hastings in the February Feedback column (see "Fair and Balanced?" on page 8), one has to ask themselves this important question: If the OH-58 is all that why does the U.S. Army's 160th Special Operations Aviation Regiment (SOAR) use the OH-6 platform?

Does the 160th not have one of the most demanding missions?

The reason is clear, the OH-6 does the job better across the board, always has and always will.

The sad part is the message that it sends to other Army aviators flying in the BIG ARMY, i.e., you don't get the best, only the 160th does. I was a scout pilot in Vietnam who flew the OH-6 and remember the OH-58 coming online. We had a saying about the OH-58 that went like this: Oh it's 58! Shaking your head!

Clyde Romero
Marietta, Ga.

From Social Media

Response on Facebook ([facebook.com/rotorandwing](https://www.facebook.com/rotorandwing)) to the question, "What is your favorite movie or TV scene involving a helicopter?"

R&W's Question of the Month

What does 2013 hold for the civil helicopter industry? What are your predictions for 2014 and beyond?

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

TV scene: I just have to say The News—watching my husband fly the Elvis Skycrane on the Black Christmas fires, Sydney 2001. Favorite movie scene: "Terminator 2," when the T-1000 commandeers the helicopter and orders the pilot to "Get out!"

Kirsten White

There was a TV movie with David Jansen called "Birds of Prey" that was a helicopter duel. I think Jansen played a TV News chopper pilot...

Ron Thomas

Apocalypse Now, en las primeras tomas. El sonido de las hélices... es impactante! (in the opening scene, the sound of propellers... is shocking!)

Ernestina Mo

AgustaWestland AW101, James Bond in "Skyfall."

I.c. waters

Airwolf—Bell 222! Blackhawk Down—Lots of MH-6/MH-60 action. The A-Team movie—Scene with the V-22, also the opening getaway with the Huey & sporadic ARH-70 demo bird spotting. Die Hard 1—The final with the gunship Hueys. Die Hard 4—John McClain taking out the A-Star with a cop car.

Mission Impossible 2—Lots of BK117 action. Burn Notice—Season 3,

where the EC130 turns into an A-Star for the landing at the Fort Lauderdale Downtown Heliport. That's all I can think of off-hand.

S. Robert Sliger II

"Swordfish" and "Independence Day" SkyCrane cameos!!!

Brian T White

It wasn't a movie, but I watched a video of a helo pilot pop the top off a beer bottle with an old school bottle opener taped to his front skid (on Youtube).

Lee Waller

1982 TV movie starring Larry Hagman called "Deadly Encounter" and the scene of a Hughes 500 inside a hangar while kicking a can with its skids. Lots of great helicopter action in that movie!

Donald Heegel

This is a tough one. So much to choose from. Honorable mention: The "Bridges at Toko-Ri" where Mickey Rooney played a Navy chief piloting a Siskorsky H-5 doing plane guard and SAR duty from a carrier during the Korean war. Also, the rescue scene from "BAT 21" when Gene Hackman played a downed Air force aircrewman in Vietnam.

Jeff Huffman

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

LEE BENSON is a 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.



helicopters in the department's aviation section since 2000. He remains active in test and evaluation, and holds a master's degree in aviation systems-flight testing from the University of Tennessee Space Institute.



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.

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.



THIERRY DUBOIS is a long-time contributor to Access Intelligence publications. He has been an aerospace journalist for 12 years, specializing in helicopters since 2006. He writes on technical subjects, both for professional media and a popular science magazine in France. Follow him on Twitter: [@aerodub](#)



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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.



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



FRANK LOMBARDI, an ATP with both fixed-wing and rotary-wing ratings, began his flying career in 1991 after graduating with a bachelor's of science in aerospace engineering, working on various airplane and helicopter programs as a flight test engineer for Grumman Aerospace Corp. Frank became a police officer for a major East Coast police department in 1995, and has been flying



ERNIE STEPHENS, Editor-at-Large, spent 27 years with a major county police department, retiring as a decorated sergeant and chief pilot of its aviation section in 2006. He began his flying career in the late 1980s when he earned his rotorcraft license and incorporated a small aviation company as a sideline to his law enforcement career. Ernie holds a B.S. in Management of Technical Operations and an M.S. in Aeronautical Science from Embry-Riddle Aeronautical University, where he is also a professor and former director of academics for one of the school's satellite campuses. He has been writing features and columns for *Rotor & Wing* since 2003, and has performed evaluation flights in some of the latest, most technologically advanced rotorcraft in the world. In 2008 and 2009, Ernie was nominated for the Aerospace Journalist of the Year Award. ✈





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■ MILITARY | EVENT COVERAGE

AgustaWestland Controversy Emerges from the Dust of Aero India 2013



Photo by Andrew Drwiega

Left to right, Vijraya Kumar, general manager of RWR&DC for HAL; Maj. Gen. PK Bharali, VSM ADG, Indian Army Aviation; RK Tyagi, chairman of HAL; and Lt. Gen. Narendra Singh, DCOAS (P&S).

Helicopters were much in the news at the 9th Aero India show, the biennial event held at the Yelahanka Air Base on the outskirts of Bangalore from Feb. 6-10, 2013. While there are certainly enough helicopter procurement projects progressing at various speeds in chameleon-like forms, some of the headlines were made after the event had closed.

The sudden arrest of Finmeccanica chairman and CEO Giuseppe Orsi on Tuesday, Feb. 12 in Italy on corruption charges came amid ongoing reports that AgustaWestland's successful bid to supply 12 AW101 helicopters to the IAF for VVIP roles during Orsi's tenure of CEO at Finmeccanica's helicopter subsidiary was being investigated.

The first three aircraft have already

been delivered but India's defense ministry has announced that it intends to cancel the \$748-million deal and has initiated its own investigation through the Central Bureau of Investigation (CBI). At time of writing, AgustaWestland's current CEO Bruno Spagnolini was also under house arrest. Orsi has now reportedly resigned his leadership at Finmeccanica as well as his board directorship. The company's board of directors moved swiftly to appoint Alessandro Pansa as Orsi's replacement with the title of CEO and COO.

This development is bound to have a consequential knock-on effect for the international aerospace community as they continue

to search for potentially lucrative orders. As if this was not enough, there had been a sober warning from the Indian Minister for Defence, AK Anthony, even before the crowds had gathered on the first day. He directly addressed the question of India's financial muscle to continue to spin out procurement projects. He argued that while India's military "will not cut the expenditure on operational preparedness," there would not a major increase in the defense budget anytime soon.

In fact this may be more corporate strategic rather than financially enforced tactic. While spending delays can be blamed on the global economic situation, it could also give India's manufacturing industry more time to gear-up for the expected increase in spending across the board when it comes. India's burning ambition is to grow its national capability to design, develop and manufacture across the board and in spite

Former Finmeccanica chairman and CEO Giuseppe Orsi in a corporate photo.



Finmeccanica

HAL Light Combat Helicopter.



Photo by Andrew Drwiega

of HAL's obvious status and success, it is becoming obvious that it is not sufficient on its own. One comment overheard at Aero India was that India "needed more than one HAL." In fact, during a media briefing on the second day of the show HAL's chairman Tyagi (himself referenced in the AW101 investigation) was asked by several journalists why his company seemed to be taking on more and more projects while others continued to see delay and a lack of rapid development. His reply concluded that it was an exciting time for the company with many opportunities, which largely dodged the question.

The Indian defense requirement is for at least 900 to 1,000 helicopters, although the process to acquire these continues to be dogged by controversy of various forms. Industrialists at the show who did not wish to be named said it was a very difficult market to penetrate and that even after supposed "official" procurement announcements are

made, the "goalposts" can still change.

At the end of 2012 the Indian Air Force named Boeing as the L1 vendor for the acquisition of 15 the latest CH-47F Chinooks and 22 AH-64E Apaches (\$1.4 billion) ahead of Russian Mi-26T2 and Mi-28 Night Hunters. Final contract negotiations have still to be completed.

The competition that has the interest of many helicopter OEMs is requirement for 197 light reconnaissance and surveillance helicopters (RSH) for the Army and Air Force. These will replace the aged and obsolete Chetak and Cheetah helicopters that have served Indian forces so well, but need to be replaced as a matter of great urgency. The replacements need to be suitable



Photo by Andrew Drwiega

Indian Air Force Sarange team during an air display on the first day of Aero India 2013.

for high altitude tasks supporting the army as well as other general multi role missions. There are two main contenders, Eurocopter and Kamov, who have been playing a waiting game after numerous time extensions on their bids. Flight trials were conducted last year but recent comments before the airshow by IAF Air Chief Marshal Norman Anil Kumar Browne hinted that the delay shows no sign being resolved quickly.



Aero India 2013 featured a number of helicopters and aircraft on static display.

Home Advantage

Aero India is considered to be home “turf” for HAL with perhaps the highlight of the organization’s participation was the hand-over ceremony of the first Advanced Light Helicopter (ALH), the Rudra, to the Indian Army.

HAL Chairman RK Tyagi and Managing Director Shri Soundara Rajan hosted the event, with senior guests from the Army including Lt. Gen. Narendra Singh, Deputy Chief of the Army Staff and Maj. Gen. PK Bharali, ADG Army Aviation. Gen. Singh accepted aircraft IA-2101, which had received its initial operating certification (IOC) at the beginning of the

month, over five years since the first flight of the helicopter. Tyagi said that India had now joined an elite international band of manufacturers that could “design, develop, manufacture and certify” a helicopter of this type.

The Rudra’s weapons systems comprise a 20mm turret gun, 70mm rockets and Mistral II air-to-air and air-to-ground guided weapons. It has apparently been an uphill struggle to integrate multiple weapon systems simultaneously on the helicopter, with the complex assignment involving four major groups of systems and weapons. Participating nations include Israel, France, Belgium, South

Africa, Germany, Italy and the U.S., according to P. Soundara Rajan, managing director of HAL’s helicopter division. More than 14 miles of cables were laid and hundreds of hours of flight and ground

tests were carried out, he explained.

Sighting systems, such as electro-optical pod and helmet-pointing systems, have been integrated to augment target-aiming capabilities. The Rudra has a forward-looking infrared (FLIR) and thermal imaging sights interface, integrated defensive aids suite (IDAS) and an automatic flight control system. It is to be equipped with anti-tank guided missiles, which apparently have not yet been chosen.

The Rudra is the Mk-IV variant of HAL’s light combat helicopter family and is powered by two Shakti engines (a joint venture between HAL and Turbomeca). The first 20 aircraft will go into service with the Indian Army and according to officials, will be able to operate up to 20,000 feet in India’s mountainous regions.

The Indian Air Force (IAF) Sarang display team held an aerial demonstration of HAL’s Dhruv. HAL’s light combat helicopter (LCH) was also on static display as was an armed rocket-version of the Russian Mil-17V5. India has recently signed an agreement to take delivery of a further 70 Mi-17V-5s to add to the fleet it already operates. —By Andrew Drwiega, Military Editor



HAL Rudra Advanced Light Helicopter (ALH) on display.



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Eurocopter Flies to €6.3 Billion Turnover; Customer Support Activity Exceeds Production

With the self-assured confidence that is the hallmark of Eurocopter's president and chief executive officer, Lutz Bertling, announced at the company's annual media gathering in Paris, France this January that yet another Houdini act had been achieved in 2012. While Eurocopter's overall helicopter deliveries continued their steady decline from a high of 588 in 2008, dropping to 475 in 2012, revenues hit an all time high of €6.3 billion, or approximately \$8.4 billion USD (a growth of 15 percent on the €5.4 billion achieved in 2011). There has been an average turnover growth rate of 9 percent since Bertling took over the company from Fabrice Brégier in 2006.

As Bertling himself stated, many companies have not achieved successful growth like this in "traditional industry in this period of time—it is the proof that European cooperation can work." The organization's strategy has been to focus on selling bigger helicopters while investing in services, which are then offered to operators. "This has proved to be the right track. We have taken off since 2011—proof that our strategy works," he added.

Vector Aerospace has been an example of Eurocopter's buy-in to grab market share of the service sector, not only for its own products but with an eye on maintaining those of other helicopter manufacturers by exploiting its well established business and reputation. With 42 percent of turnover now being found in customer support services, Bertling views this activity as "not only profitable but crisis resilient [with] the service business giving stability in a crisis as long as they [customers] keep flying." He admits that his strategy has been to increase services. Even the oblique manufacture of carbon fiber doors for the A350

jetliner adds a useful technological element to the company's repertoire—a new "string to the bow" as it were.

Customer support (47 percent) has also exceeded production (45 percent) in terms of activity. Military represents 31 percent of activity against the 69 percent of civil business. The export market—that which lies outside of Eurocopter's home countries (France, Germany and Spain)—accounted for 72 percent of business.

Repeating last year's analysis on market potential, Bertling once again highlighted the strengths of Asia, Latin America and Eastern Europe. He said that by the middle of the decade Asia would become "the biggest potential market in terms of units," due in no small

part to the continued growth of the oil and gas industry, especially offshore. The expansion of the Chinese market still lay with the opening of airspace flying restrictions by the government. He considered that the relative slowness towards this ambition was, in part, to allow the indigenous industrial aerospace industry to mature and grow (such as Eurocopter's partner AVIC, or China Aeronautics Industries Group).

As ever Bertling was upbeat about what the future had in store for the company, and the way that it has been guided through the recessions sweeping over Europe in the last few years

Bookings across Eurocopter's product range in 2012:

Type	Bookings 2012	Bookings 2011
EC120 Colibri	9	13
Ecureuil Family	249	238
EC135	63	42
EC145	81	104
EC155 Family	11	21
EC175	19	4
EC225/EC725	37	35
TOTAL	469	457

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it would be a brave move to bet against them. However he was cautious when asked about the recently announced Sikorsky/Boeing plan to team over the U.S. Department of Defense's ambition for a Joint Multi Role helicopter which will result in the Future Vertical Lift (medium) platform—the basis for the eventual replacement of around 4,000 Black Hawk and Apache helicopters. He said that it was difficult to read whether Boeing would be limiting its ambition here to the potential Sikorsky partnership, as it already had an existing teaming agreement with Bell Helicopter over the Osprey (with tiltrotor technology also a potential contender for the JMR). He added that Eurocopter's own offer for the JMR would be "extremely attractive" but did not elaborate further.

The first delivery of the EC175 should take place at the end of the year in Q4 with the launch customer thought to be Bristow. The prospect of developing the X3, maturing the X4 and looking ahead to X6 and X9 projects occupy Eurocopter's forward planning. Of the X3, Bertling said that the simulation models were too conservative with fuel consumption lower than predicted. He said that an aircraft of this type had its own certification challenges also declared the possible interest of between 50-60 customers, although the X3 has always been stated as a technology demonstrator.

The crashes of the EC225s have caused Eurocopter one of their biggest collective challenges. While Bertling stated that a large part of the EC225 fleet continued to fly, the North Sea fleets flying from the UK and Norway were still waiting for the company to clear their aircraft, which Bertling expects to do around early April. He stated that the investigation has proved "more technically difficult than anything in the past" and that the project had been given a Priority 1B status, giving it priority within Eurocopter over resources. "It has had a severe impact on one of the most important customer groups we have," he said. Bertling explained that it

was necessary to "define safety barriers to ensure it does not happen in flight." Using the HUMS systems to monitor vibration provided a way to detect irregular vibration and he stated that there was "clear link between one vibration source and this issue."

Bertling's vision imbued by his company is: "we are selling mission capabilities, not helicopters. If you could do the same mission with a truck, you would buy the truck. Everyone has a mission which is more than the helicopter—it includes training, safety, spare parts—everything that surrounds the helicopter which creates mission success." —By Andrew Drwiega

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■ **COMMERCIAL | AIRFRAMES**

Embraer Strikes Partnership With AgustaWestland in Latin America

Italian helicopter maker AgustaWestland has reached an agreement to establish a joint venture with South American airline giant Embraer. The memorandum of understanding opens up the possibility of manufacturing AgustaWestland helicopters in Brazil for both commercial and military uses throughout Latin America.

AgustaWestland CEO Bruno Spagnolini noted the importance of “having an industrial presence” in a fast-growing helicopter market such as Brazil as central to the partnership with Embraer. The two companies have conducted preliminary studies that indicate a strong market for twin-engine, medium lift rotorcraft, specifically in the offshore oil and gas sector. Other potential growth areas in South America include military and executive transport sectors. AgustaWestland and Embraer will launch the joint venture “within a few months” after finalizing the agreement and obtaining regulatory approvals. 🚁

■ **PUBLIC SERVICE | POLICE**

Helicopter Crewmember Injured By Laser

A member of a police helicopter crew suffered an eye injury after a hand-held laser was shined in his face. The incident, which occurred on the evening of Jan. 8, 2013, left a Prince George’s County (Md.) police officer with scar tissue in his left eye.

“As we came over a high-rise building at about 800 feet, I noticed a blue laser shining into the woods,” said Cpl. Chris Elrod, the agency’s senior tactical flight officer. “Next thing I knew, the inside of the canopy was filled with blue light.” Cpl. Todd Dolihite, the pilot, exited the area, conducted a briefing among the crew, and elected to make another pass in a manner that would allow Elrod and fellow crewmember Cpl. Edward Martin to pinpoint the source for ground units, while protecting Dolihite’s vision. “We wanted to get this individual and bring him to justice,” explained Martin.

The crew guided ground officers to the apartment of 40-year-old Jules G. Labonte of College Park, Md., who said he was demonstrating the laser to his nephew. Officers seized a Wicked Lasers-brand “Arctic” hand-held laser. (Its Class IV power is three times greater than pointers generally used in an office or classroom setting.) Thirty minutes later, Elrod experienced pain and redness in his left eye. An ophthalmologist later connected his symptoms to the laser beam, which had caused temporary scarring, even from that distance.

According Wicked Laser’s website, the energy from the device’s 1,000 mW beam can burst balloons from several feet away. It sells to the general public for \$299 and comes with safety glasses.

Labonte was charged under Maryland law with three counts of assault, three counts of reckless endangerment, and one of count of misuse of a laser device. He is currently awaiting trial. —By Ernie Stephens, Editor-at-Large 🚁



Cpl. Chris Elrod shows the injury to his left caused by the beam from a Class IV, hand-held laser device. The MD520N police helicopter he was aboard was approximately 600 feet away from the source.

■ **SERVICES | AFTERMARKET**

Greenwich Acquires Aero Precision Industries

U.S. regulators have approved the sale of Livermore, Calif.-based Aero Precision Industries to Greenwich AeroGroup. Greenwich announced the acquisition in early January. Aero Precision Industries is an aftermarket parts, systems and logistics provider. Greenwich is the parent company of several aftermarket suppliers, including Atlantic Aero, DAC International, Matrix Aviation, Professional Aircraft Associates, Professional Aviation Associates and Summit Aviation, among others. 🚁

■ **PRODUCTS | ENGINES**

Turbomeca Gains EASA Arriel 2E Certification

The European Aviation Safety Agency has certified the Turbomeca Arriel 2E, which is scheduled for entry into service at the end of 2013 on the Eurocopter EC145T2. The Arriel 2E has a takeoff power of 950 shp, and is controlled by a dual-channel FADEC, and a new engine data recorder. 🚁

■ **SERVICES | DATA MONITORING**

Softtech Tracker to Assist Operators

Softtech, which makes the Flight Vector series of products, announced a pair of new operators that recently added the company’s FAR Part 135 online flight and duty tracking system to their helicopter fleets. Sundance Helicopters, which has a fleet consisting of 23 Eurocopter AS350s and EC130s, added the Flight & Duty Tracker system to its Las Vegas ops center. Air Medical Resource Group (AMRG) incorporated the system into its operations in late 2012, and recently obtained full 14 CFR Part 135 Ops Specs A025 Electronic Recording Keeping authorization. 🚁



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MILITARY | TECHNOLOGY

Boeing, Sikorsky Joins Forces Again on JMR/Future Vertical Lift

Sikorsky and Boeing will once again team over a military rotorcraft project, this time the venture is the U.S. Army Aviation Applied Technology Directorate's (AATD) requirement for a Joint Multi-Role (JMR) technology demonstrator (TD), the forerunner to the Future Vertical Lift (FVL) requirement in the 2030s.

Signed on January 13, the agreement means that the companies will submit a joint proposal to the AATD for the JMR TD Phase 1. A contract would follow in autumn for a platform demonstrator that would be used to evaluate next generation technology.

There has been no statement whether the JMR would be based on any current helicopter manufactured by either Sikorsky or Boeing, although a Boeing representative said the expectation was that further details regarding the project would be revealed before the March 2013 deadline.

Phase 2 would begin in 2015 and that would take the project forward through the inclusion of the mission equipment package.

Should the Sikorsky Boeing team then be successful, the hope is that they would then be jointly responsible for the production of the FVL (medium) aircraft, which would replace the current Sikorsky Black Hawk and Boeing Apache fleets within Army Aviation (around 4,000 helicopters).

The two rotorcraft primes have teamed before, most notably on the ill-fated RAH-66 Comanche. Two RAH-66 prototypes were built and conducted flight testing from 1996 to 2004. Widely acknowledged as having made important steps forward during its development, despite the aircraft's eventual cancellation due to considerable cost overruns it is feasible that both companies feel that aspects of their previous joint development project could be useful to the JMR. Both Sikorsky with its S-97 Raider development based on the X2 and Boeing with its advanced Apache E have cutting-edge technologies to bring to the party. This makes teaming in this economically challenging environment a logical step for both companies.

Boeing Military Aircraft President Chris Chadwick's released statement on the announcement alluded to the shared history: "Our teaming agreement is the continuation of a long-standing relationship between Boeing and Sikorsky and reflects a common vision for the future of Army aviation." He continued: "Our combined technical strengths and our collective program management expertise make this partnership an exciting development in meeting the Army's JMR program objectives."

Finally, the statement hinted that there could be more than one demonstrator aircraft developed for the 2017 deadline. —By Andrew Drwiega, Military Editor

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■ SERVICES | CERTIFICATION

Bell Continues to Seek FAA Approval for 429 Weight Increase

Bell claims granting the Bell 429 an exemption to raise MTOW to 7,500 lbs. would increase safety and capability. Shown is Switzerland-based Air Zermatt's Bell 429, one of the first European examples of the light twin.



Bell Helicopter

Bell Helicopter has submitted a “petition for reconsideration” to the U.S. FAA, the Bell 429 light twin should be allowed to operate at 7,500 lbs., instead of the FAR 27 limit of 7,000 lbs. According to the manufacturer, 14 countries have granted the requested exemption. The FAA and Europe’s EASA have not.

After the denial of exemption Bell received from the FAA in August, the company and the administration have “had a number of [constructive] conversations,” according to a Bell spokesperson. Moreover, the spokesperson deemed “positive” the FAA’s stated intent to consider increasing the maximum gross weight in FAR 27.

In its petition, Bell highlighted competition with the Eurocopter EC145. In the same weight category, just below 8,000 lbs., it is certified under FAR 29 rules. However, the model is “grandfathered on a 1983 type certificate and exempt from many of the latest Part 29 standards,” Bell claimed. Therefore, the EC145 meets less FAR 29 rules than the Bell 429, Bell contended. The 429 was designed as a FAR 27 helicopter with “further safety enhancements.” A Eurocopter official answers that rules are to be complied with and the EC145’s safety record is “exceptional.”

Among the countries that have exempted the Bell 429 are Australia, Brazil, Canada and China. For example, late in 2011, Transport Canada granted the exemption, providing some conditions are met. These include mandatory equipment—cockpit voice recorder/flight data recorder, helicopter terrain avoidance and warning system (HTAWS), radar altimeter, dual autopilot with coupled flight director capability (with a minimum three axis) and an “appropriate and effective” bird repellent device

On the contrary, in its August “denial of exemption,” the FAA did not buy into Bell’s arguments for safety and capability. “An early design consideration for a rotorcraft type certificate applicant is whether to design for compliance with Part 27 or Part 29,” the FAA reminded. The development and manufacturing costs of a rotorcraft depend on its

type certification basis, it went on. The relief sought would, if granted, “put existing Part 29 rotorcraft manufacturers at a competitive disadvantage” because of the greater costs.

The FAA has based the distinction between normal and transport category (FAR 27 and FAR 29) rotorcraft certification requirements, in part, on the maximum certified gross weight of the aircraft. “The gross weight of aircraft provided a meaningful indication of the number of [occupants],” as well as complexity and performance, the FAA said. This is part of the FAA’s “fundamental philosophy.”

Therefore, to allow a rotorcraft to be certified at a higher weight than allowed by the regulations would undermine “the very philosophy that has served the United States aviation community,” the FAA wrote.

However, it is not against reconsidering the current gross weight limit of FAR 27. Comments did not indicate that the community at large believes the 7,000-lb. limit is inappropriate, the FAA said. Nevertheless, it will issue a notice to seek public input on this topic.

An EASA spokesman told Rotor & Wing that ongoing discussions on the Bell 429’s increased gross weight have “not succeeded yet.”—By *Thierry Dubois*, follow him on Twitter: @aero_dub

■ CORPORATE | VIP

Beijing Capital Receives Initial EC135 P2+

Hainan Airlines Group affiliate Beijing Capital Helicopter took delivery of its first VIP-configured Eurocopter EC135 P2+ in mid-January. The company will employ the helicopter in passenger transport, tourism and EMS operations, including aerial tours during the upcoming Lunar New Year holidays. The new EC135 adds to Beijing Helicopter’s current fleet of five AS350 B3 Squirrels.

Beijing Capital’s first VIP EC135 P2+.



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■ SERVICES | REPAIRS

Singapore Certifies Bell Repair Facility

The Civil Aviation Authority of Singapore (CAAS) has issued Part 145 Maintenance Organization approval to Bell Helicopter Asia. The certification gives Bell the ability to carry out repairs, completions, maintenance and other modification services for Bell operators in Asia. Along with fellow Textron division Cessna Aircraft, Bell opened the 160,500-square-foot Singapore service facility in July 2012. The complex features overhaul and maintenance shops, a paint booth, warehouse and office space. ✈

■ TRAINING | MAINTENANCE

Safety Board: Improper Mx Led to Tour Crash

U.S. National Transportation Safety Board (NTSB) investigators have determined that inadequate maintenance to be the probable cause of a December 2011 crash of a Eurocopter AS350 in operation with Sundance Helicopters of Las Vegas, Nev. The crash occurred during a sightseeing trip near Hoover Dam after a critical flight control unit separated from another, rendering the helicopter uncontrollable, according to the NTSB report. The crash resulted in the deaths of the pilot and four passengers onboard.

Safety officials said the investigation of the wreckage revealed that the main rotor fore/aft servo—one of the three hydraulic servos that provide inputs to the main rotor—was found with its flight control input rod not connected. Investigators found that the bolt, washer, self-locking nut, and split pin that normally secure the input rod to the main rotor fore/aft servo were not in place, and that Sundance Helicopters maintenance personnel were reusing nuts that were not approved under FAA and Eurocopter safety recommendations.

As a result of the investigation, NTSB is recommending that FAA establish duty-time regulations for maintenance personnel, because the investigation also revealed that the mechanic and inspector had insufficient time to adjust to working an earlier shift than normal, and experienced fatigue while performing the maintenance inspection of the helicopter.

“One of the critical lines of defense to help prevent tragedies like this crash is improved maintenance documentation through clear work cards, or checklists,” said NTSB Chairman Deborah Hersman. “Checklists are not rocket science, but they can have astronomical benefits.” —By Woodrow Bellamy ✈

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PEOPLE



Portland, Ore.-based Columbia Helicopters has appointed **Stan Wilson** (top left) as president. He replaces **Mike Fahey** (bottom left) in the position, while Fahey will retain his title of CEO. Fahey described the move

as an “opportunity to implement some changes we have been planning for some time.” Under the new structure, Wilson will focus on day-to-day operations at Columbia while Fahey will spend more time on “strategic partnerships, new

client development and further exploring strategic growth opportunities,” according to the company. Wilson began working for Columbia in 1986, serving as vice president of finance for the past 13 years. Fahey joined the company in 1975, serving as director and then vice president of finance, before becoming president in 1999, and CEO in 2012.

Med-Trans Corp. has named **Jana Williams** vice president of partner development. Williams will be based in Chicago in addition to working at Med-Trans corporate headquarters in Lewisville, Texas. She comes from AirLife Denver, where she was program director. Williams has worked in the EMS, flight nurse, trauma and disaster

response fields for more than 25 years. She is a member of the National EMS Memorial Service Board.



FlightSafety International has hired **David Ruston** as commercial marketing manager for Visual Simulation Systems. He will be tasked with pursuing new business opportunities for FlightSafety’s visual simulation systems. Ruston comes from VDC, where he was vice president of business development. Other previous experience includes working with Rockwell Collins, Evans & Sutherland and Redifusion Simulation. ✈

coming events

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

March 12–14: ATC Global, Amsterdam RAI Center, Amsterdam, Netherlands. Visit www.atcglobalhub.com

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

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

April 8–10: Navy Lead Sea-Air-Space Exposition, Gaylord National Resort & Convention Center, National Harbor, Md. Visit www.seaairspace.org

April 9–11: Aircraft Interiors Expo, Hamburg Messe, Hamburg, Germany. Visit www.aircraftinteriorexpo.com

April 10–14: Quad-A Annual Convention, Fort Worth, Texas. Contact Quad-A, phone 1-203-268-2450 or visit www.quad-a.org

April 16–18: Asian Business Aviation Conference & Exhibition (ABACE 2013), Shanghai, China. Contact NBAA, phone 1-202-783-9000 or visit www.abace.aero

May 16–18: 6th International Helicopter Industry Exhibition, Moscow, Russia. Contact HeliRussia, phone +7 (0) 495 958 9490 or visit helirusia.ru/en

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

May 21–23: European Business Aviation Convention and Exhibition (EBACE), Geneva PALEXPO and Geneva International Airport, Geneva, Switzerland. Visit www.ebace.aero

June 17–23: Paris Airshow, Le Bourget, Paris, France. Visit www.paris-air-show.com

July 29–Aug. 4: EAA AirVenture, Wittman Regional Airport, Oshkosh, Wis. Visit www.eaa.org

Aug. 12–15: Association of Unmanned Vehicle Systems International (AUUSI) Unmanned Systems 2013, Walter E. Washington Convention Center, Washington, D.C. Visit www.auusi.org

Oct. 10–12: Aircraft Owners and Pilots Association Aviation Summit, Fort Worth, Texas. Visit www.aopa.org

Oct. 21–23: AUSA Annual Meeting and Exposition, Walter E. Washington Convention Center, Washington, D.C. Visit www.ausa.org

Oct. 22–24: NBAA Annual Meeting & Convention, Las Vegas Convention Center, Las Vegas. Visit www.nbaa.org

Nov. 17–21: Dubai Airshow, Dubai World Central, Dubai. Visit www.dubaiairshow.aero. ✈

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■ TRAINING | MILITARY

CAE Expands Agreements at MSHATF

The UK Ministry of Defence (MoD) has issued two contracts to CAE related to training and simulation at the company's Medium Support Helicopter Aircrew Training Facility (MSHATF). Under the first agreement, CAE will continue to supply ground school and simulator aircrew training for the Royal Air Force (RAF) through 2017. The manufacturer is upgrading the Eurocopter Puma dynamic mission simulator



Chinook simulator at CAE's MSHATF facility in the UK.

at MSHATF to the new Puma HC2 configuration and plans to have it online by summer 2013.

Under the second contract, CAE will update one of the Boeing CH-47 Chinook dynamic mission simulators to meet the RAF Mk4 standard, also known as the Project Julius program. MSHATF is currently equipped with six CAE-built simulators—three dedicated to the CH-47, two for the AgustaWestland AW101 Merlin, and one to the Puma—as well as four classrooms and a tactical control center. ✈

■ COMMERCIAL | OFFSHORE

Avincis Group Takes Delivery of Initial S-92

London-based Avincis Group, parent company of Bond Aviation Group, Inaer, Australian Helicopters and Norsk Helikopterservice (NHS), has received its first Sikorsky S-92 as part of a 16-helicopter order placed in December 2011. The first S-92 will enter service with Norsk, initially carrying out missions in support of Bond operators in the UK's North Sea before returning to Norway in late 2013 for NHS operations. Avincis is working with Milestone Aviation Group to finance the first four S-92s involved in the agreement. All 16 helicopters will feature mission equipment designed for offshore and other roles. ✈



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■ PRODUCTS | ENGINES

Rolls-Royce Wins V-22 Engine Contract

The U.S. Naval Air Systems Command has issued an \$83.7-million contract to Indianapolis-based Rolls-Royce for 38 AE1107C engines, 34 of which will be used for Navy MV-22s and four of which on Air Force CV-22s. The agreement calls for work on the Bell-Boeing tiltrotor engines to take place in Indianapolis, with completion projected for December 2014. The arrangement combines funding from USMC (\$74.9 million) and USAF (\$8.8 million). ㊦



AE 1107C engine.

Rolls-Royce



MV-22 tiltrotor taking off.

U.S. Marine Corps

■ MILITARY | UNMANNED

Unmanned K-Max Finalist for NAA Collier Trophy

Washington, D.C.-based National Aeronautical Association (NAA) has listed the unmanned Lockheed Martin/Kaman K-Max as one of seven finalists for the 2012 Robert J. Collier Trophy. The K-Max, which has been performing battlefield cargo resupply missions for the U.S. military since 2007, is competing against Felix Baumgartner and the Red Bull Stratos team, the Gulfstream G650 and the U.S. Air Force MC-12 Project Liberty team, as well as three NASA/JPL entrants—the Dawn Project, Mars Science Lab/Curiosity Project, and Voyager Interstellar Mission Project teams. Boeing's 787 won the 2011 Collier Trophy. ㊦



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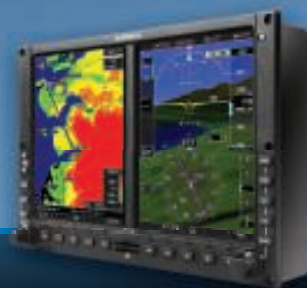




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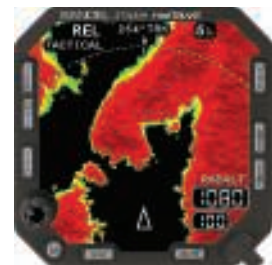


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LET THE GOOD TIMES

2009, the year when the bottom dropped out of the civil rotorcraft industry, seems a distant memory, as 2013 becomes the year of sustained recovery.

By Robert Moorman

Sikorsky

The old rock classic “Let the Good Times Roll” could serve as the theme song for Heli-Expo 2013, as rotorcraft manufacturers plan to announce several orders for new helicopters, indicating further that the recovery is finally here—or right around the corner—for most sectors.

“We’re coming off a good 2012 and 2013 is looking even better,” said Carey Bond, president of Sikorsky Global Helicopters, in what could be the understatement of the year.

Nothing says recovery better than a healthy order book. And at the show, Sikorsky plans on announcing several orders worth millions of dollars.

Milestone Aviation Group will order 24 heavy lift S-92s and 10 S-76Ds. The order dwarfs previous orders. In October 2012, Sikorsky delivered the first two of 16 S-92s to the Bond Aviation Group. The S-92 is estimated to cost around \$24 million per copy, according to Forecast International, a market researcher and aerospace consultancy.

In addition, Sikorsky will announce a contract with Bristow for 10 S-76Ds and 16 options. Aesa (Aeroservicios Especializados, S.A. de C.V.), a Mexican helicopter service provider, will order six S-76Ds, and four S-76Ds will go to the Chinese Ministry of Transportation. A couple of EMS-configured S-76Ds will go to the Arkansas

Children’s Hospital. Sikorsky says there will be other revenue-building news at the show.

Kurt Robinson, CEO of Robinson Helicopter, put the recovery, which started in 2012 and is continuing in earnest this year, succinctly: “We went from [selling] 356 helicopters in 2011 to 517 in 2012. Of those, 191 were R66s.” He expects 2013’s sales will be even better.

Robinson Helicopter will announce additional orders in Las Vegas, and will update attendees on the company’s efforts to gain R66 certification in Russia, Europe and Canada. The OEM is moving ahead with plans to certify the float ship and cargo hook for the

ROLL



The final Sikorsky S-76C++ entered service with Milestone Aviation Group in 2012, as the manufacturer phases in the S-76D.

R66. The CEO said the company also is working closely with avionics suppliers Garmin and Aspen to get their equipment certified for installation in Robinson rotorcraft.

The Torrance, Calif.-based maker of piston and turbine-powered helicopters is sold out on five-seat R66s until Sept. 1, 2013, based on the current production rate of five copies per week. Robinson produces six 3-seat R44s per week and one 2-seat R22 per week.

Seventy percent of Robinson's sales remain outside the U.S., but the company has no plans on developing satellite plants anywhere, as some OEMs have done. "We like having the location in one spot so the qual-

ity doesn't suffer," said Kurt Robinson. The company expanded manufacturing space at its Torrance facility in 2001 and there is "plenty of room" to grow further, he added.

Eurocopter, which continues to lead the light and mid-size commercial rotorcraft market in sales, took in orders for 469 commercial and military helicopters in 2012, representing a value of 5.4 billion euros (approximately \$7.2 billion USD). Sales were particularly good for the Ecureuil/Fennec/EC130 family with 249 orders and the EC135/145 families with 144 bookings. Orders for the Super Puma remained strong in 2012 due to significant bookings from the oil and gas

sector. Milestone Aviation Group has signed a contract to lease 16 EC225s. Starlite Aviation placed the first contract for the new AS332C1e.

Developments in 2013 will include the certification and delivery of the EC175 medium twin, according to Eurocopter President & CEO Lutz Bertling (see more in Rotorcraft Report on page 16).

Sources indicated that the manufacturer plans to announce several orders at Heli-Expo and provide additional details on the twin engine EC175 certification as well as first delivery to launch customer, Bristow Helicopters. Bristow is expected to use the EC175s in the Gulf of Mexico upon delivery,



AgustaWestland AW189 prototype over Texas.

one company source indicated.

A possible prologue to Eurocopter's plans for 2013 and beyond might have come from Bertling's comments to reporters during Eurocopter's 2012 earnings and orders review in late January 2013.

"Eurocopter took steps during 2012 as we transitioned from being a helicopter manufacturer to becoming a true vertical-lift mission solutions provider, supported by the modernization of our product line while also providing a more comprehensive services offer and growing the global footprint," he said.

The Pratt & Whitney Canada PT6C-67E powered EC175 is being assembled at Eurocopter's Marignane plant near Marseille, France.

On Day 1 of Heli-Expo, Eurocopter will celebrate the already announced order for a single EC135T3/P3 to Aiut Alpin, an Italian voluntary association of individual mountain rescue teams.

Eurocopter Canada also will announce the purchase of an EC135 by Northern Alberta as well as an MOU for the first EC145T2 from Phoenix Heli-Flight, also from Alberta.

more than 50 percent of the U.S. market in Eurocopter sales, is planning an EC175 demonstration tour before and after Heli-Expo for potential customers in the Gulf of Mexico market including Bristow, Petroleum Helicopters Inc. (PHI) of Lafayette, La. and Lake Charles, La.-based Era Helicopters. A follow-up dog and pony show will be held March 14-15 on the EC175 for the oil and gas industry at the Sugarland Regional Airport near Houston, Texas.

"Our real emphasis will be on the EC175," said Bob Cox, senior manager communications and media relations. "This helicopter is our entry into the deep waters of the Gulf of Mexico."

The EC175, because of its combination of size and range, is also seen as a strong candidate for sales to the search and rescue (SAR) and corporate transport market segments.

Positive Projections

Forecast International projects that rotorcraft manufacturers will ship 17,286 light commercial helicopters worth \$58.6 billion between 2012-2021. This total includes producing

On display will be Eurocopter's Helionix avionics suite, which includes LED displays, an innovative crew alerting concept with an on-demand vehicle monitoring system, a four-axis, dual duplex automatic flight control system, and enhanced situational awareness.

Aircraft on display at the Eurocopter booth (C2922) will include: the EC175, EC145T2, EC135T3P3, EC225 and the AS350B3e, the latest helicopter in the AStar series.

American Eurocopter, which has

more than 5,803 piston-powered and 11,483 turbine-powered light rotorcraft. Manufacturers are expected to ship 6,501 single-engine turbine helicopters and 4,982 twins, according to Forecast. Value of the single engine turbine market is projected to be \$13.6 billion, while twin-engine aircraft value is to reach \$42.9 billion.

Forecast defines the light commercial market as rotorcraft that are 15,000 pounds and less in maximum gross weight.

"Seventy-six percent of the value of production in the [light] turbine segment will come from production of twin-engine rotorcraft," said Douglas Royce, author of the market reports for civil light and medium/heavy rotorcraft.

Honeywell's most recent turbine-Powered Civil Helicopter Purchase Outlook, which Forecast referred to in its analysis, said order rates "are healthy" and near-term purchase plans by operators point to continued growth in the market between 2012-2016. Yet, Forecast notes in its analysis that it will take a few years before confidence in the light commercial market returns completely.

Forecast said improvement in the American and European economies "is critical" to the health of the light commercial rotorcraft market.

The corporate/VIP segment is one area that continues to suffer, unlike oil and gas, law enforcement, EMS, surveillance and air tourism, according to a few airframe manufacturers.

Medium/heavy rotorcraft production is forecast to total 1,965 from 2013 through 2022. Value of this production is forecast to reach \$30.4 billion. The medium and heavy commercial market remains a "niche market," said Forecast, because of the relatively few models offered.

"The size, weight and complexity of these aircraft limit the potential size of the market, particularly for Western-made aircraft like the Sikorsky S-92 and Eurocopter AS332/EC225," Royce said.

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Bell 525 will fill the gap between the top end of the light segment and heavier models, said Royce, with more orders expected in the near future.

[Editor's note: The range in years are slightly different for the light and medium/heavy category because of later forecast publication date for the medium/heavy category, which prompted Forecast to begin the heavy range category in 2013.]

Forecast's analysis said the full recovery of light commercial helicopter market is hindered somewhat by "tight lending conditions and sizable inventories of used aircraft, along with concern over fears of widespread recession in Europe."

Markets for medium to heavy rotorcraft are not forecast to grow beyond 200 aircraft per year until 2017. "However, these rotorcraft have very high price tags, and the value of production of these aircraft to manufacturers is correspondingly high," the analysis said.

Lender Interest

Makers of large, multi-purpose rotorcraft capable of reaching oil and gas platforms far offshore are attracting a lot of attention of finance houses.

"The oil and gas market has been the most important in the last few years,"



Photo by Pat Gray

Bell Helicopter introduced its 525 Relentless during Heli-Expo 2012. What will the manufacturer announce during this year's show in Las Vegas?

said Roberto Garavaglia, senior vice president marketing for AgustaWestland. Part of the reason is that this segment was more resilient to the downturn than other sectors and the oil business improved faster than other business sectors.

There's a "growing number of financial companies, which are interested in purchasing and then leasing helicopters," Garavaglia said, describing this as a growing, but not a new trend. "Financial investors are attracted to the asset value of these larger rotorcraft," he added.

The residual value of the larger multi-role capable rotorcraft, such as the 15-seat medium-size AW139, is greater than that of an Airbus A320 airliner, Garavaglia claimed. One key is flexibility. "A helicopter can always have another life if it is versatile enough," he said.

Historically, there has been less interest by aircraft lessors in rotorcraft, said the AgustaWestland executive. Which made it challenging for some buyers to raise the necessary capital to acquire a twin-engine turbine powered helicopter particularly. However, well

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heeled oil and gas companies, and their primary rotorcraft transportation providers, don't have a problem finding capital typically, countered industry experts and one leading rotorcraft manufacturer. Still, the fact that lenders are more interested in providing capital to buy helicopters bodes well for the industry.

As for AgustaWestland, the company showed "double-digit profitability" in 2012, and the order book has "grown steadily," said Garavaglia. He said sales of the AW family of civil helicopters, which includes the AW139/169/189, were "very good" last year, with the order backlog worth about "three years of revenue."

He deferred giving specific earnings figures and aircraft orders until March 31st, when parent company Finmeccanica releases its 2012 earnings.

Garavaglia did provide a teaser on what will be discussed at Heli-Expo. He reaffirmed that the 16-seat AW189 will be certified in 2013. The AW189, the civil version of the also-being-developed AW149 military version, is targeted primarily at the offshore rescue and oil and gas markets.

AgustaWestland is also "on schedule" for the development of the 8 to 10-seat AW169, a 10,000-pound helicopter in the light-to-medium class segment. The fourth prototype flew in early February 2013 for the first time, and certification is planned for sometime in 2014, Garavaglia said. The aircraft is targeted for the EMS and law enforcement markets.

Bell Helicopter, a Textron company, could not be reached for a pre-Heli-Expo interview, but the Fort Worth, Texas-based maker of civil and military rotorcraft is likely to update attendees on the medium-lift Bell 525 Relentless, which was one of the headliners at Heli-Expo 2012. The company plans to address the weight concerns and marketability of the Bell 429. The Relentless will be built at Bell's Amarillo facility.

In mid-August, FAA denied a request from Bell to permit an increase in the maximum gross weight of the



Eurocopter EC175 and EC225 flying in formation over France in late 2011.

429. Bell said 14 countries granted the requested exemption, including Canada and China. Bell had petitioned FAA to allow the Bell 429 light twin to operate at 7,500 lbs., instead of the FAR 27 limit of 7,000 lbs.

Bell delivered 65 commercial helicopters during the fourth quarter 2012, compared to three fewer commercial units in the year earlier quarter. Revenues increased \$139 million for the fourth quarter. Bell's backlog for commercial and military helicopters was \$7.5 billion at the end of the fourth quarter, up \$1.2 billion from the third quarter 2012.

MD Helicopters, a maker of military and law enforcement helicopters did not return calls to discuss its plans for Heli Expo 2013, but the company's CEO Lynn Tilton will likely discuss the current state of the Mesa, Arizona-based company at the show. Tilton told reporters at Heli-Expo 2012 that MD Helicopters had a good 2011, but specific sales and revenue figures were not provided. Much of the company's business comes from the U.S. military

and foreign governments.

It is unknown if MD Helicopters will announce orders at Heli-Expo for any of its models, which include the MD 500E, MD530F or MD520N.

MDHI will likely display its NOTAR anti-torque system and new composite rotor blade at its booth. The NOTAR technology employs a fan-driven system that transfers low-pressure air through the tail boom for anti-torque and directional control, according to company materials.


MDHI could also display the advanced composite main rotor blade that will be offered as an upgrade for the MD530F.

Marengo Swisshelicopter will be on hand at Heli-Expo to discuss the progress of its SKYe SH09. The carbon-filled, seven-passenger SH09 prototype is currently being assembled and is projected to have a 140-knot cruise speed with a 430 nautical mile range.

Marengo is not expected to announce orders for the SH09 at Heli-Expo, but will announce the appointment of one distributor and representative for the Asia-Pacific region, said Mathias Senes, commercial and strategy director.

The company also will reveal the latest modifications to the Sagem instrument panel in Las Vegas, which will include reducing the cockpit displays from 10 inches to 8 inches. Marengo is not expected to announce a hard date for certification of the Honeywell HTS-900-2 powered SH09, but the company is "fully engaged" with EASA in the type certification process.

To date, Marengo has penned orders for over 35 SH09s for deliveries from 2015 to 2017.

While the VIP/corporate rotorcraft market has yet to rebound, it is safe to say that the commercial rotorcraft business overall has recovered. The industry hasn't bounced back to the peak 2008 levels, but suffice to say that the recovery is here. And that will be reflected by the announcements of several rotorcraft orders to come from Heli-Expo. 

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By Dale Smith

Ever since the Kerr-McGee Corporation drilled its first well from a fixed offshore platform in the Gulf of Mexico in the late 1940's, helicopters have been an indelible part of the offshore oil and gas (O&G) industry.

“Today, the only safe way the operators can move people is by helicopter. In open water, boats are too slow and is too dangerous to transfer people from boats to elevated platform decks,” explained Bristow Group’s Mark Duncan, senior vice president for Commercial. “If the helicopters can’t change the crews the operations can be shut down.”

Oil and gas operators “are realizing that helicopters are an increasingly vital and critical part of their production chain,” he said. “In the past, helicopters were regarded as sort of a bus service—if you miss one, you’ll just grab the next. That doesn’t work today. As the rigs get into deeper and deeper water the role of the helicopter becomes more and more important.”

It’s not like you don’t know this, but the world is totally dependent on oil and gas. And that unquenchable thirst means that the O&G producers are going further and further afield to find and tap new reserves.

“Looking at the global market for offshore O&G, most of the growth originates from deep water exploration and production,” Duncan said. “And that means traveling farther from shore.” He also explained that today’s major deep-water fields are in Brazil, West Africa, Gulf of Mexico, Northern Norway, the western UK North Sea and in eastern Africa.

“Most of the plays until about 10 years ago were in shallower water and the deepest was



OFFSHORE



North Denes Wessex helping to construct the base of Royal Sovereign Light Tower, off Beachy Head, in the south coast of England.

Bristow Group

up to, say, 600 feet," he said. "Now our customers are producing at depths of 10,000 feet and greater."

The offshore market in the North Sea "is entering a new era of exploration and production, with new fields being

accessed from Norway and the UK," stated Richard Mintern, CEO of Northern Europe and Asia-Pacific for Avincis Group, which is the parent company of Bond Offshore Helicopters and other rotorcraft support companies.

Obviously this new surge to explore in deeper water, farther from shore is a very expensive and often risky pursuit by the O&G producers. "When you turn it into a cost-per-barrel recovered, it's very viable," Duncan said. "With the continued high oil prices, it's all very valuable to the oil companies. That's why they keep expanding into new areas."

What this "new era" means to offshore helicopter operators is instead of ferrying rig crews 100 miles or so out to sea, now they're faced with transporting people and equipment some 200 miles offshore. That puts a whole new level of demand on aircraft and crews.

According to the experts, this extension of offshore exploration will continue to have an increasing impact on the world's helicopter fleet.

"If you want to efficiently move crews to the shallow platforms, say 100 miles out, you can use a medium helicopter like an S-76," Duncan said. "It can easily take 10 to 12 people 100 miles out and return them if they can't land. Every

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offshore mission is planned that way.”

Duncan said that while there’s no difference in operating a helicopter on a platform that’s in 50 or 5,000 feet of water, there is a major difference when that platform is now 200 miles from shore.

Of course the type of helicopter they’re flying makes a big difference in capabilities and safety. “When you start looking at supporting platforms up to 200 miles out in deep water an S-76 can’t fulfill that mission—it might be able to get there with 10 passengers, but it can’t return if the helideck is not open for any reason,” he said. “Most deep water rigs operate with 150 or more workers on board and need to change 15 to 20 crew members at a time. So you need a much bigger helicopter that has more range.”

The current S-61, for example, “can carry 21 passengers, but it cannot carry that many, 200 miles,” Duncan said. “The newer generation helicopters like the S-92 and EC225 can easily carry 18 or 19 passengers 200 miles out and come back.”

While the solution may seem to be as

simple as just getting more large helicopters to do the job, it’s not. And there are multiple reasons.

“The supply of heavy offshore helicopters is constrained at the present,” Mintern said. “[One reason is] due to the continuing EC225 gearbox issues (which Eurocopter hopes to have solved by the time you read this story), and with the AW189 not yet in service, there is an unprecedented demand for S-92s.”

Once all three of these helicopter types are available again, he stated, “we expect to see healthy competition between the manufacturers—something that has perhaps been lacking in recent times. It will also be interesting if other aircraft manufacturers decide to compete in this space.”

Adding to the pressure on helicopter operators is the fact that all of the major O&G production regions are all highly active simultaneously. “Over the past years there has always been something that has helped one region grow versus the others,” Duncan said. “Now that all

the regions have come out of their various recessionary environments there are a lot of growth prospects. It’s pretty challenging and exciting.”

Duncan said that there are about 1,800 helicopters involved in the oil and gas production business around the world. About one-third of those are smaller helicopters predominantly working in shallower waters like the Gulf of Mexico. The rest are the medium to large helicopters.

“I think there are around 400 large helicopters in operations today,” he said. “Many of those are older types. They either don’t have the range to get out to these new deep water platforms or they’re just too old to operate cost-effectively.”

“It’s putting real stress on the helicopter manufacturers to be able to produce the needed aircraft and on helicopter operators to be able to buy them since the capital investment is very significant,” Duncan continued. “We think we’ll probably need 75 to 100

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new helicopters to respond to growth opportunities around the world over the next five-years. Our ability to both procure these helicopters and find pilots for them is probably our biggest challenge.”

Of course, buying the helicopters is just part of the puzzle. You still need to find people to fly and fix them. “You always need pilots and in some markets in particular it’s made even more difficult because of constraints on who you can hire,” Duncan said. “Most countries outside of the U.S. have very strict, local content rules. For example, you can only have local citizens of that country on each flight crew.”

That puts a real bottleneck in the hiring system, he said. “Our Bristow Academy plays a big role in that. We train our own pilots and in many cases those are citizens of the countries we’re working in.”

“No matter where you are, local jobs for local residents helps reduce attrition rates creating a win-win situation for our customers and our sister operations,” explained Samantha Willenbacher, director, Bristow Academy. “For example, Bristow U.S. started a robust hiring program for the Gulf of Mexico operations. That has really been felt at our New Iberia, Louisiana training facility.”

It comes as no surprise to many people that the Middle East is home to a thriving offshore oil and gas business.

“While we are operating in a less hostile weather environment compared to deep water sites, offshore operations in the UAE have their own unique challenges, primarily because of the sheer volume of activity,” explained A.J. Baker, vice president of the commercial business for Falcon Aviation Services. “Because the fields are in relatively shallow water, there are many, many more wellheads and platforms in a smaller area.”

“It’s not unusual for one of our aircraft to do 30 to 50 takeoffs and landings

in a single day,” he said. “It’s very stressful for the pilots and aircraft. Wind conditions change constantly and there’s often debris on the helidecks to deal with.”

To help reduce some of the operational stresses while increasing safety, Baker said that the company has equipped their 412EPs with BLR Aerospace FastFin tail rotor stability systems and TCAS systems.

“The conditions and workload can be intense and constant,” he said. “So we embrace any equipment or procedural enhancements that can improve safety and service.”



Baker stated that, aside from the high numbers of operations, another challenge for Falcon’s pilots is the high levels of radio traffic. “We usually have several aircraft in the field at any time, with a number of ‘controllers’ in radio rooms located on various central platforms directing the daily work program,” he said. “It’s an extremely dynamic situation. We have found that some pilots, regardless of their flying experience and skills, can really struggle with the radio workload.”

While, depending on who you talk to, the oil and gas business can last for a few more years to a few more decades, savvy operators like Bristow, Bond and Falcon are always on the lookout for new uses for their unique brands of offshore helicopter capabilities.

“Locally and regionally, we are seeing a clear desire towards dedicated helicopter emergency medical services (HEMS),” Baker said. “This has been simmering for a number of years, but it does seem that the high cost of such a

service is becoming better understood and accepted. I think it will evolve in the next few years.”

Duncan stated that the Bristow Group is seeing interest in countries privatizing their Coast Guard search and rescue (SAR) capabilities. “The big one at the moment is the U.K. There’s an active tender out to provide SAR services,” he explained. “It will require stationing 22 helicopters at key points all across the country to serve inland and offshore SAR capabilities. Bristow Group already operates over 10 SAR helicopters for government and also O&G companies.”

O&G companies.”

“Norway is also currently considering the same privatization program,” Duncan said. “We’re expecting that more countries will move that way as they see the benefits.”

“Beyond the great opportunities within the oil and gas industry, we see growth in the demand for search & rescue, (Bond

already provides search and rescue services in the North Sea for BP) and in serving major industrial projects in remote locations in South America,” Mintern said. “We are also interested in growing our offshore wind energy services business.”

The opportunity to support wind energy generators does seem to be gaining steam. As Duncan explained it, because of their design and height off of the water surface, (some are upwards of 500 feet tall), getting maintenance personnel onto the tops where the actual generators are is difficult and dangerous by boat.

“They are being built with platforms off the backside of the generator so we can actually fly over and hoist a mechanic down to the platform,” Duncan said. “There are a few helicopters doing it today, but the business hasn’t grown to the point where it’s prolific. Maybe within the next decade there will be 5,000 or more of these wind generators offshore in Europe. Everyone is looking for alternatives to oil and gas.”

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RETURN OF THE



This image of a Robinson R44 appeared in the 2007 Excellence Ratings, before the introduction of the turbine-powered R66 in 2010. What do Robinson operators think of the R66 in 2013?

Categories: Overall Performance, Technological Innovations, Direct Operating Costs, Maintenance Issues, Technical Documentation and Assistance, Factory Training, Parts Availability and Customer Support

Rotor & Wing is re-launching its Excellence Ratings, which surveys helicopter operators to find out who provides the best customer satisfaction in key areas.

The 2013 Excellence Ratings survey will be conducted during the spring with results published in the June issue. The categories are Overall Aircraft Performance, Technological Innovations, Direct Operating Costs, Maintenance Issues, Technical Documentation, Technical Assistance, Factory Training, Parts Availability and Customer Support.

While we have only featured the Excellence Ratings within the pages of *Rotor & Wing* on one past occasion, our history conducting this survey is extensive. This year's effort will in fact mark the seventh time we have undertaken this exercise asking the same key questions, dating back to 1997. Much has changed over the past 15-16 years, and the trend data over time provides a valuable look at the progress and direction in which a company is heading in key areas.

It is important to understand the underlying methodology in order to interpret the true meaning and

value of the Excellence Ratings. This is not a popularity contest. No vendor can influence the results by stacking the ballot box. We use our exclusive worldwide current-subscriber list as our starting point, but as the results come in, we analyze the responses and sort the results according to a number of demographic and geographic criteria. The Excellence Ratings as reported in the pages of this magazine are in fact only a subset of the overall results, representing the opinions of those operators in what we define broadly as the "commercial" marketplace, as opposed to "military" operators.

RATINGS

Excellence Ratings for the Customer Service category the last time R&W surveyed in 2007. What will the ratings look like in 2013?

Robinson	80
Sikorsky	74
Bell Helicopter	72
Bell/Agusta	71
Boeing	69
Eurocopter	66
MD Helicopter	64
AgustaWestland	57

Perception Counts

It is important to note that the Excellence Ratings represent the opinions of those respondents who have vast experience in a particular manufacturer's aircraft, as well as the opinions of those who have some past experience, as well as those who have very little or no experience whatsoever. In short, these scores will reflect exactly what a prospective helicopter buyer would hear if they performed their own mini-survey of the people they know in the helicopter business before making a purchase decision. Perceptions count. To that end, these results should not be viewed as a pure "customer satisfaction" report card, however.

But make no mistake—this study will also produce detailed data reflecting the opinions of each manufacturer's actual customers. The answers will also be sorted according to job titles, by geographic location, and by the primary use of the respondent's helicopter. Does the front office feel differently than the pilot actually flying the aircraft? What about the maintenance staff? Do law enforcement operators seem to prefer one particular manufacturer more than

others? Does the geographic location of a respondent's operation significantly influence their opinion in areas such as parts availability? While the Excellence Ratings will provide a valuable overview, this more detailed data will provide direction for our editorial coverage, as well as valuable insight into areas of opportunity and areas for improvement for the manufacturers themselves as well as any others who may wish to access it.

The Excellence Ratings report will be posted on the *Rotor & Wing* website and the full report will be available via the shopping cart.

All in the Numbers

Our promise is that what you read in the Excellence Ratings will reflect only the highest level of statistical accuracy. We are not in the business of spreading rumors, nor are we in the business of selling our ratings to the highest bidder via their advertising investment with us, or by any other means for that matter. We will make every effort to gather enough data to report back to you about every manufacturer—from the largest to the smallest and from the

United States to Russia, and everywhere in between. But it is all in the numbers. If we do not get enough answers to provide a statistically accurate picture of a particular manufacturer, we will not provide an anecdotal picture.

Why Now?

You may have noticed that the media business is evolving rapidly—even within the relatively small universe of rotorcraft media. The way you get information today differs tremendously from the way you got it just a few short years ago.

While "news" and "entertainment" seem to be becoming commodities that most anyone can deliver to your desktop on a daily basis, trusted insight and expert analysis are becoming ever harder to find and discern.

Our decision to focus on this kind of in-depth, behind-the-scenes data which has long been a part of our operation, simply reflects our recognition of the kind of information that the helicopter market wants and most needs, and most importantly—is not getting from any other source on a regular basis. ✈



A CAREER POLICING

The commander of the Metropolitan Police's Air Support Unit has just of three aircraft types, and the recent build up to the National Police

By Andrew Drwiega, Military Editor

Inspector Phil Whitelaw has been a policeman with the Metropolitan Police in the United Kingdom since 1972. At the end of 2012 he retired from the position of Unit Executive Officer (UEO) and Accountable Manager (AM) of the Metropolitan Police Service (MPS) Air Support Unit (ASU), a unit he has been associated with since February 1994.

The ASU base at Lippets Hill, Essex, is located to the north of London and just within the M25 motorway that circles the nation's capital. Lippets Hill was originally an anti-aircraft site in World War I but transformed into a prisoner of war camp housing Germans and Italians during the World War II until 1948. After another spell as an anti-aircraft center it became

Metropolitan Police property in the early 1960s with helicopter operations starting in 1967.

Metropolitan Police formed ASU in 1980 with Bell 222A helicopters. In 1993 the force transitioned to AS355N Squirrels although operating out of Redhill, then Fair Oaks, both in Surrey. The Eurocopter EC145s arrived in July 2007 at around £5 million per aircraft including role equipment.

The aviation support unit operates with 48 personnel, comprising three sergeants, 18 police constables, four aircraft engineers, one avionics engineer, 11 pilots and other staff including those who man the control room. All of the pilots are ex-military, mostly Royal Navy but also Army Air Corps. Whitelaw half jokes about the difference

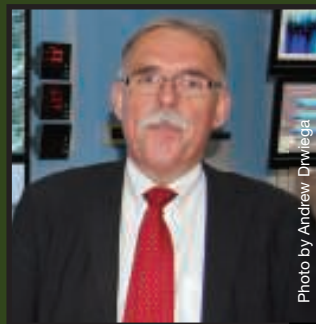


Photo by Andrew Drwiega

Inspector Philip Whitelaw. (Above) Police EC145 takes off from Lippits Hill, Essex, north of London.

between the pilots: "the Army love to clip hedges while the Navy like flying in conditions worse than today [the airfield was windswept with virtually 100 percent low grey cloud when we met].



LONDON'S SKIES

stood down after nearly 20 years in the job. He has overseen the use of the Eurocopter EC145 in the Metropolitan Police Air Service. He talked with Rotor & Wing just before retiring.

His annual budget has been a steady £7 million per annum but in recent years the increasing fuel costs as well as the financial rate of exchange with the Euro (regarding ongoing support from Eurocopter) have had an effect on ASU operations. Flying hours have recently been reduced from 3,300 per annum to 3,000 in order to remain within the unit's budget.

The unit is the first in the UK to operate the Eurocopter EC145, with an average at a little over 275 hours per month (although this will reduce to around 260) and support not only the Metropolitan Police but other emergency services including the London Fire Brigade, London Ambulance Service and Marine Coastguard, as well as other government agencies.

During his time at the MPSASU, Whitelaw has been involved in all aspects of police aviation from phasing out the Bell 222Aa, to introducing the Eurocopter AS355Ns and then finally the current three EC145s (callsigns India 99, India 98 and India 97). He has worked to increase the capability of the unit and has successfully made the case for increasing the number of police observers from six to 18 officers and from four to 11 pilots—all of whom are now directly employed rather than being contract based.

"Part of the business case for buying these aircraft was to identify the number of hours. We spoke to our European colleagues in France, Germany and Switzerland (Rega) to get a feel for what we had to do," said Whitelaw.

"We had been flying the Squirrel from 1993 and in 2004 were given an indication that we could change," he continued. "Initially we were thinking in terms of a light twin such as an EC135 or an MD902 Explorer and we looked at some of the roles we had to do. We tried to look ahead in 2004 and we saw the counter-terrorism (CT) as a future major requirement. The EC145 was the only medium twin that came within our budget."

Whitelaw said that during the completion of the aircraft the police laid down a requirement that they should be able to remove all the police role equipment within 15 minutes, "so we can go from a fully spec'd aircraft to a flying transit van in a quarter of an hour, which made McAlpines [the

Eurocopter agency at the time before Eurocopter bought 100 percent of the company in November 2007] at the time work quite hard. We had bought the Squirrels from them initially so we had a working relationship with them.”

Each aircraft has an L-3 Wescam MX-15 sensor pod which houses a gyro-stabilized color “day” camera and a thermal imaging camera. Images are viewed real-time as well as recorded and can be digitally downlinked to commanders and other units on the ground. “The standard searchlight is being used far less due to the quality of the thermal image,” he added. “We also now have moving maps where once we relied on an A-Z paper book of London. So now we punch in the postcode before taking off and the aircraft flies directly to our mission. It is a big time-saver. We used to do 2.3 tasks per hour and now we are well over three per hour.” He explained that there were also benefits to police units on the ground. “They are getting us on a downlinked map display as well. We have mobile systems that we put in vehicles, sometimes accompanied by ASU officers, and ground commanders are more able to make tactical decisions based on the pictures that they are getting from the aircraft. We first saw this during the Notting Hill Carnival a few years ago and it was very effective. It looked like a full-on crush situation on the ground, but from the air we could see there were holes and the situation was manageable.”

Whitelaw explained that the digital video downlink from the helicopter operates over line of sight and can be sent to handheld or mobile receivers on the ground. The video feeds are encoded for security and allow senior officers on the ground, usually Bronze commanders, to make real-time decisions.

Surveillance and safety are both important factors in police operations and the sensor turret has made the policing by ground police officers safer. “There is no call for police to go on rooftops anymore, or to go and search

railway lines. When I was a young officer the railways would turn the power off for a search, but they don’t do that anymore unless in extreme circumstances. So foot patrols have to clear the line while the rails are still live. But we can now do that for them in most cases.”

Another recent capability involves roping from helicopters. “We now have permission to fly policemen who can rope from aircraft, the only force in the UK that can do so. We had negotiations with the Department for Transport (DfT) and other agencies and we have been training for two years. It became a tactic at the beginning of 2012. Two of our guys went to the army to learn the specialization, so it is now a tactic that is available. The Army also proved to be a valuable source of information when the role of the EC145s was being planned. “We once spent a week in Belfast finding out how the Army managed their surveillance tasks; how they positioned a helicopter over the city and stayed in overwatch. Every quarter we conduct some work with the military—they use our pictures into their command center.”

When asked if senior managers value more highly now the role that air support plays, Whitelaw points to the ongoing formation of the National Police Air Service (NPAS). “In London

we used to be a bolt on to an operation. When the weather closes down we have to stop operations. But today we have advisers on the ground and fiber optic link—you can downlink to fixed and mobile sites so we are now fairly integrated and that is appreciated, although it has been a lot of hard work.”

The idea is that with the formation of NPAS there will be a rationalization in the number of helicopters but no reduction in the service. NPAS should help to regulate operations. “There are a lot of areas of policing that could be nationalized, perhaps firearms being the closest as they have a national strategy and a national firearms manual that everyone operates to. We don’t have that in the ASUs. But it is a difficult area to bring together as they are finding out.”

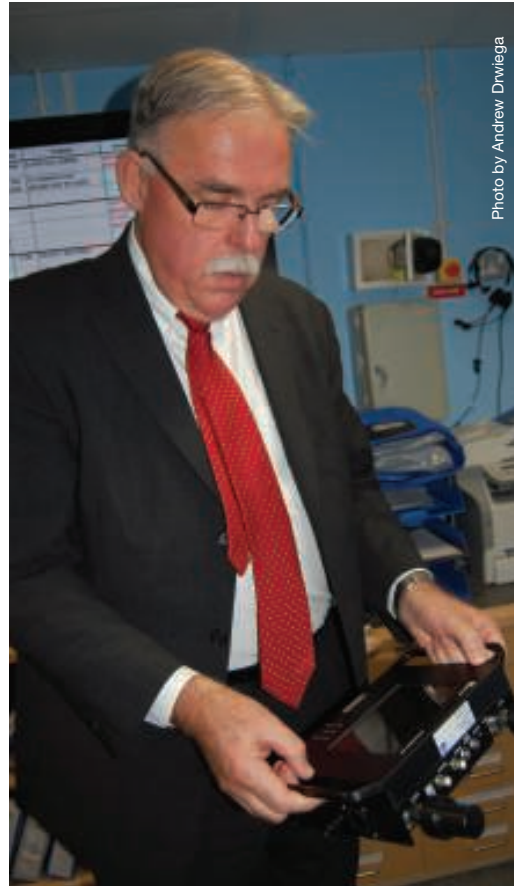


Photo by Andrew Dwiega

Whitelaw with a handheld digital and encoded downlink receiver.

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Personally, he continued, "I don't think the police authorities have been engaged early enough, but there are always politics surrounding every issue. They have tried to keep everyone happy, but there are 43 chief police constables involved who are, in effect, 43 fiefdoms—and policemen like to be in control."

The difference in size between forces has been an area of contention. "Some forces are smaller than some boroughs. Whitelaw argues that not everybody and task needs a helicopter. "Light fixed-wing can do what a lot that a helicopter does other than land. There will be a lot of opportunities over the next five years at NPAS builds, however, and when the operations of some European helicopter operators are examined—such as Rega in Switzerland—we are perhaps 10 years behind where we should be."

The direction that NPAS has decided on is to decrease the number of

aircraft from 33 to 24 [with three in reserve—although the starting number of ASU helicopters was 30]. There is some concern that this cut is too many, too fast. Whitelaw observes: "My difficulty is why somebody in the middle of Dartmoor deserves the same response time [20 minutes] as someone in the middle of Leeds. There are circles

drawn on the map rather than looking at the demand profile. Hertfordshire lost their aircraft because the circles overlapped too much."

But the benefits of NPAS are plain to see. "It is similar

in size to a big civil operator with 24 aircraft, three spares and 200-plus people so it should collectively be able to get economies from the manufacturers and fuel suppliers, among other areas." NPAS officials have already announced an expectation of saving around £15 million per year.

The real changes will begin on



Eurocopter EC145 in flight showing role equipment including the L-3 Wescam MX-15 turret.

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Photo by Andrew Dwiegda

The maintenance hangar at Lippitt Hill.

Jan. 1, 2014, when NPAS will decide where they will be located. "Our future plans at MPSASU focused on a half

life upgrade of the EC145 including a four-axis auto pilot, FADEC and a Fenestron tail, depending on the cost. We were also interested in Honeywell's Skyforce, a mission management system for sensor equipped aircraft—it looks good."

Sometimes what you listen to on the radio is different to the air picture. You could mix and match with the emergency services—heavy equipment to move the fire brigade around and smaller aircraft for other search and rescue.

Finally, when asked about the potential onset of unmanned aerial vehicles (UAVs), Whitelaw said that although they have been discussed, particularly before the Olympic Games in 2012, there is still a safety issue. "Unmanned will come. The worry is still if it comes down and injures or kills someone. One initial option might involve policing the English Channel so if it comes down, it would be unlucky to hit a vessel!"

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Public Service

By Lee Benson



Harder to Maintain?

If you ask me what opportunities I consider to be my greatest blessings, meeting my wife would be on the top of that list. I would go on to say that serving as a helicopter pilot for the U.S. Army in Vietnam and working as a pilot for Los Angeles County fire would come in second and third. I mention this because this is my second article in which I presume to tell the Army how to do its business. I do this with great respect for the institution and its members. If your purpose is to manage anything well, than listen most closely to those with whom you disagree. Tempered with the reality that the disagreement needs to be rooted in the best interest of whatever you are trying to manage.

I have recently been within earshot of serving Army officers and others, who have expressed the opinion that the Army needs to replace the Bell Jet Ranger as their primary training aircraft.

The reasons given fall within three groups of thought: All Army pilots will fly glass cockpits throughout their career so they should start on glass. All Army pilots should began their career in a twin engine helicopters because that's what they will fly for the rest of their career. The Jet Ranger is becoming harder to support, particularly because Bell Helicopter has chosen to discontinue its production.

Let me begin my rejection of these lines of reasoning by stating a few facts. With 7,300 aircraft produced

between 1965 and 2010, excluding Russia, the Bell Jet Ranger is the most prolifically produced turbine powered helicopter in the world. It is the safest single engine helicopter in the world. I personally have in excess of 5,000 hours in Jet Rangers, every hour of which, except for check rides, was doing some sort of utility work usually in the mountains. I have had several engine failures in Jet Rangers and never put a scratch on any of them. Now we transition from facts to my opinion. This is not because I was a great pilot, it's because the Jet Ranger is the most forgiving helicopter to autorotate I have ever flown. Somebody may make a better helicopter to autorotate, but I haven't flown it.

The Jet Ranger has a very well balanced control touch for a primary training helicopter. Not too sensitive to control inputs such as an MBB Bo-105, MD500 or AS350, or too slow such as a Hiller OH23, or uneven in response like the FH-1100, that I unfortunately have more time in then I would prefer. Nothing wrong with the above aircraft, in fact the Bo-105 is my personal favorite helicopter to just fly, but I would not choose one as a primary trainer.

The question of should a primary trainer have a glass cockpit is interesting. If the Army convinces itself that somehow this will benefit primary students, then modify the existing aircraft.

Next is the thought that all Army pilots should fly twins from primary

school on. Does anyone out there think that the number of engines in the aircraft had anything to do with their first 100 hours of flight training? So following this reasoning the Army will replace its training fleet with 150 new light twin helicopters at a cost of say, probably at least 500 million dollars. This will give them a fleet of aircraft that burns at least 70 percent more fuel and requires 40 percent more hours to maintain than what they currently use.

The last reason given is the aircraft is becoming difficult to maintain, in fact I have heard the term "unsustainable" used. A Rolls-Royce executive informed me that there are at least 10,000 C20s in the marketplace and support for this engine extends into the foreseeable future. Friends of mine have been doing agricultural spraying here in Ventura County with Jet Rangers since the late 70s. I asked them the other day what they thought and the basic answer was every 5,000 hours or so, we bring in the aircraft put it in a fixture address any issues and send it back out.

Van Horn Aviation builds a new carbon fiber tail rotor blade set for the Jet Ranger. These blades are about the same acquisition cost as the standard blades with double the time before overhaul. There are several other examples of products that have been brought to market for the Jet Ranger that improve performance and direct operating cost but space prohibits the full list. Unsustainable? Not lately! 轟

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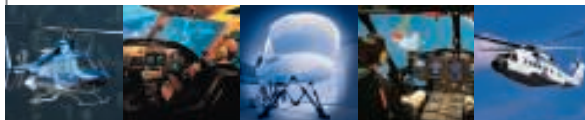
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Offshore Notebook

By Pat Gray

Alas! The Auditor Cometh



My subject for this month is audits, auditors and who they are. A long-time acquaintance and neighbor—he lives 35 miles away, but that qualifies in Texas—Richard Landrum, owns AirWing Aviation Consultants and is an IS-BAO (International Standards for Business Aircraft Operations) certified auditor. He performs safety audits for various clients throughout the world, specializing in helicopter operations, but is fully qualified to do fixed as well as rotary wing. He is just one of a number of individuals and companies who do this type of work.

Recently we spent some time together and being curious, I asked him to explain what he does during an audit and why he does them. Richard began by saying his motivation for this work is not financial in that he has a good retirement package from a major corporation and he considers earnings from his auditing work as supplemental. What he does consider of great importance is making a contribution to an industry that has served him well over many years. By saving lives and saving aircraft, using his education, training, knowledge and experience, a great deal of personal satisfaction is derived knowing that his input has elevated not just the operator's standards but he may have aided the industry to move forward toward its safety goals.

Of course we all know what audits are, whether they be financial or operational. Who has not worried about an IRS audit and the horror stories associated with them. An aviation audit can also be stressful if not performed in a manner that can alleviate a potentially threatening atmosphere. A good auditor

will rather promote the idea that tweaking your operation will lesson your liabilities and maybe even increase your bottom line. A really good one will leave you with the feeling that the auditor is actually part of your safety team.

AirWing starts the auditing process by contacting the company or the operator's contracted company well in advance of the actual visit. They mail a prepared questionnaire that is about 30 pages long, two to three weeks in advance of their arrival. Airwing requests that they complete and return it so that they can get a feel for the operation. They also ask for copies of core documents like the operations manual, safety manual and maintenance manual. Early on there is an agreement as to the standards to be used.

There is no advance time limit for the process. Time needed is usually dependent upon the size of the operation and perhaps the amount of detail demanded by the customer.

I mentioned IS-BAO earlier as the source of AirWing's certification. That organization can be considered generic in the sense that it is an information platform for just about any company that provides aviation flight services, whether it operates under FAR Part 91 or 135. In its most basic form it presents a code of best practices for operating business aircraft but is also a vehicle for compliance with ICAO Annex 6, Part II requirements for operating in other countries other than the United States. It covers some 14 areas of operations such as safety, maintenance procedures, personnel and training. They present a course for training auditors in such subjects as standards, safety management systems (SMS), risk assessment and mit-

igation techniques and audit processes. Of even greater significance for offshore helicopter operations in support of the energy industry are the Oil and Gas Producers (OGP) Aircraft Management Guidelines (AMG). If you wish to set up shop as an auditor here on the Gulf—or anywhere in the world, for that matter—first you get the IS-BAO certification then you immerse yourself in the AMG requirements and recommendations. There are a mind-boggling 186 items listed as operating standards, all designed to require a safe operation and ensure the operator has the capacity to accomplish the contract in the required manner. This document is extremely detailed and can be considered a "safety bible" if you do business with any major offshore energy company.

There are also small independent oil and gas production companies that are in need of audit services. These companies do not have the massive resources of the major producers and because they operate on smaller budgets, will often use the smaller helicopter operators because their rates are, at times, lower than the bigger operators.

Another very significant factor is the experience level of the auditor. Of the two or three that I know personally who do audits for the offshore market, all have between 40 and 50 or more years of experience as operators and managers of helicopter operations before becoming independent auditors. They do not have to deal with theory because they have been there and done that as we say in Texas. In all cases they can be considered experts in being able to apply the required standards to any type of helicopter or fixed-wing operation. ✈

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Law Enforcement Notebook

By Ernie Stephens



Watch Out for This Laser!

If you flipped through the previous pages of this issue without reading the Rotorcraft Report entitled “Laser Attack Injures Helo Crewmember” on page 18, I’m flattered that you landed here first. But what I’m about to tell you is a continuation of that piece written just for the law enforcement community. So, if you haven’t seen that short item, please check it out now, then return here.

Chris Elrod, a friend and top-drawer tactical flight officer (TFO), said that when the blue laser beam swept through the cockpit of the MD520N that he, TFO trainee Eddie Martin, and pilot Todd Dolihite were flying, they were a good 800 feet away from the knucklehead who was aiming it at them. But they managed to see which balcony of the high-rise apartment building it was coming from, and were able to guide ground units to the culprit, later identified as 40-year old Jules Labonte.

Labonte admitted to patrol officers on the scene that he was showing off his new, \$299 Wicked-brand Arctic laser to his nephew. Of course, the ASP baton-size device was seized as evidence. But before sending it to the property room, officers and detectives experimented with its capabilities. Between what they witnessed at the station, what they found on Wicked’s website, and what they saw in amateur videos posted on the Internet, it was clear that the Arctic laser could be a serious threat to any law enforcement officer, and not just those who fly. When I learned of the incident, I went to the company’s website myself. I was barely through half of their marketing video when my jaw dropped. Here was a shaft of energy that was popping more than a dozen balloons lined up

one behind the other. I had never seen a hand-held laser, outside of the ones in laboratories, do that before! But what made me more nervous was watching the other videos I found. Just plugging the words “Arctic laser” in my search engine revealed video after video of teenagers etching letters into stuff, popping kernels of popcorn, and (of course) recreating the company’s balloon stunt.

What I’m trying to wrap my head around are three simple things. First, how is it that a light device that can drill through material, cook food, and burn a man’s eyes from 800 feet be made available to the general public, including people I wouldn’t trust with a regular flashlight? Second, what is the attraction people have for laser pointers—outside of a learning environment, or course—that makes them the hottest selling item at beaches, carnivals and sporting events, especially among juveniles? And third, how long is it going to be before someone’s vision is seriously and permanently impaired while holding 4,000 lbs. of helicopter and crew in the air?

Elrod was very lucky. The ophthalmologist said his injury was minor, and probably wouldn’t have any lasting effects. But this thing changes the game for aviators. The first time I was hit by a laser was before the handheld kind sold at office supply stores had become popular. Laser sighting systems for firearms, however, were readily available, which is why I snatched the collective up into my armpit, and got us out of Dodge as soon as I saw that red dot ricochet through my ship. Now, there doesn’t even have to be a bullet on the other end of that beam of light in order to be a big problem. The beam itself can now be the problem! And folks, that sucker is pow-

erful enough to reach out and touch you from over two miles away; far enough to make it difficult to identify where its coming from, particularly if your first order of business is to avoid looking directly into it.

Once word gets out about how nasty these devices are, will the bad guys begin using them to shoo police helicopters away, because they know the pilot will want to avoid the possibility of taking a hit? Elrod took the time to search for the “shooter,” but that was before he and his partners knew they had been illuminated by a laboratory-grade laser cannon that could burn their eyes.

For now, we here at Rotor & Wing are asking all pilots to be very careful when they see any shaft or dot of light that looks to be coming from a laser device. Yes, the relatively safe, low-power ones are all over the place. But according to Elrod and his partners, the tipoff that a Class IV beam is on you will be its exceptional brilliance, compared to what you’ve probably seen in the past.

By the way, the FBI and FAA were notified of the attack. Sources say that both agencies are waiting for Labonte’s trial to conclude before they take any action at their levels. And even though the FAA and the FBI have already publicly announced a zero-tolerance policy toward laser attacks, I hope they kick regulatory and enforcement action up a notch with Class IV laser assaults.

Meanwhile, I’m working on an air-to-ground weapon that can lock onto the source of a laser, and use that beam to target the Jedi standing behind it with a barrage of florescent pink paintballs. Financial backers are welcome.

Be careful, ladies and gentlemen. These lasers are dangerous! 🚫

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Military Insider

By Andrew Drwiega

Console Killing Cuts Conscience of Games Generation



It's a joy for me because I'm one of those people who loves playing PlayStation and Xbox, so with my thumbs I like to think that I'm probably quite useful." This observation by the UK's Prince Harry, third in line to the British throne, was made on his return to the UK after a four-month tour of duty as a WAH-64D Apache crewman. His summary included the admission that he had killed Taliban fighters by using his onboard weapons systems.

The admission triggered plenty of adverse press coverage—but it was an unnecessary point to make. The role of the Apache is to attack—and in the battleground that is Helmand Province in Afghanistan it would be rare, if not impossible, for an Apache crewmember to serve an entire tour without engaging the insurgents. Aside from stirring al Qaeda supporters to potentially escalate him on their priority target list—and that could mean he remains so for many years to come—it is worrying in that it shows how even a Prince can be desensitized to the killing process. Is this a natural progression to the growth in synthetic training, for if it is, it represents a worrying development. Dehumanizing the enemy is a strategy that rarely, if ever, works.

The advance of UAVs has been irresistible, but has resulted in more frequent claims of innocents being targeted and killed (perhaps by mistake, but that is not the point). "Hearts and minds" is still such an important factor in any military action. If you lose the support, or even just the acquiescence of the civilian neutrals, then even the daily task of patrolling becomes that much harder—never mind achieving the over-

all strategic objective. The advantage that the manned aerial force still has over the unmanned assets is wider situational awareness—the ability to analyze perhaps more thoroughly before "pulling the trigger."

The march of video games and their contribution into synthetic training systems (which has been significant), while providing obvious benefits and cost savings to the training cycle, is dangerous in that it can distance the shooter (not only physically but mentally) from the responsibility of the killing process. And that can never be a good thing.

Glasnost Set Aside at Aero India

When journalists at Aero India in Bangalore, turned up to a press conference hosted by Victor Komardin, deputy general director of Rosoboronexport, they expected a briefing on trade and technology transfer as advertised in the invite. Instead they (the majority of whom were Indian media) were treated to a severe verbal attack for not, in Komardin's words, praising Russia's historic contribution to the Indian defense industry. He reeled off license after license agreement for fighter aircraft and other military equipment and accused the Indian media of not giving Russia "fair" coverage during the show.

However, when asked by one of the journalists why Rosoboronexport had not held a press conference, or given a press briefing during the show, as many other international exhibitors had done, he claimed that the contracts were secret and it was a matter for the Indian forces and government to brief journalists.

In this information-rich world to demand that the press write only posi-

tive stories that report historic successes, without giving information about current and future programs, is to misunderstand the role of the media.

His comments contained factual inaccuracies and exaggerations, stating at one point that only the USA, Canada and France operate the C-17, the replacement aircraft bought by the Indian Air Force to replace the Russian IL-76 (which was perhaps the reason for the ill-tempered tirade). In fact operators of the C-17 also number the UK (8), NATO (3), Qatar (4), the United Arab Emirates (6) and finally India (10). He also said the cost to India was around \$10 billion, whereas the public figure is half that.

In fact the whole occasion harked back almost to a Cold War style attack on the U.S. arms industry: "The Mi-26 can take the Chinook by the collar" being one such statement. In contrast, Boeing has organized a half-hour media flight in the USAF's Pacific Command C-17 to persuade them that their government had chosen wisely.

Russia has had a very long and profitable relationship with India's defense forces. Recent acquisitions include an order at the end of last year for 30 Sukhoi SU-30 fighters and a further 71 Mi-17B-5 to add to the 200-plus variants that India already operates. As reported by the Times of India (Feb. 5, 2013), "Russian weapons account for about 70 percent of all military hardware in service with the Indian Armed Forces." Without doubt Russia is facing increasing competition from western companies trying to fill the void in their business caused by the recession, but blaming the press for losing contracts isn't the way to fight back. 🇮🇳

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