



FLAT FLIGHT

Turbine-powered civil helicopter forecasts

Eurocopter EC130

The *Turbine-Powered Civil Helicopter Purchase Outlook* from Honeywell projects ‘flat’ overall deliveries of new civil-use helicopters during the five-year period 2010–2014 compared to the 2005–2009 period. Continued soft economic growth prospects in key markets, lingering tight credit conditions, high inventories of used current production models for sale and weak new order intake are still constraining growth.

New order intake remained weak throughout 2009; however, utilisation of turbine-powered helicopters has begun to rise in the past few months. On an upbeat note, European usage rates became positive in November and December 2009 and the inventory growth of current production helicopters for sale has stabilised since July 2009. Deliveries in 2009 fell below peak 2008 levels and were expected to decline further in 2010 and 2011 as backlogs depleted over the last year will not support sustained deliveries until order rates recover significantly. Five-year purchase plans fell some eight percent in 2010, after declining over 20 percent last year. The timing of new helicopter purchase plans indicates fairly firm plans for 2010, but exhibited considerable uncertainty thereafter with a notable decline in 2011–2012.

The present survey queried 1,074 chief pilots and flight department managers of companies operating over 2,150 helicopters worldwide. The survey excluded large fleet or ‘mega’ operators which were interviewed separately. The input received from the large oil and gas support and EMS fleet operators was factored into the overall outlook in addition to the individual flight department responses. Many operators surveyed said

they remain undecided about the specific timing for their next new orders, waiting for clearer signals of sustained economic recovery in their business or region. Honeywell’s 2009 survey data indicated a reduction in demand for new helicopters was likely during the 2009–2011 period.

Actual industry performance in 2009 was weak and relatively consistent with survey projections. 2010 survey findings continue to indicate additional pressure on delivery rates is likely for the next one-to-two years without a rapid recovery in order intake. Five-year new helicopter purchase expectations fell another 26 percent in North America and by 40 percent in Europe, which was relatively stable last year. In Latin America, purchase expectations were up significantly, increasing over 100 percent from sharply lower levels posted in 2009. Asian results declined modestly by about 10 percent over a year ago, but in Africa/Middle East purchase plans rose by 17 percent.

Expectations by product class were largely unchanged in 2010. Helicopter classes which contain larger, more expensive aircraft are still posting lower overall shares of interest than the less expensive machines. Five-year expectations for medium twins were flat in 2010 after falling over 40 percent a year ago. Light single engine orders rose about two percent while light twins fell by the same amount. Together, the light single and light twin class helicopters comprise about 74 percent of overall purchase plans measured in the survey.

Trade-up and trade-down patterns of current owners stabilised somewhat in the 2010 survey with just over 80 percent of operators electing to buy new aircraft in the same size class as they currently operate. Thirteen percent of operators of

intermediate and medium twins who plan to sell and replace their helicopters during the next five years plan to downsize to a light twin-class helicopter, a figure more than one-third lower than a year ago. In contrast, about a quarter of light twin helicopter operators surveyed planning to purchase new helicopters in the next five years intend to move up in size to a medium-class helicopter. In the 2009 survey, nine percent of all expected purchases were trade downs versus only four percent in the 2010 survey. Trade ups rose from 11 percent of all expected five-year purchases in 2009 to 14 percent in 2010.

Corporate, emergency medical services (EMS), law enforcement and utility helicopters remain the most common uses for new helicopter purchases and are expected to account for more than 80 percent of all global new civil rotorcraft sales during the five-year forecast period. This finding is unchanged from the last several surveys.

“Honeywell Aerospace’s 2010 survey continues to find avionics capabilities, lower operating costs and payload or power improvements, along with cabin volume, as the top criteria operators consider when selecting new helicopters,” said Carl Esposito, Vice President, Marketing and Product Management, Honeywell Aerospace. “The decision to acquire new helicopters is nearly always driven by the age of current aircraft, which is usually reflected in an operator’s desire for better technology including up-to-date avionics, more range, more power, cargo or passenger capacity and lower operating costs. Safety and lower operating costs tend to be strong reasons for replacement especially in the tough economic environment faced by operators around the world”.

As mentioned earlier, Corporate and Law Enforcement were the leading applications for which operators said they would purchase new helicopters in the 2010 survey. The corporate segment - the largest category - totaled about 36 percent of the projected world new turbine helicopter sales. Substantial demand exists for new corporate use helicopters in nearly all world regions. Close to 53 percent of all demand in Latin America is for corporate use machines, followed by Europe at over 40 percent, Africa/Middle East at 31 percent, Asia at 29 percent followed by North America at 20 percent.

At *Heli-Expo’10*, held in February at Houston, spirits were high and attendance reached a healthy 15,000. As might be expected during an economic downturn, development of new

rotorcraft has slowed, and OEMs did not use this year’s Heli-Expo as a venue to announce major new helicopter programmes. AgustaWestland provided some drama when it unveiled the A109 Grand New on the first day of the show. A follow-on to the AW109S Grand, the A109 Grand New features a Cobham avionics suite that includes digital audio control, a four-display NVG-compatible panel with synthetic vision and highway-in-the-sky predictive flight director. The A109 Grand New has already been certified by the EASA.

Just before the show, Robinson revealed pricing and the certification schedule for the five-seat R66. The standard price is \$770,000, and FAA certification is now planned for later this year, followed immediately by initial deliveries. Standard equipment includes leather seats, HID landing lights and stereo audio control panel. Preliminary performance numbers include 927 pounds of payload with the full 73.6 gallons of fuel; cruise speed 120 knots; rate of climb more than 1,000 fpm; range (no reserves) 325 nm; hover OGE and IGE both more than 10,000 feet; and maximum operating altitude of 14,000 feet.

Bell Helicopter brought one of its new 429 twins to Heli-Expo. Production of the new model, certified last year, should ramp up to 25 helicopters this year and 50 next year, according to CEO John Garrison. Bell is working on weight reduction on the 429 as part of a “continuous improvement programme,” he said.

Eurocopter unveiled a mockup of a search-and-rescue version of the new EC175 at Heli-Expo. This followed the successful first flight and launch of flight testing of the EC175 in early December 2009. Eurocopter also plans to display two new helicopters at next year’s Heli-Expo. CEO Lutz Bertling offered no additional details about the two new helicopter programmes, but the company’s research into next-generation helicopter technologies such as the Blue Edge and Blue Pulse rotor blades might influence those designs. The new blade designs will reduce noise and vibration, in Blue Edge’s case using a double-swept blade shape. Blue Pulse uses a piezo-active rotor control system with three flap modules located at the trailing edge of each blade.

Sikorsky “had a great year in 2009,” according to President Jeffrey Pino, with 244 helicopter deliveries valued at \$6.3 billion, up 29 percent from 2008. Sikorsky’s backlog is \$12.3 billion. The Sikorsky S-76D is well into its flight-test programme, and first deliveries are scheduled for next year. Avionics are a TopDeck suite by Thales. Sikorsky also revealed details of its plans to invest \$10 billion over the next 10 years in research and development to define the future of vertical flight. This effort is led by newly formed Sikorsky Innovations, a business-focused technology-development corporation that is charged with finding solutions to difficult vertical-lift problems.

One of the most unusual displays at Heli-Expo was of the CAE 3000 helicopter simulator, which dominated the show floor and constantly had a line of people wanting to try their hand at flying the virtual helicopter. The CAE 3000 series simulator is designed to be a Level-7 flight training device, although it is not approved or even fully developed yet. With the addition of a motion platform, a designed-in possibility, the CAE 3000 has the potential to become an approved flight simulator. Inside the sim’s big dome CAE’s Tropos 6000 image system uses nine projectors to give a field of view that measures 210 degrees horizontally by 75 degrees vertically.



AgustaWestland Grand New

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Helicopters in Business

Eurocopter sells to Argentina and Chile

Eurocopter Chile has sold 7 helicopters to several para-public and private operators in Argentina and Chile: the Provincia de Cordoba for one EC135 for passenger transport and one AS350 B3 for rescue missions; the Provincia de la Rioja for one AS350 B3 for rescue and fire fighting missions; the Policia Federal de Argentina for 1 EC135 for law enforcement missions; the Provincia de Misiones for one EC130 B4 for rescue missions and passenger transport and a private customer for one EC120. An additional contract was signed with the Chilean company Ecocopter for an AS350 B3 to perform commercial operations.



The GrandNew success

The AgustaWestland GrandNew light twin helicopter has achieved “enormous market success” since its launch. Officially unveiled in February this year it has already got orders for over 50 units. The GrandNew will be the first type certified light twin (CS/JAR/FAR 27) to enter service with a new EFIS featuring Synthetic Vision. An evolution of the highly successful Grand helicopter, the GrandNew features the very latest developments in avionics while retaining the characteristics of the Grand, including its high performance, cabin space, payload, low operating costs, high safety standards and environmental friendliness. The GrandNew features a state-of-the-art avionics package and a new glass cockpit. The new full digital avionic system for single or dual pilot IFR operation incorporates Chelton’s Flight-Logic Synthetic Vision EFIS (Electronic Flight Instrument System) with a FMS (Flight Management System), HTAWS (Helicopter Terrain Awareness Warning System), HITS (Highway In The Sky) and flight recording embedded functions to deliver ultimate situational awareness and groundbreaking automated flight management capabilities.

Eurocopter brings ‘Mercedes-Benz style’ to EC145

Eurocopter has teamed with automobile manufacturer Mercedes-Benz to develop a special edition of the EC145 twin-engine turbine helicopter with a high-end interior, which was unveiled at the 2010 European Business Aviation Convention & Exhibition in Geneva, Switzerland. The EC145 “Mercedes-Benz Style” was conceived in a design project led by the Mercedes-Benz Advanced Design Studio in Como, Italy, and bears all the hallmarks and passion of Mercedes-Benz design.

The EC145’s spacious cabin enabled Mercedes-Benz designers to take a modular approach for the new high-end interior, which is



inspired by the automaker’s new R-Class range. Seat upholstery in the EC145 “Mercedes-Benz Style” will be available in deluxe materials and a range of colours, and a choice of elegant woods is offered to provide luxury underfoot. The overall impression of elegance and style is complemented by a stylish arrangement of wood panels for the ceilings.

Intermountain Healthcare orders 3 GrandNews

Intermountain Healthcare has signed for three GrandNew helicopters with options for two additional aircraft. These aircraft will be equipped to provide in-flight patient care and will also benefit from the world’s most technologically advanced avionics system ever to fly in a helicopter of this class. Operated by Intermountain Life Flight, Intermountain Healthcare’s aviation division, these aircraft will join two A109K2s already in service performing critical medevac missions in Utah and Northern Nevada.



PAWAN HANS



An example of the Bell 407.

Bell delivers 1000th Model 407

Bell Helicopter has delivered the 1,000th 407 production aircraft (serial no. 54000) to Shin-Nihon Helicopter Corporation in Japan. Bell began developing the light helicopter in 1993 to supplement its line of 206B3 JetRangers and 206L LongRangers, making the first flight of the 407 proof-of-concept demonstrator a year later. Shin-Nihon Helicopter said it will use the 1,000th Bell 407 “to perform power-line patrols and contribute to its other missions, which include transportation of materials and equipment for construction, comprehensive aerial survey and photographing services, and transportation and filming and image analysis.”

Russian Helicopters and AW start building AW139 FAL plant

Russian Helicopters (subsidiary of JSC UIC Oboronprom, part of Russian Technologies State Corporation) and AgustaWestland (a Finmeccanica company) have announced establishment of a joint civil AW139 medium twin helicopter final assembly plant. The final assembly line is being built on a 40,000 sq. mtr site. The projected capacity is in excess of 20 helicopters per year, with production expected to progressively increase, from 5 units in 2011 to a steady state regime in 2015. The total headcount at maximum capacity will be over 100 people. The plant, aimed at



meeting the requirements of the civil markets in Russia and CIS countries primarily and - through the AgustaWestland network - for the rest of the world, will be run by HeliVert, a Russian Helicopters and AgustaWestland “equal” joint venture.

EC120 reaches 10,000 flight hour milestone

An EC120 helicopter operated by the Baltimore Police Department has become the first EC120 to reach 10,000 flight hours. The Baltimore Police Department’s fleet consists of four EC120s, which they have been operating since 2000. The EC120



is powered by a Turbomeca ARRIUS 2F engine and is known for its high maneuverability, state-of-the-art ergonomic cockpit, and low noise signature. “The wide unobstructed cabin, along with its excellent visibility, makes the EC120 an ideal platform for law enforcement operations.”

First S-70i Black Hawk in debut flight

The first S-70i Black Hawk helicopter successfully completed its first flight in early July, officially launching an international variant and the newest Sikorsky Aircraft product to follow in the legacy of the Black Hawk helicopter. Aircraft 0001, the first in the new product line, was built at PZL Mielec, a Sikorsky Aircraft company in Poland. PZL Mielec has been established as the hub of the S-70i programme for international customers. The successful first flight of the S-70i aircraft took place on 1 July at the Sikorsky Development Flight Centre.

