



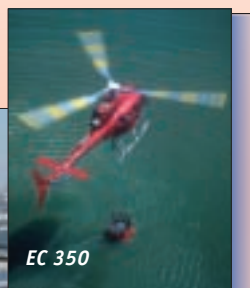
Civil helicopters finally take off

After years of slow progress, the civil helicopter market has shown great strength over the past three years. And after years as one of the smallest and slowest growing aviation industry segments, civil helicopters have been boosted by a broad range of market drivers to an all-time market high.

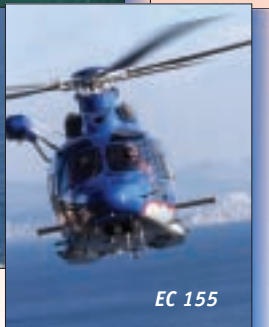
This growth has greatly benefited Eurocopter, the long-established market leader. Bell is trying to reclaim its mantle as a close number two, while Agusta-Westland and Sikorsky both continue to profit from their more modest product range offerings.



EC 175



EC 350



EC 155

Since its creation in 1992, Eurocopter, with its various models, has consistently held the number one spot in the civil helicopter market.

Diverse growth drivers

For years, the civil helicopter market has been the second smallest aviation segment, just above the equally quiescent trainer aircraft. Turbine-powered civil helicopter deliveries averaged less than \$1.3 billion annually between 1988 and 2003, with very few signs of any growth.

But over the past two years, the industry has seen unprecedented growth. In 2005, deliveries rose above 460 helicopters, worth a record \$1.7 billion. Last year saw another record, with 545 deliv-

eries worth over \$2.1 billion. Teal Group forecasts 2007 deliveries to set another record, with over 600 deliveries worth \$2.3 billion.

High energy and resource prices, particularly oil, have helped lead this recent growth. Exploration and extraction are getting more expensive as operators look to more distant oil fields and mine sites to meet growing raw material needs, requiring additional helicopters and more

capable and expensive models. As material and energy prices rise, services firms are better able to afford these models.

CHC Helicopter, the largest helicopter service supplier to the oil and gas industry, serves as an appropriate bellwether for this segment's prosperity. In June, the company announced a fourth quarter 25% profit rise, and issued a forecast for "very high" demand over the next several years. CHC operates 250 helicopters, with plans to add at least another 70 in the next five years.

The second growth driver has been public sector demand, including law enforcement, emergency services, and border patrol. The experience of Hurricane Katrina confirms a basic fact: Helicopters are the single most survivable and robust part of the transportation infrastructure. They are essential for disaster relief, medical evacuation, and community recovery.

The diversion of National Guard airborne assets to Iraq and Afghanistan further increases the requirement for non-military helicopters available for domestic and local needs. Federal counterterrorism and homeland security grant money is helping states and municipalities afford new machines.

Corporate demand has also provided a boost to the industry. Strong corporate profit growth has quadrupled business jet demand over the past 10 years. While helicopters have a much narrower customer base due to their shorter range and slower speed, that customer base is better able than ever to afford new models.

On top of those three primary drivers, civil helicopter sales have been boosted by emerging market demand. Sales to China and India have been increasing, although numbers are limited by infrastructure concerns. Russia also offers some promise, primarily due to high resource prices. The country has about 1,800 helicopters, but only half are in flyable condition. Domestic production is limited by product support and finance concerns. Imports of new and used Western machines are a growing alternative.

Given these diverse civil helicopter demand drivers, it is almost impossible to forecast future market requirements. There is no single metric, such as GDP, world trade figures, or corporate profits, that can be used to anticipate civil helicopter demand. Teal Group conservatively forecasts a demand plateau, with a total of 6,154 turbine-powered civil helicopter deliveries worth \$24.3 billion dur-

ing 2007-2016. This market will essentially be divided by four major players.

Eurocopter eclipses Bell

Since it was created by the merger of Aerospatiale and MBB's helicopter assets in 1992, Eurocopter has enjoyed the number one spot in the civil helicopter market. Its market share has consistently averaged about 50% by value, with an all-time peak of 63% of the market in 2003.

While holding on to its number one position, Eurocopter also needs to improve its profitability, which has remained relatively low by industry standards. This is partly due to Eurocopter's heavy spending on new product development and capital expenditure. The goal is to improve EBIT (earnings before interest and taxes) margins from 6.8% in 2006 to 10% in 2010. This goal will likely prove difficult to attain given the weakness of the U.S. dollar and Eurocopter's largely euro-zone manufacturing base.

Of course Eurocopter also needs to continue its new product development road map if it is to keep its strong market position. Over the past 10 years, it has consistently updated its product line with the EC series, starting with the EC 120 and including the EC 130, 135, 145, and 155. The next step will be the EC 175, a joint venture with Aviation Industries of China II/Harbin Aircraft. This PT6C-powered twin will arrive in 2011 and will compete with AgustaWestland's AW139.

One mystery is whether Eurocopter has a new EC 165 waiting to be an-



Delivery of the Bell 429 has been delayed by six months.

nounced. The company had mooted an AS365 Dauphin replacement, so conceivably a 165 could be developed for that market niche.

Eurocopter's strength has been accompanied by a notable civil market decline at Textron's Bell Helicopter unit. Bell's civil helicopter market share averaged above 30% in 1992-1998, but this fell to an average of 17% in 2002-2006.

There are few short-term signs of civil market improvement for Bell. The Model 427 medium twin has proven a disappointment. Its all-new replacement model, the 429, has been delayed by over six months, with certification now scheduled for April 2008. The 417, a major upgrade and reengining of the popular 407, was canceled in March due to development problems with its military cousin, the U.S. Army's ARH-70 Armed Reconnaissance Helicopter.

Meanwhile, Bell faces numerous challenges in its efforts to restore its civil market standing. Clearly, the company's first priority is to restore its much more important, yet troubled, military helicopter business. The Bell/Boeing V-22 tiltrotor is in reasonably secure shape, but the RAH-70 has had major development and program profitability problems. The company's UH-1Y and AH-1Z upgrade projects for the Marine Corps have experienced serious cost overruns

and production problems over the past five years, although the danger of cancellation appears to have gone.

Bell's military programs are scheduled to ramp up at a fast pace over the coming five years. This means that in addition to requiring engineering resources from a limited pool, these programs will also require supply chain priority. Given cost increases for raw materials and key components like fasteners, the requirements created by Bell's military market strength will continue to put pressure on the civil side of the company.

Yet once those military projects are on track, Bell can leverage the resulting revenue, production lessons, and technology to improve its civil market presence. After the 429 arrives, the company will turn its full attention to the Bell/Agusta 609 civil tiltrotor, scheduled for certification in 2010. While the 609 will likely occupy a small niche on the market, it will represent a welcome commitment to non-military product development.

As a result of these developments, Teal Group's forecast calls for Bell's civil helicopter market share to recover, rising to just over 20% in 2011. This assumes success for the 429, and an on-time arrival for the 609. Growth beyond that will require a Bell decision for a far more ambitious product development road map.

After the 609 arrives, Bell may well revive the 417, taking advantage of lessons learned in the RAH-70 program. After that, the company will likely develop



Sikorsky's S-92 continues to get enough civil and export military orders to remain reasonably healthy.



The Bell/Agusta 609 civil tiltrotor is scheduled for certification in 2010.



The AW139 is AgustaWestland's new offering.

a new medium twin to replace both its 412 and its share of AgustaWestland's AW139 (Bell divested its share of this successful model in November 2005). There could also be a replacement for the company's aging Model 206 light single. The company is now funding its Modular Affordable Product Line initiative, designed to provide technology relevant for all of these models.

AgustaWestland and Sikorsky

These two companies represent the second tier of the civil industry. Both have experienced considerable growth, however. For both companies, this success is based on improvements to a single major product family coupled with the arrival of a new heavier model.

AgustaWestland has long relied on its A109 family for the bulk of its civil market presence. This has been expanded to a wide array of variants, incorporating greater range and engine power. The sin-

gle-engine version, the AW119 Koala, will soon be available with more power as the 119 Ke (Koala enhanced). The baseline 109 is currently available as the larger 109 Grand.

AgustaWestland's new, heavier product, of course, is the AW139. Deliveries of this popular machine began in 2005, helping to double the company's civil market share to the 16% range.

Sikorsky has an equally straightforward product development strategy. It continues to grow the S-76 family's capabilities, culminating in the S-76D, due to arrive in late 2009. Propelled by strong corporate and government demand, S-76 deliveries are reaching new highs, with over 30 deliveries in 2006. This boosted the company's civil market share to a record 18%.

Meanwhile, the larger S-92 continues to get enough civil and export mili-

tary orders to remain reasonably healthy. Eventually, the program does need a U.S. military order to prosper, as models in this class are typically limited in the long-run to 5-10 sales per year. And most export military customers like to see a home market military service endorsement.

Little room for newcomers

The good news for the four established players is that barriers to entry in the helicopter business are as high, or higher, than for any other segment of the aviation industry. There are few new market entrants on the horizon. India's Hindustan Aeronautics is offering a civil version of its Dhruv Advanced Light Helicopter, but this will have a very difficult time due to a high price tag and a very limited sales and support network.

The likeliest possibility for a new turbine market entrant actually comes from within the helicopter industry. In terms of unit deliveries, the market leader is Robinson Helicopter, which delivered 749 piston-powered helicopters in 2006. The company plans to develop its R66 5-seat model, using Rolls-Royce's Model 300 turboshaft. But even this straightforward plan is surrounded by uncertainty, with vague estimates for an in-service date.

Meanwhile, mergers such as those that created Eurocopter and AgustaWestland or acquisitions such as Sikorsky's purchase of Schweizer are actually resulting in fewer players in this industry. The only noteworthy independent company, MD Helicopters, will likely be purchased by someone else in the next few years. Its market share has languished, falling to the 1% level. But if Sikorsky or another prime purchased the company, its product line could be revived with a much larger sales and support network.

Although this stable industrial environment appears relatively stagnant, the industry is competitive and healthy enough to encourage innovation at the four established primes. In addition to relatively new platforms such as the AW-139, new platforms such as the Bell 429, Bell/Agusta 609, and Eurocopter EC 175 will enter the market in the next few years. Hopefully, these new models will be lifted by the same buoyant market that benefits the industry today.

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AgustaWestland's A109 family has been expanded to a wide array of variants.

CIVIL HELICOPTER PRODUCTION BY MANUFACTURER

