



RESEARCH OPINION

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Independent Research Opinion highlighting challenges for the Airbus A350 aircraft program and the re-design launch scheduled for July 17, 2006 at the Farnborough Air Show

European Aeronautic Defence & Space Co. NV (PAR/CAC: EAD.PA)

Backgrounder – Airbus A350 versus Boeing B787 “Dreamliner”

Although not officially launched until October 2005, in December 2004 Airbus S.A.S. was given the go-ahead by its parent company European Aeronautic Defence & Space Co N.V. (“EADS”) and British defence group BAE Systems PLC, the other significant shareholder in Airbus, to offer the newly designated Airbus A350.

Since then, Airbus has attracted significant public attention from heads of major airlines and aircraft leasing firms who criticized the A350 as being not the right product for its target market segment nor the right product in terms of acceptable performance characteristics.

Airbus launched the A350 to compete with Boeing’s new B787 “Dreamliner”, in competition for the world’s mid-size commercial aircraft market. This market sector is referred to as the 200-300 seat, intermediate twin-aisle category and, according to Boeing, may hold the potential for as many as 3,500 new aircraft over the next 20 years to accommodate fleet retirements and growth. The most recent forecast from Airbus in this category is smaller, at 2,650 units.

In April 2004 Boeing launched the B787 program. Initially called the B7E7, the aircraft was later designated as the B787, in keeping with Boeing’s system of numbering aircraft types. All Nippon Airways of Japan became the first customer for the B787 when it placed an order for 50 aircraft.

EADS held a preliminary press conference this weekend in England in advance of the Farnborough Air Show, announcing that Airbus would launch a redesigned A350 on Monday July 17th, opening day at Farnborough. Boeing will also be giving a press conference on Monday.

Criticism of A350 Program

Almost as soon as it was launched, the A350 generated considerable criticism. In the opinion of AirTrav Inc., the A350 program was essentially a knee-jerk reaction to the B787, amounting to essentially what was just a re-work of the Airbus A330. The A330 was designed as a replacement for the A300 aircraft when it was launched 1987, and had its first customer delivery in 1993. Both the A300 and A330, like the A350 (soon to be re-launched, possibly as the A370) are twin aisle,

twin-engine aircraft. There are over 410 A330's in service worldwide and approximately 160 orders on backlog.

The A350 uses derivative technology to increase the maximum flying range versus the A330. AirTrav believes that Airbus should not have underestimated Boeing's B787 program. Versus the A330, the A350 does have new carbon composite wings, a new tail and new cockpit; however, Airbus left the main fuselage as a metal construct.

In comparison, the B787 uses brand new technology throughout the aircraft, including the fuselage. The carbon-fibre B787 ends up being lighter and thus more fuel-efficient than aircraft using a high proportion of aluminum, such as the A350. And with oil futures near or at the \$80/bbl USD mark, fuel efficiency has taken on a whole new imperative for the industry.

Many airline critics of the A350 have also stated that its fuselage was not wide enough. Though three inches wider than the A330 it was derived from, the A350 is still six inches narrower than the B787. Seating eight-abreast in tourist class, many airlines and especially those operating high-density routes, preferred the A350 to accommodate nine-abreast seating. Watch for nine-abreast seating in the re-launched program.

Re-launch of the A350

Bottom line, Airbus should have announced it was building an all-new airplane, and not just a derivative of the A330, when it launched the A350 program.

At the EADS/Airbus press conference scheduled for tomorrow, AirTrav believes that Airbus will officially re-designate the re-designed A350 as either the A370, or as a derivative of the A350 name. And at Boeing's own press conference tomorrow, AirTrav expects that company to announce the fourth version of the Dreamliner program, the B787-10 series.

The re-launched A350, but it will likely feature a wider fuselage, higher-thrust engines plus a larger wing. There currently are two engine types for the A350, the General Electric GEnx and the Rolls-Royce Trent 1700. The requirement for a higher-thrust engine to power the higher-weight A350 may open up the engine program to the GP7000, a joint-venture engine program development by GE and Pratt & Whitney and developed thus far for only one aircraft, the A380.

Bottom line, the re-launched A350 will be more fuel-efficient than the initial A350 design. Also, with the expected third series A350-1000, the A350 will also now be competing with Boeing's larger B777 aircraft, getting close in size to the B777-300 and B777ER. Both B777 series seat approximately 365 passengers, with the –300 series flying 6,000 nautical miles and the –ER series flying close to 8,000 nautical miles.

Implications for Airbus and EADS

The A350 re-launch means two things for Airbus: higher development costs and longer lead time on future cash flows due to a delay in the first deliveries. On the delivery front, Airbus was to have commenced deliveries of the A350 in 2010, with the first customer being Air Europa of Spain. Airbus subsequently changed the cockpit configuration of the A350, putting in doubt the late 2004 target delivery date to Air Europa and in all likelihood, pushing first deliveries well into 2011. Now,

with the announcement due tomorrow on the A350, first deliveries will almost certainly not commence until 2012.

In tangent with cash flow and earnings issues related to delayed future aircraft deliveries is the higher development cost of building an all-new aircraft. The derivative A350 was to have cost \$5-billion USD; the revised A350 program will double that developmental price tag to \$10-billion USD. Five billions dollars is hardly pocket change to a company even the size of Airbus and its parent EADS.

The misguided competitive response to Boeing has cost Airbus dearly. As of early July, the B787 had 363 firm orders and 40 pending options (403 total units) from 28 customers for all versions of the B787. The total price tag of these commitments is worth \$55-billion USD. In contrast, Airbus has received just 100 firm orders and 82 pending options, for 182 units total, from 14 customers.

Announcement expected from Boeing for B787-10

Boeing is expected to make its own major announcement at Farnborough. Boeing engineers have been studying for some time a fourth series of the B787, to be called the B787-10. The higher seat capacity B787-10 has been studied as a competitive response to the A350-900 series (the A350 came in the –800 series with less seats and higher range, or the –900 series with more seats and lower range), which holds up to 300 passengers, or potentially, to the re-worked A350 which may include a third series, the A350-1000.

The three Dreamliner series currently being offered to prospective customers are the B787-3 (high density seating, mid range), the B787-8 (baseline model, with mid-range and long range) and the B787-9, which has a seat density and maximum range slightly higher than the –8 series.

Calls for the new B787-10 series have come from high profile industry players, most noticeably Emirates Airlines that must soon order up to 100 mid-range aircraft. However, Emirates needs an aircraft with higher seating than the B787-9, currently the highest seat capacity version of the Dreamliner. The B787-10 will seat either between 300 and 350 seats, or between 290 and 310. AirTrav believes the lower range, 290-310, will likely be the seat capacity.

Is it too late for Airbus?

Many media sources have correctly stated that an Emirates order for the anticipated launch of the B787-10 would be a significant blow to Airbus, not just because of all of the woes currently besetting Airbus, but because the timing of such an order would coincide with the A350 re-launch announcement which will likely include the roll-out, as mentioned earlier, of the higher seat capacity A350-1000 series. And it is higher seat capacity, after all, that Emirates is after. That being said, Emirates has a track record of making smart fleet decisions and AirTrav does not predict it will rush into any snap decision to purchase a B787-10 until it has time to examine the redesigned A350.

Airbus has also seen sales of its A330 and four-engine counterpart, the A340, stall over the past year and a half. This situation, combined with the A350 program problems and delays in delivering the first double-decker A380 have made for troubled times at Airbus and EADS. The stunning announcement in 2005 from ACE Aviation Holdings Inc. (TSX: ACE.B), parent of Air Canada and a



major Airbus customer, that it was replacing its entire A330/A340 widebody fleet with B777/B787 aircraft only highlighted the problems Airbus has been facing.

To make matters worse, the share price for EADS tumbled from EUR 35.13 in late March of this year to EUR 18.73 in mid-June, climbing back into the low EUR 20 range this month.

Conclusion

Will the redesigned A350 be too late for Airbus and EADS to slow down the momentum Boeing has gained with the B787 in the intermediate, twin aisle market? AirTrav believes that over the next five years, Boeing will keep its lead in orders versus the Airbus A350. However, given the large number of medium capacity airliners the market will require over the next 20 years, and the ability of the redesigned A350 to sell against both the B787 and B777, Airbus should begin to post some respectable sales.

Airbus may be down, but they are far from out.

Per AIRTRAV INC.

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