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AIRBUS UPDATE: VIEW FROM ABOVE

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FOCUS: A330

Next year will be the 20th anniversary of the A330's first flight. With a competitor and successor taking shape, now seems a good time to review the fortunes of this popular aircraft and to ask what the future holds. Simon Finn, SVP of aviation at DVB Bank investigates

FINANCING THE A330



AFTER IT SUCCESSFULLY INTRODUCED THE A300 IN THE 1970s, Airbus' options for a new project included three separate designs: a single-aisle aircraft; a larger capacity derivative of the twin-aisle A300 (the TA9); and a long-range four-engine design (the TA11). Despite consortium partners' support for the TA9 and a reluctance to compete head on with other manufacturers in the single-aisle market, Airbus forged the single-aisle, or what we now know to be the A320 Family.

However, studies for the twin-aisle projects continued and another TA12 design emerging that would offer less range than the TA11 but would also feature twin engines.

It became clear that developing the TA12 would negate the need for the TA11 and Airbus dropped the idea of the long-range twin-engine TA12. It began instead to examine ways to reduce programme costs by maximising the commonality of parts used on both the TA9 and TA11. It concluded that the two aircraft could share a common fuselage cross section with the A300/A310. They could also share a common wing, control systems (apart from the engines) and common avionics. These aircraft would put Airbus in the big league of commercial aircraft.

By June 1987, 10 airlines had placed orders for 41 TA9 and 89 of the larger TA11 aircraft – enough for Airbus to officially launch the two new aircraft types as the A330 and A340 respectively.

The A330-300 and -200

The A330 was initially offered as just one series – the A330-300. It featured a range of 4,600nm with two-class seating for 335 passengers and a 204 tonne maximum take-off weight (MTOW). By November 1995, the A330-300 was well established and was being flown by airlines including Air Inter, Aer Lingus, Cathay Pacific, Malaysia Airlines and Thai Airways. However, the A330-300 market appeared not to be developing as quickly as Airbus might have hoped and slow progress was being made in face of the twin-engine 777. Like the A340, the new version offered transpacific range capability but with a twin-engine configuration. Another mid-range 777 version with transatlantic range was pitched directly against the A330-300 and had siphoned its orders.

Airbus launched a new series of the A330 with a shorter fuselage. The A330-M10 would carry 253 passengers in three classes around 6,400nm, putting it in direct competition with Boeing's 767-300ER, which until then was very successful.



It would carry 293 passengers in a two-class layout, at much lower seat-mile costs, with better climb performance and greater payload and range than the 767-300ER. Improvements to A340-300's wing structure would be transferred to the new A330 giving it a 230 tonne MTOW. A new centre-section fuel tank would provide the additional range for the shortened twin-jet.

In August 1997, the A330-200 (formerly A330-M10) flew for the first time with GE CF6-80E1 engines. It entered service with Canada 3000 in April 1998. In December 1997, the first flight of a PW4000-100-powered A330-200 took place, followed by the first flight of Rolls-Royce's Trent 700 version in June 1998. Another 233 tonne MTOW option further enhanced the A330-200 payload and range. A330-200 structural changes would also be incorporated into the production of the A330-300, allowing the 230 tonne version an extra 700nm range so that it could serve routes from Europe to the US west coast or Europe to Asia.

Competition and succession

Boeing initially responded with the 767-400ER, stretched from the 767-300ER. The market did not respond well to another 767 variant without the performance now available from the A330-200.

It seemed the A330-200 would take the lion's share of the market for the coming decade, but of course, Boeing would not let that happen. In 2004, it announced the 787. It would offer two series of 787 with greater range and efficiency than the A330s. The 242-seat (three class) 787-8 is smaller than the A330-200. The 280-seat 787-9 is also smaller than the A330-300 but both 787s offer much lower trip and seat-mile costs and have superior all-round performance versus their larger A330 Family competitors. The all new twin-engine 787 design –



with its clever use of advanced materials, all new engines and extensive application of new technology – sold rapidly until the global financial crisis of 2008.

Airbus' response included a 238 tonne MTOW option that would take the A330-200 range to over 7,000nm. Sales of the 787 slowed as it became clear that Seattle had major supply chain issues and was struggling to meet its own programme schedule.

As the global economy slowly improved, orders for the A330 returned while demand for the 787 seems to have stalled pending clarity on its first delivery and the performance capability that early aircraft will achieve.

In light of the 787, Airbus predicted trouble for the A330 and took additional action to protect its share of the market. After some false starts, it offered the twin-engine A350 extra widebody (XWB) Family. This features a new fuselage cross section that is wider than the A330, extensive use of advanced materials, and payload/range capability with operating performance to rival the 787-9. The market responded positively to the lead A350XWB-900 series, which is due to enter service in 2013 – approximately the same time as the 787-9. Two other series; the shortened 270-seat -800 and the stretched 350-seat -1000 are planned to follow the -900 but the ultimate performance and capability of both series are still being defined. Airbus also took steps to shore up the A330 by offering a production freighter – traditionally a means of 'bridging' a new aircraft programme (the A350XWB) when orders are expected to diminish. It seems likely that the pricing of the passenger aircraft was slashed in 2005 to stimulate demand for the A330 in the face of the 787. The freighter also had synergies with the A330 multi-role tanker transport (MRTT) initiative, which helped keep production costs to a minimum.



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Airbus has recently begun to offer a further increase for the A330-300's MTOW of 235 tonnes and has aggressively marketed the efficiency of this series. It claims that the long-range designs for the new generation A350XWB or 787 aircraft will not result in a significant disadvantage to the A330, which has a lighter weight schedule optimised for the mid- to long-range mission rather than for transpacific range capability.

For many years, the thought of building a competitor to the 747 would be enough to cause Boeing's rivals to weep as it contemplated the sheer size of the investment required. However, the passenger and airline reaction to twin-aisles had been enough to tempt Lockheed and McDonnell-Douglas into the market with their L-1011 and DC-10 aircraft – largely aimed at the US trans-continental and the transatlantic markets. The A300 and A310 achieved some success in Europe, Asia, the Middle East and even with Boeing's favourite customer, American Airlines. But, Boeing soon trumped the A300 and A310 with the 767, which sold in great volume. Hindsight will not treat the A340 kindly given its poor performance against those in the 777 Family with comparable range. But, the A330 was a different story.

Five years after entry into service, there were over 130 A330s in service with 25 airlines. Airlines in Asia were the biggest operators. Cathay Pacific, Philippine Airlines, Korean Air, Malaysia Airlines and Thai Airways all found the aircraft well suited to their networks. In Europe, Air Lingus, Swissair and Sabena were customers, though elsewhere demand seemed a little low. Airlines were not convinced that the A330-300 offered the network flexibility they could achieve with the slightly larger and much longer range 777-200ER. Airlines held that 300-seat aircraft should be capable of serving transpacific routes but having a 250-seater in the form of the A330-200 was fine – airlines were used to aircraft of this size across the Atlantic or for intra-regional work on routes with too much traffic for a narrowbody.

Demand is cyclical with peaks and troughs along the way but the record shows that after an initial order flurry, A330-300 orders were averaging perhaps just 15 per annum from 1995 to 2000, while A330-200 orders were averaging from 25 to 35 per year. Fast forward to the period of 2005 to 2010 and A330-300 annual orders are suddenly averaging 35 to 40 with A330-200 orders at an average of 60 per annum. It seems there was always underlying demand for the A330-200 but demand for the A330-300 was initially patchy and the market has grown into the larger A330 as traffic has increased. The market seems also to have been reassured of Airbus' efficiency. With long-term fuel prices climbing relentlessly, network flexibility now plays second fiddle to route efficiency. It's true that you can not deploy the A330 as widely as the 777 but judging by orders there are plenty of routes on which it can be deployed more efficiently than existing competing aircraft.

Financing the A330

The A330-300 has a good quality operator base and the breadth of appeal for the A330-200 makes up for the more variable nature of its operators. However, the tri-source engine supply for the A330 may complicate remarketing as operators would have to incur the cost of introducing another OEM's engine to its fleets. Within each basic engine type there are also some undesirable engine variants that fail to deliver sufficient performance and so impair value. Additionally, there are some doubts regarding the scrap values of older A330s as the market for the sale of engine material to MRO shops is small. In some cases, these shops are exclusively required to use new engine material at engine shop visits. This makes financing for some of the mid-to-old A330s unattractive.

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Some other widebodied aircraft have suffered similar issues but some more positive aspects of the A330 are not typical among its competitors. Fly-by-wire (FBW) cockpits make it easier for airlines to train and recruit pilots who have already qualified on other Airbus FBW types, this lowers the associated costs of adding A330s to an airline's existing A320 fleet.

By far the biggest challenge however, is how to view the A330s future residual value. A basic undersupply of aircraft of this size means demand for the A330 will be high. Delays to the 787 have exacerbated the problem causing airlines such as Singapore to state that their orders for A330s were motivated by the need for an "interim fleet" until deliveries of the 787 and A350XWB arrive. Almost all of the aircraft delivered were placed on short-term five- or six-year operating leases with an option for Singapore to extend them. The airline has recently repeated this by adding another 15 A330-300 to its existing fleet of 19. Singapore is scheduled to receive 20 787-9 and 20 A350XWB with deliveries beginning in 2013.

The A330 fleet has an average age of less than seven years, so the majority of in-service aircraft are still with their original airline operators. Over 1,000 A330 passenger aircraft have been sold and more than 750 are in service with 95 operators. Ascend indicates that just 10 A330s are in storage today – a low proportion which reflects low supply.

The A330 has also been a very popular aircraft with the operating lessors who manage 44 per cent of the fleet currently in service. This is a high percentage and carries the risk that airlines may choose to manage capacity in future downturns by simply not renewing leases as they expire. With so many airlines featuring on the order books of the 787 and A350XWB, the threat to A330

residual values is clear. For all the caution that these issues should encourage, the fact remains that for a great many routes, the A330s are the most efficient aircraft of their size available today (and more importantly for many years to come).

It will take a long time before sufficient numbers of newer competitors penetrate the market. The 787-8 is set to be the first new aircraft to threaten the A330 but it could be 2017 before sufficient numbers of them are in service (though this does not mean A330-200 values are immune to normal market forces). The larger 787-9 and A350XWB-900 are not likely to reach critical mass until perhaps as late as 2020, meaning that the threat to A330-300 values are likely to be lower.

Ultimately, a financier has to finance whatever the market is buying. Markets are never wrong, they buy the best aircraft for the job (do not misunderstand this – individual buyers can easily be wrong and may wrongly purchase all kinds of 'interesting' stuff). At this time though, with a loan tenor potentially stretching up to 12 years ahead of us, it does not hurt to pay close attention to the implications to the residual values of any aircraft being financed today.

This places pressure on all parties in a transaction – especially those who want to continue using the same cookie cutter that served them so well in the past. Someone clever once said; 'There is no such thing as bad weather, only poorly prepared people with inappropriate clothing.' For now and for some years to come, the A330 will stand as the most popular widebodied aircraft available for financing – provided we dress appropriately.

For the full version of this extensive analysis, see our 2012 edition of the Aircraft Finance Guide, out September.

