

World tanker market: More than just KC-X



OVER THE PAST DECADE, DISCUSSION OF the world air refueling tanker market has centered on the USAF KC-X program, the largest tanker requirement by far. Yet despite the program's importance, international requirements for these aircraft have grown, reflecting a new, if somewhat uneven, appreciation of what they bring to the table.

Meanwhile, the shifting dynamics of the KC-X competition look set to impact this world market. The USAF draft request for proposals has produced considerable speculation that Boeing's KC-767 now has the upper hand. This could restore Boeing's position in this market, following several high-profile losses to Airbus's KC-30.

A broader requirement

Until 2001, the pool of customers willing to spend cash on Western new-build jet tankers was limited to one customer. While many countries maintained some kind of air-to-air refueling capability, Saudi Arabia was the only one that had actually purchased them new (in the form of eight 707s built as KE-3s). Even the RAF, the biggest tanker user outside the U.S., used Lockheed L-1011s originally operated by Pan Am and British Airways, and Vickers VC-10s formerly operated by British Airways, BOAC and East African Airways. All the other users either also operated converted used jetliners or KC-135s previously owned by the USAF. France, for example, uses the KC-135R (the reengined type predominant in the USAF); Turkey and Singapore have received them as well. Other countries used turboprop tankers, most notably Lockheed Martin's KC-130.

In 2001, the Italian air force signed on for the first new-generation, new-build tanker, Boeing's KC-767. This purchase of four aircraft was followed by a Japanese purchase of four planes later that year. Thus the pool of new-build jet tanker customers tripled in one year.

However, this promising start found-

ered. There were numerous technical problems and program delays; delivery did not begin until 2008, when Japan received the first aircraft, followed by Italy in 2009. No further orders have been received. Boeing continues to refine the KC-767 offering, but the company is focusing on the home market customer.

Even worse for the KC-767, Airbus/EADS began developing a Multi-Role Tanker Transport variant of its A330. Airbus had produced MRTT variants of its smaller A310 twin-aisle jet, but these were conversions of civil jetliners that

30s, followed by the UAE (three planes) in February 2007 and Saudi Arabia in early 2008 (three planes, followed by three more ordered in 2009).

Thus the scorecard for new-generation tankers is currently 28 orders for Airbus versus eight for Boeing. This competition will continue for some time. Both have new twin-aisle mid-sized jets, the A350XWB and the 787, and neither has any plans to develop a tanker version. Given the advanced airframe technology used by both these new aircraft, developing tanker versions would be particularly difficult, even if there were a



The KC-X decision may be driven as much by political considerations as by technical and economic ones.

had gone only to Canada and Germany. The KC-30 was a more ambitious effort: a larger, more capable jet with a robust cargo and tanker capability, offered as a new-build product. In particular, the company moved beyond hose-and-drogue air refueling technology, developing its own boom under the Advanced Refueling Boom System.

This more aggressive approach to the market has been rewarded, with four more countries joining the new-build jet tanker market. In 2005 the RAF chose it to replace its aging converted jetliners under a private finance initiative program. Australia has also ordered five KC-

deep-pocketed launch customer to sponsor them.

The only other new-build product in this class is Russia's Ilyushin Il-78. About 34 of these are in service throughout the world, with about half in Russia and the rest in India, in China and with other export customers. It is much heavier, less reliable, less capable and more expensive to operate than the two Western products, but it is cheap to buy. As such, it represents a competitive threat in markets such as India that are focused on low up-front prices.

The only other product on the drawing board is Embraer's KC-390, a tacti-

cal transport considerably smaller than the KC-130. The current plan is to create a refueling derivative, but there is no certainty that this will proceed, and the baseline KC-390 transport will by itself be a major challenge.

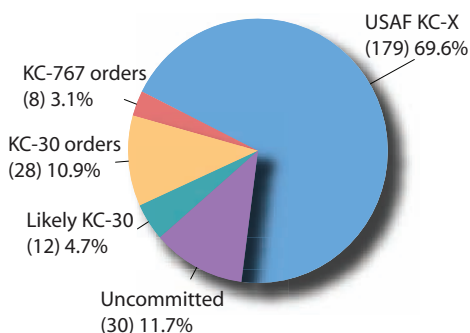
The one certainty is that there is no hope of a dedicated new aerial refueling airframe. While the Air Force's creation of the KC-135 helped usher in decades of U.S. jetliner industry dominance, there is absolutely no way to identify new technologies—structures, propulsion and so on—that would guarantee an easy transition from a new military tanker to a new design concept for a series of commercial jetliners. Just as important, the USAF has made it quite clear that it cannot provide the development dollars to fund an all-new strategic aircraft optimized for just this role.

Estimating the market

There is growing recognition of the importance of aerial refueling tankers, although some countries are quicker than others to realize how crucial they are. Israel, unsurprisingly, has always been at the forefront of developing this capability, and it has had an in-country tanker modification capability for years. Israel Aircraft Industries has modified eight KC-707s to serve in this role. Of course, these are old aircraft, and even with upgrades they cannot provide the fuel and range of new-generation equipment.

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However, in 2008 the Bush administration, usually friendly toward Israeli arms requests, denied their request for a KC-767 purchase, reportedly because it believed the new tanker would give Israel a considerably greater offensive strike capability, thereby increasing the likelihood of a strike against Iran's nuclear facilities.

At the other end of the spectrum is India. In January 2010 the Indian government decided to cancel the Indian air force's proposed acquisition of six KC-30s on the grounds that they would be too expensive. The country instead is funding the acquisition of well over 300 new combat aircraft in the next decade, including the largest single purchase of export fighters in world history. India's current fleet of 12 Il-78s will continue to soldier on as the country's only jet tanker force, perhaps with a follow-on buy.

Clearly, for some countries, buying additional "shooter" planes will always be more attractive than buying "enabler" planes, no matter how useful those enablers would be as force extenders. With all the uncertainty over how much priority nations will actually give to funding tankers, it is difficult to estimate a market size. After all, if a major air power like India balks at purchasing a modest fleet of 10 modern planes to supplement 12 old Russian models, are there any certain prospects? And while many countries claim to be in the market (Turkey, Finland and Poland, for example, have all recently expressed interest in an acquisition), some of them may be happy with used and converted jets.

Still, surveying the world of current and potential tanker customers, we can

arrive at a rough approximation of demand over the next decade. At a minimum, the KC-30 should be able to get another 12 orders just from home market countries (particularly France) and follow-on buys from one or more of the four current users. Also, given the ages of tanker fleets worldwide, there should be an additional market for a minimum of 30 new-build tankers over the next decade.

Right now, the KC-30 appears extremely well placed to dominate that 30-aircraft market, which could easily grow to as many as 50 planes. It should also be noted that tanker contracts tend to involve a higher degree of aftermarket and service work than other military aircraft contracts, and they are certainly much more lucrative than commercial jetliner contracts. This makes the KC-30 project even more worthwhile as an Airbus/EADS strategic goal. But the USAF KC-X program might change this.

Oh, THAT tanker competition...

The U.S. is the one country that has understood the importance of tankers, and its fleet of 500 KC-135s and KC-10s represents a powerful symbol of global reach. Unfortunately, for the past two decades that understanding has not translated into an actual funding commitment, leaving a force that averages over 40 years old. Even if the KC-X program succeeds in starting acquisition of 179 aircraft at a leisurely pace of about 14 planes a year, the oldest KC-135s will be close to 80 years old by the time a future KC acquisition program replaces them.

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Unfortunately for Airbus, dominance of the global tanker market has not translated into a lasting victory in the only truly noteworthy competition: the USAF's KC-X. While the KC-30 was selected as the winning contender for this 179-aircraft competition (as the KC-45), the victory was overturned following a successful Boeing protest.

The new KC-X draft RFP is intended to increase transparency, aiming to redress a concern expressed about the previous RFP's somewhat opaque scoring system. However, Northrop Grumman has claimed that the new RFP achieves this transparency through an excessive emphasis on costs, resulting in what it has termed a "price shootout." This means, according to the company, that the KC-767, which is a less capable but less expensive airplane, would have a strong advantage under the new scoring system. As a result, the company has threatened not to bid on KC-X.

Meanwhile, the political winds have



Creation of the KC-135 helped usher in decades of U.S. jetliner industry dominance.

shifted. The KC-45 production plans largely involve congressional districts that are Republican, while the KC-767's largely affect Democratic districts. With Democrats currently in control, any political leverage brought to bear in this contest will favor the Boeing airplane. Even if Northrop Grumman does bid, it will likely face an uphill battle. And if it does not bid, Congress will be less likely to oppose a contract awarded to a single bidder with a Democratic industrial and labor footprint. Of course, given these partisan political dynamics, it is possible that ongoing deadlock keeps either side from walking away with the contract un-

opposed. This would imply either a split buy, or an endless series of protests and program delays.

If the KC-767 were to win KC-X, it would change the battle for tanker exports. A USAF endorsement would be extremely valuable in pursuing the remaining undecided customers. It would allow Boeing to reassure customers that they had improved the original product, and would imply a steady stream of future upgrades. It would also create a broader global training and support base, which would certainly be appealing to export customers. The KC-767 would effectively be back in the export game.

If the KC-767 wins the competition, the KC-30 can be regarded as a successful European platform that had the good fortune to enter the world market before the U.S. military endorsed a locally built competitor. But it would almost certainly lose its tight grip on the export tanker market.

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