



The European Option : Airbus Military's A400M

It is an accepted fact that the demise of the Cold War has changed the airlift needs of military forces around the globe. When the Warsaw Pact was the enemy just across the border, medium sized, short range transports like the C-160 Transalls were adequate. But today, when humanitarian assistance is needed on the other side of the globe, or when the European Union's increasingly global policies require military commitment in another hemisphere, short range, medium sized airlifters no longer work.

Thirty years ago, buying off-the-shelf from the United States was the only solution. No longer. The creators of the Airbus phenomena – especially the A380 – the French, German and British are today well placed to produce their own long range airlifter. And if it can be built with several other European countries, all sharing the cost and risk, using proven commercial methods, so much the better.

The A400M is not just an aircraft, it is the future for aviation. So complex and expensive have aircraft become that they will no longer be built by a single national manufacturer but by consortiums of nations. Customers will not just “kick the tires,” they will insist on participating in the design and they will demand manufacturing offsets. When the Independent European Programme Group (IEPG) of Belgium, France, Germany, Italy, Spain, Turkey, and the UK (and later Portugal) envisioned an airlift requirement, they could have just bought the C-130J with its

new Allison engines, or the bigger C-17 Globemaster III. But Nino d'Angelo, chairman of Euroflag (European Future Large Aircraft Group), believes the consortium can design and build a better aircraft.

Collaborative programs for military transports are not new – the workhorse C-160 Transall was a Franco-German product – but never before in aviation history have so many nations come together to build an aircraft.

The catalysts were the success of the Airbus family of airliners and a broadening of Europe's aerospace industry to compete with that of the United States in fighters, helicopters and satellite communications – and military transports. By making full use of a multinational knowledge base, technological and financial resources and commonality of defence needs, such collaborative programs are central to the European Union's ambitions for a competitive, dual-use aerospace industry, both civil and military.

Accordingly, the joint European Staff Requirement set out a request in 1997 for a military airlifter with a 32-tonne payload carried in a 4m-wide cargo hold, with a 700km/h cruise speed and a range of between 4,000 and 5,000km. It would have a modern glass cockpit for the two crew while a third member would be the loadmaster. It would be powered by four high bypass turbofans and have a greater range and higher speed than presently used European airlifters. All the major items of military ground equipment in

service – 5 tonne trucks, M113 armoured personnel carriers (apart from main battle tanks) were to fit in its hold, including helicopters like the Super Puma, NH90 and Apache. Finally, the projected aircraft had to be able to act in a tanker role and be adaptable for maritime reconnaissance.

In January 1999, Airbus Military was set up to focus solely on the A400M. While the multi-national partnership is comprised of FLABEL (Belgium), AIRBUS France and EADS France, AIRBUS Germany and EADS, EADS-CASA (Spain), TAI (Turkey), AIRBUS UK and OGMA (Portugal), Airbus Military is nevertheless a subsidiary of AIRBUS and operates from Toulouse, France.

Similar to the civil Airbus partnership, each participant is only responsible for its own centre of competence and benefits from the work share in direct relation to how many aircraft its national government ordered. The whole aircraft comes together in Spain at the EADS-CASA facility of San Pablo.

On May 27, 2003, AIRBUS Industrie of Paris, France, announced the final ratification of a 20-year, €20 billion (US\$23.7 billion) contract to develop the Airbus A400M military transport. The initial launch order included 180 planes for seven nations: Belgium (7); France (50); Germany (60); Luxembourg (1); Spain (27); Turkey (10); and United Kingdom (25). The contract was signed in Bonn by representatives from Airbus Military and OCCAR (Organisation Conjointe de

Coopération en Matière d'Armement), the procurement organization created in 2002 to represent the seven nations. The ceremony initiated a 77-month, single-phase development and production schedule with expected first deliveries by October 2009.

Significantly, the first A400M will be delivered to the French, followed by one to the Turks. The Luftwaffe and RAF will take delivery next in 2010 and last the Belgians. Missing are the Italian, Greek and Nordic countries (all of whom are presently tied to Lockheed Martin), and the former Warsaw Pact who are looking to upgrade from their old Russian transports. Indeed, Bulgaria's recent purchase of eight C-27J Spartans to replace its fleet of Antonov AN-26s, does not bode well for future sales of EADS-built military transports to former Warsaw Pact countries. A NATO member in April 2004, Bulgaria is engaged in modernizing its Armed Forces, and the C-27J will be used to transport troops, equipment and supplies inside and outside of national boundaries, allowing the Bulgarian Armed Forces to fully comply with the interoperability standards of the Atlantic Alliance countries. Would it require – or even have the funds later?

Although the A400M is specifically designed to fulfill a European need, Airbus Military knows that it will have to market the aircraft outside the continent.

Prospective partners might be India, China and Brazil, all of whom will need heavy lift aircraft soon. The Canadian Forces are a possibility, if its aging C-130s can remain airborne until delivery.

When South Africa was brought on board in a multi-million-euro deal to buy between 8-14 of the A400Ms, it was a coup that Airbus would like to repeat elsewhere. The carrot there was local involvement. In return for buying the aircraft in a deal valued from €837 million (US\$1.1 billion) between 2010 and 2014, South Africa will participate in the A400M design and manufacturing programme.

Airbus Military marketing manager, Peter Jost, says that a study showed that "as few as eight of the aircraft could create at least 401 direct jobs and 2,767 indirect jobs over the programme's projected 50-year life."

The main competition is the C-17 with which the A400M shares a similar basic design: Both are top-wing, four-engine, heavy lifters, with rear cargo doors and cargo holds designed to maximize payload-to-weight ratio. The C-17 cruises at 450 knots (Mach 0.74), and the A400M expects similar speed (Mach 0.72) from its TP400-D6 engine built by another European consortium.

However, the C-17 carries a maximum payload of 77,519 kg (170,900 lb) and can take off and land on runways as short as 914m (3,000 ft.) while the A400M will handle about half of that payload at 37,000 kg (81,570 lb), and will require a slightly longer 1,067m (3,500 ft) minimum airstrip length.

About all that is reminiscent of the C-130J is the A400's eight-bladed composite propeller built by the French company Ratier-Figeac. But neither US airlifter can compare with the A400's composite use. Composites will make up about 35-40% of the A400M's structural weight, with carbon fibre used in primary structures

As to kicking the A400M 's tires... at present, there is nothing for prospective customers to kick. According to Alasdair Reynolds, Head of Communications at Airbus Military, "the current state of play is that we are finalizing development and have just started cutting metal on long lead bits. The final assembly line is currently in the condition of a building site." **FL**

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