European Defence Aerospace Cooperation in Asia

The Asia-Pacific defence aerospace sector has traditionally been the preserve of the US, with nations like Australia, Japan, Singapore and South Korea being longstanding users of American aircraft. American dominance still remains, especially with the Joint Strike Fighter expected to corner a large segment of the fighter market in coming years.

by **Gordon Arthur**

European companies are now tapping into Asia's appetite for military fixed-wing and rotary-winged aircraft, and they have been making inroads into American ascendancy. Europe is doing so via aircraft sales, by supporting Asian indigenous programmes, and by supplying components such as engines or avionics. This article examines key partnerships between European aerospace companies and Asia-Pacific militaries.

One of the first Tiger ARH craft to be delivered to the Australian Army is seen at Robertson Barracks in Darwin © Gordon Arthur

European challenges and advantages

The Pentagon-instigated debacle over a new air-to-air refuelling fleet for the USAF illustrates the obstacles European companies face. The US is experienced in tilting the scales in favour of domestic giants like Boeing, Northrop Grumman and Lockheed Martin, and it is not easy for Europe to break into markets traditionally monopolised by the USA. The US sells military hardware worth € 5.5 billion to Europe annually, but sales in the other direction amount to just € 2.2 billion. Incidentally, Taiwan is mostly "off limits" for European defence companies, as few are brave enough to risk the threat of Chinese boycotts. No European manufacturer has sold combat aircraft since Dassault Mirage 2000-5 fighters were purchased in the 1990s. Taiwan thus remains an uncontested American market.

Advantages that European companies offer are more generous transfers of technology (TOT) and more equitable partnerships than partisan American ones. Europe's perceived non-aligned status is seen as a plus by some countries. For instance, Thailand opted for Saab's JAS 39 Gripen and 340 Erieye AEW&C aircraft that came with magnanimous industrial offsets and technological cooperation, factors that are important to a developing Asian country. Furthermore, Saab recently announced a joint venture with Thailand's Avia Satcom to develop national tactical datalinks for the Gripen. Such far-reaching cooperation is in sharp contrast to the US, which instead has a tendency to impose sanctions on countries that upset it.

India ordered 66 Hawk Mk.132 trainers from BAE Systems, with 24 being imported and the remainder to be built in India © Andrei Chang/Gordon Arthur

Powered by Turbomeca engines, a pair of Dhruv helicopters passes over Delhi during the annual Republic Day Parade © Gordon Arthur

Both Indonesia and Pakistan have suffered political sanctions in the past, such behaviour meaning some countries are cautious about purchasing American hardware. Like Thailand, Pakistan opted for the Saab 2000 Erieye AEW&C.

Europe is able to offer a broad spectrum of high-tech aerospace upgrades, this being an important industrial sector since military aircraft need regular capability enhancements. For example, India is upgrading 63 MiG-29s with Thales TSB 2500 Identification Friend-or-Foe (IFF) Combined Interrogator and Transponder and cryptographic computer systems that will permit them to interoperate with Western military aircraft.

High-profile programmes

India's Medium Multi-Role Combat Aircraft (MMRCA) programme seeking 126 new fighters is gaining enormous attention. The Indian Air Force has six contenders – Boeing F/A-18IN (USA), Dassault Rafale (France), Eurofighter Typhoon (Europe), Lockheed Martin F-16IN (USA), Mikoyan MiG-35 (Russia) and Saab JAS 39 Gripen NG/IN (Sweden). All things being equal, European manufacturers have a 50/50 chance of winning the contract based solely on the number of contenders! The request for proposals (RFP) includes clauses on licensed production, TOT and through-life support. The first 18 off-the-shelf fighters will be supplemented by 108 assembled in India by Hindustan Aeronautics Limited (HAL). The sheer scale of the MMRCA programme means India wields considerable negotiating power, including 50 percent offsets that promise unprecedented aerospace cooperation for India. Saab's Gripen bid guarantees open architecture, full TOT and the ability to integrate all manner of weapon systems. A Saab spokeswoman described the Gripen as "an independent choice via a non-aligned nation with unrestricted TOT." The trusting relationship would extend to Saab sharing Gripen AESA radar source codes, something inconceivable for US companies.

EADS, meanwhile, is dangling the carrot of becoming a direct Eurofighter programme partner. Eurofighter India's In-Country Director, Stefan Billep, stated: "The Typhoon package is backed by four European governments and four defence industries. We will help India become part of the technology." With 400 European companies involved in the Typhoon programme, India would gain impressive sourcing opportunities plus the offer of production sharing. An EADS R&D centre is being set up in Bangalore to provide effective TOT. Eurojet, the Typhoon's engine-maker, is also proffering its expertise in developing a more powerful engine for HAL's Tejas Light Combat Aircraft. French firm Snecma was helping improve the troubled indigenous Kaveri engine, but the Eurojet EJ200 could be a good solution.

Missile sales soared to $14.8 billion last year, marking an 11% year-on-year increase. MBDA holds a 25 percent share of the global missile market (excluding China and Russia), and India is its biggest export market. Mati Hindrekus, Marketing Communications Manager, revealed MBDA is hoping the Rafale or Eurofighter gets the MMRCA nod, as missiles like the ASRAAM, Brimstone, Meteor, MICA or Storm Shadow/SCALP could be integrated.

While co-operation in India looms large in European aerospace thinking, South Korea also possesses potential. The three-phase Korean Fighter (KF-X) programme will see a Korean-built fighter developed by 2020, though recent reports suggest it will not be totally indigenous. The F-15K has already won the first two phases. On 29 May 2009, Korea Aerospace Industries (KAI) con-

sulted Boeing, Eurofighter, Lockheed Martin and Saab on joint development and TOT possibilities, with hopes that foreign firms could contribute up to 30 percent of development costs. Although the KF-X programme is not clearly defined yet, there are openings for European companies with up to 250 aircraft required.

EADS is proud of its A330 Multi-Role Tanker Transport (MRTT), of which Australia has ordered five. The MRTT is also suited to South Korean and Indian requirements. Malaysia is currently the only Asian country to have signed up for Airbus Military's A400M transport aircraft. The A400M programme is haemorrhaging $150 million a month in cost overruns, and its protracted development has granted rival Boeing swelling C-17 sales. Didier Verner, the Defense Capability Marketing Director, revealed there was "continuing Asian interest" in the A400M, especially amongst countries operating older Hercules aircraft. EADS already has significant regional sales of smaller transport aircraft like the CN-235 to Brunei, Indonesia, Malaysia, Pakistan, Philippines, South Korea and Thailand. In a particularly interesting joint venture, the EADS CASA CN-235 is built by PT Dirgantara Indonesia, an Indonesian company that also license-produces Super Puma helicopters.

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Turning to Italy, Alenia Aermacchi is hopeful of Asian sales for its M-346 advanced jet trainer. The M-346 is facing off against South Korea's T-50 to meet Singapore's requirement, with Alenia Aermacchi teaming up with local firm ST Aerospace for the bid. Alenia Aeronautica's C-27J is a serious contender for Australia's DHC-4 Caribou replacement, and the fact that a C-27J was exhibited at this year's Singapore Air Show illustrates the company's Asian hopes. The United Kingdom has scored successes with sales of BAE Systems Hawk jet trainers to Australia, India, Indonesia and Malaysia. However, BAE Systems' relationship with India soured even before the 24th British-built aircraft was delivered. Wrangling between the two parties demonstrates the pitfalls inherent in partnerships, although HAL is still assembling another 42 Hawk Mk.132 trainers.

Helicopter opportunities

Eurocopter, an EADS subsidiary, finished 2009 as the world's leading helicopter manufacturer. Military helicopter sales accounted for 48% of last year's turnover. EADS is targeting the South Korean market, building upon the successful foundation of the Korean Utility Helicopter (KUH) programme. KAI will assemble the KUH Surion in partnership with Eurocopter, the latter having 30 percent and 20 percent stakes respectively in the development and production phases. The Surion's maiden flight occurred on 10 March 2010, and deliveries of 245 helicopters should commence in 2012. As well as technical assistance, Eurocopter provided the Surion's

A Dassault Mirage 2000-5 fighter of the Republic of China Air Force takes off during an exercise on the island state © Andrei Chang/Gordon Arthur

transmission, rotor mast and automatic flight control system. On 18 October 2007, KAI and Eurocopter created a 50/50 joint venture to internationally market the KUH with the goal of 300 export sales over 25 years.

Another potential project is the Korean Attack Helicopter (KAH), with KAI exhibiting two scale models at last year's Seoul Air Show. One design was a dedicated attack helicopter utilising 60 percent of KUH components; it reflects Eurocopter's involvement in that it resembles a Tiger. South Korea is not expected to announce KAH requirements until late 2010, but around 270 are needed to replace elderly Cobras and MD500s. It will take KAI and Eurocopter six to eight years to create a working prototype.

The sheer size of Indian helicopter contracts has manufacturers salivating. The competition for 197 Reconnaissance and Surveillance Helicopters (RSH) has been narrowed down to the Eurocopter Fennec AS550 C3, Kamov Ka-226 and AgustaWestland AW119. A decision should be announced in early 2011, according to Rainer Farid, Eurocopter's South Asia Regional Sales Director. The RSH programme will involve localised production and 50 percent offsets. The subcontinent also requires up to 380 10-12-tonne Indian Multi-Role Helicopters (IMRH) in a co-development/co-production project.

To help meet India's stringent 26 percent direct foreign investment regulations, AgustaWestland created a joint venture with Tata Sons in February 2010 for final assembly of AW119 helicopters in India. The first will be delivered in 2011, with expected annual production of 30 craft. The Indian Navy's search for 16 ship-based medium helicopters is nearing the final hurdle, with competition honed down to the European NH90 and American Sikorsky MH-60R. Referring to technological partnership in India, Mr. Farid conceded, "HAL is the only real partner possibility. It's challenging to team up with an inexperienced company, but HAL has limited experience with helicopter production."

This KUH Surion built by KAI with Eurocopter's assistance was exhibited at the Seoul Air Show in October 2009 © Gordon Arthur

This statement underscores a relevant point – European companies require competent Asian partners to work with, a factor that significantly narrows the range of candidates. Eurocopter is willing to offer India 100 percent TOT, and it already has a Bangalore liaison office to oversee outsourcing activities such as metallic and composite work packages. HAL, which builds Fennec airframes, is already a tier one global supplier. Mr. Farid stated Eurocopter could shift half its production to India, which would be an astonishing decision if it materialises! A recent report concerning Malaysia's "off again-on again" purchase of twelve EC725 Cougars revealed Eurocopter was negotiating pilot and ground crew training packages. This type of training contract offers business opportunities to European companies too.

The prototypical Light Combat Helicopter (LCH) is based on HAL's Dhruv Advanced Light Helicopter (ALH), which could yet become a significant export success. Initial operating capability is expected in December 2011, and like the ALH, it is powered by twin

An Indonesian-built CN-235 of the Republic of Korea Air Force is the fruit of a joint venture between EADS CASA and PT Dirgantara Indonesia © Gordon Arthur

A Eurofighter Typhoon in India. EADS is putting much weight on winning the MMRCA competition © Andrei Chang/Gordon Arthur

Shakti engines co-developed with Turbomeca in France. The LCH will be armed with a Nexter 20mm M 621 cannon mounted in a THL 20 turret. Mati Hindrekus, MBDA Marketing Communications Manager, advised that Mistral 2 missiles and ATAM system have already been delivered for integration on an armed demonstrator. HAL and Turbomeca have long enjoyed fruitful cooperation, and joint development of the Shakti engine for high-altitude operations began in 1999. Under an Indian RFP for 22 attack helicopters issued last year, AgustaWestland is offering a customised T129.

Even Japan, which favours US aircraft, has hopped on the European bandwagon. The Japanese Maritime Self-Defence Force (JMSDF) is using the EC135 as a training craft, and up to 15 could be ordered. The JMSDF also selected the AgustaWestland AW101, which Kawasaki is building under license.

Other important European rotary-winged products are the NH90 and Tiger. Australia opted for 22 Tiger Armed Reconnaissance Helicopters (ARH). These, along with the NH90 MRH, are being assembled in Brisbane by Australian Aerospace, a wholly owned subsidiary of EADS. Employing a workforce of 1,100, Australian Aerospace claims it has injected A$1.7 billion into the local aerospace industry. Australian Aerospace also promised 750 further jobs if the NH90 maritime variant is chosen to replace the navy's Seahawk and Seasprite fleets. This level of local integration reveals an important difference between European and American companies, for US corporations are not prepared to set up local operations in the fashion that Eurocopter does, for example. New Zealand, too, has turned to Europe to replace ageing American helicopters like the UH-1H. New Zealand ordered eight NH90 craft in 2006, as well as five AgustaWestland AW109 craft.

UAVs

Unmanned aerial vehicles (UAV) are bolstering aerospace sales, with demand by the US military alone increasing six-fold since 2004.

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The demand for UAVs worldwide is expected to double from 2010-15. Israel and the US, rather than Europe, are the main centres of gravity for UAV technological partnership in Asia-Pacific. However, some countries like South Korea and India are vigorously pursuing indigenous UAV programmes.

Reversing the flow?

Excluding China and Japan, the two Asian countries emerging as significant aerospace players are India and South Korea. Both nations aim to boost arms exports. India is already achieving limited exports of Dhruv helicopters to countries like Ecuador, and it is firmly established in Eurocopter's global supply chain. Meanwhile, South Korea has developed the T-50 Golden Eagle advanced trainer with Lockheed Martin assistance. Interestingly, as part of growing South Korean cooperation, Turkey selected the KT-1 basic trainer from KAI in June 2007. This transaction sees Asian aerospace products now being exported from Asia to Europe! As the Asia-Pacific aerospace sector matures, this is something that may occur more regularly in the future. AMR