

Germany Raises Hale



The Euro Hawk is immediately recognisable by its large underwing pods

Germany 'rolled out' its Euro Hawk at Cassidian's facilities near Manching on 12 October 2011 in a ceremony aimed at formalising the reception of the hale drone by the German Government, since the aircraft had arrived at Manching couple of months earlier, but without its operational payload.

Eric H. Biass

The Euro Hawk was developed as part of an equal-share joint venture between Northrop Grumman and Cassidian in which, (very) broadly speaking, the American company supplies the aircraft and the German its specific payload. The aircraft is a modified Block 20 (in other words an RQ-4B), while the payload, the objective of which is to take over – and improve – the signals and communications intelligence gathering missions carried out by Germany's now retired Breguet Atlantic, is called Isis. Whether the intention to name the package after the Greek mythology goddess of protection was deliberate or not, the name actually takes the first letters of Integrated Signal Intelligence System.

What is certain, however, is that the official requirement called for a wide-area, off-the-shelf, near real-time independent payload with national access to payload codes. How far the «off-the-shelf» requirement may have been fulfilled is difficult to judge in the context of such

a complex system that requires state-of-the-art technology is difficult to assess, but the necessity of having control of the codes in itself commanded a national development, hence Cassidian's full involvement in the payload.

At the time of the roll-out ceremony, all 23 line replacement units that make up the Isis system had been installed in the aircraft (which makes it an RQ-4E, by the way) and when the mission software has reached the end of its development phase and all system testing is com-

pleted, the aircraft will be able to perform its first sensor flight. This is expected to take place during the first quarter of 2012.

Upon completion of this, which will take us to the third quarter of the year, the aircraft will be handed over to German Air Force Strategic Intelligence Command in the northernmost German state of Schleswig-Holstein, which will be its home base. Subject to Parliament approval, another four Euro Hawks and an extra ground station are to be acquired, bringing the total pro-

gramme cost, including development, to € 1.2 billion. Just out of interest, it takes an RQ-4 about 45 minutes to climb to an out-of-harm's way altitude of 50,000 feet, knowing that the aircraft's ceiling is 60,000 feet.

Europe's Males

On the indigenous male drone front, Europe's situation is not particularly glorious. Much of this is due to a massive conflict of interest between potential manufacturers, between European governments and between manufacturers and governments (principally British, French and German), which results in a total lack of co-ordination, much to the advantage of foreign drone manu-



A newcomer on the male scene is the Turkish TAI Anka. The 1.6-tonne, 24-hour endurance drone is expected to enter service in the latter part of 2012. (Turkish Aerospace Industries)



A lonely bird for the time being, the single Predator C recently ordered by the US Air Force is to be deployed in Afghanistan. Testing the water? (General Atomics)

factors, namely Elbit and General Atomics who are likely to fill in the gap caused by this intestine war.

The recent debate in France perfectly summarises the conundrum, with the Senate playing down the necessity of seeing France developing its own drone (the French Ministry of Defence has voiced its preference for a Heron TP-based drone to be developed by Dassault), arguing that a foreign purchase (Predator/Reaper) would be much cheaper.

Ironically, this has already been done in so-called interim programmes (exemplified by the Harfang programme in France), but if no money is once and for all made available to develop a European drone, a Catch 22 situation will develop whereby Europe will never be able to acquire its own base know-how, and interim programmes incorporating foreign systems will become the norm, further draining resources required for an entirely European new-generation drone programme.

Two major largely company-funded programmes are currently in their starting blocks in Europe: the Cassidian Talarion and the BAE Systems-Dassault Telemos (incidentally, at time of going to press, Cassidian and Alenia Aeronautica announced the signature of a memorandum of understanding «with a view to jointly study the possibility of a co-operation in the field of male drones»). Short of a miracle, the future looks somewhat bleak. As Forecast International's Dan Darling puts it «Defence continues to be an afterthought in Europe».

Elsewhere

Elsewhere in the meantime, things are moving apace. Turkish Aerospace Industries announced the fifth flight of its new Anka (Phoenix) on 22 October 2011, which marks the first step of the male drone into its

envelope expansion flight programme. Capable of automatic take-off and landing (it almost goes without saying for advanced large drones nowadays), the Anka will come in two versions: the Anka A for reconnaissance missions and, later, the Anka B for air-to-ground combat missions.

The Anka A is expected to be ushered into service during the year (2012) with the Turkish Air Force. The Anka programme was launched in 2004 and called for the manufacture of three prototypes. The production programme entails the manufacture of ten systems, each incorporating three aircraft powered by a turboprop engine built by Tusas Engine Industries.

Granted, at 1.6 tonnes take-off weight, the Anka is smaller than a Talarion, which tips the scales at around seven tonnes, but it manages the feat for a nation like Turkey of being a 100% home-made product with Aselsan and Milsoft joining on the development of airborne and ground station software, and Aselsan again providing electro-optical

sensors as well and the synthetic aperture radar. It is interesting to recall in this context the interest voiced by Turkey to take part in the Talarion project.

In the United States, a heavier male drone has been ordered for operations in Afghanistan – a jet-engine-powered male drone, no less. Known as the Predator C Avenger, the single aircraft will be used, according to the Air Force's own words, «As the test vehicle to develop those next generation UAS sensors, weapons, and Tactics, Techniques & Procedures (TTP) ensuring a quick, smooth and efficient fielding of these advanced capabilities to the area of operations».

The General Atomics Predator C first took to the air in April 2009 and is powered by a Pratt & Whitney PW545B turbofan engine able to thrust the seven-tonne bird up to a ceiling of 50,000 feet. Unsurprisingly, its payload includes the in-house-developed Lynx multiple-mode synthetic aperture radar system. Other systems may include electro-optical, sigint and elint sensors.

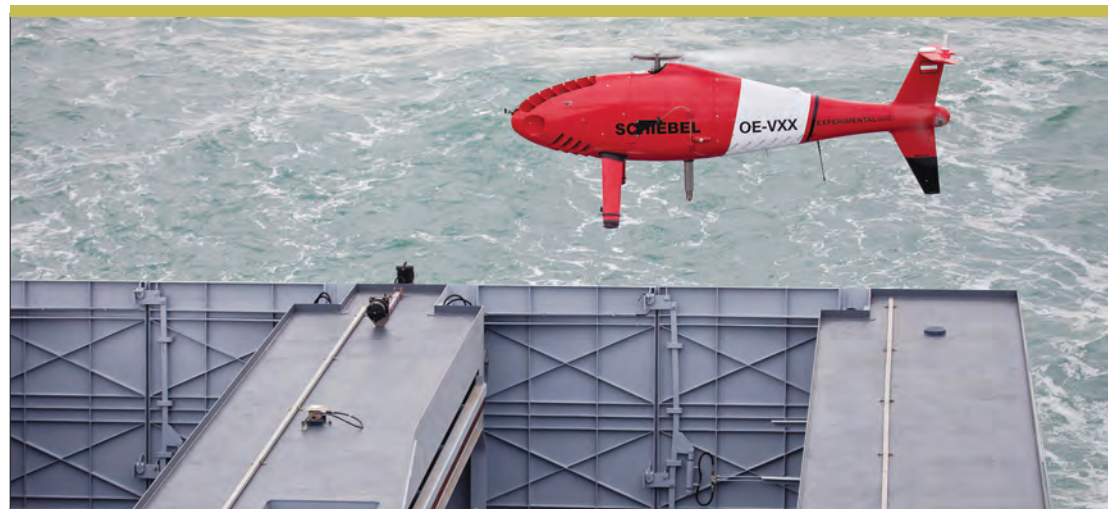
Rotary Stuff

Europe at least has one drone manufacturer that knows where its wings are taking it. Austrian manufacturer Schiebel has recently been doing quite well for itself, having been selected by DCNS to demonstrate the usefulness of a light rotary drone onboard the French company's new Gowind-Class *L'Adroit*, which was designed from the outset to operate a drone.

The offshore patrol vessel was built on company funds in record time and lent to the French Navy in October 2011 to put it through its paces, and this included the Austrian Camcopter S-100. Killing two birds with one stone, the Camcopter demonstrated its compatibility with the ship (or vice versa) and offered a first-hand opportunity to the French sailors to operate the system, which in four days performed eleven flights and 89 deck landings, testing in the process the decking harpoon developed by Schiebel.

Turning to a larger model, the Northrop Grumman Fire Scout is soon going to show some aggressive fangs following the US Navy's decision to arm its MQ-8Bs. The weapon selected is the APKWS – a laser-guided 70-mm Hydra, which effectively turns that rocket into a missile. The armament of a naval drone is a logical step in the evolution of an aircraft tasked with stretching the observation range of a ship, which in fact enables the same aircraft to handle itself the targets it may pick beyond the ship's horizon.

In a separate development, the US Navy has decided to extend the service time of the Fire Scout in Afghanistan by almost a year, namely through October 2012. Deployed in Afghanistan in May 2011, the machine is said to have gathered some 300 hours of video surveillance data per month. □



The Camcopter S-100 hovering over the DCNS L'Adroit, proving once more its worth to the French Navy in recent test operations. (Schiebel)