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Honda builds new plant to make fuel efficient HondaJet

by Rod Smith

Honda is stressing fuel efficiency as it develops its first commercial aircraft.

Honda Aircraft Company will manufacture HondaJet at a new plant to be constructed adjacent to its global headquarters in Greensboro, North Carolina.

First deliveries of HondaJet are scheduled for 2010, with Honda investing an initial U.S. $60 million in the new headquarters and further sums in building the HondaJet manufacturing facility.

Michimasa Fujino, president and ceo of Honda Aircraft Company, says all HondaJet research, product engineering, sales and marketing, and service support will be based at the new headquarters. Construction of the new facility, to include a 147,000 sq. ft. aircraft hangar and 68,000 sq. ft. of office space, is scheduled for completion by November.

It will replace the company's existing 32,000 square foot hangar and office complex. Fujino says: "HondaJet employs a number of innovative new technologies and design features, including an all-composite fuselage and a unique over-the-wing engine mount configuration."

Honda is targeting the light jet sector with its first ever commercial aircraft and says it wants to deliver 30 to 35 per cent better cruising fuel efficiency than its rivals. "We aim to provide a class-topping cruise speed of 420 knots (450 mph) and a more spacious cabin with room for up to eight people," says Fujino.

HondaJet is being targeted at owner pilots, corporate travel operators and air taxi companies.

All major assembly and testing of the prototype HondaJet has been conducted at the existing Greensboro facility, which opened in 2001 as an extension of Honda's global R&D operations. The decision to commercialise HondaJet was announced in July 2006, followed by the establishment of Honda Aircraft Company in August. It reports more than 100 customer orders for the $3.65 million HondaJet since its launch on October 17, 2006.

The HondaJet production facility will become Honda's seventeenth major manufacturing plant in North America, including two currently under construction in Indiana and Ontario, Canada.

U.K. research into UAVs intensifies to bring forward the surveillance revolution

Dr Plamen Angelov says UAVs could revolutionise surveillance.

U.K. universities are stepping up efforts to find design breakthroughs that will enable the development and manufacture of "failsafe" operation of Unmanned Air Vehicles (UAVs) in civilian non-segregated airspace.

Their research is part of ASTRAEA (Autonomous Systems Technology Related Airbus Evaluation and Assessment), a £32 million national collaborative programme. ASTRAEA aims to overcome the technological and regulatory barriers that prevent UAVs' safe and routine operation alongside manned aircraft.

A total of 16 work projects are under way with the industry consortium for ASTRAEA comprising Agent Oriented Software, BAE Systems, EADS UK, Flight Refuelling, QinetiQ, Rolls-Royce and Thales UK, together with the Universities of Bath, Cranfield, Lancaster, Leicester, Loughborough, Aberystwyth, West of England and Sheffield, and a number of specialist Small to Medium Sized Enterprises (SMEs).

Half of the funding for the work projects, which include key technologies such as collision avoidance systems, communications, flight control, propulsion, autonomous decision making, health monitoring and affordability, is being provided by the industrial partners.

Dr Plamen Angelov, of the department of communications systems at Infolab, is the principal investigator for Lancaster University on two ASTRAEA projects led by Thales UK and which focus on adaptive routing and collision avoidance systems.

Dr Angelov said: "The unmanned aircraft can be seen as an autonomous system which takes off, lands and manoeuvres successfully without direct human interference unless it is needed. To make this possible, one needs to address different problems.

"For example, the unmanned aircraft needs to avoid obstacles autonomously and safely; another issue is to fly an optimal route in terms of fuel consumption, time and other factors, such as storms or mountainous terrain."

The use of UAVs could revolutionise police, fire service and coastal surveillance, power and pipeline inspections and mobile phone and broadband services, which currently rely on manned aircraft, he says.

In a separate project, BAE Systems, Rolls-Royce, Smiths Aerospace and QinetiQ are working with U.K. ministry of defence staff and scientists to develop and fly Taranis. "The project will bring together a number of technologies, capabilities and systems to produce a technology demonstrator based around a fully autonomous intelligent system," says Mark Kane, managing director of Autonomous Systems & Future Capability (Air) for BAE Systems. The four year project, part of the U.K. government's Strategic Unmanned Air Vehicle (Experimental) Programme, will result in a UAV with fully integrated autonomous systems and low observable features.

He adds: "Taranis will make use of at least ten years' of research and development into low observables, systems integration, control infrastructure and full autonomy. It follows the completion of risk reduction activities to ensure the mix of technologies, materials and systems used are robust enough for the 'next logical step'."

Ground testing of Taranis is expected to take place in early 2009 with the first flight trials taking place in 2010.

Named after the Celtic God of Thunder, Taranis will explore and demonstrate how emerging technologies and systems can deliver battle-winning capabilities for the UK armed forces. About the size of a BAE Systems Hawk, Taranis will provide experimental evidence on the potential capabilities of this class of UAV and help to inform decisions on the future mix of manned and unmanned fast jet aircraft.

BAE Systems will provide elements including low observability, systems integration, control infrastructure and full autonomy elements in partnership with QinetiQ; Rolls-Royce will focus on the next generation propulsion installation for the demonstrator and Smiths Aerospace will utilise their skills in 'vehicle systems'.

The business and manufacturing prospects of UAVs have led the Finnish Robonic Arctic Test UAV Flight Centre Ltd (RATUFC), affiliated to designer and manufacturer of UAV launchers Robonic Ltd., to launch a study of the potential for development of a UAV pilot training business venture in cooperation with Kemijärvi town in Finnish Lapland.

Robonic md Juha Moisio says: "RATUFC is seeking domestic and international partners for the proposed venture. Such a centre would be able to play an active part in a future European UAV pilot training system.

"It would pursue the anticipated global growth in use of UAVs for both military and civil purposes, with this in turn requiring qualified pilots and operators."

He adds: "The growth of the UAV market is dependent on the safe sharing of airspace by UAVs with other aviation types, meaning the training of UAV pilots to an appropriate skill level must be a primary objective to ensure aviation safety standards are maintained."