Boeing and Cranfield team on BWB

UK organisation takes over NASA's role in development of flying wing as manufacturer also unwraps Pelican concept

Boeing and Cranfield Aerospace, the commercial arm of Cranfield University, are working together to build a 17%-scale flying demonstrator of the blended wing body (BWB) flying-wing transport.

The UK-based organisation is taking over the role from NASA following the axing of the latter's revolutionary concepts (REVCON) programme. The scaled version was originally configured with a 6.5m (21ft) span, but "will probably be slightly increased up to 30ft, though that's in review", says George Muellner, former president of Boeing's Phantom Works, and recently appointed vice-president of Boeing air force programmes.

The BWB model is expected to fly in early 2004, with tests scheduled to take place in the UK and USA. Muellner adds that US tests could take place at either Edwards AFB or the nearby China Lake US Navy test site in California. "We also want to put the vehicle in one of the large windtunnels at NASA Langley or Ames," he adds.

Unlike the twin-engined conceptual versions portrayed to date, the Cranfield BWB will be fitted with three small engines, although this simply reflects the availability of suitable powerplants, adds Boeing. The platform has also changed slightly and now incorporates a cranked-arrow leading edge to enable the full-scale version to reach higher cruise speeds around Mach 0.92. "The final configuration will be fixed within 90 days," adds Muellner. The outboard wing sections also have a higher aspect ratio than earlier proposals.

Boeing has also unveiled long-term conceptual studies of a massive wing-in-ground-effect vehicle dubbed the Pelican – named due to its similarity to the sea-skimming bird. Unlike Ekonoplan experimental vehicles built in the former Soviet Union, the Pelican concept is being designed to operate at relatively higher altitudes of 2,000-3,000ft. The payload for the vehicle, which is being studied with the US Defense Advanced Research Projects Agency, is theoretically up to 2,700t. Baseline concept studies could begin within five years, although service entry of the flying container ship would not be for at least 20 years, adds Boeing.

Aviastar books Volga-Dnepr order for An-124

Russia's outsize cargo carrier Volga-Dnepr has ordered an Antonov An-124-100 Ruslan freighter from the Aviastar factory in Ulyanovsk. The cargo carrier recently secured a $29.9 million 10-year loan from the World Bank's International Finance division to fund the purchase of the aircraft.

The freighter - Volga-Dnepr's tenth of the type - will be delivered in the fourth quarter of 2004. Volga-Dnepr has already invested $90 million in the Ruslan programme and is keen to continue investing in the aircraft's production and improvement.

The airframe ordered from Aerostar is the last one produced by Aviastar in the Soviet era and has stood without engines and systems for several years. "We are forming a pool of airlines to form a joint order," to ensure continuation of the Ruslan production line, says chief executive Aleksei Isaikin.

The next step is to receive UK Civil Aviation Authority certification for the An-124-100 - an effort launched a year ago.

Certification is needed to base "one or two" of Volga-Dnepr's Ruslans in the UK so these could be used as a surety for loans from Western banks. "We have got airlines willing to get more aircraft, the manufacturer is ready to build them and the bankers are interested in funding the production. All we need to do now is to make the ends meet," says Isaikin.

UK CAA certification would come in the form of acknowledgement of Russian type certification, rather than full certification as a new airframe, says Anatoly Kruglov, chairman of the Russian Air Register of Interstate Aviation Committee. This approval would be followed by certification from the European Joint Aviation Authorities.