

## ZEPHYR JOINS FARNBOROUGH MUSEUM LINE-UP

The Farnborough Air Sciences Trust Museum has long enjoyed exploiting its aviation heritage with the slogan “From Cody to Concorde” highlighting Farnborough’s unique century of continuous aviation research and development. Now it can also claim to represent an A to Z of such activity, “From Airships to Zephyr”, with the arrival of a prototype world-breaking aircraft design, the locally designed and built Zephyr solar-powered unmanned High Altitude Pseudo-Satellite. This massive, lightweight aircraft was developed by QinetiQ at Farnborough and has subsequently been developed further for Ministry of Defence operational use by Airbus Defence and Space, and the latest versions are currently in production in a facility on the opposite side of the airfield from where the Zephyr 6 prototype is now on display at the FAST Museum.

The new exhibit presented a major challenge for FAST volunteers at the museum as its enormous, but highly delicate, structure had to be assembled and raised into position in the only space large enough to house it – within the curved roof area of the Cody Pavilion. After much careful study of the components, which had arrived from Germany by road within a huge covered transport structure, and preparation in consultation with local Airbus staff, the FAST team built a carrying frame to help distribute the aircraft weight to avoid damaging the very thin wings. But this was not the only difficulty. Special supports and pulley wheels, together with multiple guide wires and ropes, had to be positioned on the roof structure to be able to very slowly pull the aircraft into position above the precious Cody Flyer replica aircraft which was not easily moved from its usual position in the pavilion. With just inches to spare from the pavilion structure walls and the replica’s upper wing and foreplane, the Zephyr was eased up over several hours until it was safely secured. **The Museum can now boast another heritage and educational attraction that cannot be seen anywhere else - the first successful British-built aeroplane and the latest British-built aircraft, displayed together.**

This Zephyr 6 performed beyond the official world record for the longest duration unmanned flight in 2008, although its 82-hour flight at an altitude of 61,000ft was not an official world record as FAI officials were not involved. However, in July 2010 the Zephyr 7 broke the official world record for endurance by an unrefuelled, unmanned air vehicle, with a flight lasting 336 hours, 22 minutes and 8 seconds. After all tests were completed it returned to Earth but could have remained on station much longer if required.

Zephyr features carbon-fibre construction, another Farnborough invention, and this example weighs a mere 30kg. Its state-of-the-art wing-mounted solar panels re-charge high-power lithium-sulphur batteries to drive two propellers. At night the stored energy is sufficient to keep the aircraft flying until the sun returns. It flies at over 60,000ft into the stratosphere, well above bad weather and the Jetstream, or other aircraft, and the production model has been designed to carry a sensor and communications pod for observation and communications relay. It has huge potential military and commercial applications as it can circle over a selected area to provide coverage similar to that which might be available from a small satellite, but at vastly lower cost than any space vehicle. If two Zephyrs are available then continuous coverage can be maintained when one returns for maintenance, which could be after many weeks in the air.

The Zephyr can now be seen at the FAST Museum, which is open every weekend and Bank Holidays, with free entrance and car parking.

**Issued by Farnborough Air Sciences Trust, Trenchard House, 85 Farnborough Road, GU14 6TL**

**Further information contact:** Richard Gardner Tel: 01252 515562 or Veronica Graham Green at: [vgrahamgreen.fast@gmail.com](mailto:vgrahamgreen.fast@gmail.com)