SUPPORTING A SCALING UK SATELLITE MANUFACTURER

Building at pace: how one UK manufacturer keeps missions on schedule



An innovative UK space company, headquartered at Harwell and now several hundred people strong, runs Earth observation and communications missions across Europe. It has grown from a start-up into one of the most prolific small satellite manufacturers in the country, and its spacecraft have grown with it, from 3U CubeSats through 6U and 12U platforms to development work on satellites of a few hundred kilograms.

That growth brings a scheduling problem familiar to every scaling satellite manufacturer. Missions do not queue politely. Several spacecraft reach assembly, integration and test at the same time, each with a fixed launch slot, and each needing clean, segregated space for weeks at a time.

Testing before flight

The company was among the first customers at the Catapult's AIT facility when it opened in 2019, and has used the cleanrooms, the design space and the vibration table ever since. For a period, every satellite design, prototype and test campaign it delivered ran through the facility. In one twelve month stretch it launched four spacecraft, all of which had passed through the facility on the way.

The company has since invested in test equipment of its own, and still uses the facility alongside it.





Why capacity next door matters

For a manufacturer scaling at this rate, owning every square metre of cleanroom needed at peak is not efficient. **Demand is lumpy.** A company that sizes its own facility for its busiest month pays for an expensive, empty room for the rest of the year.

The ISO 7 cleanrooms at our AIT facility at Harwell can be hired on a flexible basis, so a manufacturer can take exactly the space a campaign needs and release it afterwards. The rooms are separate, so programmes can run alongside each other.

That pattern holds well beyond one company. Several of the facility's customers own chambers of their own and still come back, because their own equipment is committed, because a second customer's hardware needs segregating, or simply because a peak month arrives.

The facility

The Catapult's assembly, integration and test facility at Harwell offers **five ISO 7 cleanrooms** with ESD flooring and tables and compressed clean air, alongside **around 136 m² of flexible laboratory and design space**, **two further dedicated laboratories** of 39 m² and 18 m², and **an operations centre** with ten workstations, three large displays and an observation area.

Environmental test capability includes a **thermal vacuum chamber** sited within the cleanroom, a **1,076 litre climatic chamber** running from –75 °C to 180 °C, and a **22 kN vibration system** taking loads up to 300 kg.

The Catapult is ISO 9001 certified and available to industry and academia.





The 800 m² AIT facility, within the 1,150 m² Zephyr Building, was built at Harwell and opened in 2019, funded by £3 million from the Oxfordshire Local Enterprise Partnership through the Government's Local Growth Fund, with a further £2.8 million leveraged alongside it.

Two cleanrooms, the flexible laboratory and design space and the operations centre are available from January 2027. Three further cleanrooms and the two dedicated laboratories follow in July 2027.

Contact Hammad Khan, Facilities Business and Development Manager.

hammad.khan@sa.catapult.org.uk
+44 (0)7867 490661