

## Disruptive Innovation for Space Centre



The Satellite Applications Catapult Disruptive Innovation for Space Centre (DISC), based within the Harwell Campus in Oxfordshire, commenced operations in December 2019 following funding of £3,000,000 from Oxfordshire Local Enterprise Partnership (OxLEP) for the project via the government's Local Growth Fund. In addition, a total of £2,800,000 match and enabled funding has been achieved.

DISC provides access to equipment and expertise to UK industry to accelerate the development of innovative new products and services including access to end-to-end design, modelling, test and production equipment in a collaborative engineering environment to help companies develop new solutions for large-scale market opportunities. The facilities are open to industry and academia and provide equipment that is frequently out-of-reach to small or medium sized companies to accelerate their innovation and growth.

Teams are able to take an R&D project from proof of concept through to a full-sized, prototype, manufactured at quality levels and scales sufficient to undertake end-customer validation.

DISC provides a number of space mission and engineering support facilities including:

- Modelling & Design Laboratory
- High Frequency Digital & RF Test Laboratory
- Mission Support & Operations
- Prototype & Low Volume Production Facility

Despite the challenging operational environment brought about by the COVID-19 pandemic, the Catapult managed to achieve the following impacts:

- *Proven Concept:* The Catapult has brought together multi-disciplinary and skilled teams to generate ideas and solutions in an open innovative and collaborative environment. The DISC provides a range of facilities, platforms, and laboratories to enable the best businesses, researchers, and end-users to work together to develop new satellite-based products, services, and applications - translating ideas from concept to market. The DISC at Harwell provides a disruptive solution that gives many SMEs an opportunity that is otherwise unavailable to them.
- *Supporting Innovative Companies:* Since its operational start, the DISC has supported companies develop innovative solutions and approaches for the space sector.
- *Roll out to Other Regions:* DISC concept and its success at Harwell has generated interest among authorities in the Northeast of England, Buckinghamshire, Hampshire and Wales. The Catapult are currently exploring opportunities to develop DISC in these regions. These will help cement Oxfordshire as central to the UK's space ecosystem.



ISO 7 Clean Rooms

The project has achieved the outputs / outcomes of:

- During the financial year 2021-2022 a total of 39 organisations made use of the DISC facilities
- The utilisation rate for financial year 2021-2022 was 81% (April 2022 utilisation was 85%)
  - Utilisation considers all facilities within the DISC including MOC, three lab spaces, seven clean rooms, and space environmental test equipment.
- By March 2022 DISC was supporting 97 jobs against a target of 176 by March 2024. DISC is on track to deliver its target by March 2024.

### **Stakeholder Feedback:**

- *“The satellite Applications Catapult and the Wescott (Business Incubation Centre, a facility that Catapult operates in Buckinghamshire) expert advisors have helped take Magdrive from concept to prototype and given us an invaluable understanding of business in the Space Industry. Access to the facilities at the DISC has accelerated Magdrive’s technical progress towards an important first flight in space”. Mark Stokes, Director Magdrive*
- *“For near field testing, there are other options in the UK, though I believe the Catapult facility is currently the best and most cost-efficient available for what we need to do. Far field testing is more difficult, and the Catapult range is an invaluable asset”. Martin Shelly, Operations Manager, Cobham Aerospace (Chelton).*
  - *Near Field Testing (NFT) is one of the electromagnetic testing methods used to detect discontinuities on the internal surface of fin-fan type ferromagnetic (Carbo steel) heat exchanger tubes.*