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Mace hands over £116m facility for testing next generation satellites

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Mace has handed over the National Satellite Test Facility (NSTF), the first of its kind in the UK – delivering a comprehensive set of facilities that can test spacecraft and satellites of up to seven tonnes.

Located at the heart of the space cluster at Harwell Campus, NSTF provides a comprehensive set of co-located facilities for the assembly, integration and testing of satellites.

Mace worked closely with the Science and Technology Facilities Council's client team and space experts to develop the design from concept to completion.

Constructed around the UK's largest vacuum test chamber, satellites the size of a double decker bus will be exposed to extremes temperatures using electrically heated and nitrogen cooled shroud panels to achieve a temperature range of 180 □C to +100 □C simulating the conditions of outer space.

A vibration chamber installed on a highly calibrated suspension system will replicate the conditions of a rocket launch, alongside an electromagnetic compatibility anechoic chamber to test electronic devices for both radiated and conducted radio frequency emissions. The chamber's interiors are encased in a highly absorbent fire resistant blue spiky foam that reduces oxygen levels. The building's light weight steel frame with CLT floor slabs minimises building loads and foundation requirements.

NSTF will be operated by STFC's RAL Space, the UK's national space laboratory for delivering world-class

space and ground-based space projects. The NSTF will enable UK businesses to bid competitively for new contracts and remain a world leader in space technologies.

Mace has worked with the Southern Construction Framework since 2017 on cutting-edge research and science facilities including on STFC's Harwell campus in Oxfordshire, the Rosalind Franklin Institute, the National Satellite Test Facility, the Extreme Photonics Applications Centre and Vulcan 20:20.

Terry Spraggett, Managing Director for Public Sector Construction at Mace, said:

"It has been a truly inspiring journey to work on such a pioneering project together with some of the UK's brightest minds. To build this highly complex project the client challenged us to bring together technologies and innovations to deliver a world-class facility, that will cement the UK's leading position in space technologies."