



Press Release

Thursday 23rd July 2009

Earth observation satellite UK-DMC2 ready for launch

SSTL's UK-DMC2 satellite has successfully completed pre-launch tests and is integrated with a Dnepr launch vehicle at the Baikonur Cosmodrome in readiness for launch on Wednesday, 29th July 2009 at 18:46 UTC, 19:46 BST.

The new satellite will be operated by subsidiary company DMCii to provide an enhanced imaging capability and operational service to the Disaster Monitoring Constellation (DMC). UK-DMC2 has a number of enhancements over previous DMC spacecraft contributing to SSTL's continuing evolutionary design approach. The satellite is also being used as a test bed for new technologies and is supporting a BNSC sponsored school science experiment called POISE.

UK-DMC2 carries a higher resolution optical payload which will provide 22m ground sample distance (GSD) images, compared with 32m GSD on the four operational satellites currently in the constellation. The 22m imagery has twice the data density of the 32m imagery without loss of Signal to Noise Ratio (SNR) and maintains the ultra-wide 600+km swath.

The satellite carries two high-speed X-band transmitters that will both operate at 20Mbps or 80Mbps. This will enable the satellite to download images up to 10 times faster than previous DMC spacecraft. Storage capacity has increased from 1 to 1.5 GByte on the first generation of DMC spacecraft up to 12 GByte on UK-DMC2. These advancements, in combination with improved power generation and storage systems, will allow UK-DMC2 to rapidly map large areas such as Europe or other continents.

The advances in data throughput and power generation have enabled two new operational modes. Firstly, a near-real time imaging and downlink mode allows imagery acquired within a ~2000 km radius of a ground station to be downlinked within the same pass and, secondly, the implementation of a broadcast downlink mode that enables customers with a receive-only ground station to receive data directly from UK-DMC2.

These technology improvements not only make the satellite more flexible than previous designs, but also dramatically increase the operational imaging capacity by allowing the satellite to store and download much larger volumes of multi-spectral image data.

SSTL's Business Development Director, Paul Brooks, said: "In practical terms, the increased imaging capacity means that the satellite has less "dead time". By fully using the different modes available, this latest DMC satellite will be able to rapidly download significantly more image data than previously possible. The satellite does not need to wait until it has emptied the onboard storage before being re-tasked to acquire further images elsewhere."

As an example, DMCii annually provides coverage of the Amazon Basin. These coverage campaigns have taken 6 weeks to complete with two of the current DMC spacecraft. By comparison, UK-DMC2 on its own can cover the same area in just 11 days.

The 96kg UK-DMC2 satellite is based upon SSTL's SSTL-100 small satellite platform, which uses solar cells integrated into the spacecraft's surface to generate power. UK-DMC2 includes an additional deployable solar panel that will increase power generation by approximately 50%.

SSTL and its UK-DMC2 satellite will also support a scientific experiment developed by the winners of the Space Experiment Competition for UK students, sponsored by the British National Space Centre (BNSC). Shrewsbury School's POISE experiment will investigate the way in which fluctuations in the ionospheric layer of the Earth's atmosphere can affect the radio signals passing through it. The team at Shrewsbury School will use receivers mounted onboard UK-DMC2 to pick up GPS signals that have passed through the ionosphere. POISE will measure the signal properties to determine its integrity. It is thought that by monitoring ionospheric scintillation, the experiment could support research into predicting earthquakes from space.

UK-DMC2 will be launched into a sun-synchronous orbit alongside Deimos-1, another DMC satellite built by SSTL for Spanish company Deimos Space. This will bring the number of operational DMC satellites to six.

To find out more about UK-DMC2, its future role in disaster relief and Earth observation visit www.sstl.co.uk/Missions/UK-DMC2

About SSTL

Surrey Satellite Technology Limited (SSTL) is the world's leading small satellite company, delivering operational space missions for a range of applications including Earth observation, science and communications. The company design, manufacture and operate high performance satellites and ground systems for a fraction of the price normally associated with spacecraft, with 300 staff working on turnkey satellite platforms, space-proven satellite subsystems and optical instruments.

Since 1981 SSTL has launched 32 satellites as well as providing training and development programmes, consultancy services, and mission studies for ESA, NASA and commercial customers, changing the economics of space.

Based in Guildford, UK, SSTL is owned by EADS Astrium NV. www.sstl.co.uk

Notes to editor:

This press release can be downloaded as a Word or Pdf document at the following url:

<http://www.ballard.co.uk/sstl/>

Photography from launch site is available at http://www.sstl.co.uk/News_and_events/UK-DMC2_launch_gallery

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