

Image: MetOp-C payload module

January 13 2017



Credit: ESA/ETS – A Kuebler

The payload module of MetOp-C, Europe's latest weather satellite, is in place at ESA's technical centre in the Netherlands for rigorous testing in space-like conditions.

[MetOp](#) is a set of three polar-orbiting satellites whose temperature and

humidity observations from a relatively close 800 km-altitude orbit have sharpened the accuracy of weather forecasting.

Procured by ESA for Eumetsat, the European Organisation for the Exploitation of Meteorological Satellites, MetOp-A was launched in 2006 and MetOp-B in 2012, with MetOp-C due to follow next year.

MetOp-C's [sensor module](#) was transported in the first week of January from Airbus Defence and Space in Friedrichshafen, Germany to ESA's Test Centre in Noordwijk in the Netherlands, which is equipped to simulate every aspect of the [space](#) environment.

The 2.1 tonne module carries a suite of meteorology and climatology instruments, variously procured by ESA or sourced from Eumetsat, France's CNES space agency and the US National Oceanic and Atmospheric Administration.

"The operation of the payload module and its instruments needs to be verified in space-like vacuum conditions," explains Jacques Mauduit of European Test Services, the company operating the centre for ESA.

"This 'thermal vacuum' testing will take place in the Large Space Simulator this spring, with cryogenically cooled 'blackbodies' fitted in front of individual instrument openings or radiators to control their temperatures to within 100–30°C of absolute zero."

The set-up for this complex test was verified last autumn.

Once testing is complete, MetOp-C's [payload module](#) will travel to the Airbus Defence and Space facility in Toulouse, France, to be integrated with its [service module](#) – the segment of the satellite providing attitude and orbit control, electrical power and communications, and hosting the main computer.

The launch of MetOp-C by Soyuz from Europe's Spaceport in French Guiana is scheduled for October 2018.

Provided by European Space Agency

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