FOUR GALILEOS TOGETHER IN ESA TEST CENTRE

Europe’s latest Galileo satellite was unboxed at European Space Agency’s technical centre in The Netherlands in May, bringing the total number of satellites at the site to four. This was announced from ESA on 10 June.

The European Space Research and Technical Centre (ESTEC) in Noordwijk is the largest satellite test facility in Europe, with all the equipment needed to simulate every aspect of the launch and space environment under a single roof.

It is an essential stop on the way to space for Europe’s Galileo satellites, built by OHB in Bremen, Germany, with navigation payloads from Surrey Satellite Technology Ltd in Guildford, UK.

The twelfth Galileo satellite arrived by road from Bremen on 13 May, in a custom-built environmentally controlled container.

It is understood that the satellite will begin with a thermal–vacuum test in a 4.5 metre diameter stainless steel chamber, subjected to about five weeks of hard vacuum and the temperature extremes of space.

Galileo-11 recently completed the same trial before moving on to final system testing, including a compatibility run with the ground network.

Meanwhile, the ninth and tenth satellites are in storage at ESTEC, having passed their own checks. They will be flown to Europe’s Spaceport in French Guiana in late July for launch by Soyuz in September, which will bring the total number of Galileo satellites in orbit to double figures.

The first four Galileos, launched in 2011 and 2012, were in-orbit validation satellites, built by prime contractor Airbus Defence & Space. They confirmed that the overall system worked as planned, while also serving as the foundation of the full constellation to follow.

The follow-up Full Operational Capability satellites are now being launched regularly to increase the size of the constellation to the point where early Galileo services can begin next year.

European partners
Galileo is a collaboration between ESA and the European Commission (EC). The validation phase was co-funded by ESA and the EC, while the full operational phase is funded by the EC. Under a delegation agreement, ESA acts as design and procurement agent on behalf of the Commission.
Picture captions
The eleventh Galileo satellite, known as FOC FM-09, being slid out of the 4.5 metre diameter Phenix thermal–vacuum chamber. Weeks of testing simulated the airlessness and temperature extremes of orbital space, taking place at the ESTEC Test Centre in Noordwijk, The Netherlands during May 2015.

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