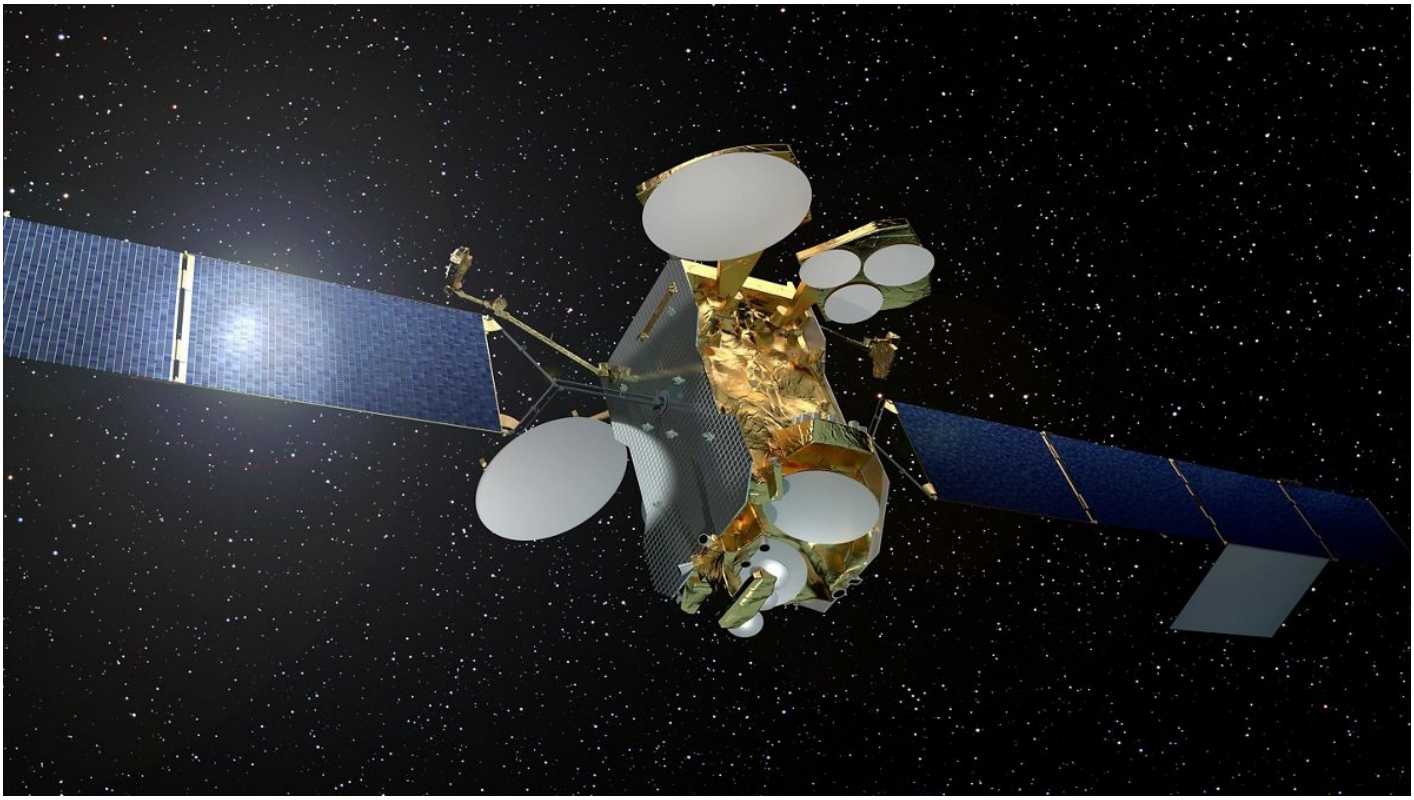
AIRBUS-BUILT FULL ELECTRIC EUTELSAT 172B SATELLITE REACHES GEOSTATIONARY ORBIT IN RECORD TIME

News / Manufacturer



New telecommunications satellite has completed the first electric orbit raising for a high capacity satellite in just four months after its launch in June, a world first

The EUTELSAT 172B spacecraft, built by Airbus for Eutelsat, one of the world's leading satellite operators, has now reached geostationary orbit, breaking the record for the fastest satellite electric orbit raising (EOR).

EUTELSAT 172B was launched by Ariane 5 from Kourou, in French Guiana, on 1 June 2017. The Airbus spacecraft control centre in Toulouse took control for early operations, initialisation, deployment of the solar array and electric propulsion arms, and completed initial testing prior to initiating the Electric Orbit Raising phase on 8 June. During this four-month phase, electric thrusters smoothly and efficiently propelled the satellite to the targeted orbit, consuming almost six times less propellant mass than for a satellite with chemical propulsion.

Following completion of the payload in-orbit tests and drift to its operational location led by the Eutelsat team, the satellite is scheduled to enter commercial service in November to provide enhanced telecommunications, in-flight broadband and broadcast services for the Asia-Pacific region. Its life span is expected to exceed 15 years thanks to electric propulsion for in-orbit raising and station-keeping.

“We are the first company to demonstrate full electric propulsion for satellites of this size and capacity, enabling their launch in the most cost-efficient manner. Furthermore with our system design, operation strategy and the plasma thruster technology we implement, we have completed the fastest electric orbit raising ever from transfer to geostationary orbit, which will allow Eutelsat to put their electric satellite into service in record time”, said Nicolas Chamussy, Head of Space Systems at Airbus.

Yohann Leroy, Eutelsat’s Chief Technical Officer, added: “EUTELSAT 172B confirms the relevance of Eutelsat’s early adoption of electric propulsion technology to optimise capex. In combining electric propulsion, High Throughput capacity, robotic arms and 3D printing techniques, our new satellite also reflects Europe’s capability to push the envelope of innovation in order to increase the competitiveness of our business. We look forward to bringing EUTELSAT 172B into service next month for our clients in the Asia-Pacific region.”

EUTELSAT 172B combines 13 kW of payload power with a launch mass of only 3,550 kg, thanks to the latest EOR version of Airbus’ highly reliable Eurostar E3000 platform.

The EOR success and reaching orbit in record time was made possible by two Airbus innovations:

- A pair of deployable robotic arms which orientate the satellite’s electric propulsion thrusters, and control thrust direction and attitude during different phases of the mission.

- The WALIS (Wide Angle Localisation Integrated System) network of ground stations around the world, developed by Airbus, which has enabled engineers to control orbit raising operations until the satellite reached geostationary orbit.

The development of Airbus’ Eurostar all-electric satellites has been supported by ESA and space agencies of European countries, in particular in France by the CNES in the framework of the PIA programme (Plan d’Investissements d’Avenir) and in the UK by the UK Space Agency.

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