

# 28 December 2005 : New step for the Galileo System

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- *From:* "POLE STAR" <[info@xxxxxxxxxxxxxxxxxxxxxxxxxxxxx](mailto:info@xxxxxxxxxxxxxxxxxxxxxxxxxxxxx)>
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28 December 2005 – 10:01:39 am (Paris time)

The First Galileo in-orbit validation satellite has been successfully launched. It reached its circular orbit at an altitude of 23 258 km at 10:01:39 am (Paris time)

Giove A, the first Galileo in-orbit validation element, was launched today from Baikonur, Kazakhstan, atop a Soyuz-Fregat vehicle operated by Starsem. Following a textbook lift-off at 05:19 UTC (06:19 CET), the Fregat upper stage reached a circular orbit at an altitude of 23 258 km, inclined at 56 degrees to the Equator, before safely deploying the satellite at 09:01:39 UTC (10:01:39 CET).

One of the 3 missions of Giove A satellite is to secure use of the frequencies allocated by the International Telecommunications Union (ITU) for the Galileo system

This 600 kg satellite, built by Surrey Satellite Technology Ltd (SSTL) of Guildford, in the UK, carries two redundant, small-size rubidium atomic clocks, each with a stability of 10 nanoseconds per day, and two signal generation units, one able to generate a simple Galileo signal and the other, more representative Galileo signals. These two signals will be broadcast through an L-band phased-array antenna designed to cover all of the visible Earth under the satellite.

Once the payload is activated, the Galileo signals broadcast by Giove A will be carefully analysed by ground stations to make sure they satisfy the criteria of the ITU filings.

On behalf of the Galileo Joint Undertaking and also as technical support of the French Space Agency (CNES) Pole Star, has actively contributed beside Alcatel Alenia Space and Galileo Industries, to the Galileo frequency issues at ITU level. These first Galileo Signals In Space can be seen as the positive outcome of a primordial stage for the Galileo system.

Furthermore the Giove A satellite will have 2 over missions. It will demonstrate critical technologies for the navigation payload of future operational Galileo satellites and it will characterise the radiation environment of the orbits planned for the Galileo constellation.

A second demonstrator satellite, Giove B, built by the European consortium Galileo Industries, is currently being tested and is expected to be launched in 2006.

The next phase is the launch of four operational satellites. The purpose will be to validate the basic Galileo space and ground segments. Once this In-Orbit Validation (IOV) phase is completed, the remaining satellites will be launched to achieve Full Operational Capability (FOC). The full deployment is expected to be achieved between 2008 and 2010 under the responsibility of the Galileo concessionaire.

Numerous applications are planned for Galileo, including positioning and derived value-added services for transport by road, rail, air and sea, fisheries and agriculture, oil prospecting, civil protection activities, building, public works and telecommunications.

Pole Star already designs and develops applications and related technologies which will take advantage of the Galileo performances. All the applications and products designed by Pole Star are already "Galileo compatible".

By the use of Galileo + GPS, coupled with Pole Star technologies, terminal manufacturers, integrators and applications operators will improve their product by offering enhanced accuracy, availability and continuity of service even in the urban canyon and inside the building as well as regional and local integrity for safety critical applications.

4 years ago, Pole Star was created by making the bet that Galileo will become a reality and that the Galileo applications market will become a huge market. Today, Pole Star is offering to his customers, his 4 years of technological lead.

POLE STAR : <http://www.polestar-corporate.com>

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