

Soyuz rocket launches two Galileo satellites

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A Soyuz rocket carrying a pair of Galileo In-Orbit Validation satellites lifts off from Europe's Spaceport in Sinnamary, French Guiana.

A Soyuz rocket launched two Galileo satellites into orbit on Friday, marking a crucial step for Europe's planned navigation system, operator Arianespace announced.

The launch took place at the Kourou space base in French Guiana, at 3:15 pm (1815 GMT).

Three and three quarter hours later, the 700 kilogramme satellites were placed into orbit.

The new satellites add to the first two in the Galileo navigation system, which were hoisted aloft on October 21, 2011.

Together they create a "mini-constellation." Four is the minimum number of satellites needed to gain a navigational fix on the ground, using signals from the satellite to get a position for latitude, longitude, altitude and a time reference.

Galileo will ultimately consist of 30 satellites, six more than the US [Global Positioning System](#) (GPS).

By 2015, 18 satellites should be in place, which is sufficient for launching services to the public, followed by the rest in 2020, according to ESA.

The system claims it will be accurate to within a metre (3.25 feet). The GPS, which became operational in 1995 and is being upgraded, is currently accurate to between three and eight metres (10 and 26 feet).

In May, the European Commission said the cost by 2015 would be five billion euros (\$6.45 billion).

As a medium-sized launcher, Soyuz complements Europe's heavyweight [Ariane 5](#) and lightweight Vega rockets.

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