GALILEO UPDATE

On 9th September the European Space Agency advised that the first Galileo navigation satellite had arrived at Europe’s Spaceport in French Guiana, ready to begin preparations for launch on 20th October.

Packed within its protective, air-conditioned container, the satellite landed at Cayenne Rochambeau Airport aboard an Antonov aircraft at 0645 local time on 7th September, having been flown from Thales Alenia Space Italy’s Rome facility, where it was built. A Thales and ESA team stood by to receive the satellite after flying in the previous week, along with all the testing and support equipment. The team loaded the satellite container on a lorry for transport to the Guiana Space Centre, where it arrived at 1000 local time and was moved into the preparation facility. It stayed there overnight for the temperature to settle before it was taken out of its container the following morning.

The satellite is due to be launched aboard a Soyuz ST-B vehicle on 20th October, together with a second Galileo that is now being readied for its own flight to French Guiana. This will be the first launch of Russia’s workhorse Soyuz rocket from French Guiana and will take place from a new facility 13 km northwest of the Ariane 5 launch site.

Next year, the second pair of satellites will join them in orbits at an altitude of 23,222 km, proving the design of the Galileo system in advance of the other 26 satellites destined to join them in the Galileo constellation.

The two Soyuz ST-B launchers, the more powerful variant of the two configurations of the upgraded Soyuz-ST launcher operated by Arianespace from the CSG, plus the re-ignitable Fregat-MT upper stages that will guide the satellites into their final orbits reached French Guiana from Russia in June. Final assembly of the three-stage Soyuz ST-B and the fuelling of the Fregat-MT upper stage is now expected to be underway.

October’s launch will be historic for it will be the first Soyuz launch from a spaceport away from Baikonur in Kazakhstan or Plesetsk in Russia.

French Guiana is much closer to the equator, so each launch will benefit from Earth’s spin, increasing the maximum payload into geostationary transfer orbit from 1.7 tonnes to 3 tonnes.
As a medium-class launcher, Soyuz will complement Ariane and Vega to increase the flexibility and competitiveness of Europe’s launch vehicles.

Each three-stage rocket will be assembled horizontally in the traditional Russian manner, transferred to the pad and moved to the vertical so that its payload can be added from above.

These first four Galileo satellites, built by a consortium led by EADS Astrium Germany, will form the operational nucleus of the full Galileo satellite navigation constellation. They are said to combine the best atomic clock ever flown for navigation, accurate to one second in three million years, with a powerful transmitter to broadcast precise navigation data worldwide.