Final checks for first Soyuz launch from Kourou

October 20 2011

Launch directors on Thursday were running through the last checks for the maiden liftoff of Soyuz, the legendary Soviet-Russian rocket, from Europe's base in French Guiana.

Soyuz is due to lift off at 7:34 a.m. (1034 GMT) on Thursday, carrying the first satellites in the Galileo project, Europe's 5.4-billion-euro (7.2-billion-dollar) answer to the US Global Positioning System (GPS).

The rocket's heritage can be traced to the dawn of the space race in 1957 with the launch of Sputnik. All told, its family has notched up 1,776 launches, with a success rate of more than 94 percent.

From Kourou, Soyuz will be able to hoist 2.8 tonnes into geostationary transfer orbit, compared with 1.7 tonnes from Baikonur. The big difference in payload is explained by the extra push given by Earth's rotation at the Equator.

The first operational Galileo satellites, with a payload of 1.58 tonnes, will be placed in a circular orbit at an altitude of more than 23,000 kilometres (14,000 miles).

After a nine minute, 20 second flight that will see the rocket's three lower stages burn their fuel and fall away one by one, the "Fregat" upper stage should light up to take the satellites on their final leg, due to last three hours, 20 minutes.

Thursday's launch is the first under a 2003 deal to deploy the rocket beyond its bases in Plesetsk, in northern Russia, and Baikonur, in Kazakhstan.

The contract is designed to bring in revenue for Russia's space industry and provide a dependable medium-weight lifter for satellite launch operator Arianespace alongside the heavy Ariane 5, and a future lightweight rocket, the Vega.

Soyuz so far has orders for 14 launches from Kourou. Next year, it will take up the next two satellites in the Galileo constellation, which will comprise 30 satellites -- 27 in operation and three spares -- when it is completed in 2020.

Galileo should be accurate to within a metre (3.25 feet), whereas the US Global Positioning System (GPS), which became operational in 1995 and is being upgraded, is currently accurate to between three and eight metres (10 and 26 feet), according to official websites.

A site has been specially built for Soyuz 12 kilometres (eight miles) from the Ariane launchpad here. It includes a 52-metre (169-feet) -high gantry and the ability to be adapted for human spaceflight if need be.

The European Space Agency (ESA) is screening the launch live from 0930 GMT (www.esa.int/esaCP/SEMZOFFURTG_index_0.html).