Launch of SICRAL 2 satellite

24 April 2015

MISSION PROFILE

21:38	L+0	**Lift off**
21:47	L+09:00	Switch-off and stage 1 separation
22:02	L+24:00	Switch-off and stage 2 separation
22:06	L+28:00	THOR 7 satellite separation
22:12	L+34:00	**SICRAL 2 satellite separation**
22:18	L+40:00	**First telemetry acquisition from Fucino Space Centre**
23:36		Initialisation of chemical propulsion

25 April

00:16	Initialisation of attitude control and sun pointing acquisition
00:33	Partial opening of solar panels and battery in charge
02:08	Initialisation of inertial navigation
05:09	Acquisition and validation of attitude to support orbital transfer

26 April From 04:00 to 12:00 - maneuver of orbital transfer (apogee 4)

27 April From 05:00 to 13:00 - maneuver of orbital transfer (apogee 6)

29 April From 03:00 to 07:00 - maneuver of orbital transfer (apogee 8)

30 April

10:18	Full opening of solar panels
12:40	Payload antennas deployment
15:29	First Earth acquisition (the satellite and the payload antennas are oriented to Earth)
16:26	Normal Mode activation

4 May

16:00 End LEOP activities (*Launch and Early Orbit Phase*)

6 May

08:00 Start IOT Payload activities (*In Orbit Test Payload)* period: 20/30 days.

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THE ACTIVITIES OF THE TELESPAZIO TEAM

The launch of SICRAL 2, the Italian satellite for military communications, is scheduled for 19:38:00 UTC (21:38 Italian time) on April 24, 2015 from Europe's Spaceport in Kourou, French Guyana.

Telespazio will manage the launch service from Europe's Spaceport in Kourou and the LEOP (Launch and Early Orbit Phase) and IOT (In Orbit Test), the first operating tests of the satellite in orbit, from the Fucino Space Centre.

The ascent phase of the Ariane launcher will run for 2280 seconds (38 minutes) and the satellite will be released in a highly elliptical orbit with a perigee of 251 km and an apogee of 35808 km, inclination of 5.991 degrees and a period of 37949 sec (10.5 hours).

The **LEOP** activities carried out by the Telespazio team at Fucino begin **six minutes after the separation of the satellite from the launcher**, when the first telemetry is received by the Yatharagga station, in Australia, starting the first verification phase of the satellite's health, which will last about 30 minutes.

The next step includes initialising the propulsion, enabling the attitude control to acquire the Sun-pointing, the partial opening of the solar panels and battery recharging. This is followed by the three orbital transfer manoeuvres required to make SICRAL 2's orbit circular until reaching the geostationary orbit.

The LEOP is the most critical phase of the mission: from the separation of the satellite from the launcher to the achievement of the planned orbital position (longitude 37° East) the satellite is managed by a dedicated team of Telespazio flight operations experts, for a period of about **ten days**, during which all the on board equipment necessary to ensure the autonomy of the satellite in case of failure is verified.

Once the LEOP is concluded, the **IOT** of the payload begins, namely the verification of part of the systems dedicated to telecommunications: This phase checks the equipment in flight and, above all, ensures the project requirements are fully complied with. This phase is expected to last **twenty to thirty days.**

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