

CSIR provides vital support for Italian earth observation programme

The tracking, telemetry and command group of the CSIR Satellite Applications Centre has yet again proved its mettle in giving support to the COSMO-SkyMed programme, thereby assisting Italy in achieving a significant milestone for its space programme.

Critical launch support was offered by the CSIR Satellite Applications Centre for the Delta 2 launch vehicle carrying the COSMO-SkyMed spacecraft, a constellation of small satellites for the Mediterranean basin observation, on 25 October 2008.

The COSMO-SkyMed spacecraft lifted off from the Vandenberg Air Force Base launch pad precisely on time at 02:28:25 p.m. GMT. This is the third spacecraft for Italy's home-grown earth observation system, the constellation of radar satellites built for civil and military reconnaissance.

With its two sister satellites circling the planet in formation, COSMO 3 had only a split second launch opportunity to get airborne and ensure its proper placement into the orbiting network. The United Launch Alliance (ULA) Delta 2 did not disappoint, collecting its 84th straight success.

The two stages and four side-mounted boosters of the 12-storey rocket did their jobs during the hour-long ascent that extended half-way around the globe, ultimately deploying the payload of 2 000 kg into a 619-km orbit.

Tiaan Strydom, responsible for liaison with the centre's international clients, explains how this came about, "We were contracted by ULA (formerly Boeing Launch Services) to support the Delta 2 launch vehicle. This included the following events through live telemetry and monitoring of health of the Delta 2 launch vehicle: Second-stage restart ignition; second-stage engine cut-off or SECO-2; altitude manoeuvre between 3225 seconds to 3425 seconds and aligning the spacecraft to the proper spacecraft separation attitude. Lastly, we supported the spacecraft separation, which is the main event. Only if the separation is correct, can the mission be called a success."

The COSMO-SkyMed system's civil applications consist of monitoring coastlines, seas and internal waters; agricultural monitoring to check on harvests and manage treatment cycles; cartography using images with a resolution in the order of one meter. The satellites have already proved themselves beneficial to humanitarian organisations responding to recent natural disasters, such as Cyclone Nargis in Myanmar, the devastating earthquake in China and Hurricanes Hannah and Ike, which hit Haiti.

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