

# GSAT-8 Mission

21 May, 2011

## THE MISSION

India's Communication Satellite GSAT-8 on-board the Ariane-5 VA-202 lifted-off from Kourou, French Guiana at 02:08 AM (IST) on May 21, 2011.

GSAT-8 was placed into the intended Geosynchronous Transfer Orbit (GTO) of 35,861 km apogee and 258 km perigee, with an orbital inclination of  $2.503^\circ$  with respect to Equator. ISRO's Master Control Facility (MCF) at Hassan in Karnataka acquired the signals from GSAT-8 satellite immediately after the injection. Initial checks on the satellite were conducted and the satellite was captured in three-axis stabilisation mode. Preparations were underway for the firing of 440 Newton Liquid Apogee Motor (LAM) during the third orbit of the satellite on May 22, 2011. This was the first step towards taking the satellite to its Geostationary Orbital home. GSAT-8 is positioned at  $55^\circ$  East longitude.



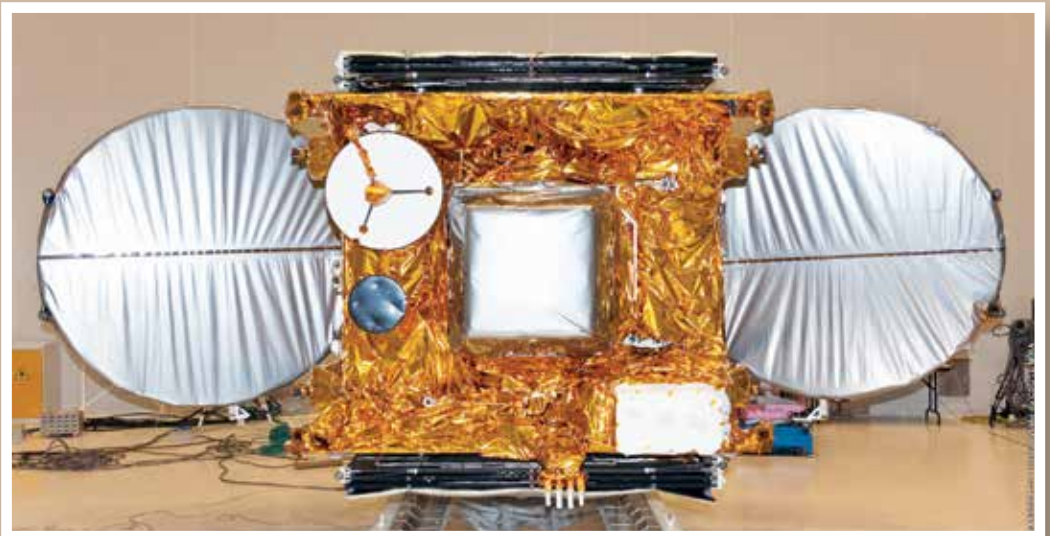
*Ariane-5 VA-202*

## GSAT-8

### THE SATELLITE

GSAT-8 is a high power communication satellite being inducted in the INSAT system. The satellite is configured to carry 24 high power transponders in Ku-band and a Two-channel GPS Aided Geo Augmented Navigation (GAGAN) payload operating in L1 and L5-bands.

The 24 Ku-band transponders will augment the capacity in the INSAT system. The GAGAN payload provides the Satellite Based Augmentation System (SBAS) through which the accuracy of the positioning information obtained from the GPS Satellite is improved by a network of ground based receivers and made available to the users in the country through the Geostationary Satellites.



### SPECIFICATIONS

<b>Weight</b>	3093 kg
<b>Power</b>	6242 W, Three 100 Ah Li-Ion batteries
<b>Payload</b>	<ul style="list-style-type: none"> <li>• 24 Ku-Band Transponders</li> <li>• GAGAN operating in L1 &amp; L5-band</li> </ul>
<b>Propulsion</b>	440 Newton Liquid Apogee Motors (LAM) with Mono Methyl Hydrazine (MMH) as fuel and mixed oxides of Nitrogen (MON-3) as oxidizer for orbit raising
<b>Stabilisation</b>	3-axis stabilised in orbit using Earth Sensors, Sun Sensors, Momentum and Reaction Wheels, Magnetic Torquers and eight 10 Newton and eight 22 Newton Bipropellant Thrusters
<b>Antennae</b>	Two indigenously developed 2.2 m diameter transmit / receive polarisation sensitive dual grid shaped beam deployable reflectors with offset-fed feeds illumination for Ku-band; 0.6 m C-band and 0.8 x 0.8 sq m L-band helix antenna for GAGAN
<b>Type of Satellite</b>	Communication
<b>Mission life</b>	12 Years