G-20 Satellite Mission - Overview

Objective

A satellite realised on a collaborative basis among G-20 nations to enable space based observations of various variables that affect environment and climate change.

Potential Observables

- Green House Gases
- Air Pollution
- Forest Fire

Anticipated Outcome

- ***Advance technologies, gain insights into scientific aspects, address current and emergent issues in relation to environment & climate change***
- ***Fruitful collaboration to meet shared objectives.***

G-20 Collaboration

India to provide spacecraft bus, Satellite Assembly, Integration and Testing, Launch of the G-20 Satellite along with payloads for the observation of Environment & climate

Payload opportunity to G-20 nations in-line with the thrust area and commensurate with national ambitions

G-20 Satellite Mission – Mission Overview

Broad level Mission Parameters

Orbit	Sun Synchronous (LEO)
Altitude	~800 km

Launch ~ February 2027

Proposal Submission date –October 15 2024

Target Applications

1. Characterization of Aerosols and Clouds
2. Mapping of CH4, CO2 and NO2
3. Detection and mapping Forest Fire, Outgoing IR & Visible radiation and Cloud Cover
4. Atmospheric Temperature and Humidity Sounding
5. Studies on Winds and Soil Moisture
6. Precipitation (Rain / Snow fall) measurement

Spacecraft Bus

Parameter	Specification
Spacecraft Mass	~1350Kg
Spacecraft Power	3000W
Payload Mass & Power	~500 Kg & ~750 W
Payload area	2.5 x 1.5 mtr

G-20 Opportunity

(Resources envisaged to be shared amongst all finalized proposals)

Footprint Area	1m X 0.75m
Mass	300 kg
Power	400 W
Volume	1m X 0.75m X 0.5m

Ground Segment and Data Sharing

It is envisaged that the G-20 nations would employ their ground stations for data reception. The data would also be downloaded over the Indian Ground station and would be shared with the G-20 nations and other interested nations.