CarbonSat/C
Low-Cost Satellite Mission Designed at CEF for Greenhouse Gas Detection

Mission Objectives

- Global atmospheric Methane measurements for CH₄ source detection
- Hot-spot CO₂ monitoring (e.g. volcanoes, large coal-fired power plants)

Design based on Concurrent Engineering Process

Conventional Design Process
Centralised Design (project view)
Sequential Design (subtask view)

Concurrent Engineering Design Process
"everyone with everyone"

Conventional Design Process
Sequentional Design (subtask view)

Concurrent Engineering Design Process
The project team uses the Concurrent Engineering Facility (CEF) of DLR to establish the conceptual design of the satellite.

Low-Cost and Short Development Time
CarbonSat/C (compact) is much smaller than conventional Earth observation satellites. This fact in combination with the design based on the DLR Standard Satellite Bus allows a low-cost mission with short development time.

- Satellite Mass: 150 to 200 kg
- Satellite Size: 0.9 x 0.6 x 0.6 m³ (in undeployed state)
- Daily data volume: 10 to 100 Gbyte of images
- Design heritage: Based on the Standard Satellite Bus developed by DLR
- Launch: Piggy-back launch into Sun-synchronous orbit in 2014

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