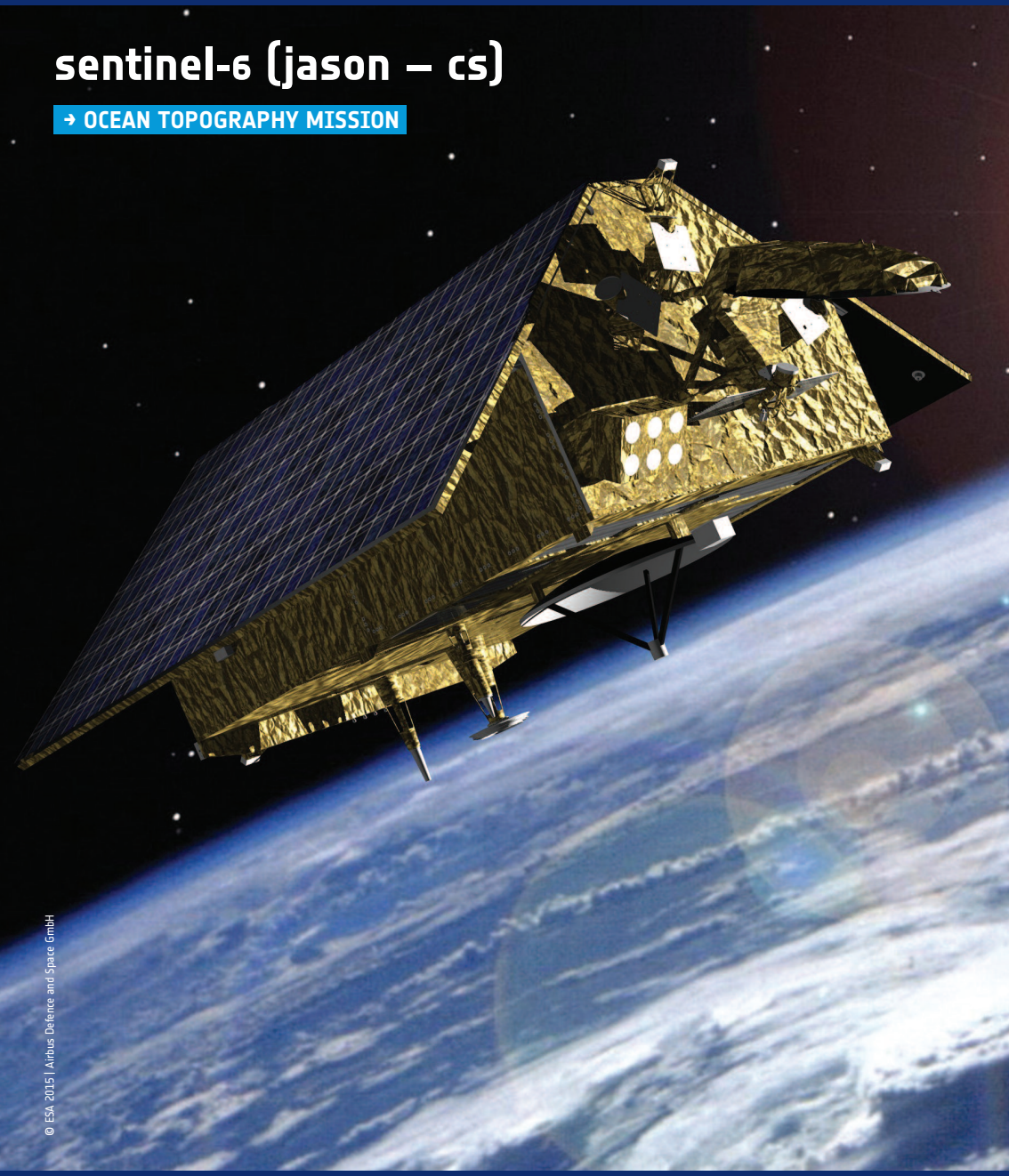
sentinel-6 (jason – cs)

→ OCEAN TOPOGRAPHY MISSION



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Last update April 2015

MISSION OBJECTIVES

To provide continuity of the reference, high-precision ocean topography service after Jason-3.

MISSION PROFILE

› LEO, non sun-synchronous orbit at 1336 km mean altitude
› 10 days repeat cycle with 66° inclination
› 5.5 years (including 6 months commissioning). Consumables for an additional 2 years
› Falcon-9, Atlas-5 or Antares launcher (procured by NASA-JPL/KSC)

SATELLITE PLATFORM

Configuration based on CryoSat with most equipment mounted on nadir panel and increased solar array area using deployable flaps. Monopropellant propulsion system with 214kg fuel for orbit maintenance and perigee lowering at end of life (passive re-entry within 25 years).
› Dimensions (flight configuration) 5.30 m x 4.17 m x 2.35 m
› Mass 1440 kg
› Power 891 W average consumption
› Data volume: order of magnitude 1200 Gbit/day
› on-board storage by SSR 496 Gbits (beginning of life)
› X-band data downlink: 150 Mbps at 8.090 GHz
› S-band TTC link: 16 kbps uplink, 32 kbps downlink

SATELLITE PAYLOAD

Poseidon-4 (SAR Radar Altimeter):
› Interleaved mode providing conventional pulse-width limited and SAR altimetry simultaneously (only the pulse-width limited data recorded over land)
› Possibility of following a built-in digital elevation model for improved tracking over land;

AMR-C (Climate-quality microwave radiometer – NOAA/JPL contribution): 3 channels.

GNSS–POD Receiver provides GNSS measurements for Precise Orbit Determination using GPS and Galileo signals.

DORIS enables precise orbit determination, as well as providing on-orbit position to the altimeter for use with its built-in DEM.

Laser Retroreflector Array (NOAA/JPL contribution) enables tracking by ground-based lasers.

GNSS-RO (NOAA/JPL contribution) uses GNSS measurements for RO.