

CHEOPS

Characterising ExOPlanet Satellite

On behalf of the CHEOPS Science Team:

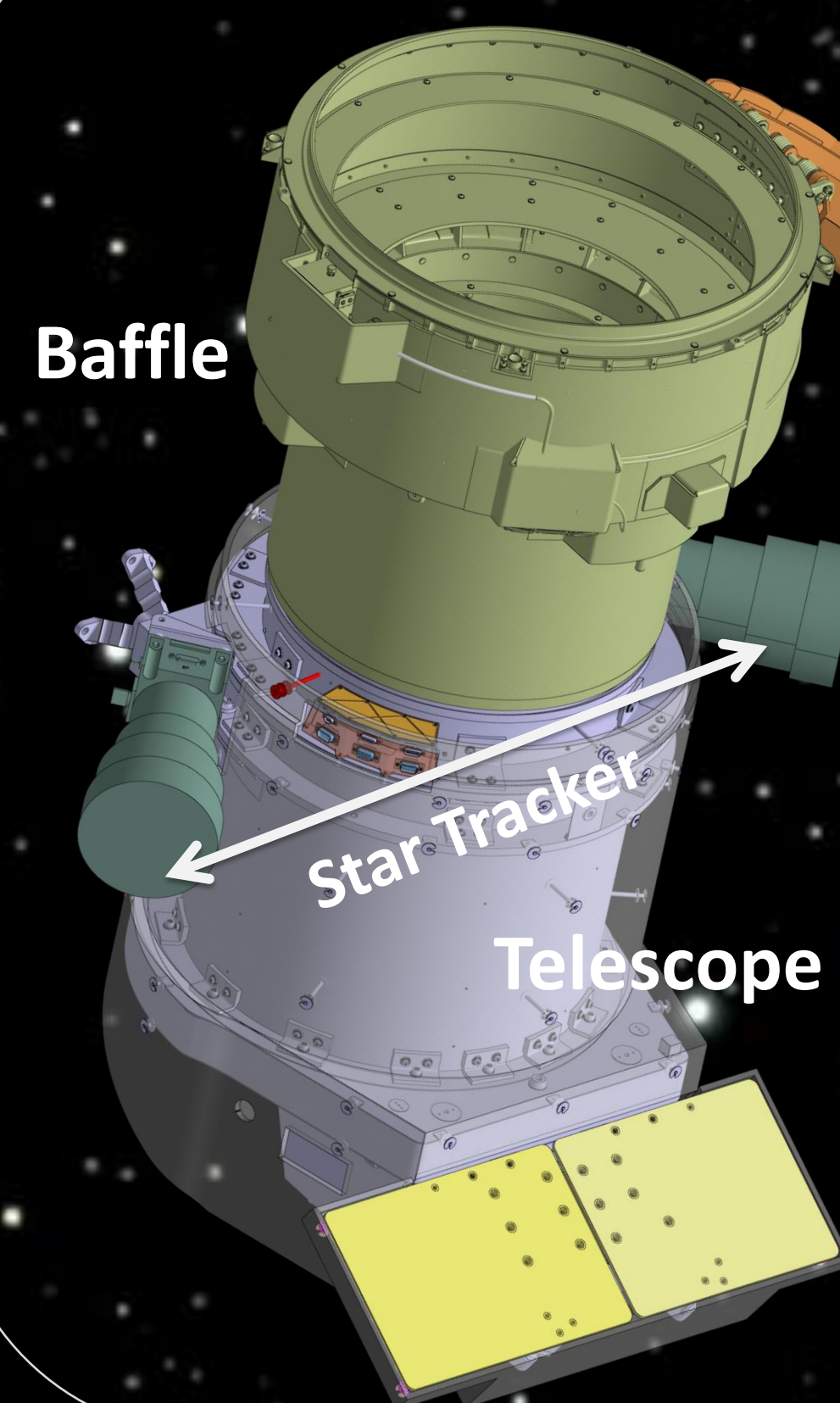
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Overview

CHEOPS is the first mission dedicated to the search for exoplanet transits of local, bright stars already known to host exoplanets. CHEOPS will detect planets through ultra-high precision, transit photometry.

CHEOPS is an small ESA mission based on the partnership between ESA's Science Programme and Switzerland with contributions from 10 other member states, including Germany. The Mission Consortium is led by Prof. Willy Benz, University Bern (CH). Launch will be December 17, 2019 with a Soyuz rocket from Kourou, French Guiana.

Instrument



- Ritchey Chrétien telescope
- Spectral range: 330 – 1100 nm
- Aperture: 30 cm
- field of view: 17'x17' (0,32 deg²)
- Single CCD with 1024 x 1024 px detector cooled down to -40° C
- pixel size: 13 μm x 13 μm
- pixel scale: ~1arcsec/pixel
- de-focused point spread function, radius of 12 pixels for 90% energy
- sampling cadence: 1 min

How's CHEOPS doing these days?

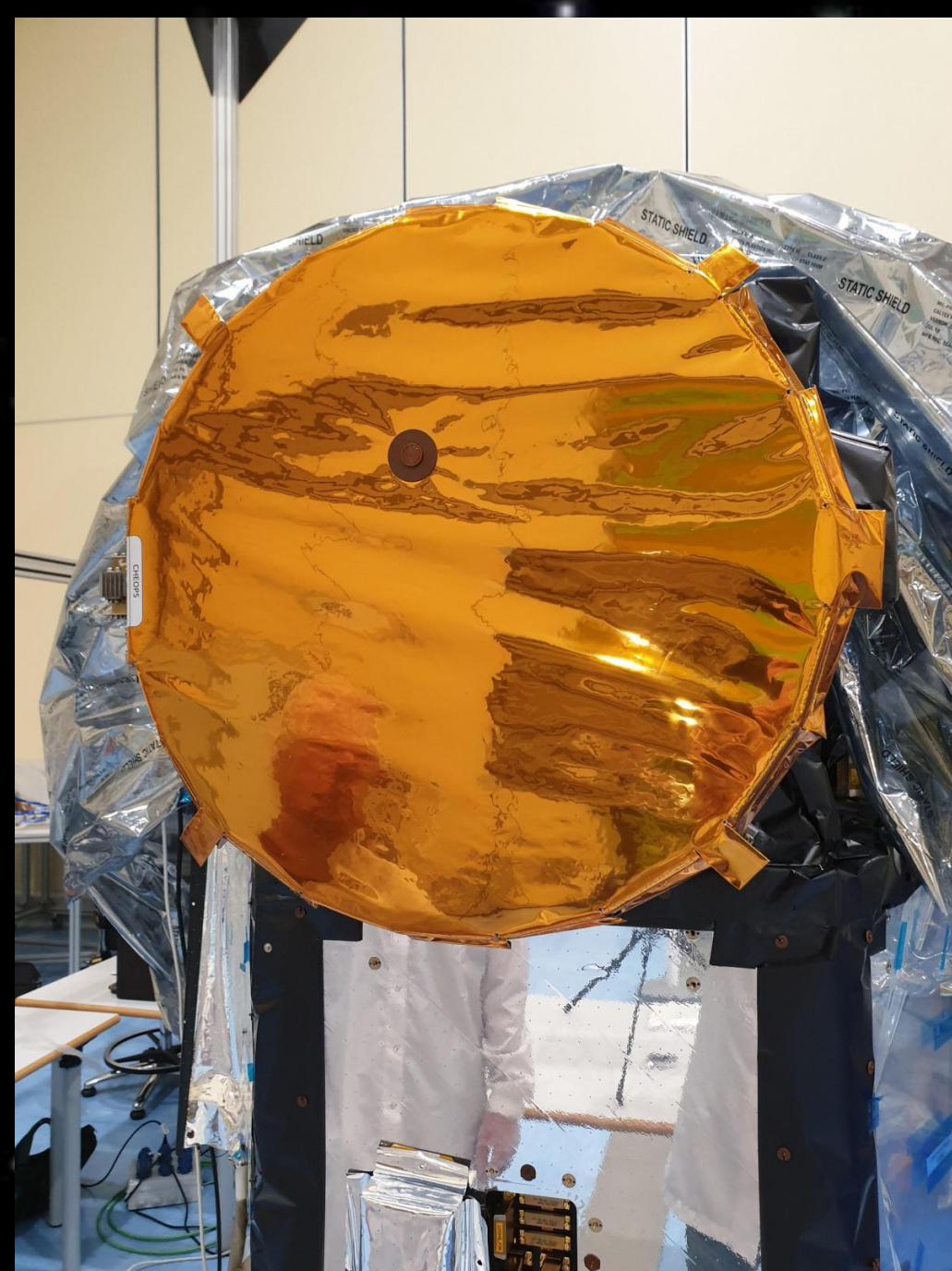


Image: ADS Spain

CHEOPS instrument is at Airbus in Madrid, where the last tests have been carried out. A hole was found in the telescope cover which was sealed with a plastic cover. CHEOPS is now ready to be shipped to its launch site.

Latest news:
<https://cheops.unibe.ch/en/news>

Operation



Image: ESA

- sun-synchronous dawn-to-dusk orbit
 - one orbit takes ca. 100 minutes)
 - 700 km altitude
 - pointed observations of single targets with the field of view rotating around the pointing centre
 - 3,5 years nominal lifetime, extension up to 5 years
- Mission Operation Centre (MOC) at INTA, Torrejón, Spain

Observing with CHEOPS

Up to 10% of the time are dedicated to spacecraft activities and monitoring and characterisation of the instrument.

Observing time:

- 80% for the Guaranteed Time Observing (GTO) Programme defined by the CHEOPS Science Team
- 20% for the Guest Observers (GO) Programme run by ESA

Applying for observation time:

- Phase 1: scientific and technical justification, targets, time request, input via ESA proposal submission tool).
- Phase 2: for successful proposals: observation requests.

Proposal preparation tools are available: exposure time calculator, reserved target list checker, target visibility maps and feasibility checker and an Observers' Manual.

More information: <https://cosmos.esa.int/web/cheops-guest-observers-programme>

CHEOPS Data

All science data will be processed by the pipeline by the the Science Operations Centre (SOC) at the University of Geneva. Data products include calibrated and corrected images and light curves and time series, together with raw data. Calibration, reference files and descriptions of algorithms will be available through the CHEOPS archive.

All data are subject to the same proprietary period on a per target basis:

- 1 year after last observation of target completed.
- No longer than 1.5 years after first visit.

More information:

<http://cheops.unibe.ch>
<http://cosmos.esa.int/web/cheops>