

COROT the first space telescope dedicated to

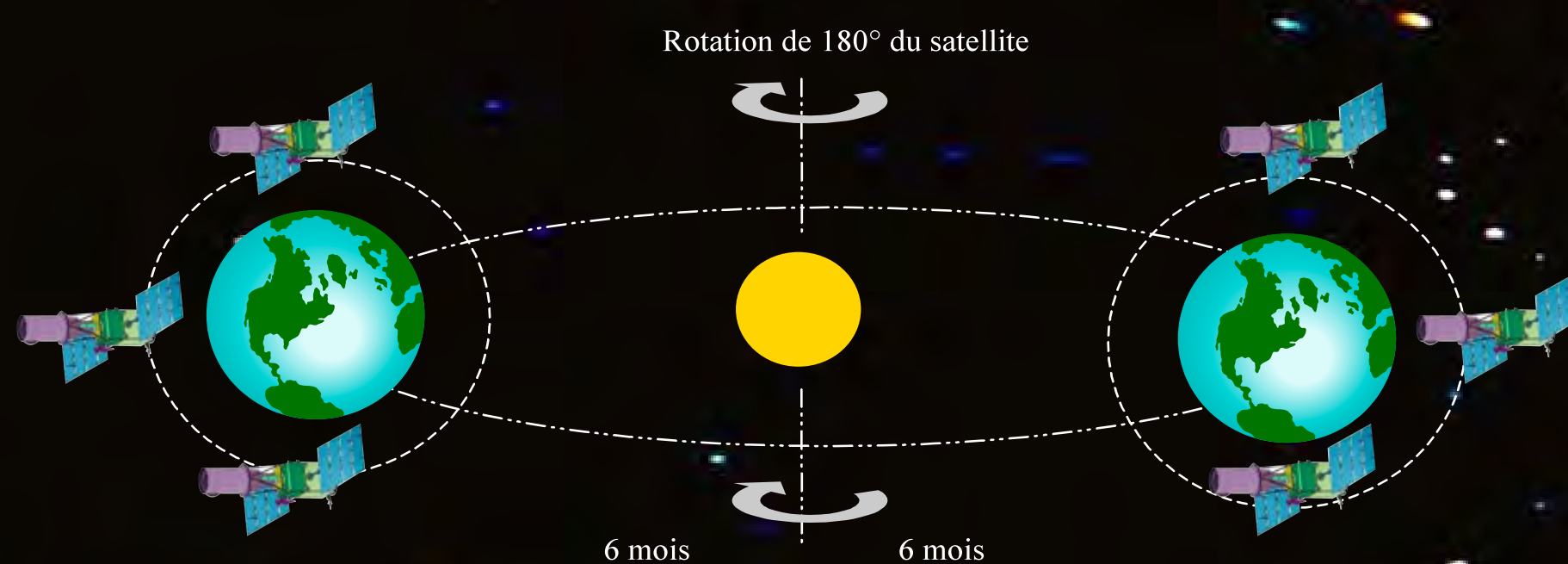
- Exoplanet research & Asteroseismology

Thales Alenia Space responsibilities in COROT

- Telescope design & development
- Optical in-flight performance
- Satellite prime (Proteus platform)

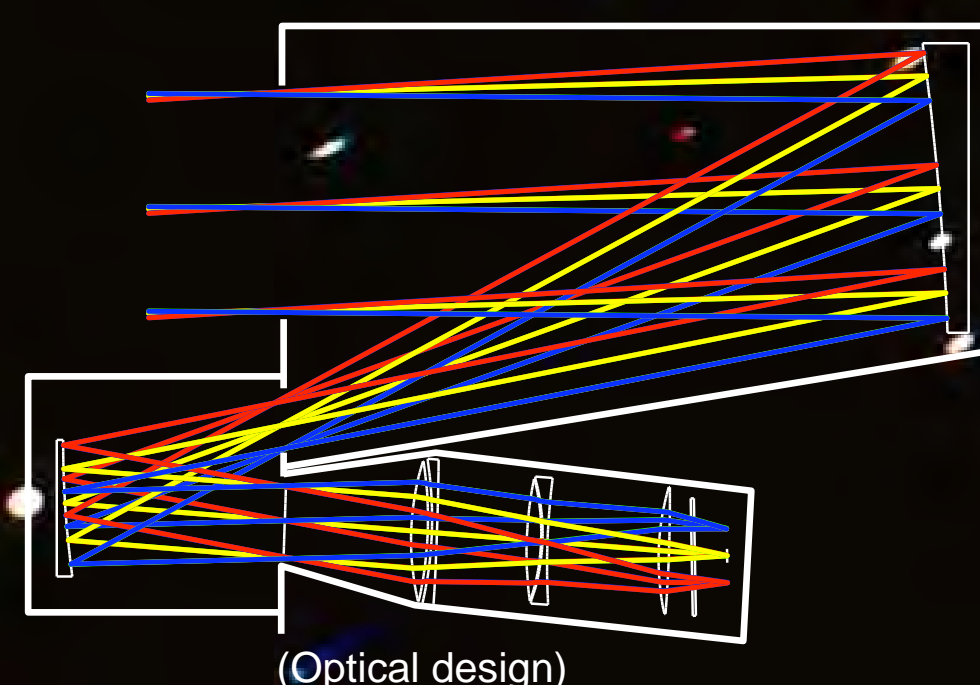
Orbit: polar 850 Km

- 5 months of continuous observation



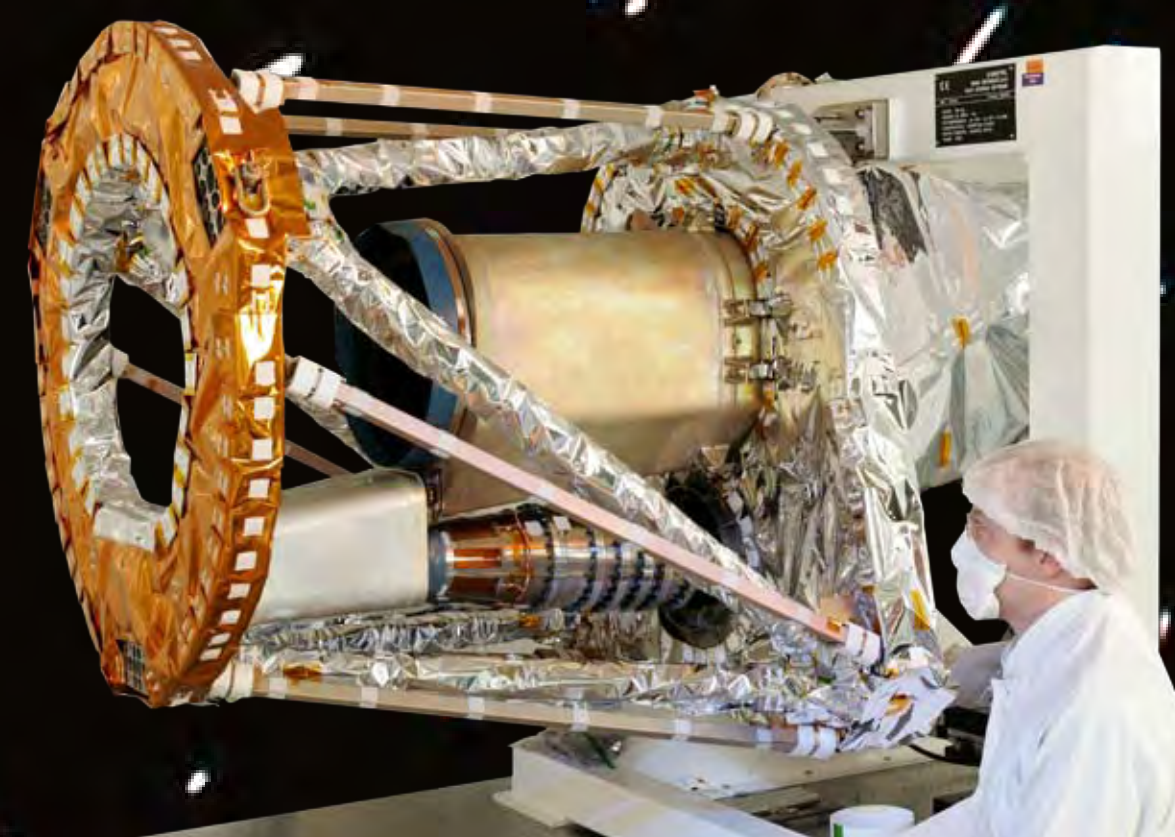
Thales Alenia Space Proposed solution

- Optical layout driven by straylight



Main achievements

- Straylight rejection among the highest ever realised.
- Corotel among the most stable space telescopes
- Telescope data used by satellite AOCS
- More than 1000 stars ($13 < mv < 16$) sampled each 32 s



PLATO next generation of planet finder with

- Simultaneity in transit and asteroseismology measurements
- Number of monitored stars 100x more than COROT

Thales Alenia Space involvement in PLATO

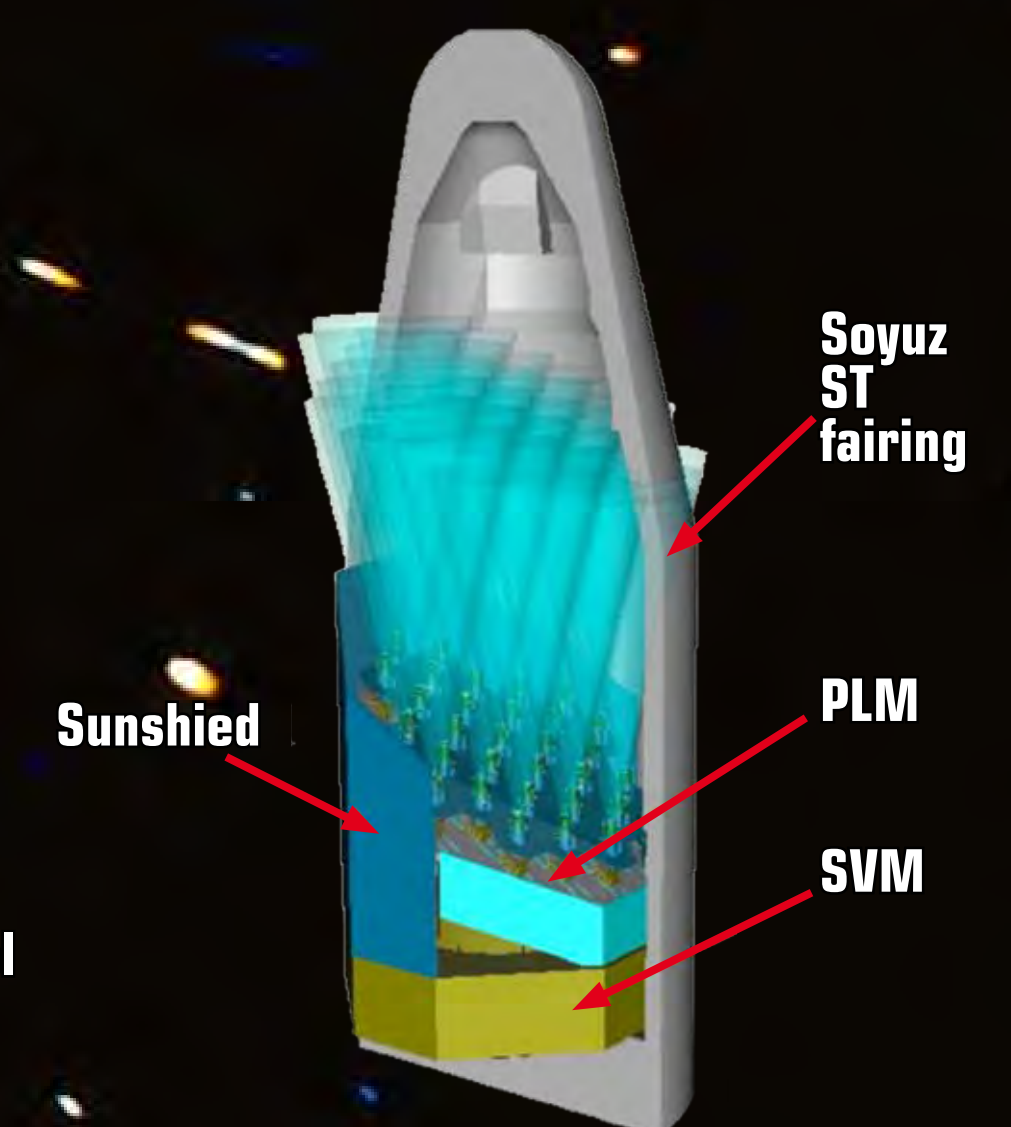
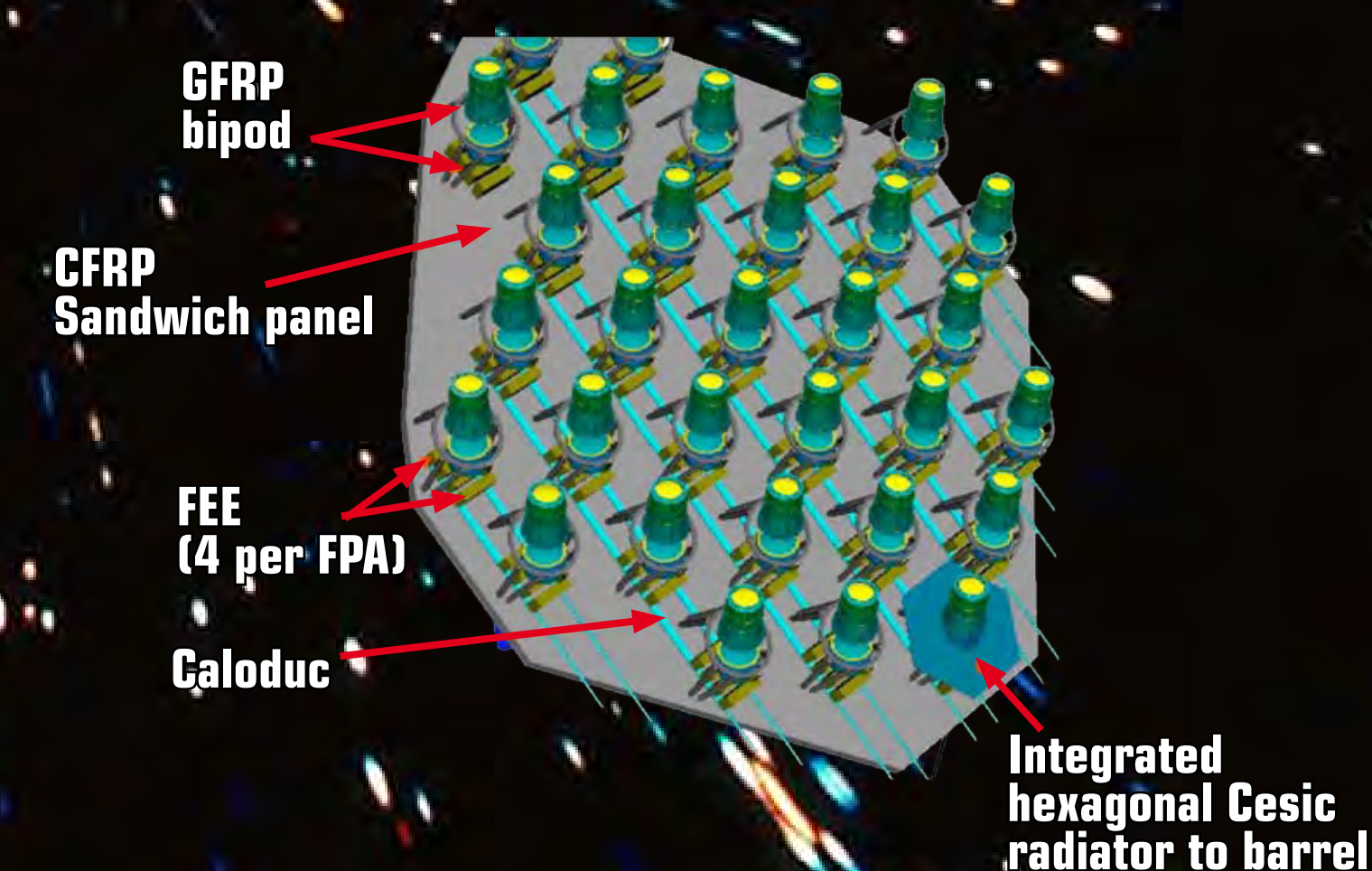
- Support to scientists in Cosmic Vision proposal
- Prime in one of the two parallel industrial studies for ESA

Orbit: L2

- 2 years (goal 3 years) of continuous observation

Thales Alenia Space proposed solution

- Optical layout driven by performance (FOV & collecting area)
- Robust payload design based on COROT experience (use of around 30 identical cameras similar to COROT one)
- Robust satellite design based on Herschel / Planck experience



Main expectations :

- More than 20 000 stars ($8 < mv < 11$)
 - with photometric noise $< 2.7 \cdot 10^{-5}$ in 1 hr.
 - sampled more frequently than 50 s
- More than 80 000 stars ($11 < mv < 14$)
 - sampled more frequently than 10 min
 - with photometric noise $< 8 \cdot 10^{-5}$ in 1 hr.