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SRON

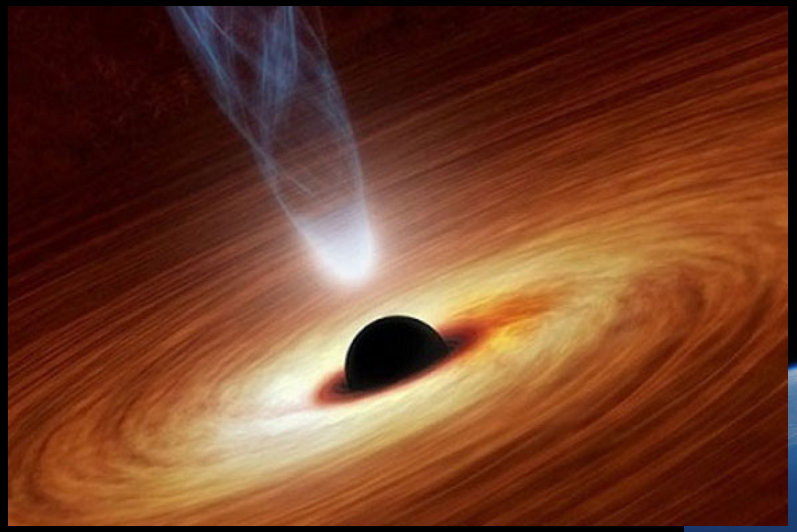
National Institute for Space Research

- *Lead NL participation in the ESA science program*
- *National expertise center for NL research community*
- *Perform world-leading research with NL universities*
- *Develop technology and instrumentation with NL industry*
- *Advise government on space policy and strategy*

Staff and Locations

- One Institute, two locations, ~190 staff (~140 Leiden, ~50 Groningen)
- Scientists/Instrument Scientists (50%), Engineers (30%), Staff and support (20%)

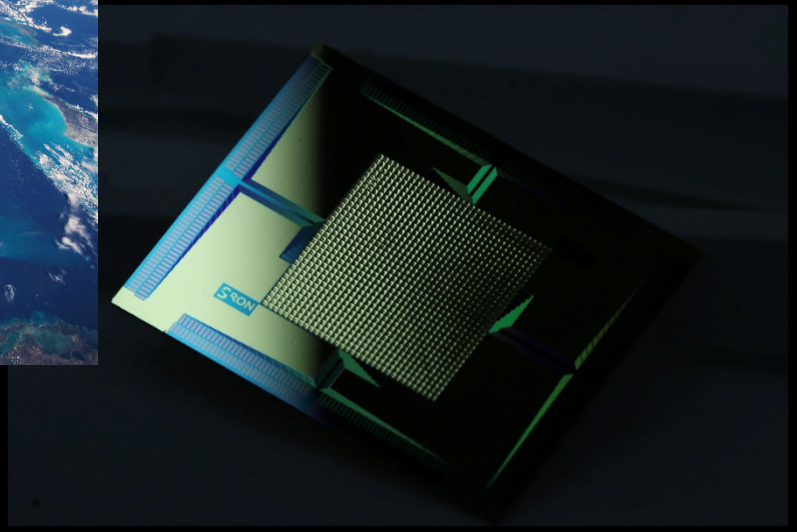
SRON Research Themes



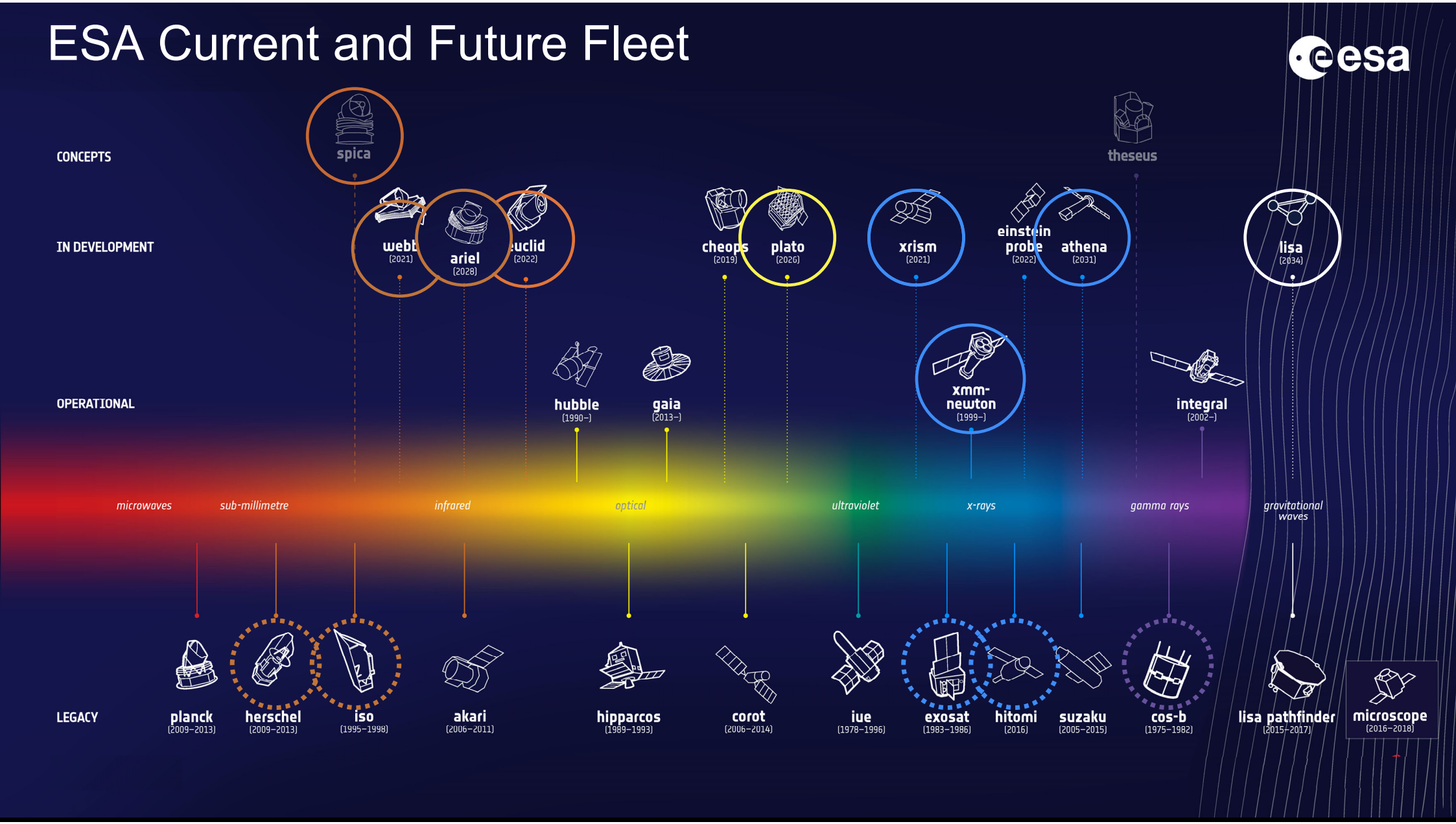
Astrophysics and Exoplanets

Earth Observation and Climate Studies

Technology and Instrumentation



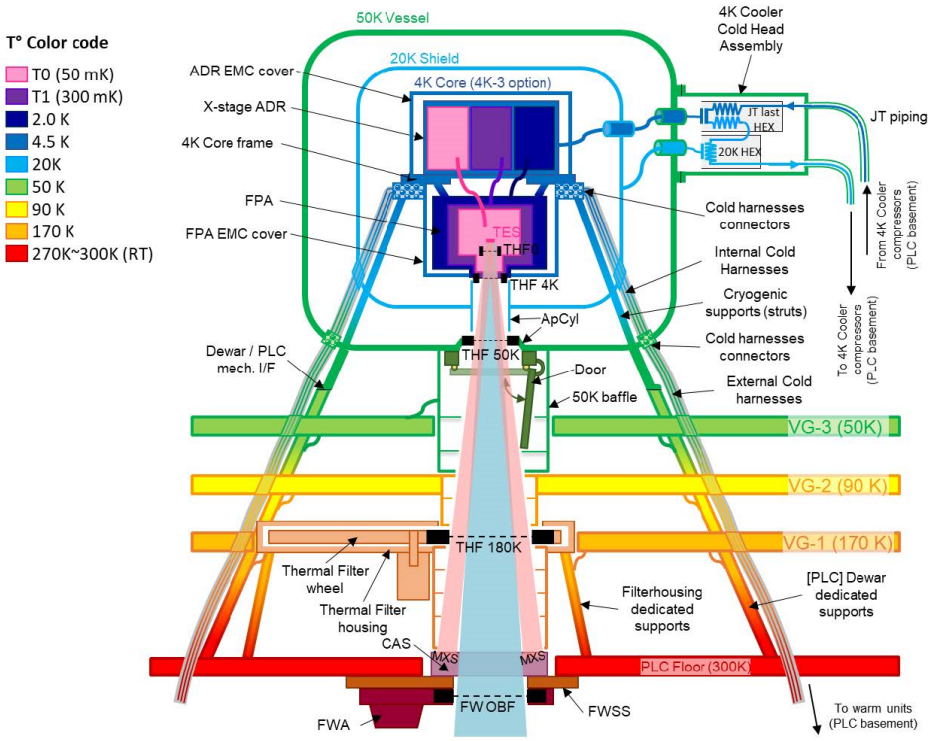
ESA Current and Future Fleet

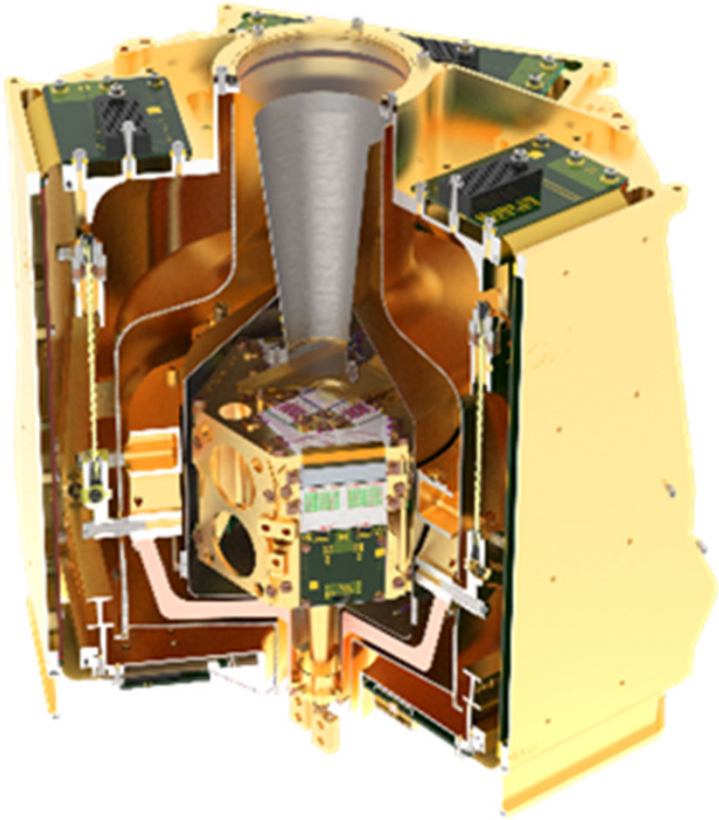


Athena

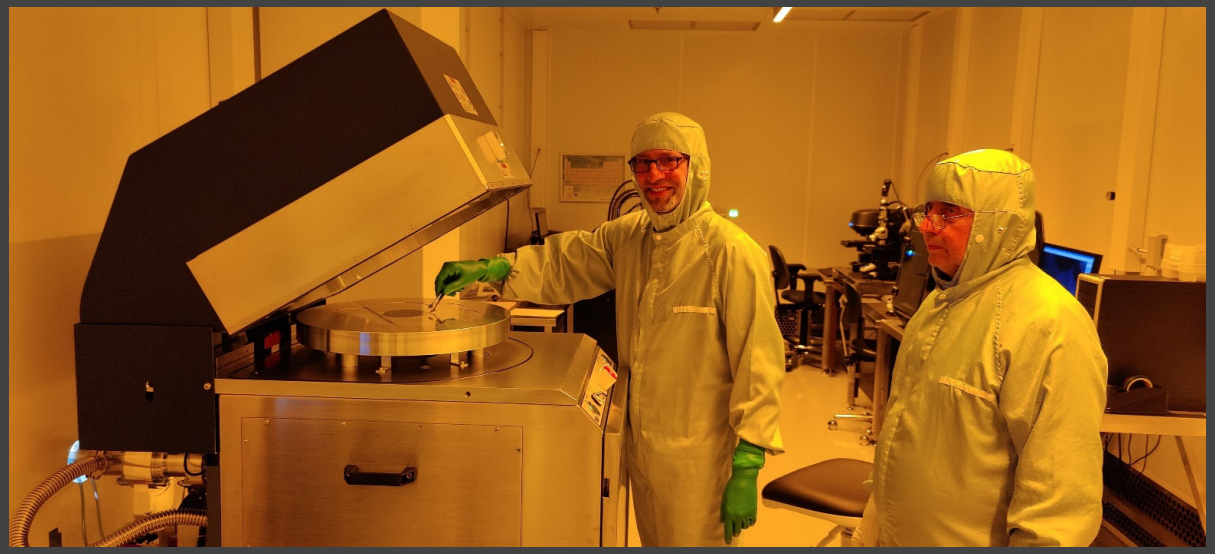
LISA

Athena, an X-ray mission





The SRON clean room

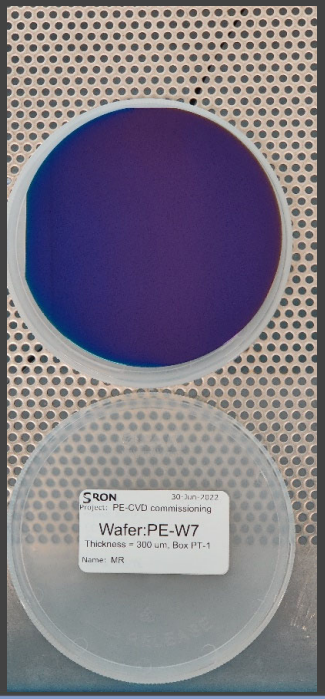


PE-CVD (SiO2, Si3N4, a-Si, SiC)
- Etch masks
- Isolators, optical layers
- Dielectric layer for LC filters

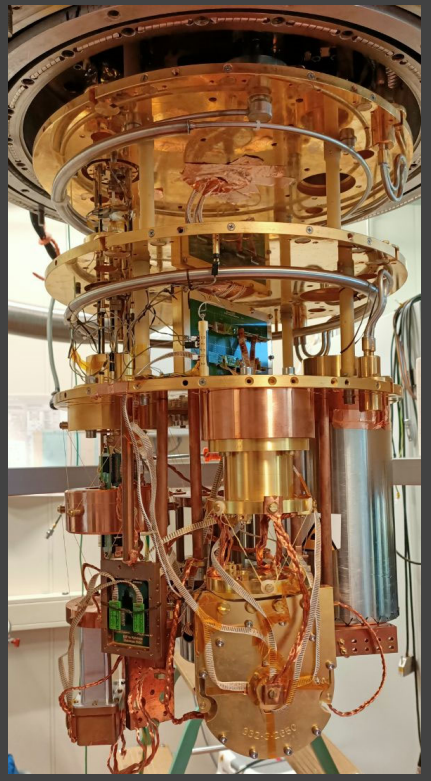
100 mm & 150 mm wafers

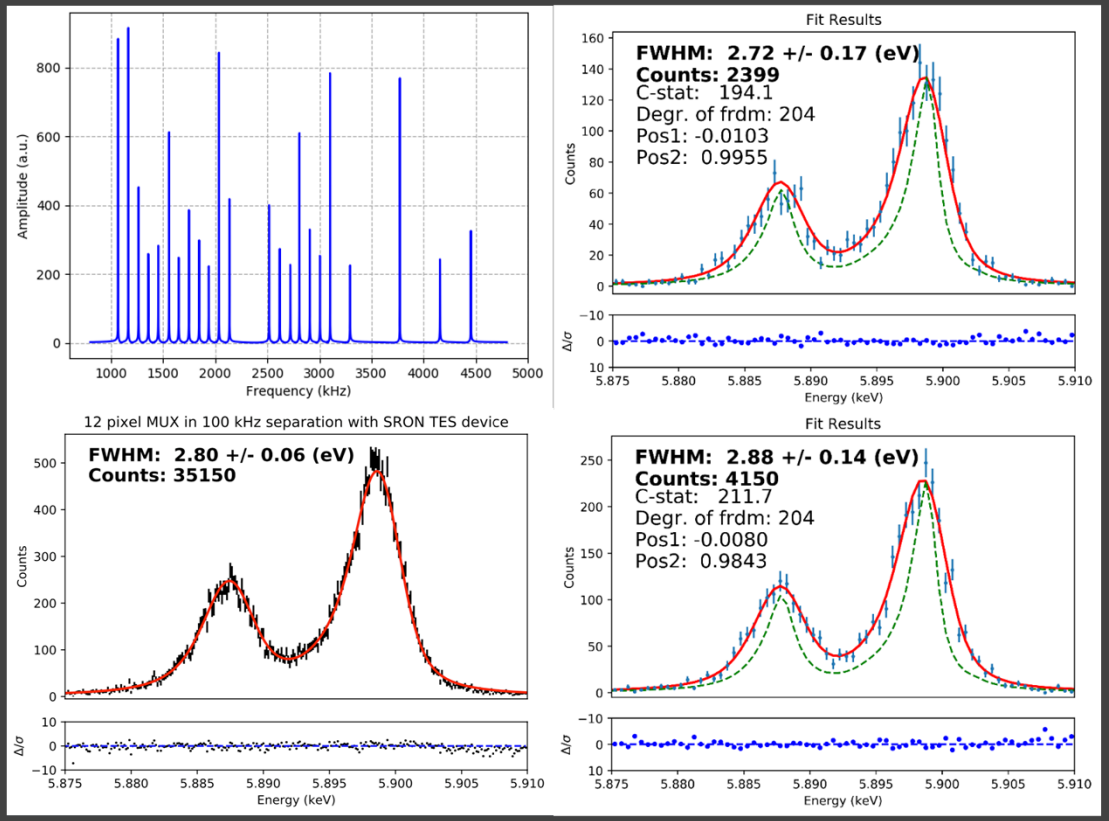
- New technique for SRON
- Process commissioning going

- SiO2 properties & uniformity OK
- Si3N4, a-Si in progress

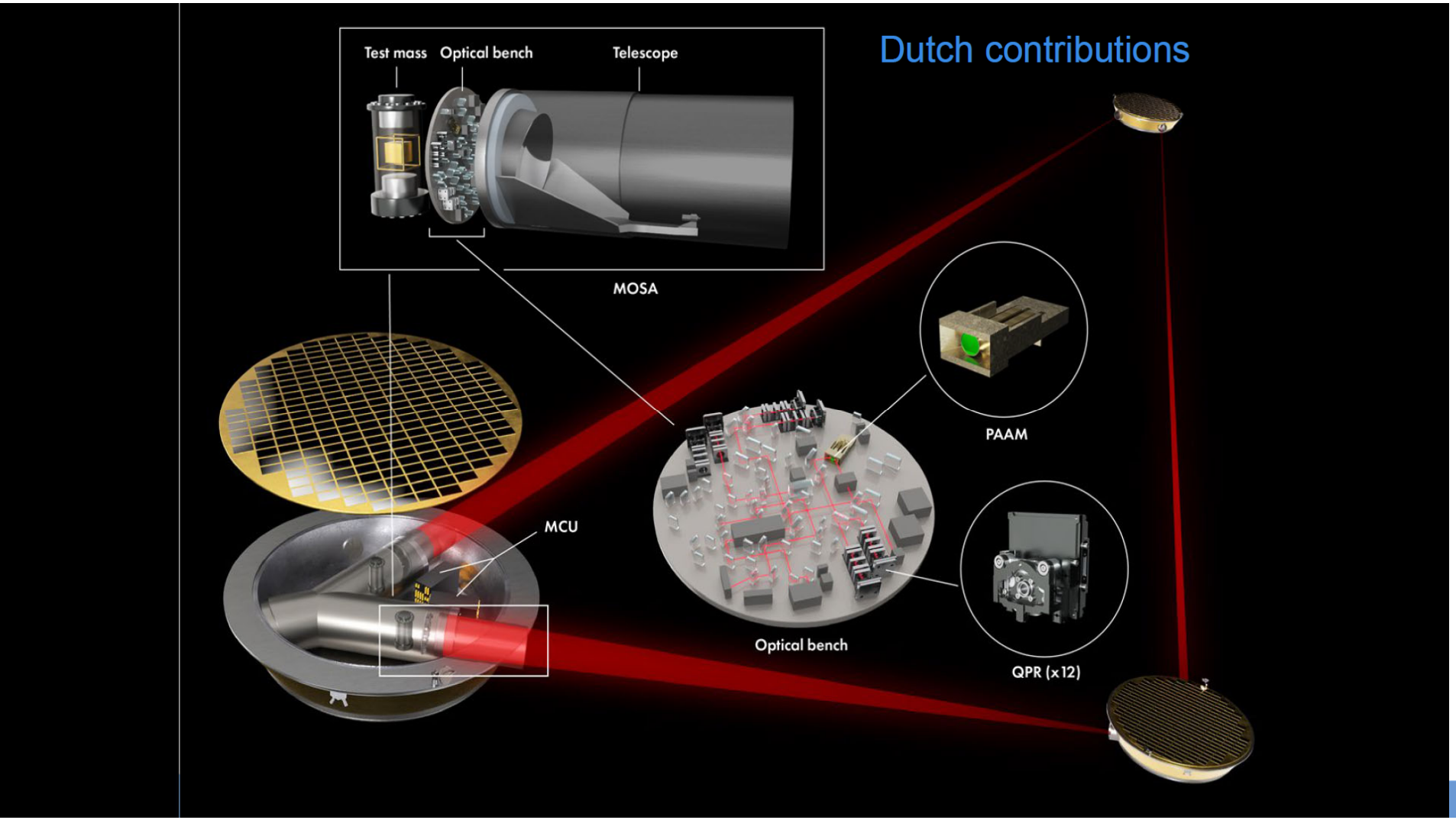


FDM Read out for X-ray TES micro-calorimeters



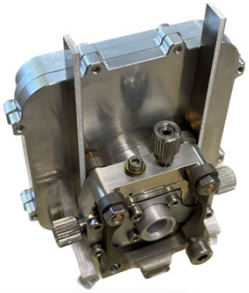


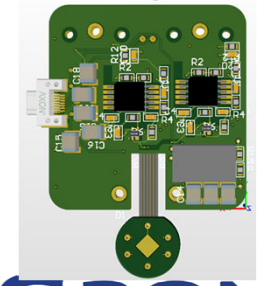
LISA, gravitational wave detection

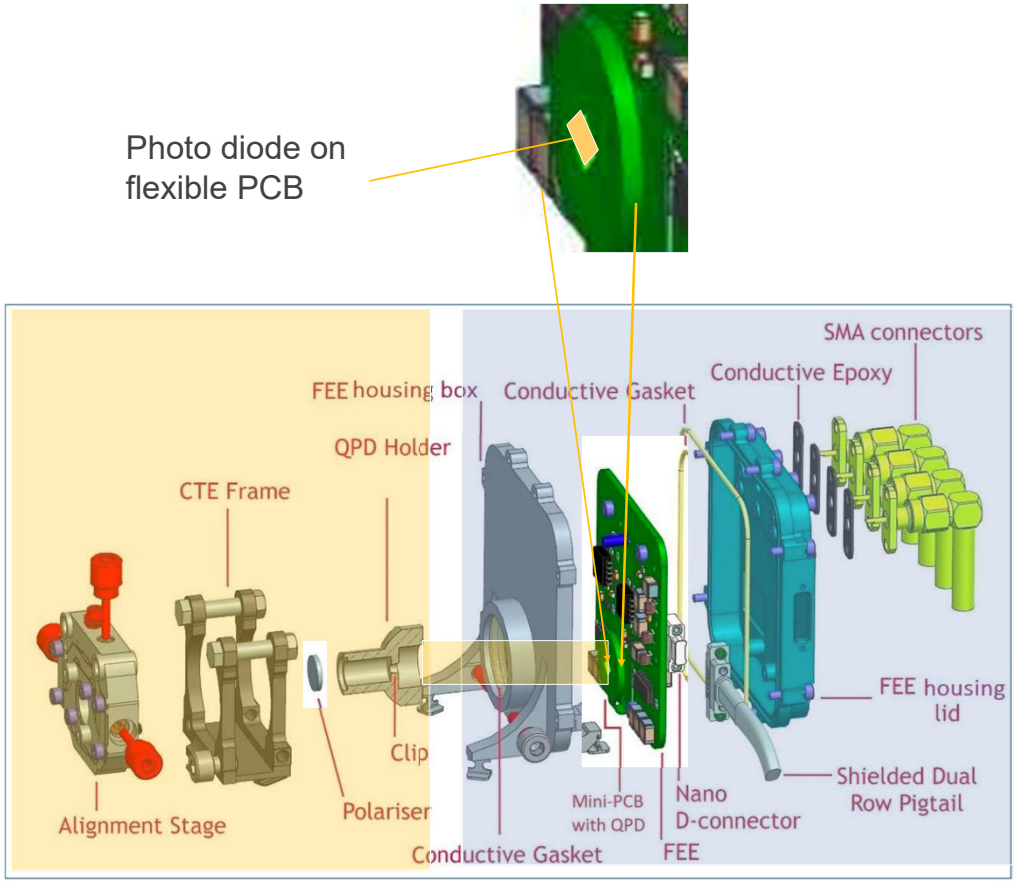


Quadrant Photo Receiver

- QPD
- FEE
- Housing
- tests



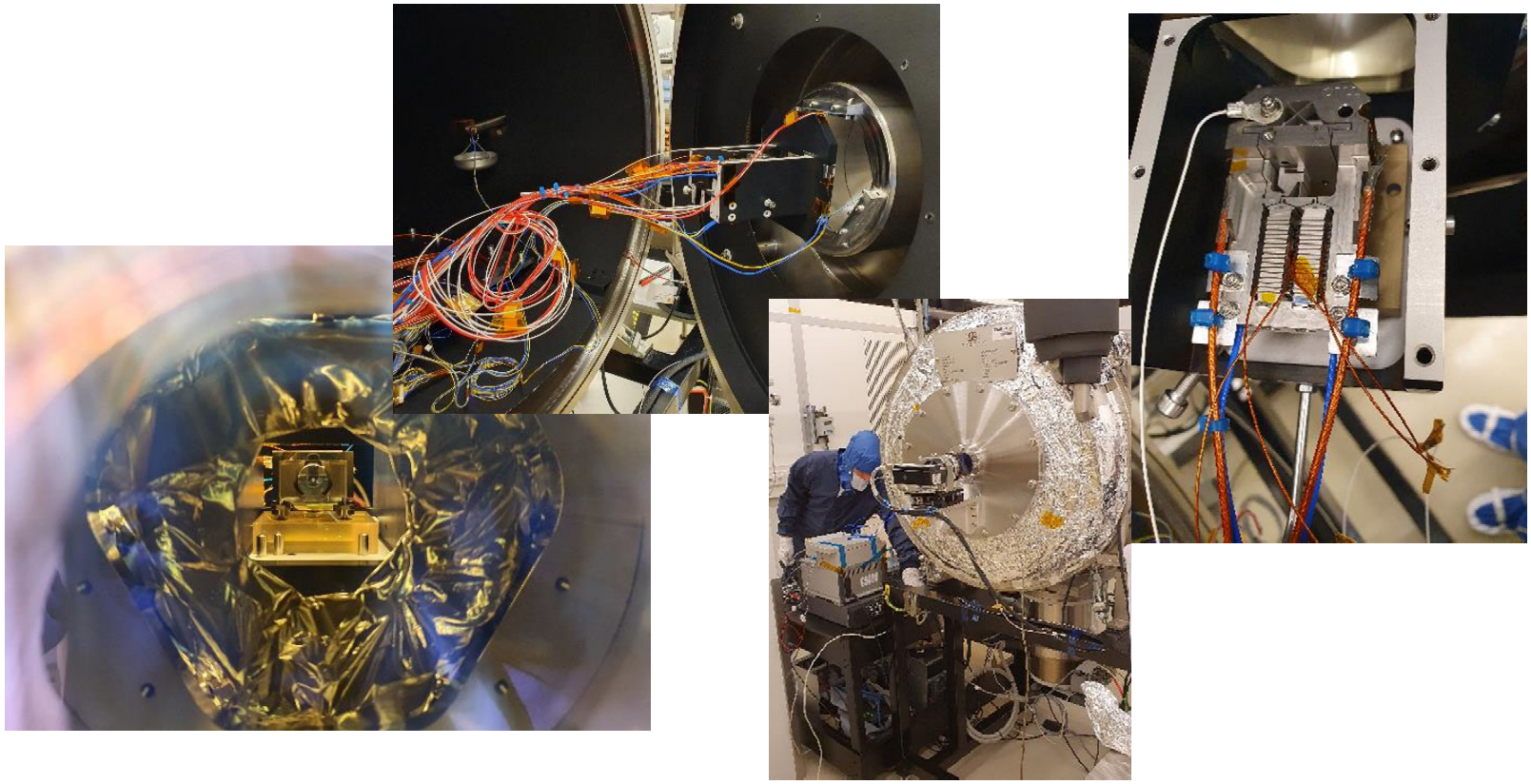




Stable/aligned structure

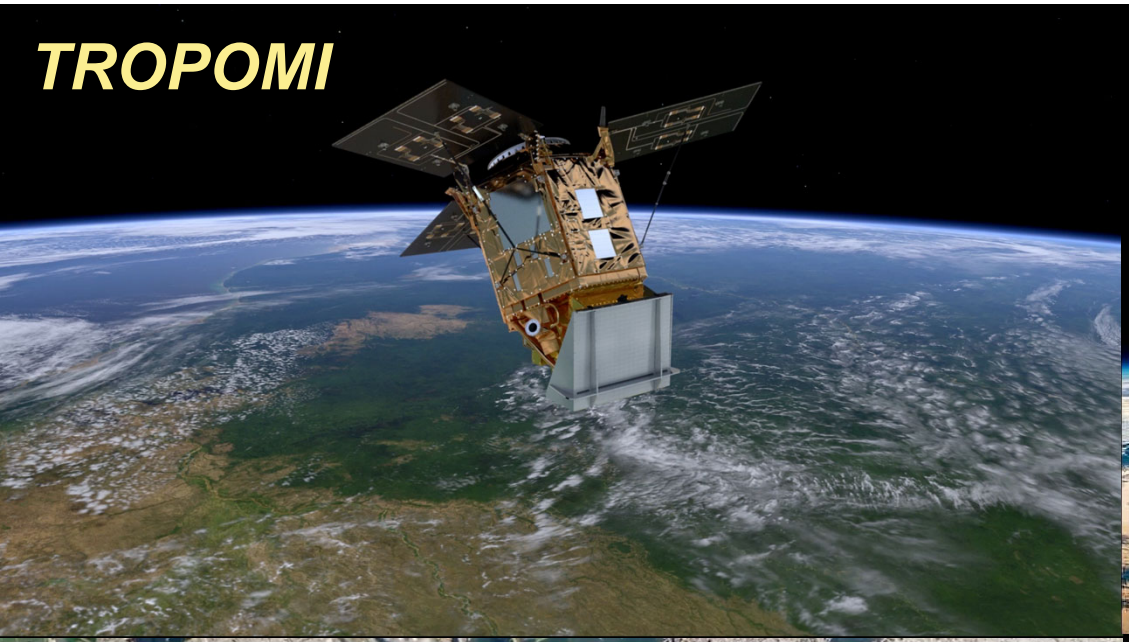
FEE structure

Impressions of PAAM2.0 Testing



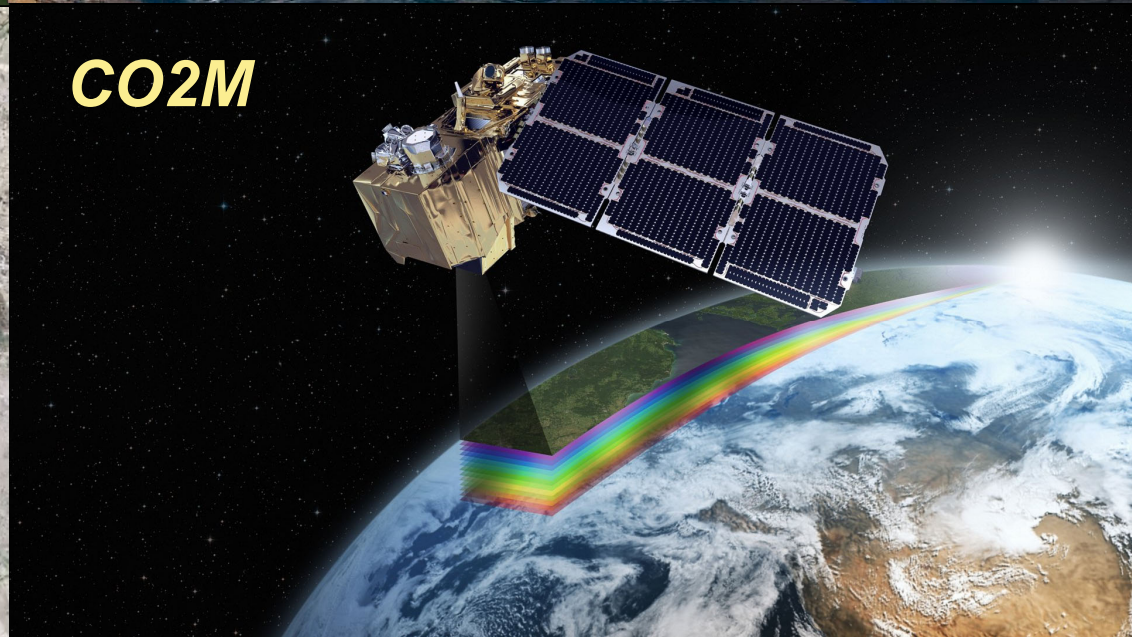
SRON

TNO innovation for life

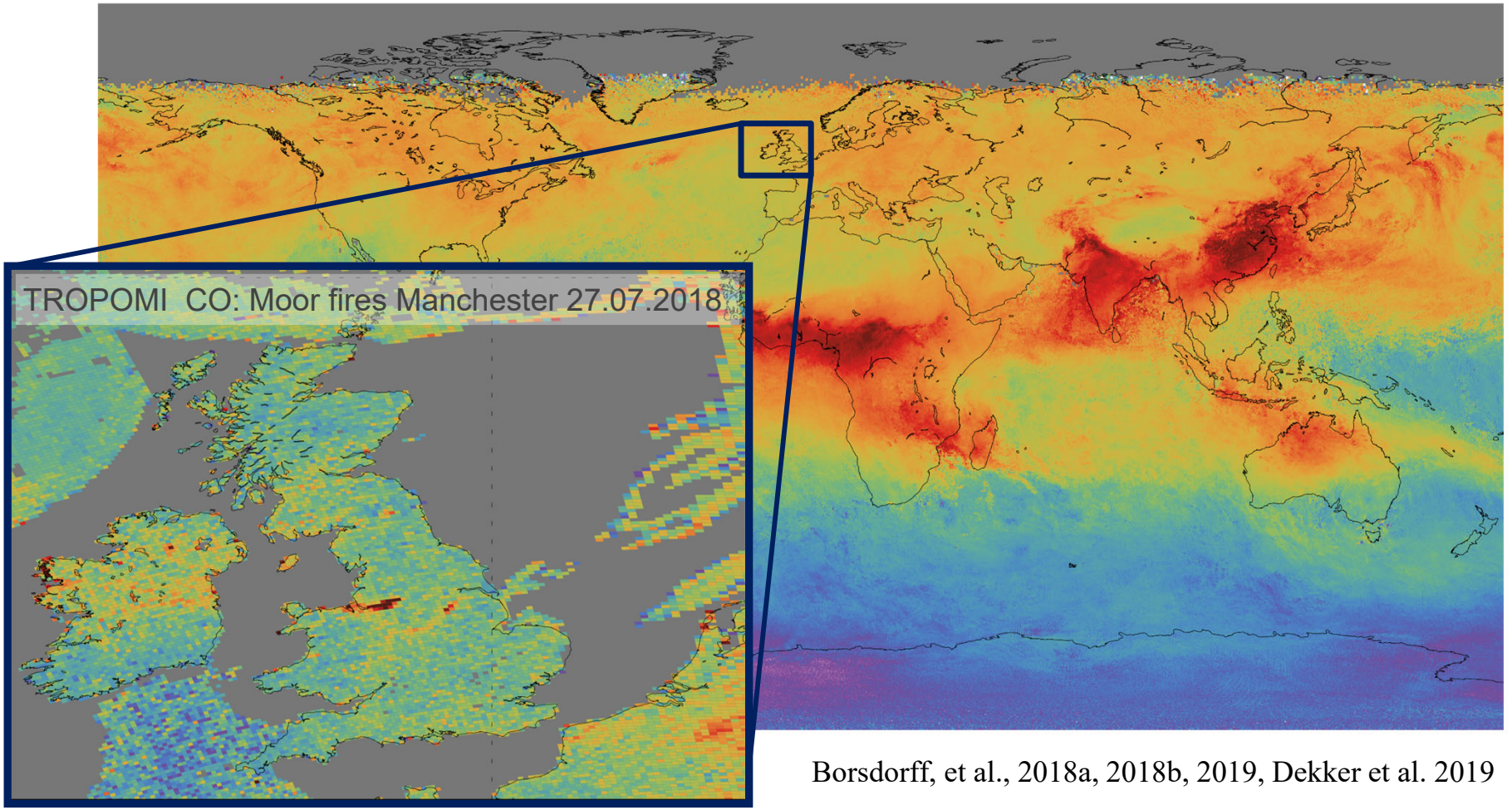

TROPOMI


PACE


TANGO


CO2M

Sentinel-5P/TROPOMI results: CO mapping



Borsdorff, et al., 2018a, 2018b, 2019, Dekker et al. 2019

TANGO Mission

Cubesat 1:
NO_2 measurements in the visible

Cubesat 2:
CO_2 and CH_4 measurements in the 1.6 µm range

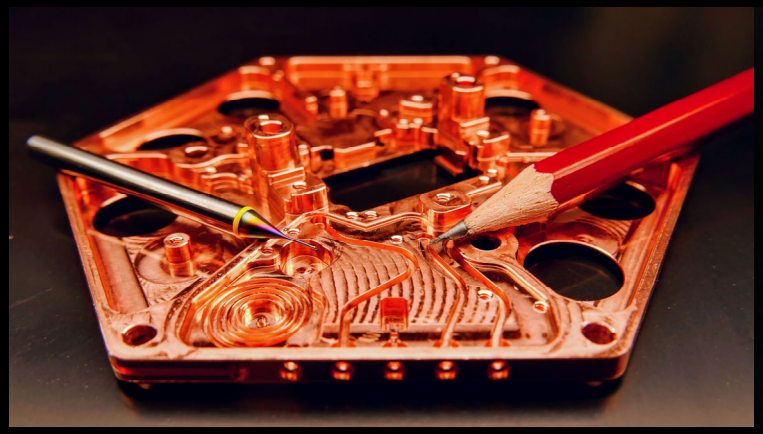
Unique spatial resolution of 300x300 m^2 for selected target areas
Targeted monitoring of green house gas emissions
Very high precision for quantifying emission fluxes

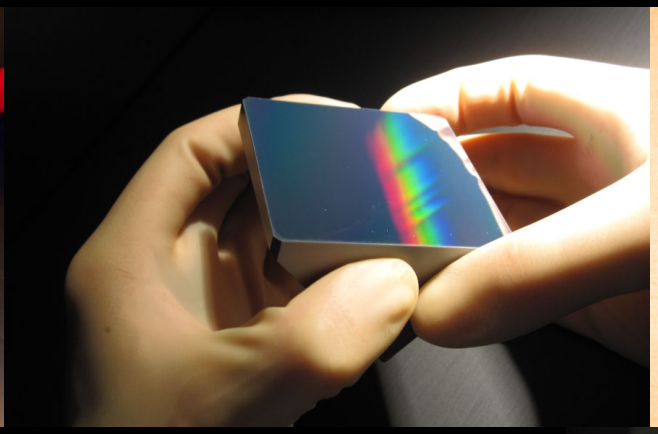
⇒ Not selected during first round of ESA Scout mission
Discussion underway about funding for maturation phase

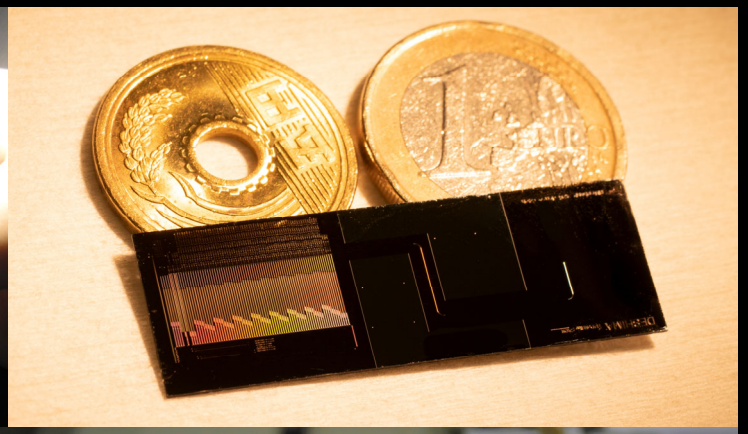
ISIS TNO Royal Netherlands Meteorological Institute Ministry of Infrastructure and the Environment SRON Netherlands Institute for Space Research

European Space Agency

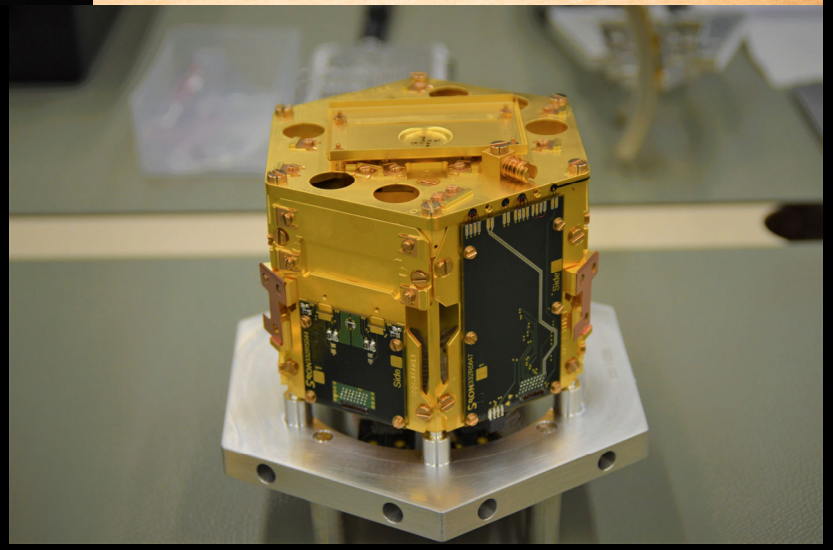
SRON Technology Development







Detectors and spectrographs
Cryogenic sensors and read-out electronics
Ultra-high contrast imaging and optics
Focal plane manufacture and assembly
Instrument concepts and demonstrators



Partnerships with Industry


Welcome to SRON!
https://www.sron.nl
https://twitter.com/SRON_Space