

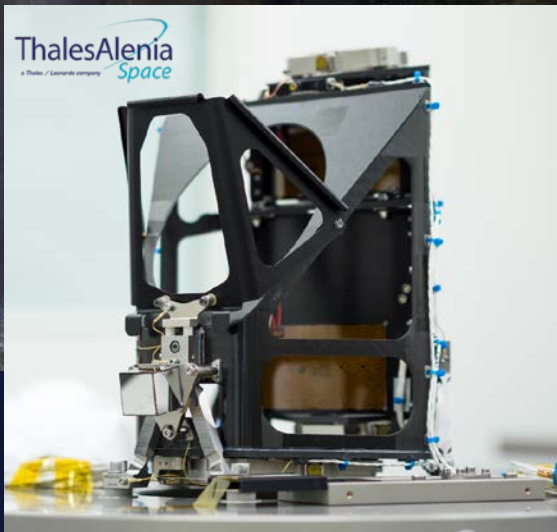
TAS SCHWEIZ: 30 JAHRE SCHWEIZER WELTRAUMABENTEUR

Tage der Technik
EMPA Dübendorf, 24.09.2026

Benjamin Gresse, COO Thales Alenia Space Schweiz AG



MEHR ALS NUR EIN BILD



Credit: ESA/Roscosmos/CaSSIS

THALES ALENIA SPACE IN DER SCHWEIZ



80
MITARBEITER



ZÜRICH



30 JAHRE
ERFAHRUNG

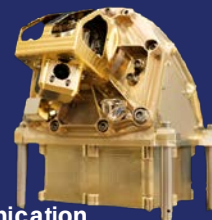
RECURRING PRODUCTS



Radiation monitors

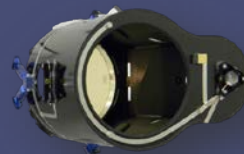


Small Cameras



Optical communication

PRODUCT FAMILIES



Telescopes

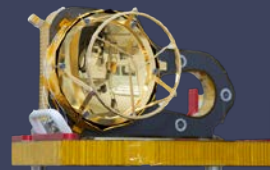


Spectrometers

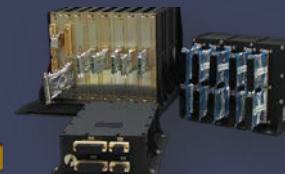


Focal Plane Assemblies
& Detector's FEE

DEDICATED SOLUTIONS



Laser Altimeter

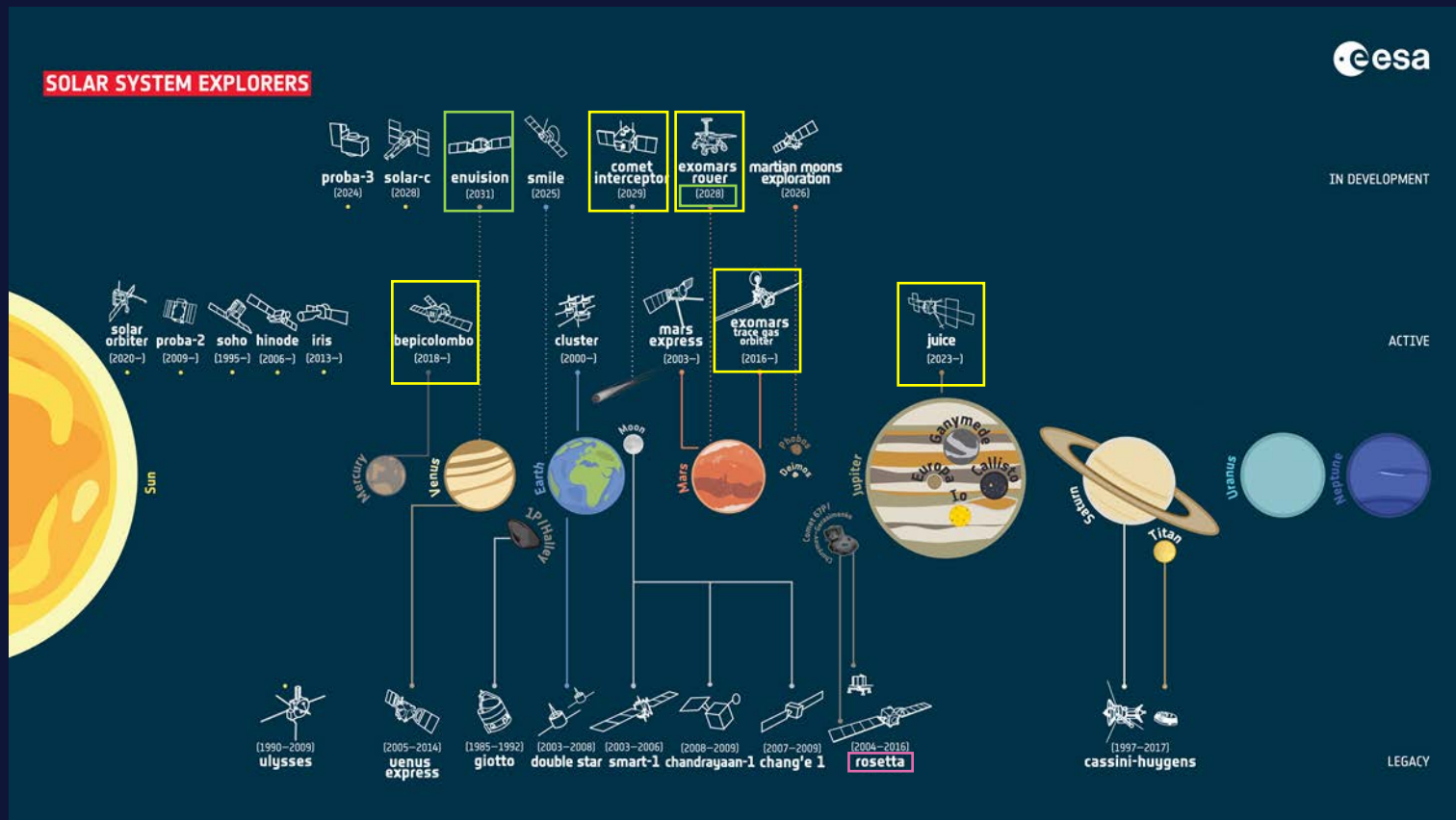


Front End Electronics



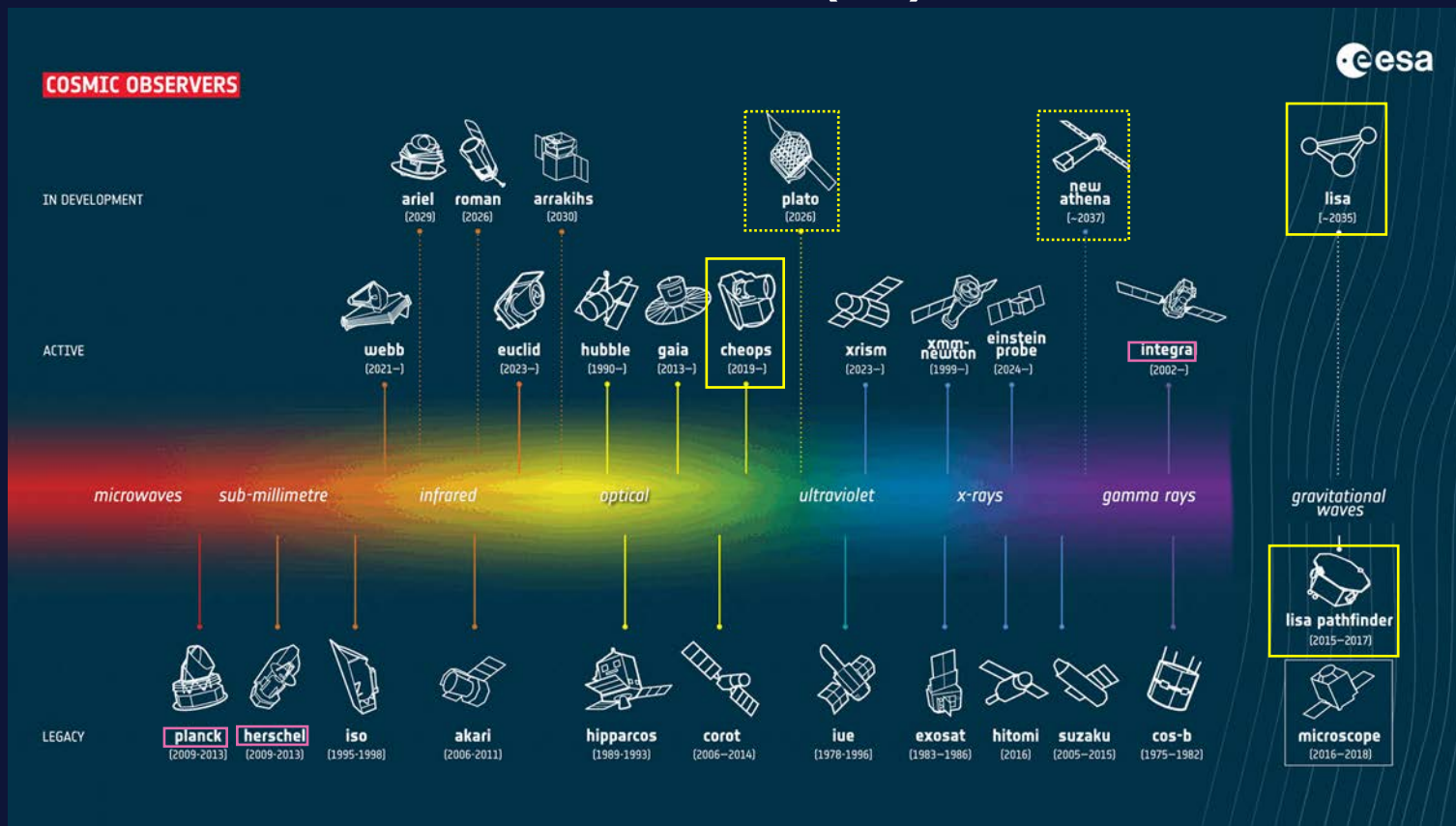
Cryo Solar Absolute Radiometer

WO BEFINDEN WIR UNS AN BORD? (1/3)

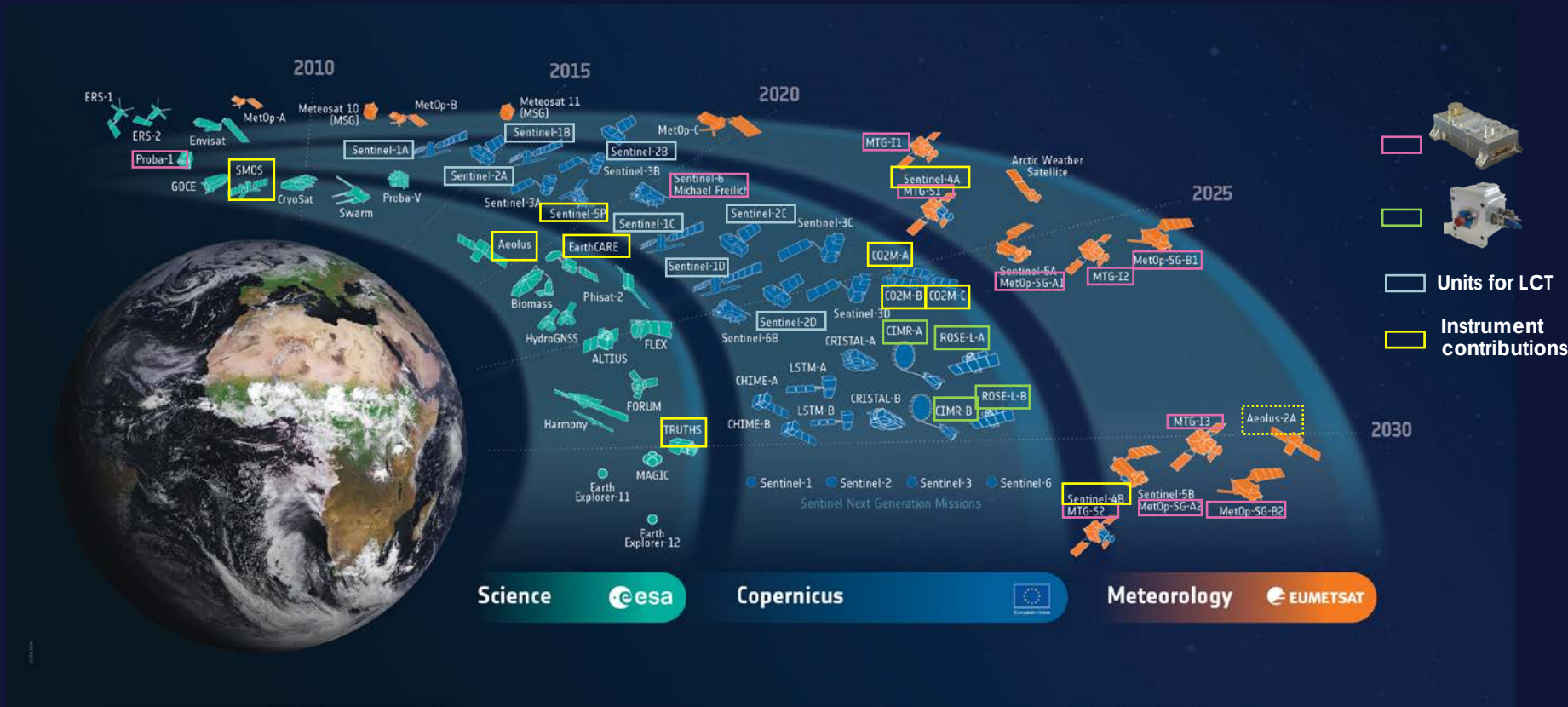


Instrument contributions

WO BEFINDEN WIR UNS AN BORD? (2/3)



WO BEFINDEN WIR UNS AN BORD? (3/3)



**Wir sind stolz darauf, einen Beitrag zur
Weltraumforschung zu leisten!**



UM „UNSER UNIVERSUM“ ZU ERWEITERN: LISA

Gravitational Reference Sensor Front End Electronics



ETH zürich

ThalesAlenia
Space



Constellation
Acquisition System



Beam Alignment
Mechanism
Front End Electronics

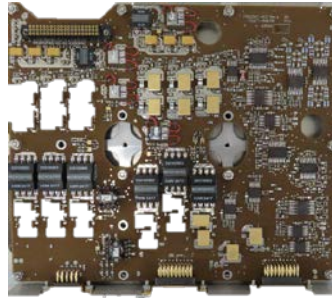
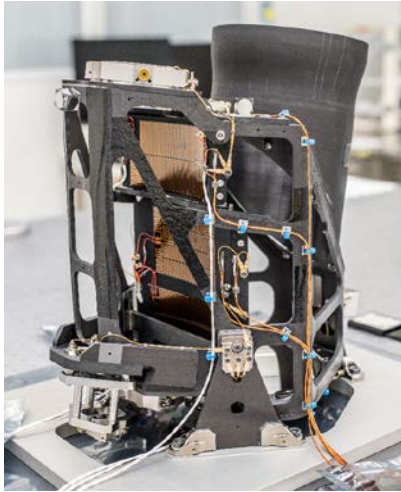
2005 2010 2015 2035+

UM DAS UNBEKANNTE ZU SEHEN : COMET INTERCEPTOR

u^b

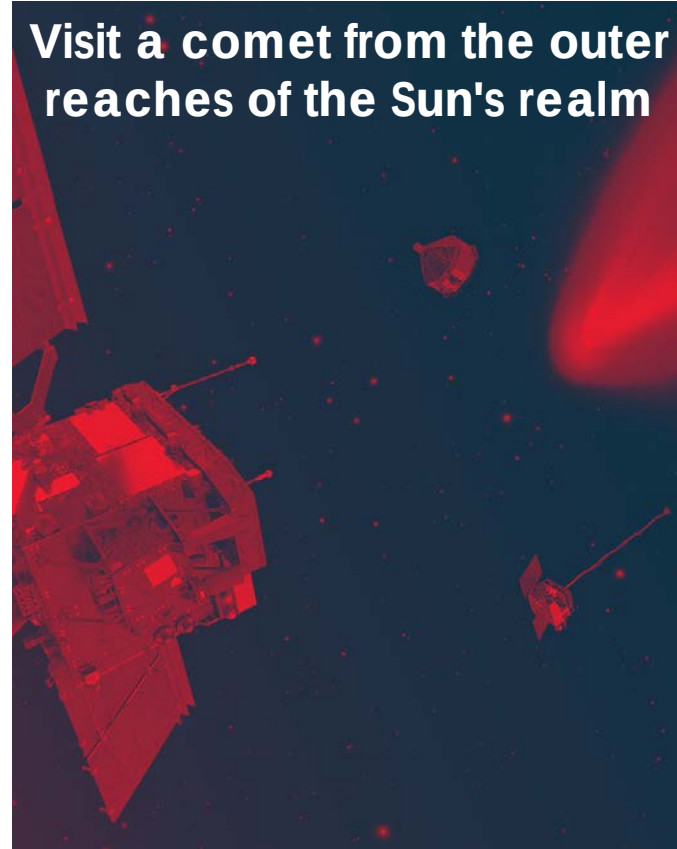
^b
UNIVERSITÄT
BERN

CAMERA TELESCOPE



SCAN MECHANISM ELECTRONICS

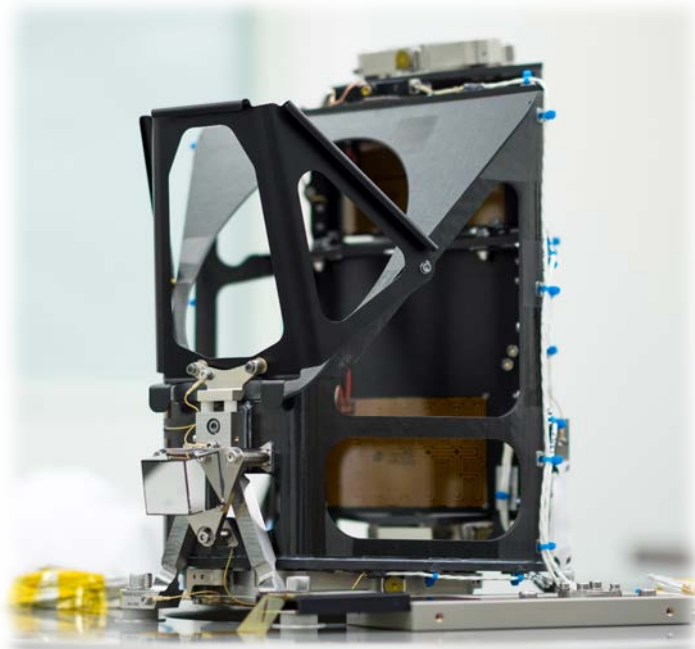
Visit a comet from the outer reaches of the Sun's realm



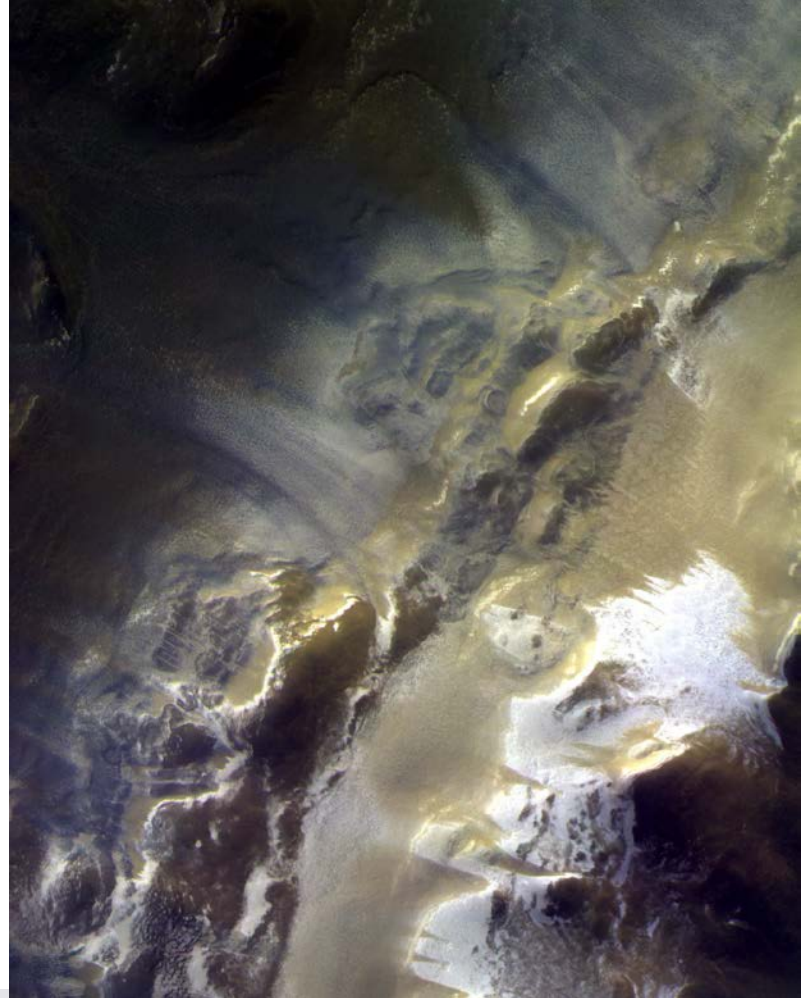
MARS: TOLLE SICHTEN!

u^b

^b
UNIVERSITÄT
BERN



Exomars 2016 (TGO)



Date: 11/09/2026

Ref: Tage der Technik 2026

Template: 83230347-COM-TAS-EN-012

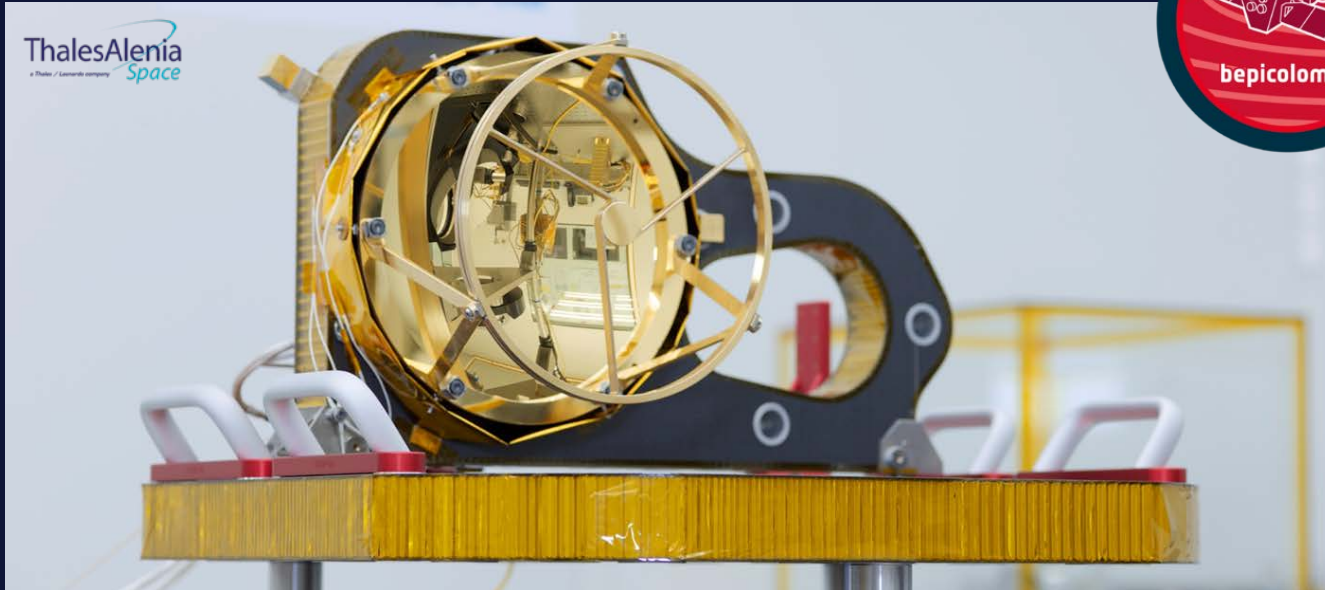
PROPRIETARY INFORMATION

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THALES ALENIA SPACE OPEN

ThalesAlenia
Space
a Thales / Leonardo company

LASER ALTIMETER BEPI COLOMBO



Der erste europäische Weltraum-Laser-Altimeter!
Im Oktober 2018 gestartet und jetzt auf dem Weg zum Merkur!

2003 2015 2018 2026+



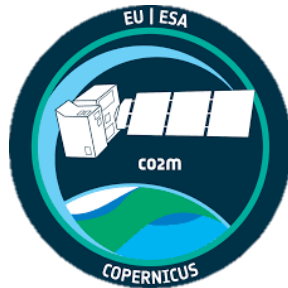
Wir engagieren uns für die Erdbeobachtung!

CO2M - Copernicus Anthropogenic Carbon Dioxide Monitoring

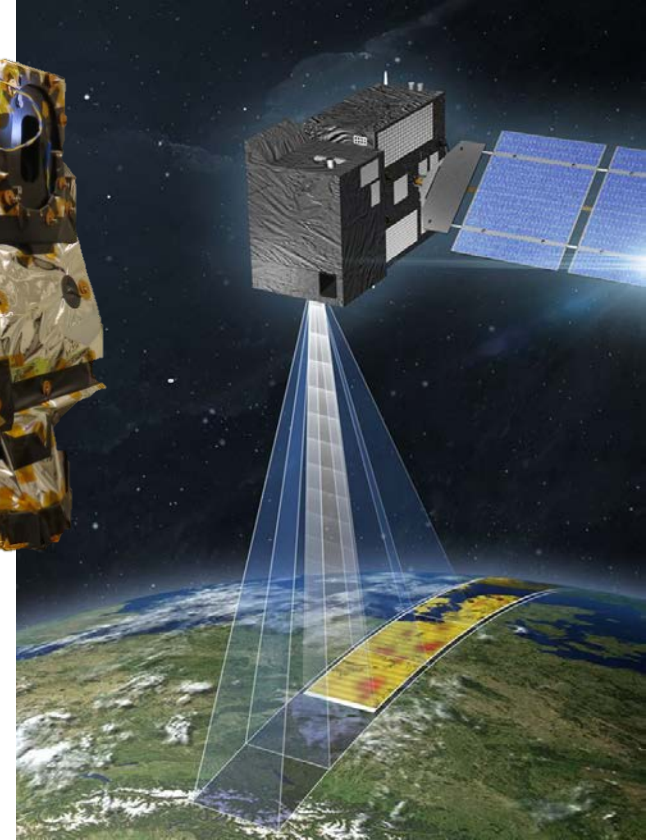
Überwachung der durch menschliche Aktivitäten verursachten globalen Emissionen von Kohlendioxid, Methan und Stickstoffdioxid in der Atmosphäre



Polarization Scrambler



Telescope



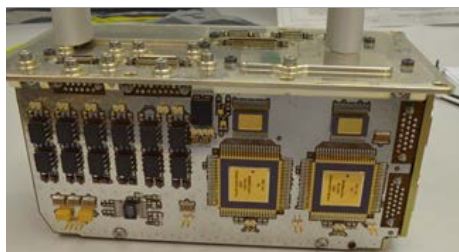
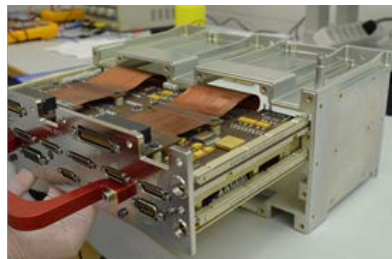
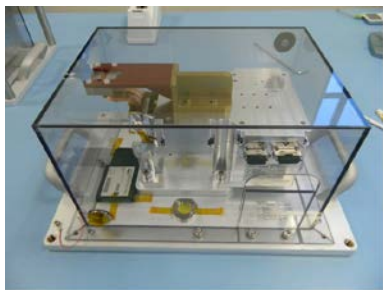
PROGRAMME OF THE
EUROPEAN UNION



THALES ALENIA SPACE OPEN



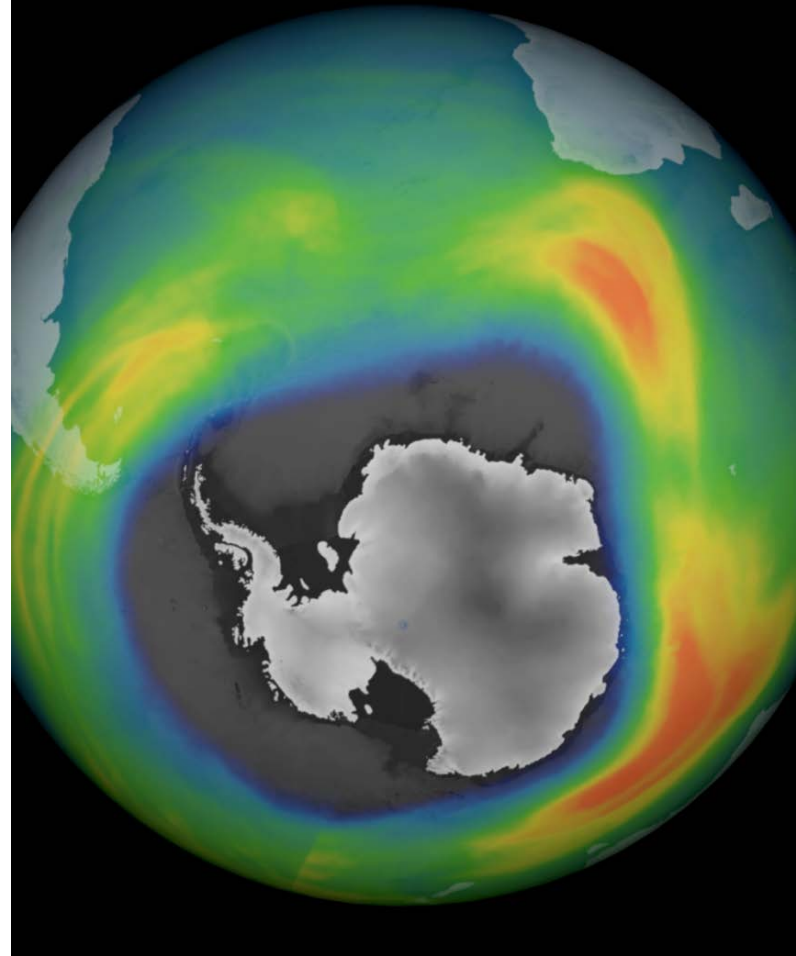
DETECTOR ELECTRONICS MODULES



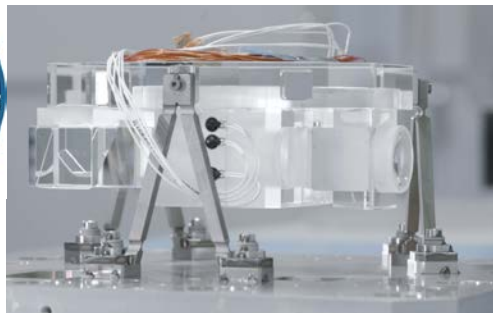
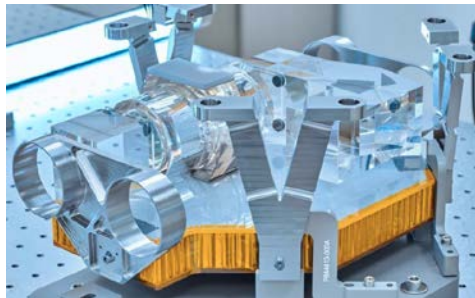
Erste Mission zur
Überwachung
unserer
Atmosphäre.



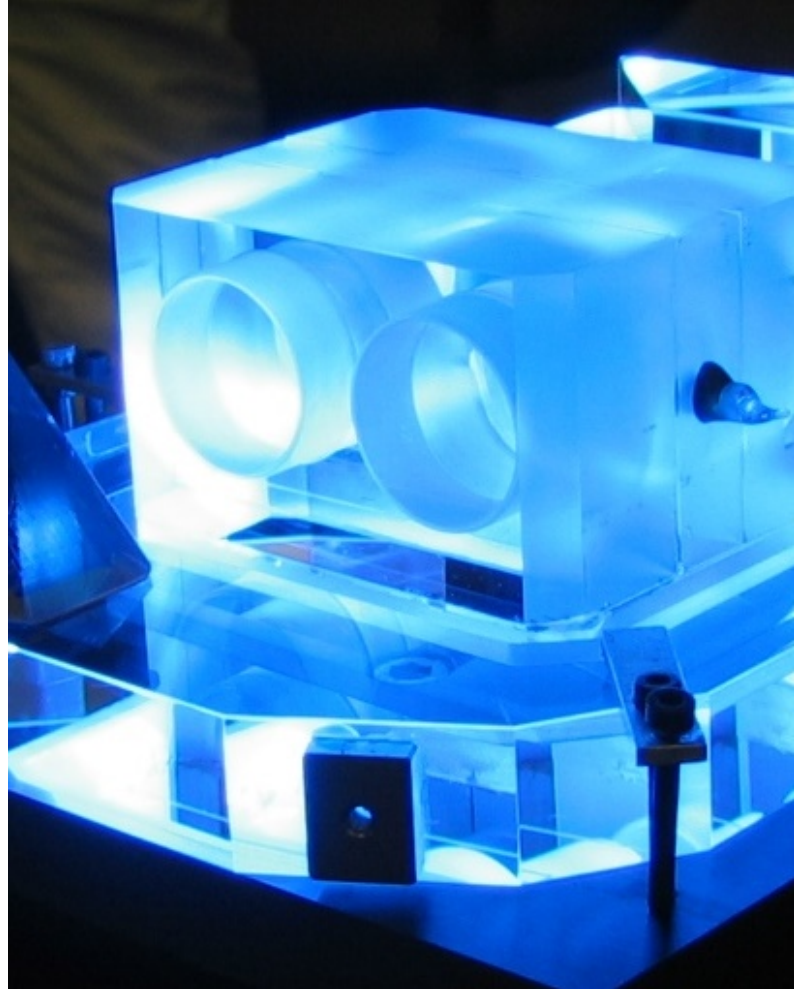
Überwachung wichtiger
Spurengase und Aerosole zur
Beurteilung der Luftqualität über
Europa.



EUROPEAN LIDAR



Verstehen, welche Rolle Wolken und Aerosole dabei spielen, einfallende Sonnenstrahlung zurück ins All zu reflektieren und von der Erdoberfläche abgegebene Infrarotstrahlung einzufangen

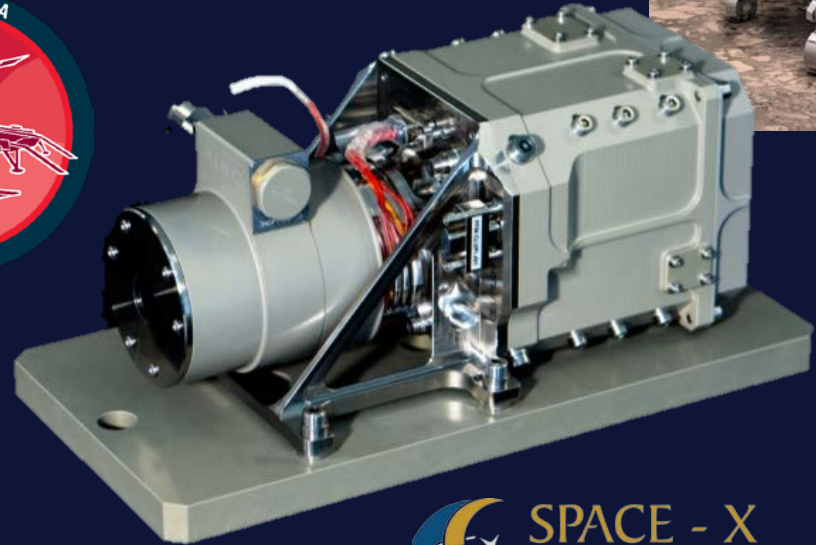
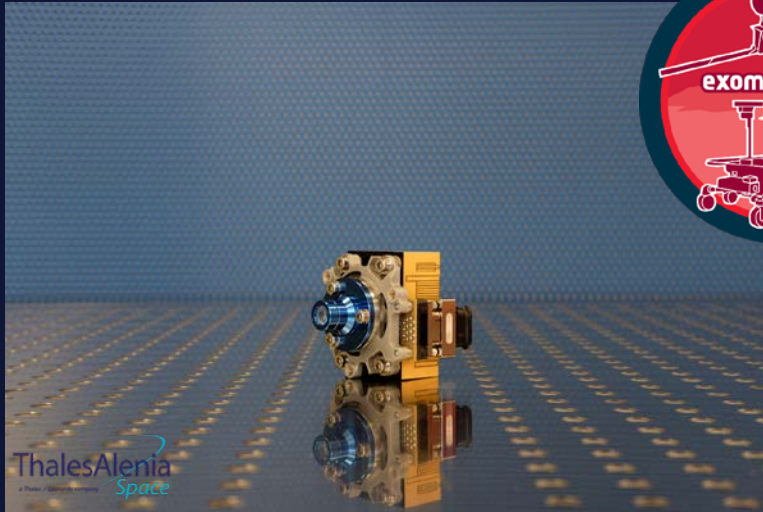


Erste Satellitenmission zur Erfassung von Windprofilen der Erde auf globaler Ebene (2018–2023)

... und wir sind Teil der Forschung zum
Sonnensystem!



Die «Augen» des Rosalind Franklin Rovers



2012 (2026) 2028 2030

EXOMARS

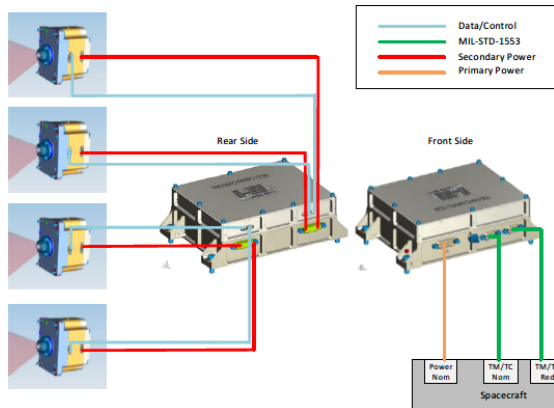
... und vieles mehr!!!



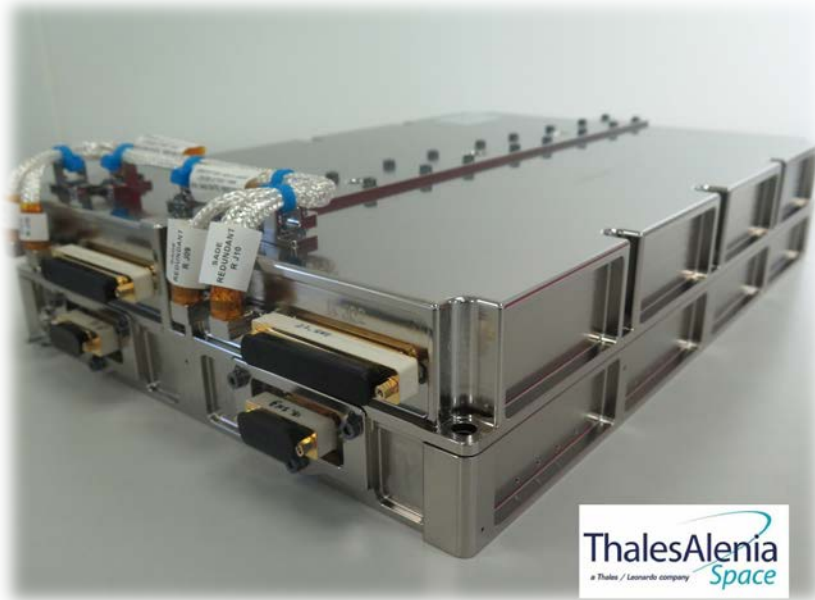
Thruster Control Unit



Instrument Control Unit
&
Cameras



SPACE TO EXPLORE



Solar Arrays Drive Electronics for manned mission



Das Unverbundene verbinden!



OPTISCHE KOMMUNIKATION UND ANWENDUNGEN

DEEP SPACE

GEO

Data Relay LEO to GEO

- ✓ Civil Protection / Surveillance
- ✓ Improvement of data latency
- ✓ High Data volume

Optical Inter Sat link

- ✓ Trunking / Real time
- ✓ High data rates / Low latency
- ✓ Low Ground Segment CAPEX for point to point communication

LEO/MEO

CONSTELLATIONS

LEO OBS

Quantum Key distribution

- ✓ Unbreakable cryptography
- ✓ Satellite links are necessary because optical fiber absorption limits to ~100km

Data Downlink

- ✓ Civil Protection / Surveillance Direct to Theater
- ✓ High Data volume
- ✓ Optical Ground Station network/service

Optical Feeder Link Space-to-Ground (bi-directional)

- ✓ Very High data rates (up to 1Tbps)
- ✓ No Frequency Coordination
- ✓ Geographical diversity on ground

Data Relay Through Constellation

- ✓ Real time Relay from Civil Protection / Surveillance LEO and UAVs
- ✓ High Capacity service
- ✓ Low CAPEX

Deep Space Comms

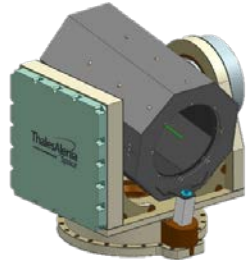
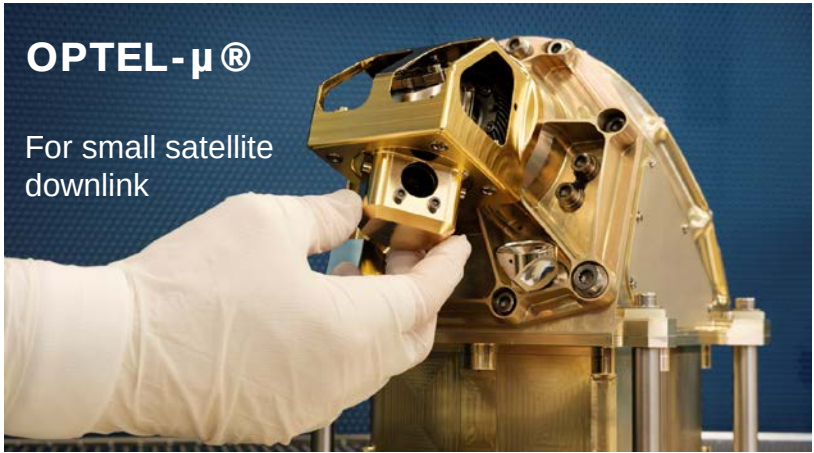
- ✓ Efficient data rate for very long distances

Terrestrial network



Google Earth

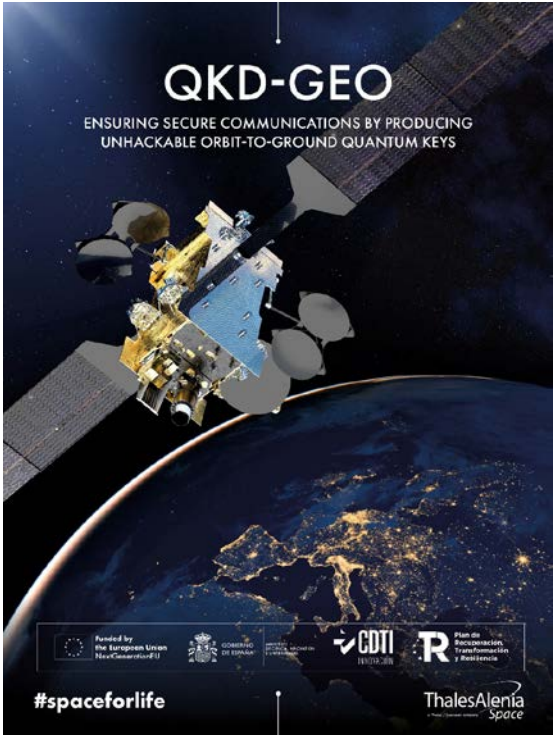
OPTISCHE KOMMUNIKATION



OPTEL-G: multi-purpose GEO terminal



OPTEL-C: inter-satellite links for constellations



Wir glauben, dass der Weltraum
der neue Horizont der Menschheit ist,
um ein besseres und nachhaltiges
Leben auf der Erde zu gestalten.

SPACE FOR LIFE