

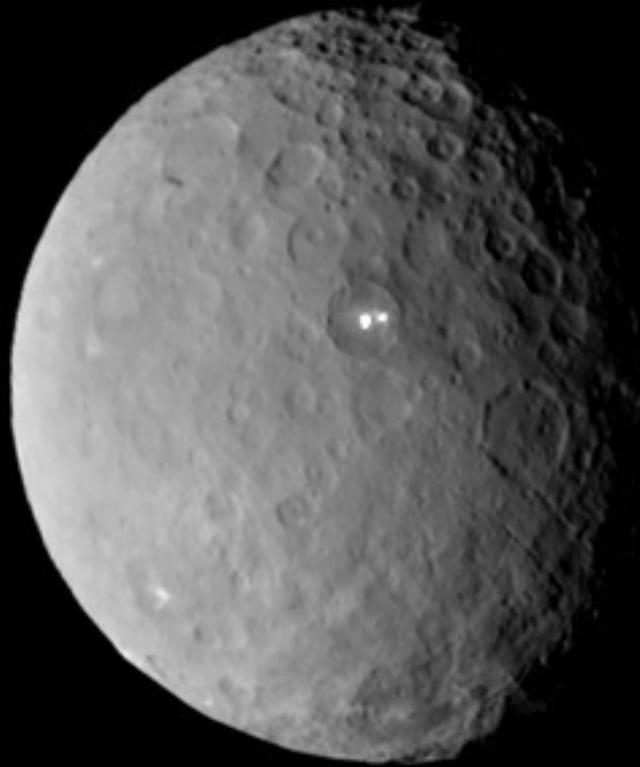
IPPW-12

DLR Welcome

Prof. Dr. Hansjörg Dittus

German Aerospace Center
Member of the Executive Board,
Space Research and Space Technology

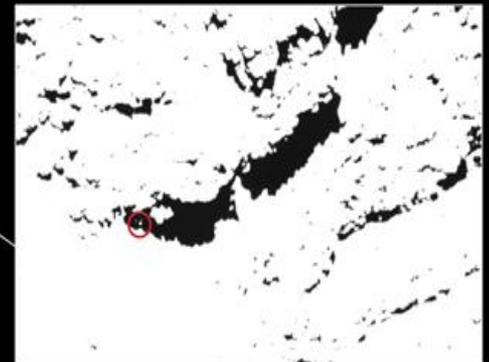
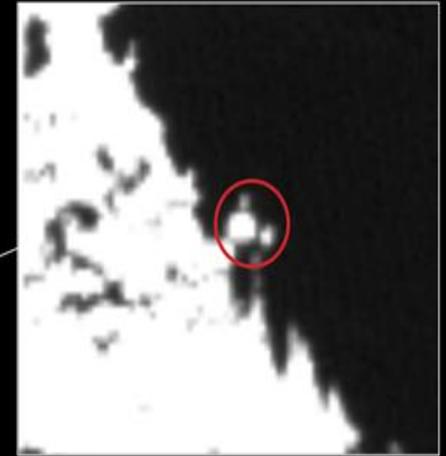
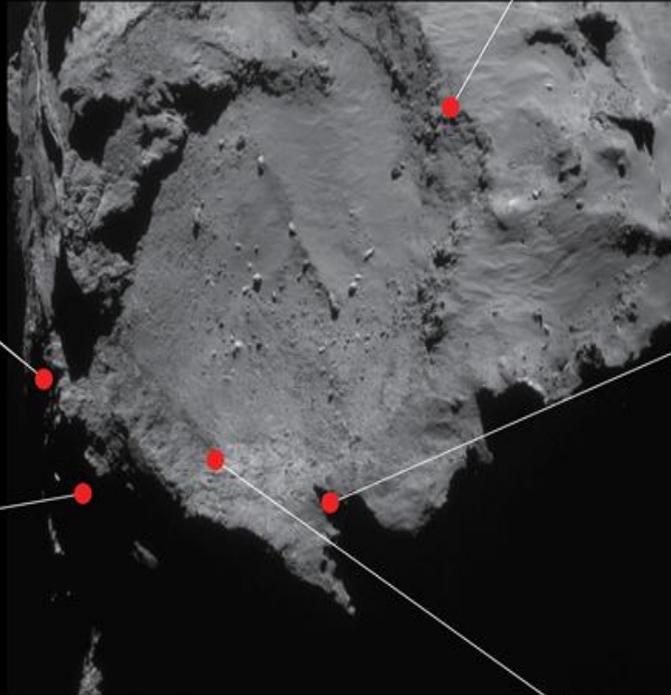
Cologne, 15. June 2015



Exploration success: Rosetta and Philae mission to Churyumov-Gerasimenko



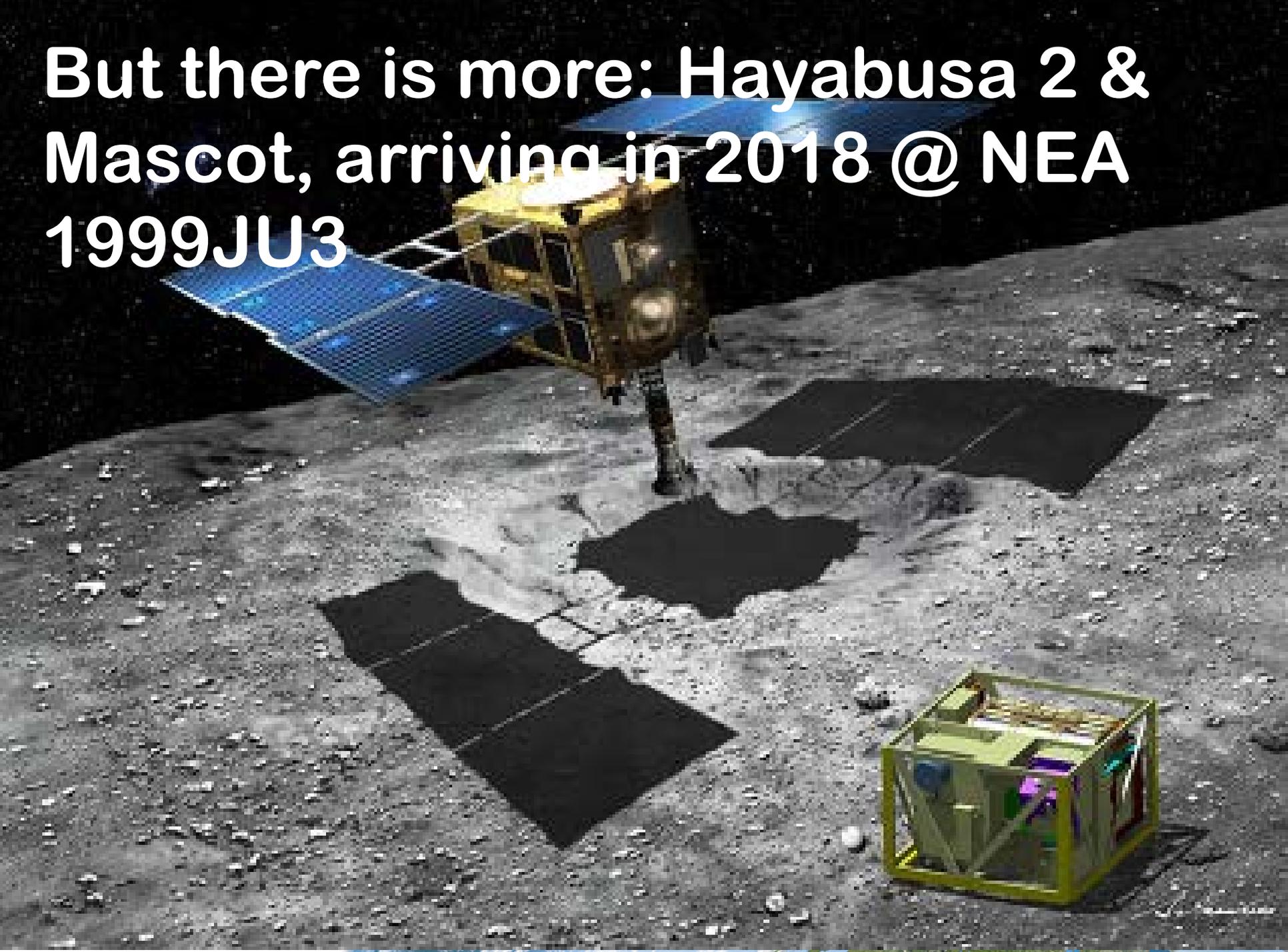
Philae landed successfully on Nov. 12, 2014,...



... and is transmitting data again



But there is more: Hayabusa 2 &
Mascot, arriving in 2018 @ NEA
1999JU3



Hayabusa 2 and its lander MASCOT

- JAXA Asteroid sample return mission with DLR/CNES lander Mascot launched on Dec 3, 2014
- Target NEA 1999JU₃
C type asteroid
- Rendezvous, landing and sample acquisition 2018/2019
- Mascot 10kg lander with 3kg pld built under the lead of DLR
- Camera, MicroOmega (IR microscope), radiometer, and magnetometer

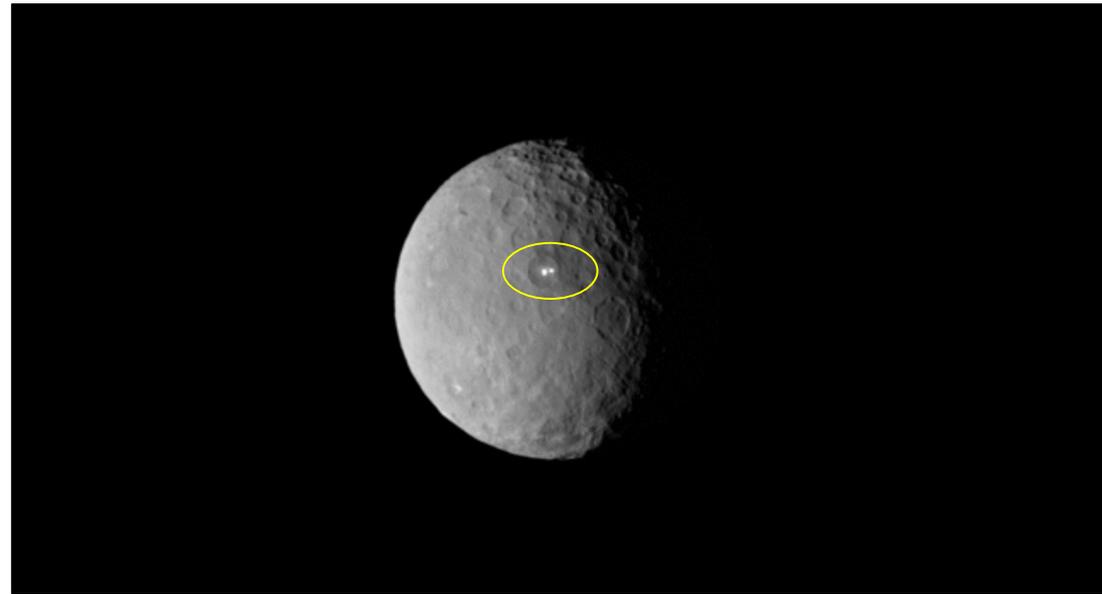


DAWN

– 2 Framing Cameras

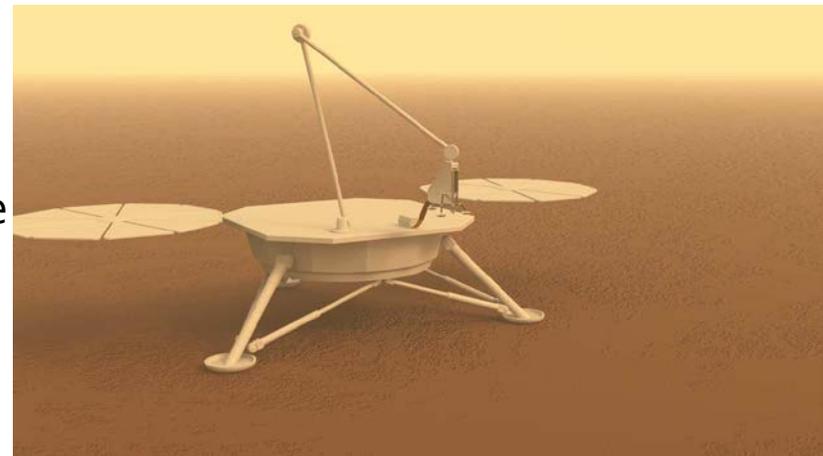
– Ceres: 2015 / 2016

– Vesta: 2011 / 2012



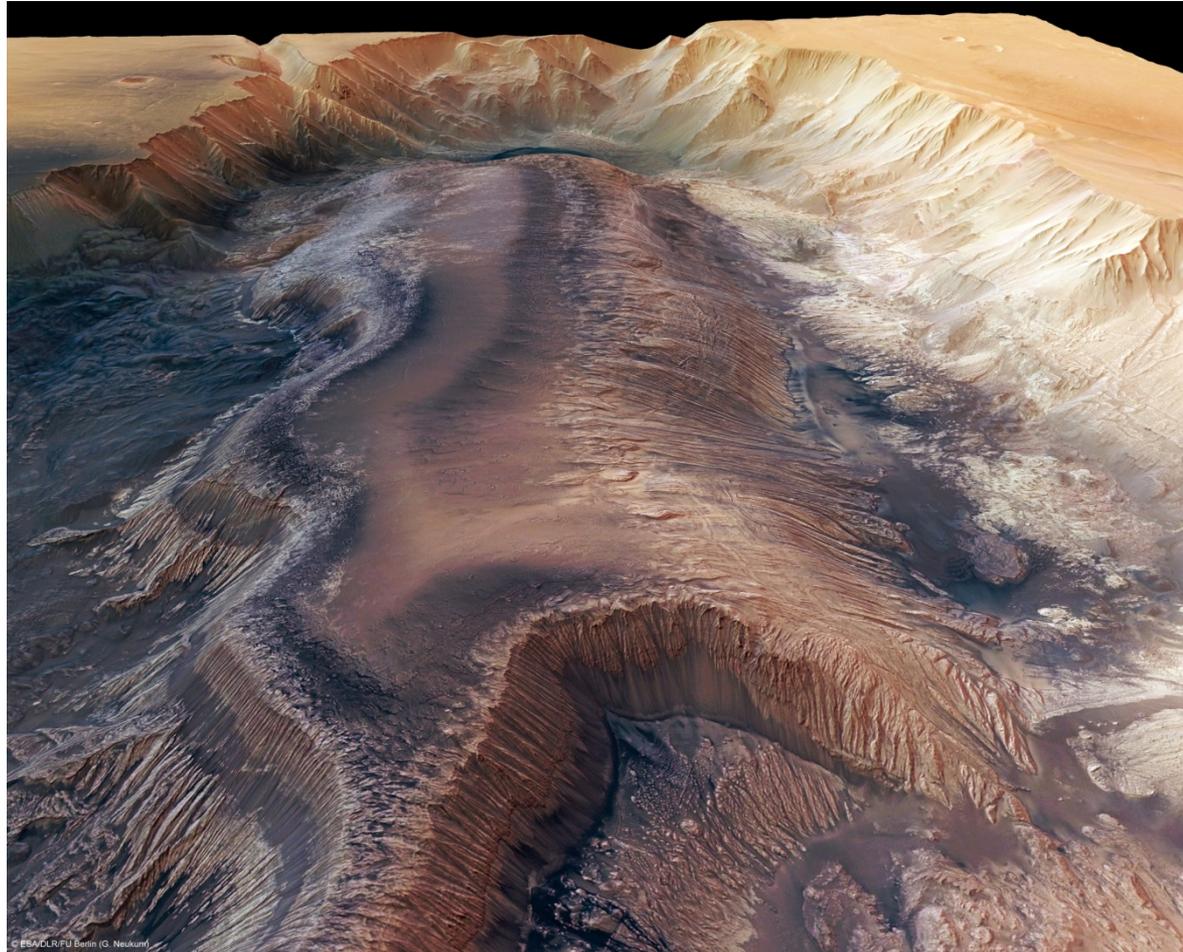
HP3 on InSight

- Measures the Thermal Heat Flow to Mars' Surface "Mole" and Radiometer for NASA's Mars Mission InSight (launch 2016)
- Thermal Probe hammers itself into Martian soil and drags a tether with temperature sensors into the borehole
 - 3-5m depth planned
 - Self orientating downwards
 - Frequent stops for thermal conductivity measurements
 - Minimum 1 Martian year of mission duration for full temperature profile
- Radiometer for Surface Temperatures



MarsExpress

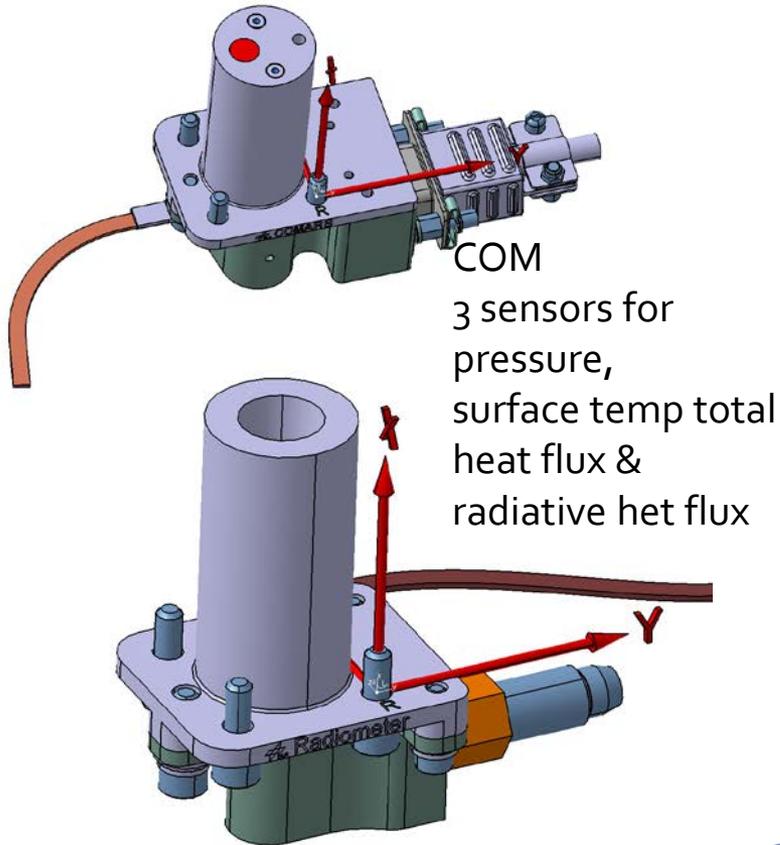
- High Resolution Space Camera (HRSC)
- In operation: since Jan 2004
- So far 70 % of Mars mapping with resolution of 10-20m, 97 % with 100m



ExoMars EDM



ExoMars EDM Combined Sensor Package COMARS+

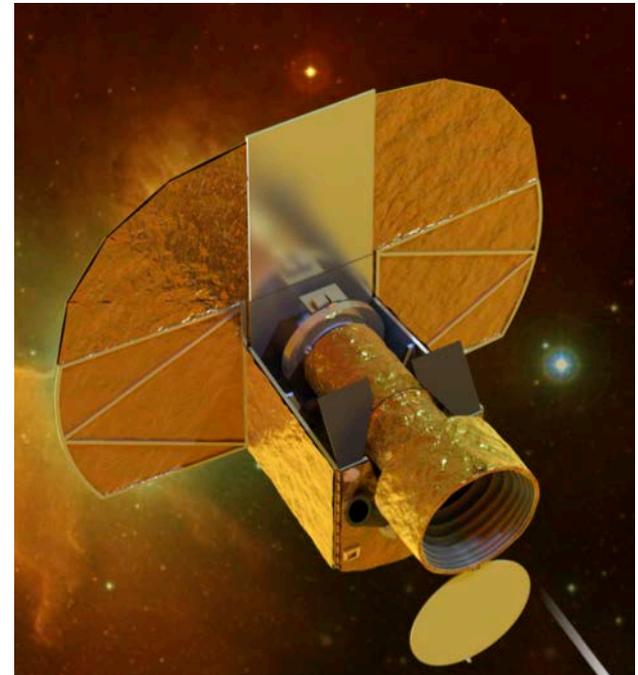


RAD
Broadband radiometer



Cheops

- ESA science programme first mission to be selected in the new small satellite mission program
- Exoplanet follow-up mission
- Led by University of Berne Switzerland, components from various European countries
- DLR contributes the focal plane unit



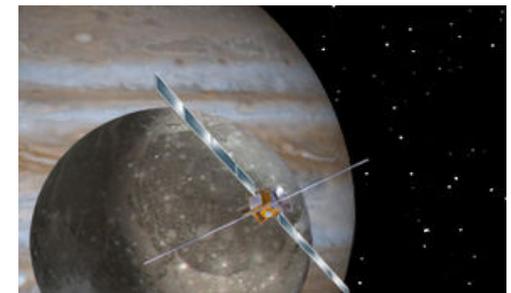
Space Science and Exploration

Future:

- Mars Exploration
 - Exomars 2016/2018
 - Insight: Geoscience station on Mars
- BepiColombo: ESA cornerstone mission to Mercury (launch 2017 with arrival in 2023)
- ESA program: S, M, L class missions
 - CHEOPS: Exoplanet follow-up observation
 - PLATO: Exoplanet Search
 - JUICE: Exploration of Jupiter and its icy satellites
- Mascot/Hayabusa II: Asteroid
- Exploration and Sample Return



Exomars



JUICE



**Knowledge for
Tomorrow**

