

ESA Missions

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COSMIC OBSERVERS



CONCEPTS

IN DEVELOPMENT

ACTIVE

microwaves

sub-millimetre

infrared

optical

ultraviolet

x-rays

gamma rays

gravitational waves

LEGACY



planck
(2009–2013)



herschel
(2009–2013)



iso
(1995–1998)



akari
(2006–2011)



hipparcos
(1989–1993)



corot
(2005–2014)



iue
(1978–1996)



exosat
(1983–1986)



hitomi
(2016)



suzaku
(2005–2015)



cos-b
(1975–1982)



lisa pathfinder
(2015–2017)



microscope
(2016–2018)



webb
(2021)



ariel
(2023)



roman
(2020s)



euclid
(2022)



plato
(2026)



xrism
(2021)



einstein probe
(2022)



athena
(2031)



theseus



lisa
(2034)



hubble
(1990–)



gaia
(2013–)



cheops
(2019–)

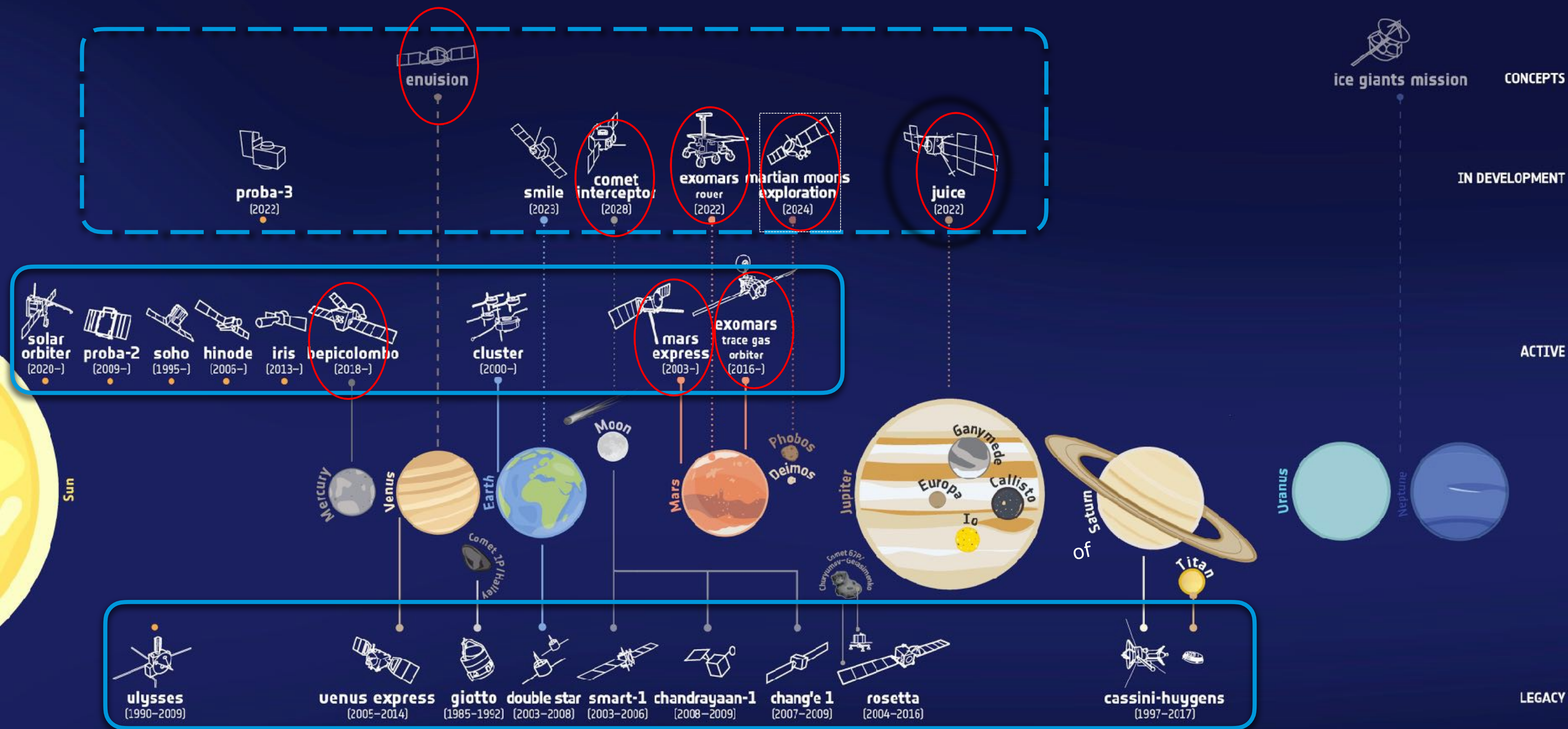


xmm-newton
(1999–)



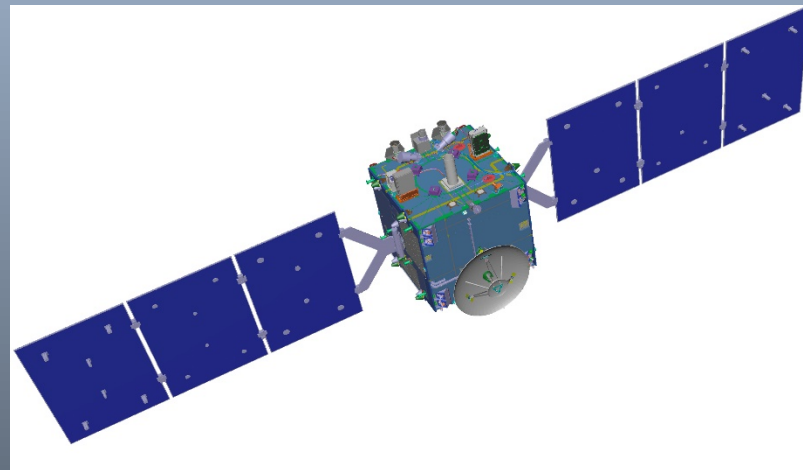
integral
(2002–)

→ SOLAR SYSTEM EXPLORERS

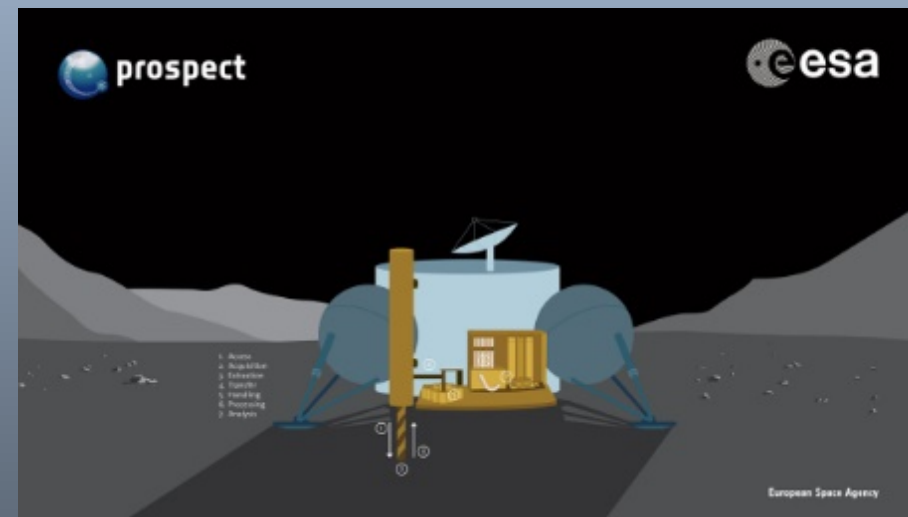


Missions Outside the Science Directorate

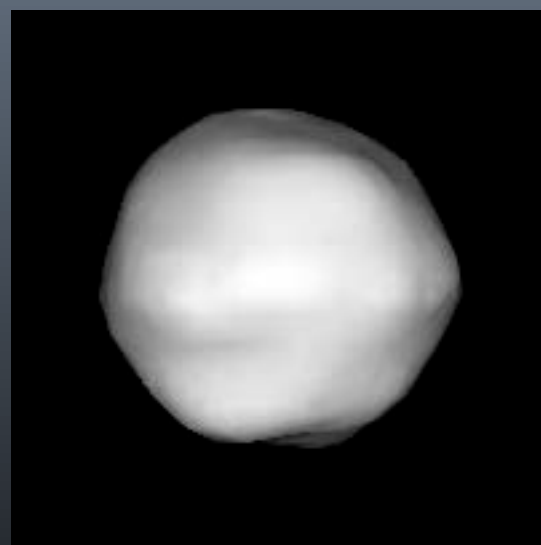
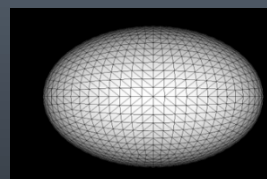
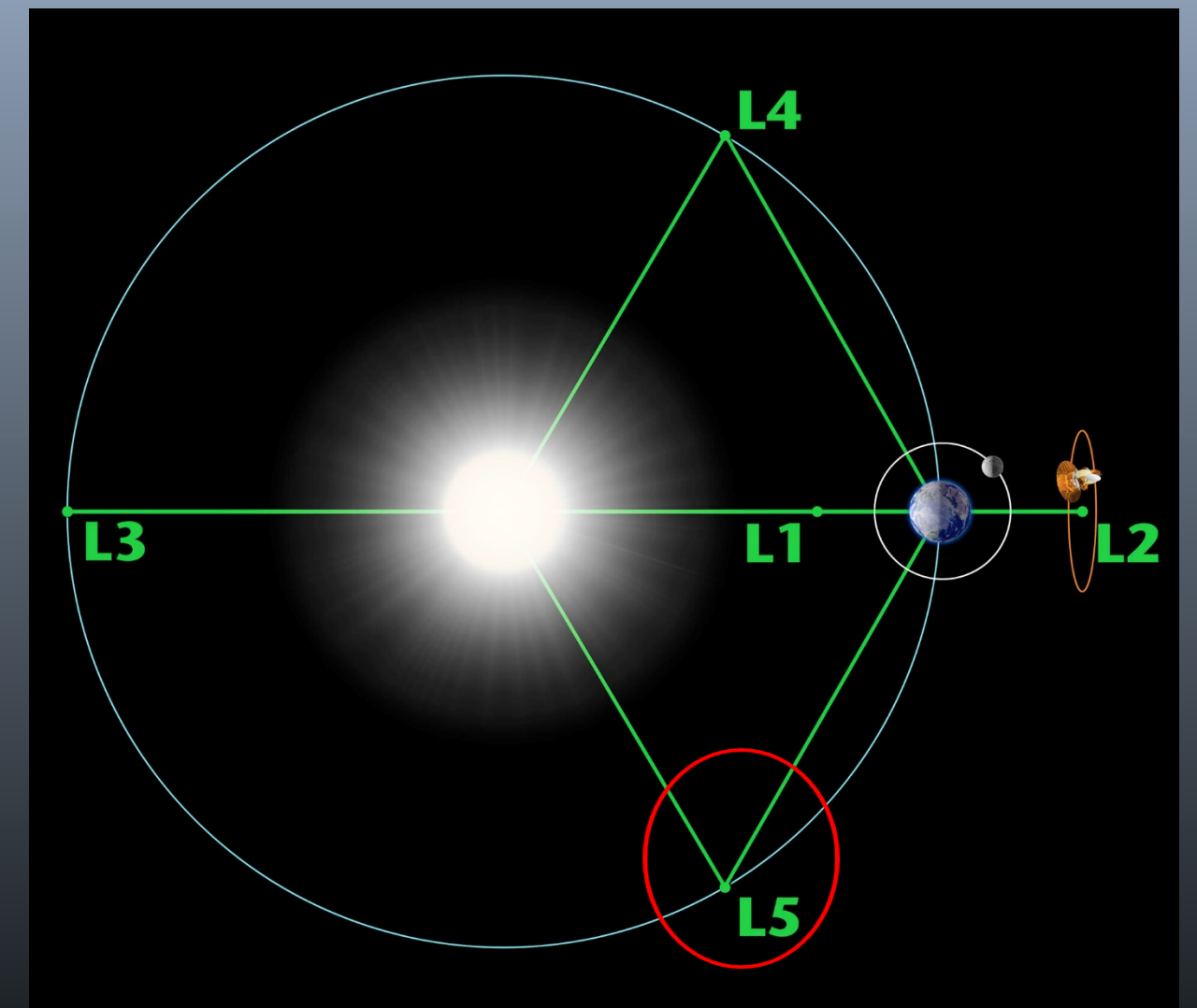
Hera
2024



Prospect
2022 (Luna 27)



Space weather mission
(formerly known as Lagrange)
202X



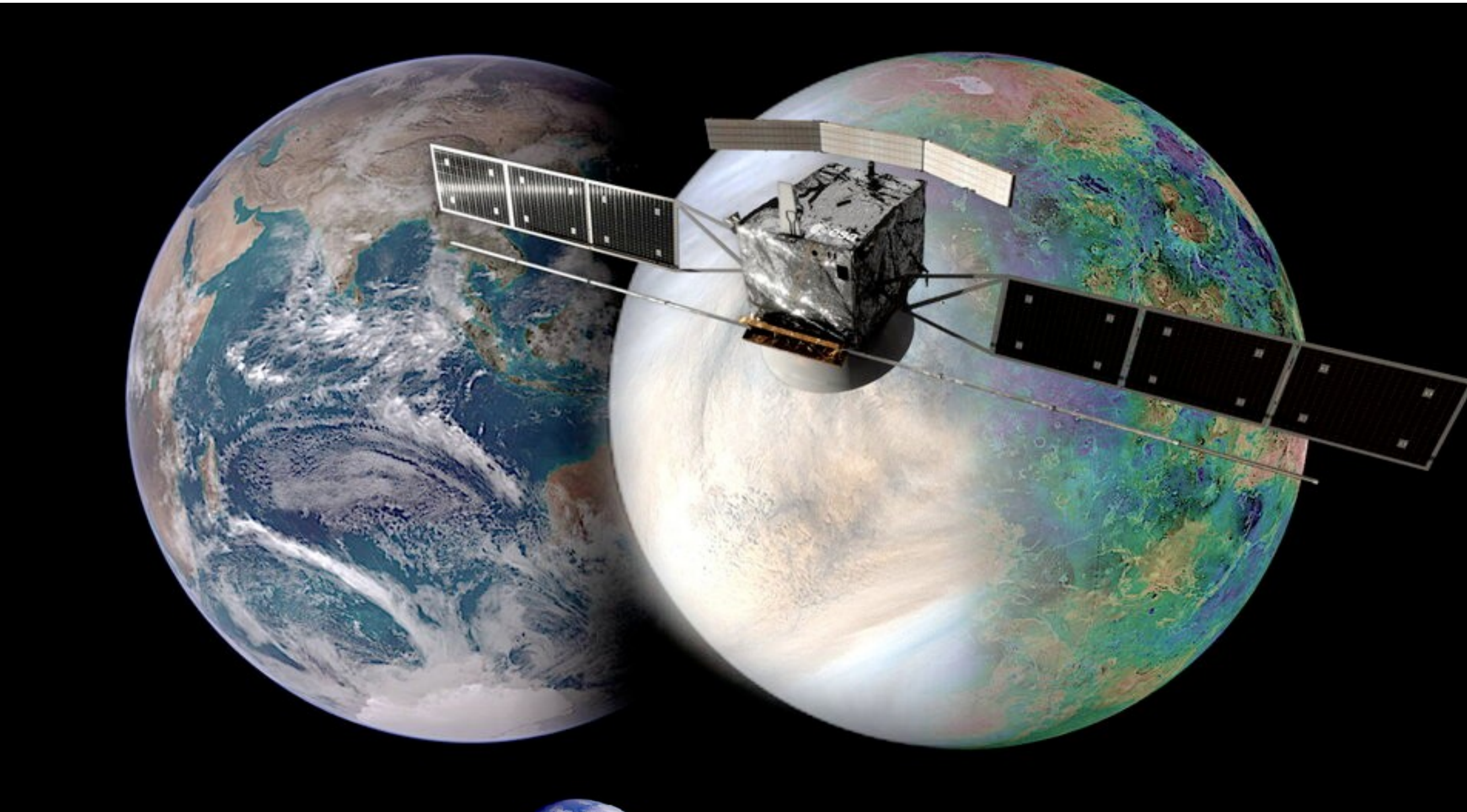
Didymos



Science Programme Committee

Outcome

The SPC selected **EnVision** as ESA's next M-class mission (M5)



Science goals:

Determine the level and nature of current activity

Determine the sequence of geological events that generated its range of surface features

Assess whether Venus once had oceans or was hospitable for life

Understand the organising geodynamic framework that controls the release of internal heat over the history of the planet

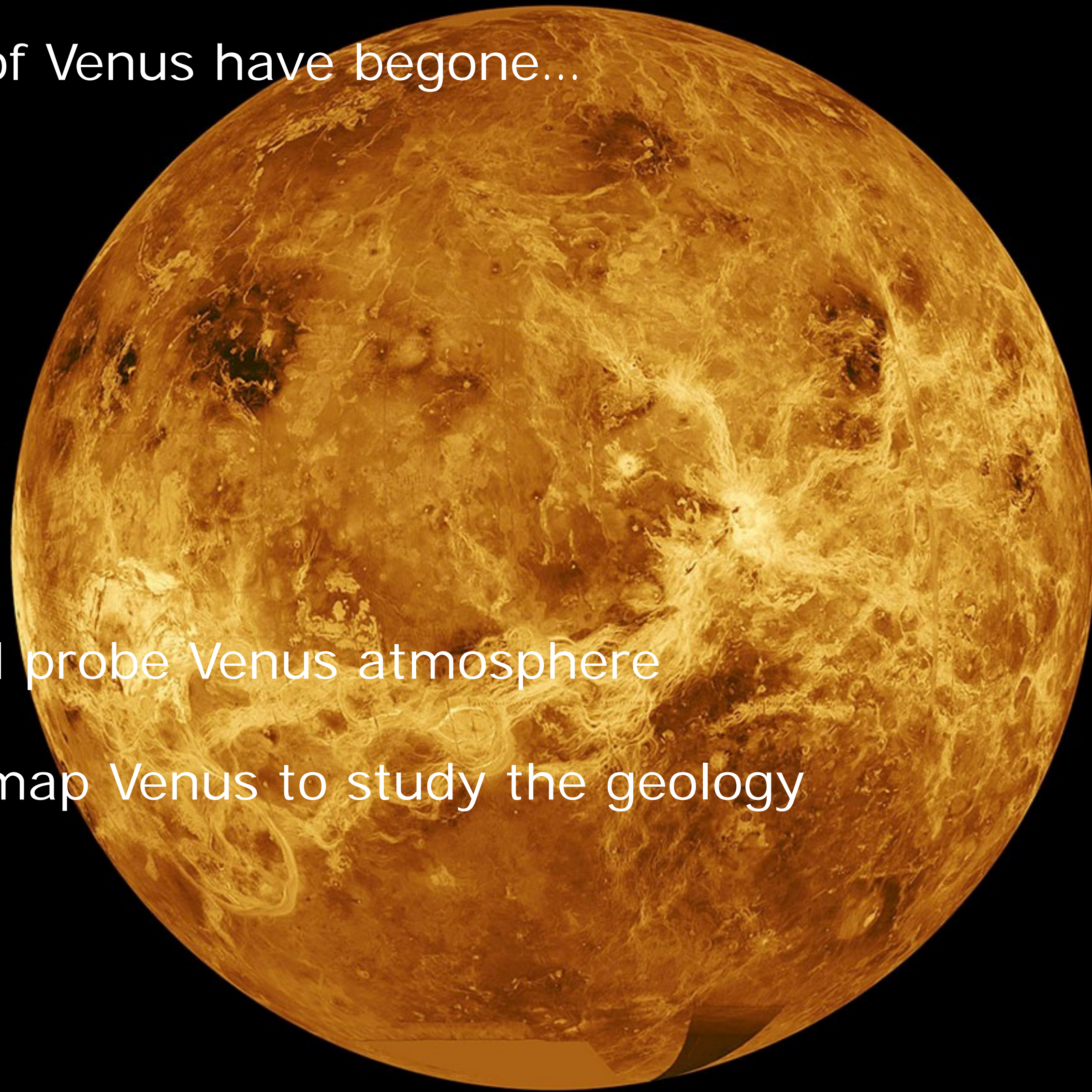


Two decades of Venus have begone...



DAVINCI+ will probe Venus atmosphere

VERITAS will map Venus to study the geology



**The SPC approved the selection of Voyage 2050
future L-class mission themes**

Moons of giant planets

**From temperate exoplanets
to the Milky Way**

**New physical probes
of the early Universe**

The SPC approved the selection of longer-term technology developments

Cold atom interferometry (atomic clocks)

X-rays in high-resolution (interferometry)

Collecting and storing cryogenic samples of cometary ices (sample return mission)

Propulsion for Reaching High-Heliographic Latitudes (outer Solar System)

Voyage 2050 also proposed many M-class themes and contributions to international missions