ESA Missions

Michael Küppers, slides mostly by Markus Kissler-Patig

28 June 2021

COSMIC OBSERVERS

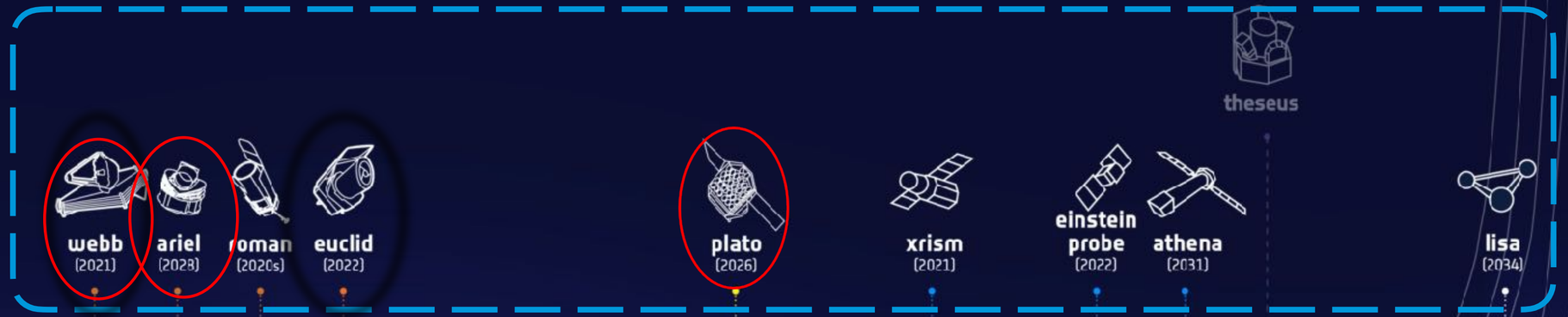
esa

CONCEPTS

IN DEVELOPMENT

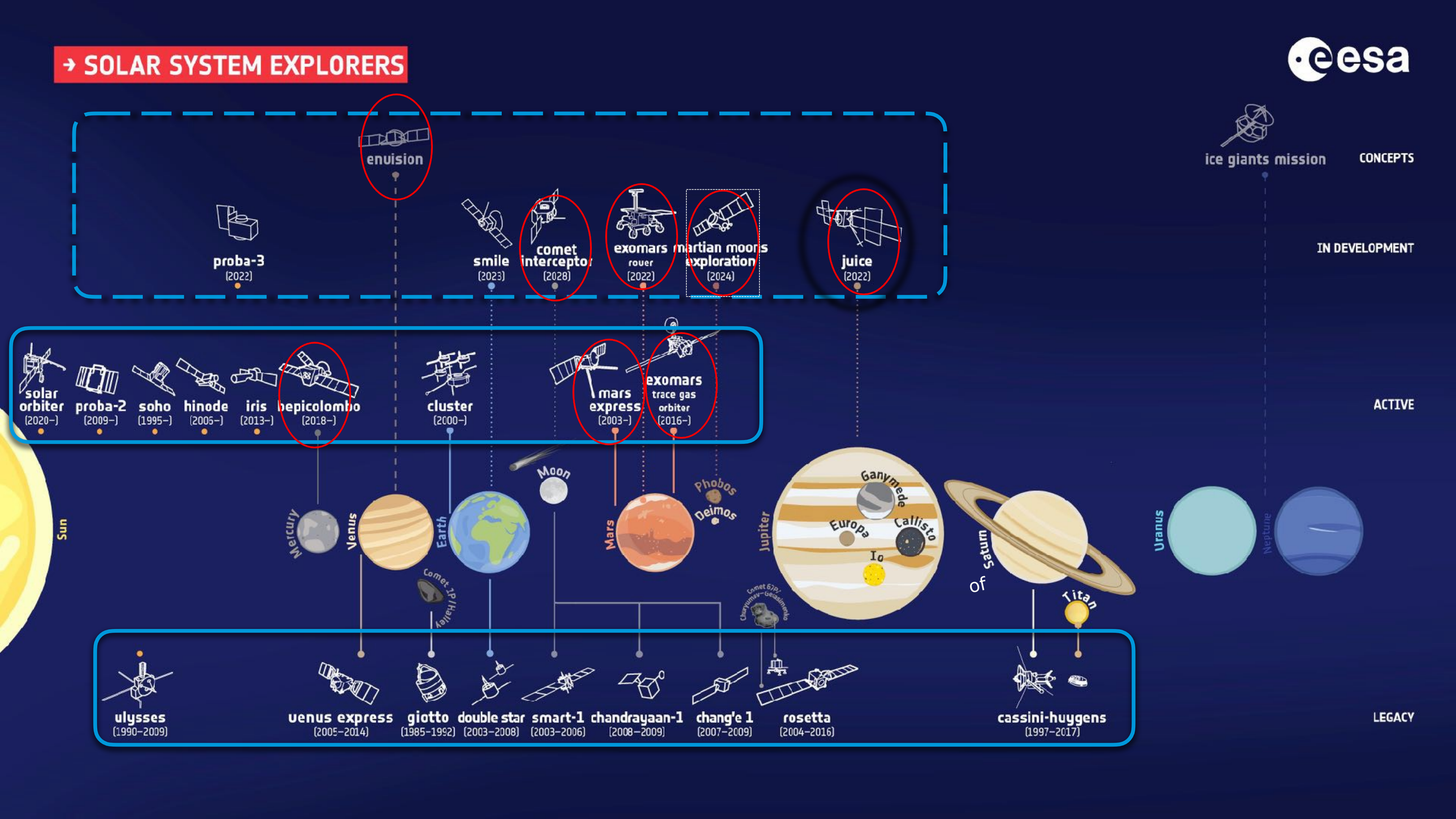
ACTIVE

LEGACY



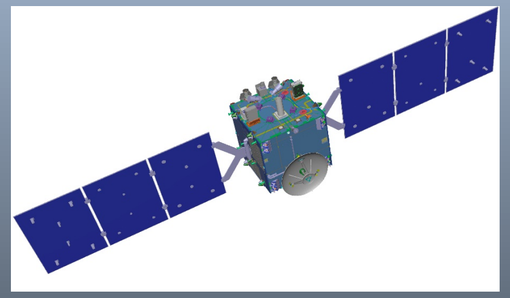
microwaves | sub-millimetre | infrared | optical | ultraviolet | x-rays | gamma rays | gravitational waves

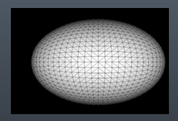
→ SOLAR SYSTEM EXPLORERS

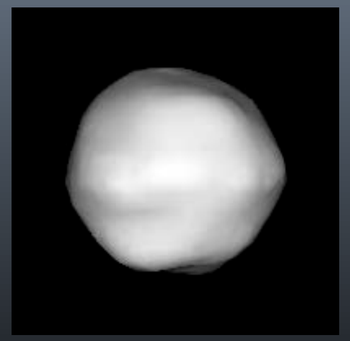


Missions Outside the Science Directorate

Hera
2024

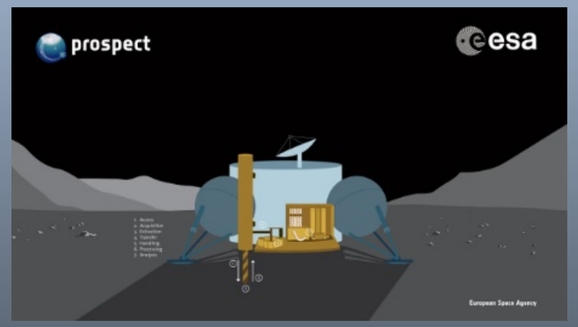




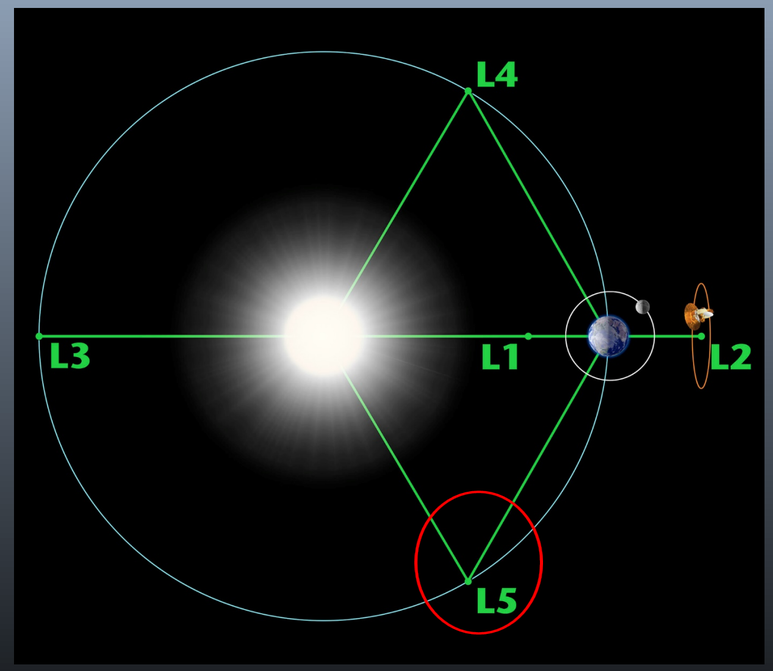


Didymos

Prospect
2022 (Luna 27)



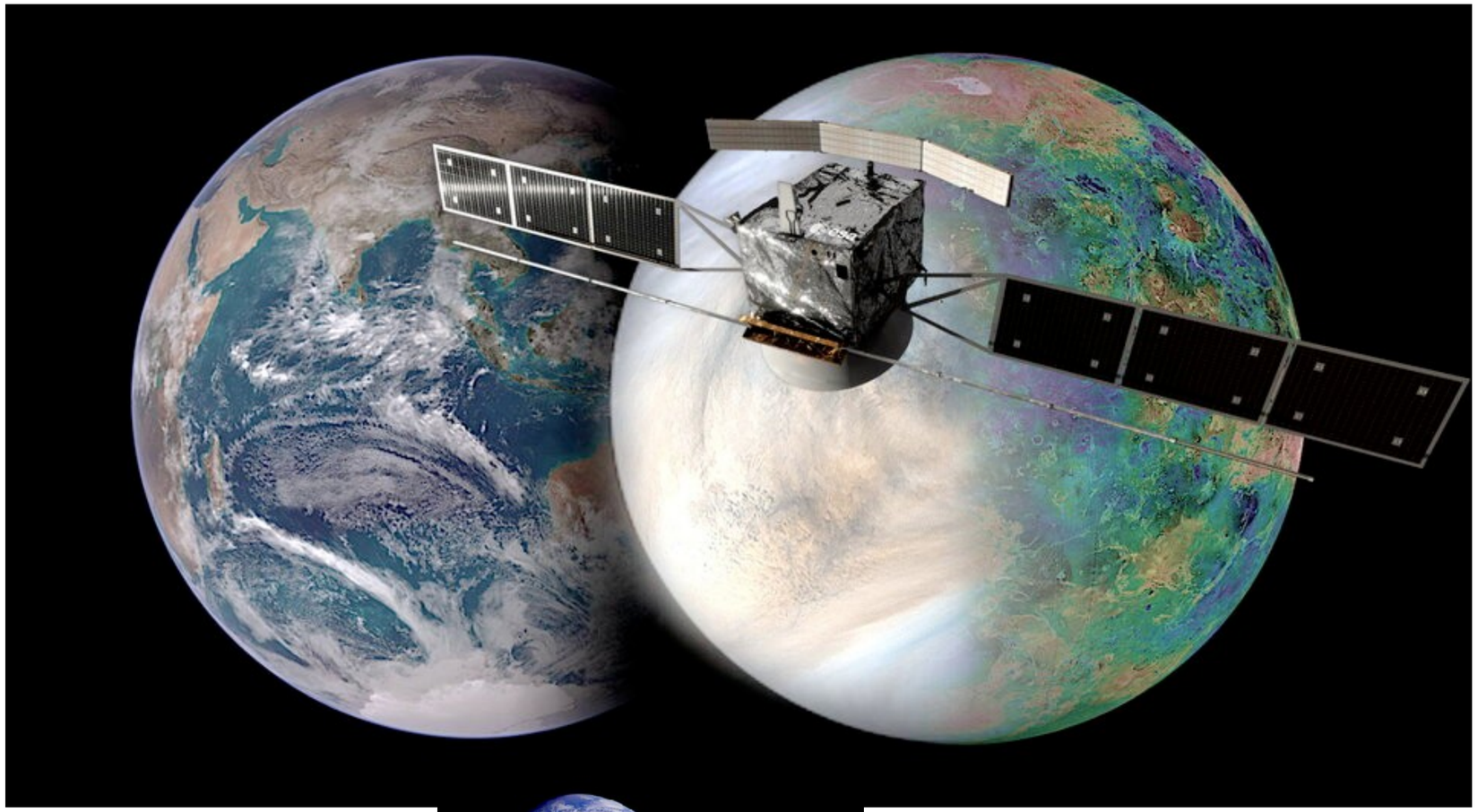
Space weather mission
(formerly known as Lagrange)
202X



Science Programme Committee

Outcome

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



Science goals:

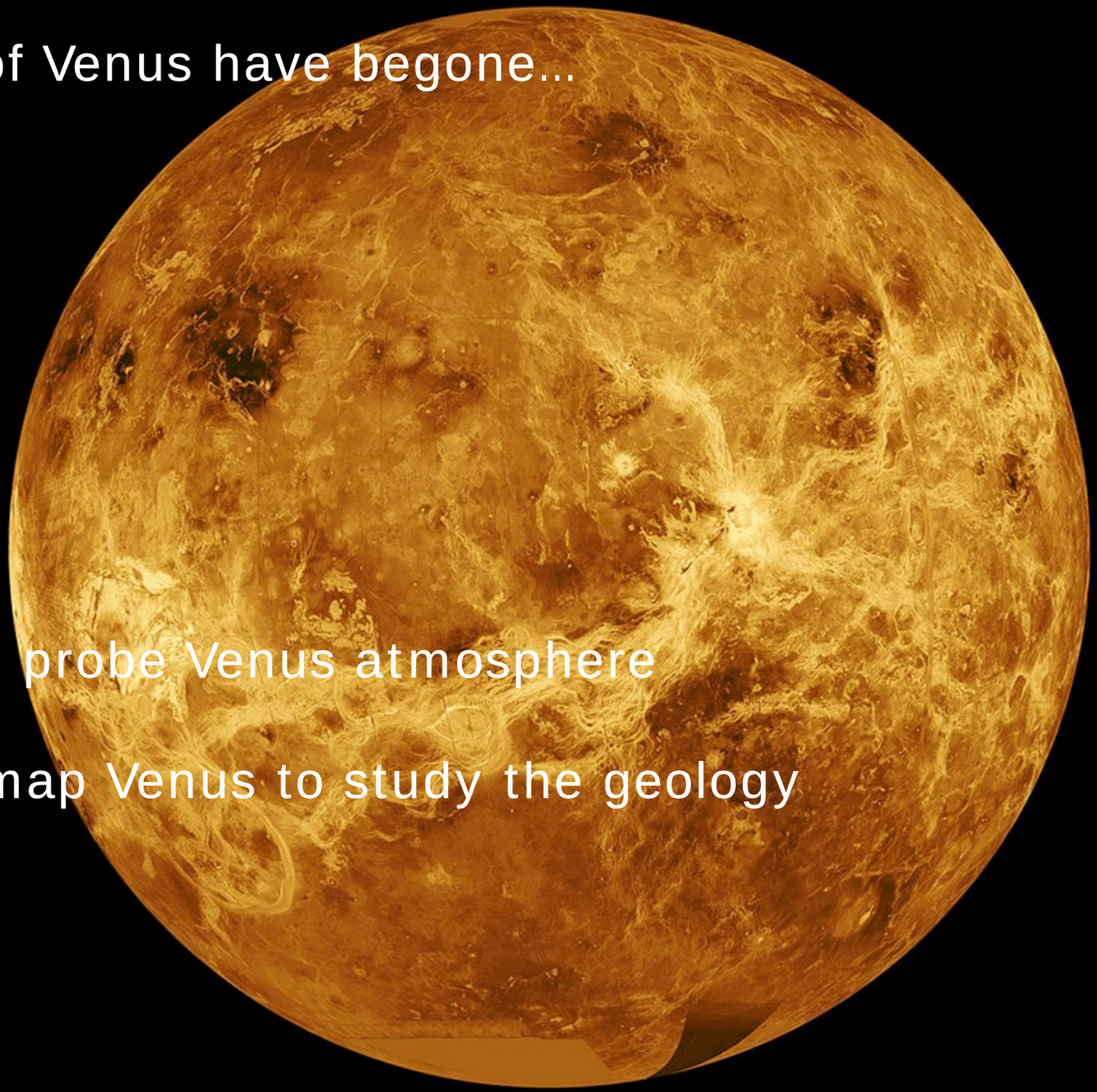
Determine the level and nature of current activity

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