

EUROPE, JAPAN SEND SPACECRAFT ON 7-YEAR JOURNEY TO MERCURY

Relevant for: Science & Technology | Topic: Space Technology & related matters

In this photo released by European Space Agency (ESA), the Ariane 5 rocket carrying BepiColombo lifts off from its launch pad at Kourou in French Guiana, for the mission to Mercury on Saturday, Oct. 20, 2018. Photo: JM Guillon/2018 ESA-CNES-Arianespace via AP | Photo Credit: [AP](#)

European and Japanese space agencies said an Ariane 5 rocket successfully lifted a spacecraft carrying two probes into orbit on Saturday for a joint mission to Mercury, the closest planet to the sun.

The European Space Agency and the Japan Aerospace Exploration Agency said the unmanned BepiColombo spacecraft successfully separated and was sent into orbit from French Guiana as planned to begin a seven-year journey to Mercury.

They said the spacecraft, named after Italian scientist Giuseppe “Bepi” Colombo, was in the right orbit and has sent the first signal after the liftoff.

ESA says the 1.3 billion-euro (USD 1.5 billion) mission is one of the most challenging in its history.

Mercury’s extreme temperatures, the intense gravity pull of the sun and blistering solar radiation make for hellish conditions.

The BepiColombo spacecraft will have to follow an elliptical path that involves a fly-by of Earth, two of Venus and six of Mercury itself so it can slow down before arriving at its destination in December 2025.

When it arrives, BepiColombo will release two probes — Bepi and Mio — that will independently investigate the surface and magnetic field of Mercury.

The probes are designed to cope with temperatures varying from 430 degrees Celsius (806 F) on the side facing the sun, and -180 degrees Celsius (-292 F) in Mercury’s shadow.

The ESA-developed Bepi will operate in Mercury’s inner orbit, and JAXA’s Mio will be in the outer orbit to gather data that would reveal the internal structure of the planet, its surface and geological evolution.

Scientists hope to build on the insights gained by NASA’s Messenger probe, which ended its mission in 2015 after a four-year orbit of Mercury. The only other spacecraft to visit Mercury was NASA’s Mariner 10 that flew past the planet in the mid-1970s.

Mercury, which is only slightly larger than Earth’s moon, has a massive iron core about which little is known. Researchers are also hoping to learn more about the formation of the solar system from the data gathered by the BepiColombo mission.

“Beyond completing the challenging journey, this mission will return a huge bounty of science,” said Jan Wr, ESA Director General, in a statement.

JAXA President Hiroshi Yamakawa, who earlier managed the project, said, “We have high expectations that the ensuing detailed observations of Mercury will help us better understand the environment of the planet, and ultimately, the origin of the Solar System including that of Earth.”

It is the second recent cooperation between the Europeans and the Japan Aerospace Exploration Agency. JAXA’s Hayabusa2 probe dropped a German-French rover on the asteroid Ryugu earlier this month.

Sign up to receive our newsletter in your inbox every day!

Please enter a valid email address.

Our Science Correspondent writes about scientists and pioneers whose achievements sowed the seeds of scientific temper in the country

Our existing notification subscribers need to choose this option to keep getting the alerts.

END

Downloaded from **crackIAS.com**

© **Zuccess App** by crackIAS.com

CrackIAS