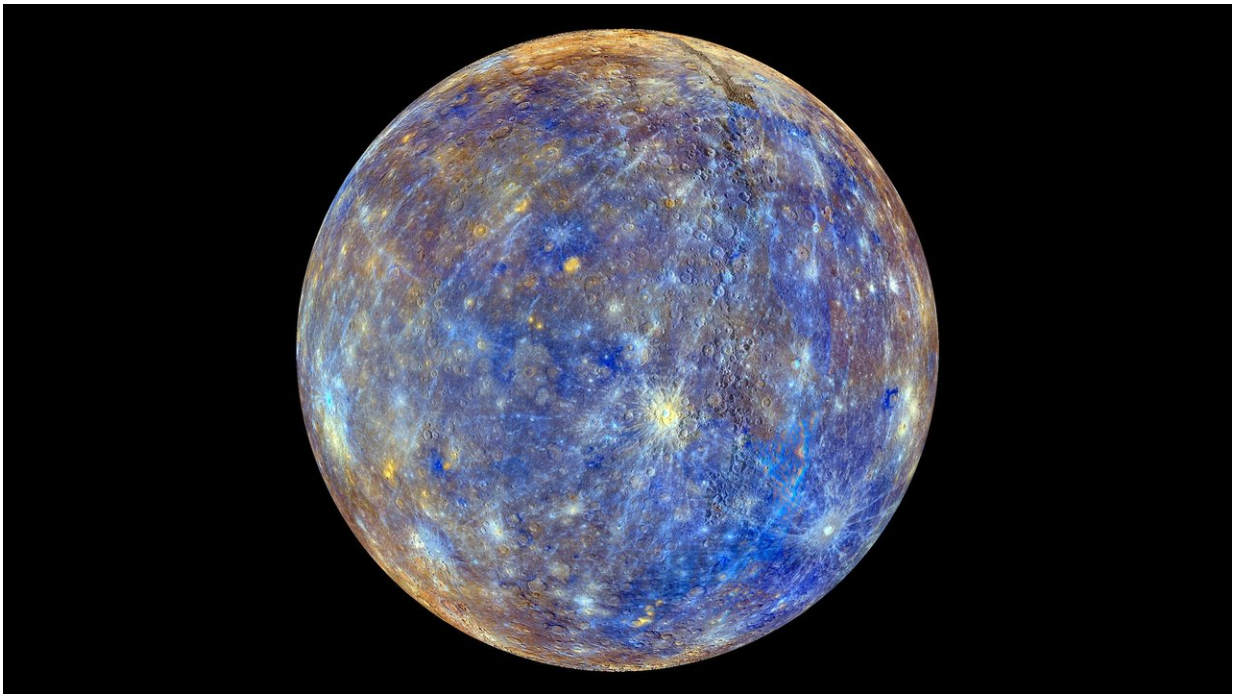


# Europe, Japan ready spacecraft for 7-year journey to Mercury

October 19 2018, by Frank Jordans

---



Credit: CC0 Public Domain

Final preparations were underway Friday for the launch of a joint mission by European and Japanese space agencies to send twin probes to Mercury, the closest planet to the sun.

An Ariane 5 rocket is scheduled to lift the uncrewed [spacecraft](#) into orbit from French Guiana shortly before midnight, the start of a seven-

year journey to the solar system's innermost planet.

The European Space Agency says the 1.3 billion-euro (\$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 sufficiently before arriving at its destination in December 2025.

Newly developed electrical ion thrusters will help nudge the spacecraft, which was named after Italian scientist Giuseppe "Bepi" Colombo, into the right orbit.

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.

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.

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.

**More information:** Livestream of BepiColombo launch:  
[bit.ly/BepiLive](https://bit.ly/BepiLive)

© 2018 The Associated Press. All rights reserved.

Citation: Europe, Japan ready spacecraft for 7-year journey to Mercury (2018, October 19)  
retrieved 26 April 2024 from  
<https://phys.org/news/2018-10-europe-japan-ready-spacecraft-year.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--