**BepiColombo: Mission to Mercury (VNR 9-10-18)**

**[Web copy]**

The European Space Agency’s (ESA) first mission to Mercury, BepiColombo, is being prepared for its 19 October 2018 launch.

Final assembly of the two orbiters and transfer module has taken place at Europe’s spaceport at Kourou in French Guiana, ready for the spacecraft to be integrated into its Ariane 5 launcher.

BepiColombo – one of the most complex scientific spacecraft ever built – is a joint mission between ESA and the Japanese space agency, JAXA, and will explore the closest planet to the Sun in unprecedented detail.

**[A-roll]**

**[10:00:10:00]**

**[Clean room final assembly sequences - from Kourou B-roll 28-9-18]**

Fuelled and – almost – ready to go…the final assembly of the BepiColombo mission to Mercury.

A collaboration between ESA and the Japanese space agency, JAXA, BepiColombo consists of two scientific orbiters, a transfer module to propel them to Mercury, and a sunshield. Protected by hand-stitched ceramic thermal blankets, the entire spacecraft is six and a half metres high – and will only just fit inside the faring of its Ariane 5 launcher.

Designed to withstand temperatures of up to 450 degrees Celsius, BepiColombo is one of the most technically and scientifically complex missions ever launched…

**10:00:54]**

**[Johannes Benkhoff, BepiColombo Project Scientist, ESA]**

*80% of our material needed to be requalified for this mission because we hadn’t tested before in this harsh environment. So, it’s a real challenge to go there and bring two spacecraft in an orbit around Mercury.*

**10:01:08**

**[Animation of transfer to Mercury]**

The first challenge is getting to Mercury…flying directly isn’t an option – the Sun’s gravity means any spacecraft would be going too fast to make it into orbit.

**10:01:22**

**[Animation of flybys]**

Instead, BepiColombo will take seven years to reach its destination – combining solar-electric propulsion with a total of nine flybys of Earth, Venus and Mercury.

**10:01:32**

**[Ulrich Reininghaus, BepiColombo Project Manager, ESA]**

*When we fly, we constantly brake against the Sun, because we fly into the inner side of our solar system. And when you fly towards the heaviest element there you constantly accelerate, that’s why we decelerate.*

**10:01:48**

**[Separation animations]**

Once they arrive at Mercury in late 2025, the orbiters will separate from the transfer module to begin their comprehensive scientific mission in 2026.

**10:02:00**

**[MPO in clean room]**

With its 11 instruments, ESA’s Mercury Planetary Orbiter will study the surface and internal composition of the planet.

**10:02:08**

**[MMO in JAXA clean room - from JAXA B-roll]**

Meanwhile, JAXA’s Mercury Magnetospheric Orbiter’s five instruments will study the planet’s magnetic field.

**10:02:15**

**[Mercury images - from NASA]**

Together, the orbiters will not only reveal more about Mercury but also the history of the inner solar system…

**10:02:22**

**[Johannes Benkhoff, BepiColombo Project Scientist, ESA]**

*Because Mercury is not tilted like Earth, it’s spinning almost in the orbital plane therefore there are some craters at the poles that never see sunlight and in these craters we found water ice. And this water ice could be stable over millions and billions of years and that’s a fantastic thing also about Mercury.*

**10:02:44**

**[Time-lapse footage – from Kourou cleanroom B-roll 28-9-18 ]**

ESA science and engineering teams have been working on BepiColombo for more than a decade…with a long journey ahead of it, the launch marks only the beginning of the next stage of BepiColombo’s voyage of discovery.

**10:03:00 Ends**

**[B-roll]**

**1810\_004\_BR\_002**

**10:02:59:12**

**Johannes Benkhoff, BepiColombo Project Scientist, ESA**

2 X soundbites (English)

**1810\_004\_BR\_003**

**10:04:01:59**

**Johannes Benkhoff, BepiColombo Project Scientist ESA**

Soundbite (German)

**1810\_004\_BR\_004**

**10:05:32:03**

**Ulrich Reininghaus, BepiColombo Project Manager, ESA**

Soundbite (English)

**1810\_004\_BR\_005**

**10:06:17:24**

**Ulrich Reininghaus, BepiColombo Project Manager, ESA**

Soundbite (German)

**1810\_004\_BR\_006**

**10:07:26:10**

**Animation of transfer to Mercury and arrival**

**10:10:52:02**

**JAXA clean-room final testing before shipping to ESA (Credit: JAXA)**

**10:13:28:09**

**Ends**