**BEPICOLOMBO’S PRE-LAUNCH HEALTH CHECKS**

**A- ROLL FINAL**

**Suggested web copy:**  The BepiColombo spacecraft, Europe’s first mission to Mercury, is keeping cool before launch in the equatorial heat of ESA’s spaceport in French Guiana. After arriving in May from ESA’s technical Centre in The Netherlands, the spacecraft has been undergoing a series of ongoing pre-launch health checks. These include mechanical, electrical and propulsion subsystems checks, testing the deployment of its solar panels, and covering the spacecraft in a multi-layered insulation blanket to protection against solar and planetary radiation.

The A and B-roll includes interviews with Hajime Hayakawa, BepiColombo Project Manager, JAXA (English and Japanese); Ulrich Reininghaus, Bepicolombo Project Manager, ESA (English and German); Bernard Guillaume, BepiColombo Assembly Integration and Verification, ESA (French and Dutch, B-roll only).

**TAPE STARTS: 10:00:00**

**VT STARTS: 10:00:10**

**10:00:10**

**[AERIAL SHOTS OF GUIANA SPACE CENTRE, KOUROU]**

The European spaceport in French Guiana: home, for the last few months, of the BepiColombo spacecraft.Although the spaceport is based strategically close to the equator, Europe’s first mission to Mercury is keeping cool.

**10:00:26**

**[BEPICOLOMBO SPACECRAFT COMPONENTS IN CLEAN ROOM, KOUROU]**

Inside this clean room are the four elements of the BepiColombo mission – two scientific orbiters, a transfer module to get them to Mercury and a sunshield. And when they arrive at the Sun’s closest planet, they’ll be able to cope with the heat. Because this joint mission, a collaboration between ESA and the Japanese space agency JAXA, was built to withstand temperatures of up to 450 degrees.

**10:00:53**

**[INSET CLIP: Hajime HAYAKAWA, BepiColombo Project Manager, JAXA]**

**“**We know that Mercury is very hot and we have to make the satellite survive in that harsh environment and we know it is very difficult and when we started there was already some development and we think that we could do it but actually the hardware is much harder than we expected and takes a long time but now you see this is the flight model and will be launched within several months.”

**10:01:23**

**[APPLYING MULTI LAYERED INSULATION APPLIANCE SHOTS]**

Before launch, the spacecraft must be covered in multi-layered insulation or MLI, which is held together by studs or hand sewn temperature resistant thread. This blanket acts as a thermal control for the spacecraft against solar and planetary radiation as well as offering protection. Normally gold in colour, the outer layer of this thermal blanket is white and made of ceramic - which can withstand the potentially damaging impact of a micrometeorite. The teams are also testing the spacecraft’s fitness for launch.

**10:01:58**

**[INSET CLIP: Ulrich REININGHAUS, BepiColombo Project Manager, ESA]**

**“**Now of course we do the health checks to verify the system is healthy. And we did alignment, mechanical checks, electrical checks, all over. We check the propulsion subsystems to see if the propulsion elements are still leak tight in preparation for the fuelling.”

**10:02:16**

**[ANIMATION SOLAR PANELS UNFOLDING. CREDIT: ESA]**

All these checks are essential for the seven year journey to Mercury. Testing and checking all parts of the spacecraft…

**10:02:25**

**[SOLAR PANEL DEPLOYMENT TESTS, KOUROU]**

… including the deployment of its solar panels, will ensure that BepiColombo will not only withstand the harsh environment at Mercury, it will be able to do groundbreaking science on arrival.

**10:02:38**

**[END]**

**BepiColombo’s Pre-launch Health Checks**

**B-ROLL**

**10:02:38**

**[TITLE] Ulrich Reininghaus**

**Bepicolombo Project Manager, ESA [German]**

An explanation of the BepiColombo mission to Mercury.

**10:03:46**

**[TITLE] Bernard Guillaume**

**BepiColombo Assembly Integration and Verification, ESA [French]**

An explanation of the different BepiColombo spacecraft components and what they will do.

A description of the relatively few missions that have explored the planet Mercury

**10:06:05**

**[TITLE] Bernard Guillaume**

**BepiColombo Assembly Integration and Verification, ESA [Dutch]**

Why BepiColombo is a challenging mission.

**10:06:54**

**[TITLE] Hajime Hayakawa**

**BepiColombo Project Manager, JAXA [Japanese]**

Why it is important for the Japanese space agency JAXA to go to Mercury.

**10:08:42**

**[TITLE] Aerial shots of Guiana Space Centre, Kourou, June 2018**

Helicopter shots of the European Spaceport, the Guiana Space Centre, at Kourou in French Guiana, South America.

**10:09:33**

[**TITLE] BepiColombo in clean room**

**Guiana Space Centre**

BepiColombo mission team engineers and space scientists preparing the spacecraft components - the Mercury Transfer Module, the sunshield, the European Mercury Planetary Orbiter and the Japanese Mercury Magnetosphere Orbiter (now called MIO) for pre-launch health checks. Shots include hand sewing of the multi-layer insulation with thermal resistant thread.

**10:11:57**

**[TITLE] BepiColombo solar panel tests**

Deployment of solar panels at the European Spaceport in Kourou, French Guiana.

**10:12:51**

**[Gen END]**