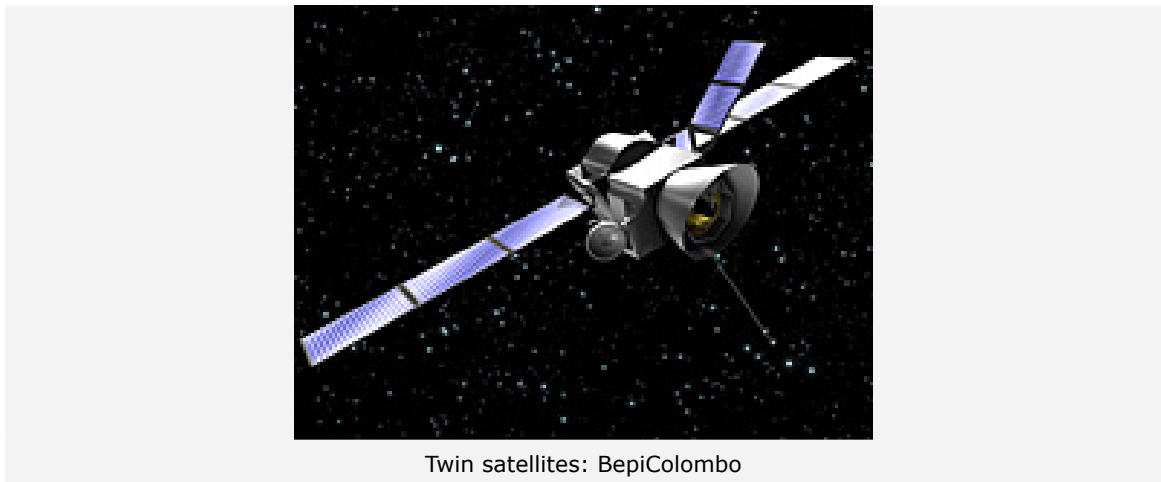

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Europe flies to Mercury: BepiColombo mission agreement signed

18 January 2008

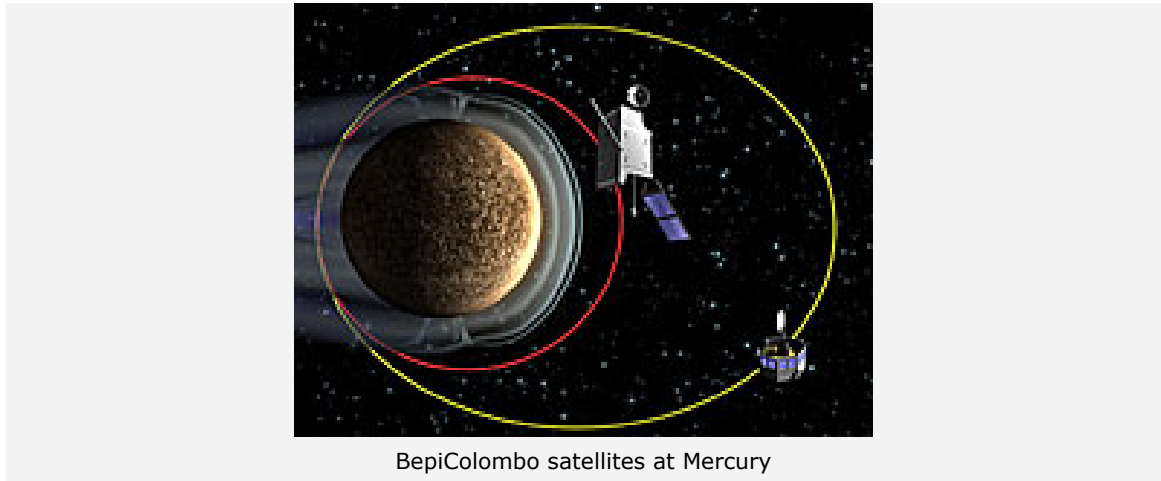
Important milestone for the trip to the planet nearest the Sun



Twin satellites: BepiColombo

Today an important milestone was reached with the signing of the agreement for the development phase of the Mercury mission BepiColombo by the European Space Agency (ESA) and its main contractor, Astrium GmbH in Friedrichshafen. The BepiColombo project involves two satellites flying to Mercury at the same time: A Japanese planetary probe that will investigate Mercury's magnetosphere will commence the trip together with the European craft. The satellites are scheduled for launch in 2013 from Kourou, French Guiana using a Soyuz-Fregat rocket and carry out their scientific surveying programme from 2019 while orbiting Mercury. The German Aerospace Center's (DLR's) Institute of Planetary Research is taking part in the scientific aspect of the mission.

ESA is responsible for the launch and for execution of the Mercury mission which will orbit the planet in a polar orbit at a height of between 400 and 1500 kilometres. The proximity to the Sun poses a particular technical challenge to the satellites. In several sections of the orbit they will be "toasted" between the Sun and the planet surface which is over 400 degrees Celsius. The ESA publicised the invitation to tender for the main contract in early 2006, and following this a consortium headed by Astrium won the contract despite strong European competition.

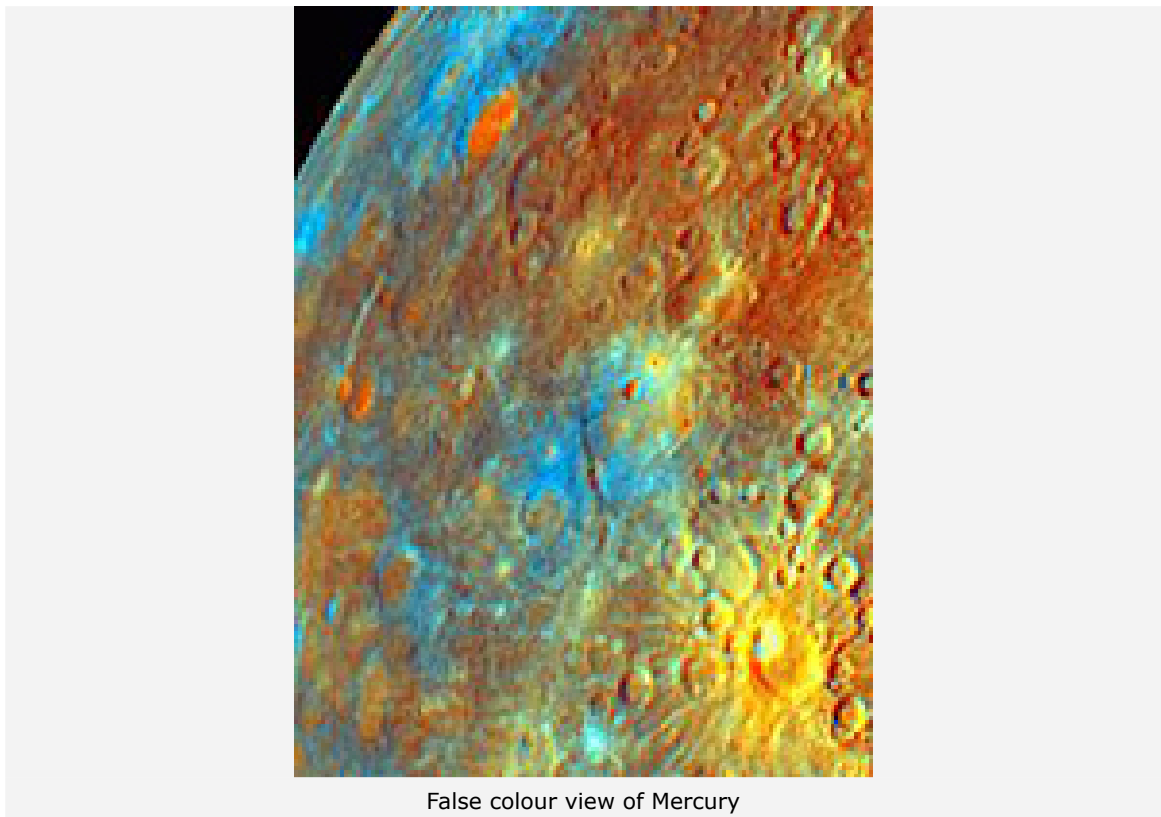


BepiColombo satellites at Mercury

Experience for future missions

"Our success in the contest for this particularly difficult mission once more underscores the high level of competence and the capability of the German space travel industry in the European context", explains Dr Walter Döllinger, programme director of the DLR space agency in Bonn. The experience gained during BepiColombo could already pay off in the bid for the next major contract in ESA's scientific programme. The Solar Orbiter mission makes comparable demands on the thermal system and will probably be built on a similar space platform .

The Mercury mission, named after the Italian scientist Giuseppe "Bepi" Colombo, has as its scientific goals mapping the surface and its mineralogical composition, exploring the inner structure of the planet and the interaction of Mercury's magnetic field with the solar wind. The exploration of the planet closest to the Sun will allow a glimpse into the earliest period of planetary development and, based on the age of its surface, vital details concerning the creation and development of our Solar System are expected to be obtained. The issues concerning the inner structure of Mercury and the origin of its magnetic field are of crucial importance to understanding all terrestrial planets..

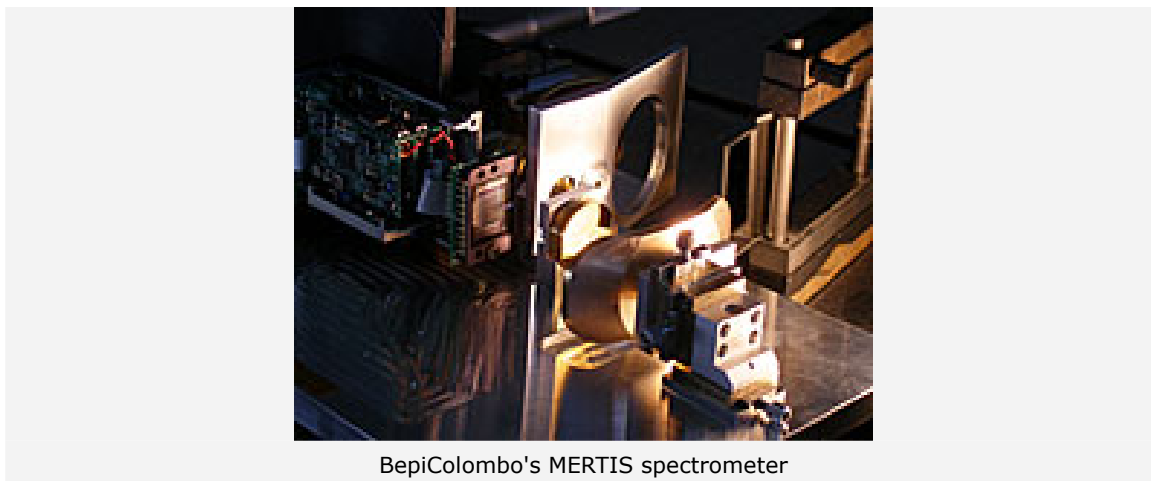


False colour view of Mercury

Three main instruments are German

The scientific investigations of Mercury are to be carried out using eleven instruments located on ESA's satellite and five instruments located on the JAXA magnetospheric satellite, including camera systems, several spectrometers for various energy ranges and wavelengths, solar wind particle sensors and magnetometers.

Three main instruments will be flying to Mercury from Germany on ESA's satellite: The Institute of Planetology at the University of Münster and the DLR's Institute of Planetary Research are developing the thermal infra-red spectrometer MERTIS (**M**ercury **R**adiometer and **T**hermal **I**nfrared **S**pectrometer) at the DLR facility for optical information systems in Berlin-Adlershof. This enables mineralogical mapping and allows the temperature on Mercury's surface to be determined. MERTIS will deliver a unique insight into the inner structure, the mineralogy of the surface and the geological development of the entire planet.



The production of BELA (**B**epiColombo **L**aser **A**ltimeter) which is to be used for the topographical mapping of Mercury, will be jointly led by the DLR Institute of Planetary Research in Berlin and scientists from the University of Bern. "Using BELA we will be able to accurately survey the topography of the planet", explains the head of the DLR Institute of Planetary Research, Prof. Tilman Spohn: "As a result we will be able to describe the shape of the celestial body very well and also for example ascertain to what extent the tidal deformation of the rock mantle is due to the strong force of attraction exerted by the nearby Sun."

Finally, the magnetometer used to identify Mercury's magnetic field and its interaction with the solar wind will be developed at the Technical University of Braunschweig. Using this instrument the scientists hope to draw conclusions about the source of the field on the planet and its interior structure with a relatively large metallic core. The Max Planck Institute of Solar System Research in Katlenburg-Lindau will contribute to each of the satellites one minor experiment to study particles in solar wind and the magnetosphere.

Related Contacts

Dr. Niklas Reinke

Deutsches Zentrum für Luft- und Raumfahrt (DLR) - German Aerospace Center
Corporate Communications
Tel: +49 228 447-394
Fax: +49 228 447-386
E-Mail: Niklas.Reinke@dlr.de

Dr. Wolfgang Frings

German Aerospace Center
Space Agency
Tel: +49 228 447-357
E-Mail: Wolfgang.Frings@dlr.de

Prof.Dr. Tilman Spohn

German Aerospace Center
Institute of Planetary Research, Management and Infrastructure
Tel: +49 30 67055-300
Fax: +49 30 67055-303
E-Mail: Tilman.Spohn@dlr.de

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