

Alarm call wakes comet probe

PARIS, FRANCE: An alarm clock in deep space woke the comet probe Rosetta ahead of a key phase in its 10-year mission, European scientists said.



The Rosetta space probe that will land its laboratory on the surface of a comet in deep space. Image: [ESA](#)

"Rosetta's onboard computer was programmed to give the wake-up call at 1000 GMT, and it took seven hours for mission control to get confirmation it worked," they said.

The craft was launched in 2004 on a trek of seven billion kilometres around the inner solar system.

Its goal is to rendezvous in August with a comet, 67P/Churyumov-Gerasimenko, and in November it will send down a lander to carry out experiments on the icy wanderer.

Comets are clusters of ice and dust which are believed to be remnants from the very birth of our solar system. Analysing this matter should unlock secrets of how the solar system formed and possibly how life on Earth was kick-started.

Alvaro Gimenez Canete, the European Space Agency's director of science and robotic exploration, referred to the carved stone that in the early 19th century unlocked Egyptian hieroglyphics and revealed the life of the Pharaohs.

"Rosetta and the comet 67/P may become the Rosetta Stone for planetary science," he said.

Rosetta was placed in hibernation for 31 months because it was so far from the Sun that light was too dim to power its solar array.

Wake-up procedure

The wake-up procedure took a number of hours, followed by a tiny "all is well" signal, which took 45 minutes to cross a distance of more than 800m km.

"The window in which we expected the nominal signal, went according to plan," Paolo Ferri, ESA's head of solar and planetary missions, told AFP by phone from mission control in Darmstadt, Germany.

Rosetta will progressively carry out braking and steering manoeuvres designed to get it on track with Comet "C-G."

In August, the craft will be inserted into an orbit just 25km above the comet, using 11 cameras, radar, microwave, infrared and other sensors to scan its surface.

The billion-dollar craft carries a fridge-sized robot laboratory, Philae, designed to harpoon itself to the "dirty snowball" surface and carry out experiments.

"We want to know everything about the comet - magnetic field, composition, temperature, everything," said Amalia Ercoli-Finzi, in charge of one of the 10 instruments aboard Philae.

Over the last quarter-century, 11 unmanned spacecraft have been sent on missions to comets, most of them flybys.

Successes include the US Stardust probe, which brought home dusty grains snatched from a comet's wake, and Europe's



The Rosetta space probe was successfully brought back to life after years of being in a dormant state on a trip to an icy comet. Image: [ESA](#)

Giotto, which ventured to within 200km of a comet's surface.

If Rosetta succeeds, it would cap them all in terms of its sampling size and proximity. Thomas Reiter, ESA's director of human spaceflight and operations described the Rosetta venture as "one of the superlatives".

"It's truly unique and in William Shakespeare's words, 'stuff of which dreams are made.'"

Source: AFP via I-Net Bridge

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