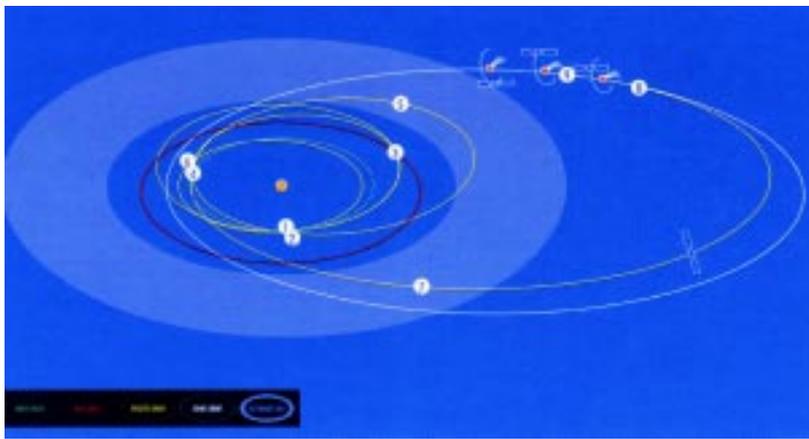


Rosetta and Philae is on the way - what new knowledge can they give us?

Our tiny corner of the universe - the Solar System - is home to one star, nine planets and dozens of planetary satellites. It also contains millions of asteroids and comets – the leftover debris from the cosmic construction site that created the planets and their moons. Rosetta's task is to study these primitive building blocks at close quarters so that scientists may gain new insights into the events that took place 4600 million years ago, during the birth of the Earth and its planetary neighbours. Texts: ESA.



Milestones in the Rosetta mission.

1. Launch February 2004
2. First Earth fly-by March 2005
3. Mars fly-by March 2007
4. Second Earth fly-by November 2007
5. Passing the Asteroid belt and pass 437 Rhodia September 2008
6. Third Earth fly-by November 2009
7. Passing the asteroid belt for the second time and pass 21 Lutetia July 2010.
8. Enter hibernation July 2011
9. Exit hibernation January 2014
10. Rendezvous manoeuvre May 2014
11. Global Mapping August 2014
12. Lander delivery November 2014.

To orbit the comet and place an instrument package on the Comet 67P/Churyumov-Gerasimenko in November 2014 the European Comet Chaser Rosetta must commence the extremely long journey towards the almost unknown comet "Chury" in the launch window between 26 February and 17 March 2004, most likely the 26.

The spacecraft does not take the straightest way to the comet, but must take some complicated manoeuvres to reach and orbit the final destination, and later land there. Rosetta then must seek gravity assistance three times from earth. The first time in March 2005, the second time in November 2007, and finally in November 2009. In addition, the spacecraft will seek gravity assistance from Mars in March 2007. This complicated trajectory will bring Rosetta to the comet for the rendezvous manoeuvre May 2014. Global mapping of the comet will start in August 2014, and drop off a package of instruments, previously known as the Rosetta Lander, now named Philae, in November 2014, and finally the Perihelion Passage August 2015. En route to the comet it will hopefully fly by at least two asteroids. At the moment the two asteroids 437 Rhodia and 21 Lutetia are the most likely targets.

Rosetta was originally intended to rendezvous with the periodic comet 46P/Wirtanen, but after the launch was delayed, the target was changed to another regular visitor to the inner Solar System, 67P/Churyumov-Gerasimenko. Rosetta is now modified to orbit and land on the new target and is at Kourou waiting for the launch window.

Rosetta takes its name from the Rosetta Stone, an incomplete stone of black basalt incised with the same priestly decree in three scripts concerning Ptolemy V. Although three scripts are shown (Egyptian hieroglyphs, Egyptian demotic and Greek) just two languages are represented. The great significance of the Stone is that it provided the key to deciphering Egyptian hieroglyphs.

Philae is the island in the river Nile on which an obelisk was found that had a bilingual inscription including the names of Cleopatra and Ptolemy in Egyptian hieroglyphs. This provided the French historian Jean-Francois Champollion with the final clues that enabled him to decipher the hieroglyphs of the Rosetta Stone and unlock the secrets of the civilisation of ancient Egypt.

Among the many countries and institutes that take part in the project, the Nordic countries are very well represented. The following articles will show some of the projects connected to the mission, but the presentation is now a complete presentation.