

Comet landing is successful

By successfully landing on a comet, the European Space Agency ESA has written space history. On 12 November 2014, the Philae lander, built by the German Aerospace Center (DLR) as part of the Rosetta mission, set down on the surface of comet 67P/Churyumov-Gerasimenko. RUAG Space was instrumental in the development and construction of the Rosetta “mother ship”, which transported the lander on a ten-year journey through the solar system to the comet.

Rosetta took off on board an Ariane rocket on 2 March, 2004. The probe spent a portion of its long journey in a kind of hibernation, during which it conserved energy by powering down all on-board systems as much as possible. To prevent Rosetta from freezing, RUAG Space developed a special “sleeping bag” for the orbiter – a form of double insulation that offers effective protection from small meteorites as well as from the cold. On 20 January this year Rosetta’s central computer, built by RUAG Space, woke the probe up out of hibernation.

The plan is for Rosetta to spend around a year and a half circling and examining the comet, and scientists expect its findings to provide new insights into the birth of our solar system. Comets are cosmic freezers that contain matter preserved in virtually the same state as when the solar system began over 4.6 billion years ago. And in having carried organic matter to our planet, comets may even have contributed to the beginnings of life on Earth.

Rosetta is equipped with eleven scientific instruments. One of them, the Rosina (Rosetta Orbiter Spectrometer for Ion and Neutral Analysis) instrument, features a high-resolution mass spectrometer that was built by RUAG on behalf of the University of Bern and goes by the name of DFMS (Double Focussing Mass Spectrometer). Rosina’s job will be to investigate the composition of the comet’s thin atmosphere and its ionosphere. In addition, Rosina is equipped to determine the speed and temperature of the gases escaping from the comet. RUAG Space also developed the control and measuring electronics for another of the instruments, Midas, which will measure minute dust particles in the comet’s tail.

To ensure seamless communication between the Earth and the probe, Rosetta was fitted with a high-performance communications system. RUAG Space manufactured this system’s high-gain antenna complete with cabling as well as the antenna’s pointing and deployment mechanisms.

Contact: RUAG Space, Hendrik Thielemann, Tel.: +41 44 306 27 41
hendrik.thielemann@ruag.com

RUAG Space is Europe’s leading equipment supplier to the space industry. With 1,150 employees at seven sites in Switzerland, Sweden and Austria, the RUAG Space Division recorded total sales of 299 million Swiss Francs in 2013.

RUAG is an international technology group for the aerospace and defence markets. Its head office is in Bern, Switzerland. RUAG’s production facilities are located in Switzerland, Germany, Sweden, France, Austria, Hungary, Australia and the United States. RUAG has about 8,200 employees worldwide, including 414 trainees in 23 different professions

