Press release

Paris, 3 April 2015
PR052 - 2015

CNES delivers first model of SEIS seismometer for InSight mission to NASA

A major milestone has been reached for the Mars seismology instrument of the InSight mission being pursued with NASA after the recent delivery by CNES of the SEIS seismometer (Seismic Experiment for Interior Structure), designed to take the pulse of the Red Planet.

A particularly innovative instrument

At the end of March, CNES delivered the qualification model of the SEIS seismometer to NASA for the InSight mission to Mars, scheduled to launch in a little under one year's time on 4 March 2016.

The model has been integrated with the mission's lander at the Denver, Colorado, facility of contractor Lockheed Martin, which is building the cruise, descent and landing modules for InSight. It has successfully undergone two weeks of functional testing at the facility, assisted by a CNES team on site.

This qualification model will be replaced in August by the flight model currently being assembled in the integration rooms at CNES's Toulouse Space Centre.

Delving deep inside Mars

InSight (Interior Exploration using Seismic Investigations, Geodesy and Heat Transport) is a NASA Discovery Program mission that will place a single geophysical lander on Mars to study its deep interior.

The mission's principal instrument is the SEIS seismometer, a European—mainly French—instrument developed by CNES as prime contractor. SEIS's very-broad-band (VBB) seismic probes were conceived by the Institut de Physique du Globe de Paris (IPGP) and its short-period (SP) seismic probes by Imperial College London and Oxford University in the United Kingdom. The instrument is also equipped with a levelling system designed by the Max Planck Institute for Solar System Research (MPS) in Germany, electronics systems from the Swiss Federal Institute of Technology (ETH) in Zurich, Switzerland, and a shielded cable several metres long connecting the electronic systems on the lander to the seismometer that will be put down on the surface of Mars, produced by NASA's Jet Propulsion Laboratory (JPL) in the United States.

JPL is also supplying the protective cover that will shield the seismometer from the cold, wind and very fine Martian dust particles that could prevent it from working properly. InSight will also be carrying the Heat Flow and Physical Properties Package (HP^3) built by the German aerospace agency DLR in Germany and the Rotation and Interior Structure Experiment (RISE) developed by JPL.

Contacts

Pascale Bresson	Tel. +33 (0)1 44 76 75 39	pascale.bresson@cnes.fr
Alain Delrieu	Tel. +33 (0)1 44 76 74 04	alain.delrieu@cnes.fr
Julien Watelet	Tel. +33 (0)1 44 76 78 37	julien.watelet@cnes.fr
Press office	Tel. +33 (0)1 44 76 76 88	cnes-presse@cnes.fr