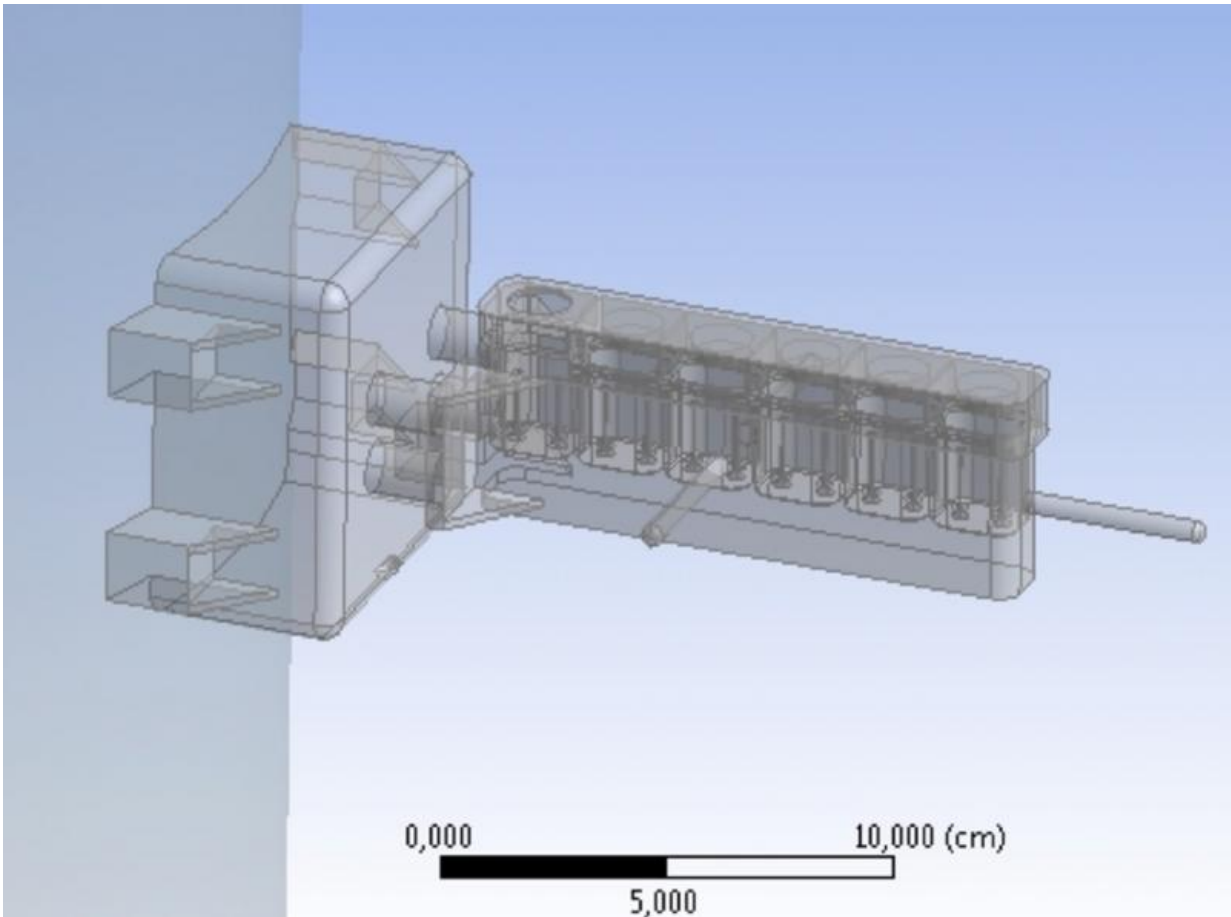


Swedish Mars instrument selected by ESA

December 3 2015



Mechanical model of the groundbreaking new multi- instrument HABIT to be placed on the surface of Mars. Credit: A. Soria-Salinas/Luleå Tekniska Universitet

HABIT is the name of the first Swedish instrument to be placed on the

surface of Mars. It was developed by an international research team led by Professor Javier Martín-Torres and Professor María-Paz Zorzano at Luleå University of Technology. (ESA) European Space Agency has selected the groundbreaking instrument for their next big expedition to Mars ExoMars 2018.

"We are very proud that our instrument has been selected by ESA. HABIT is a groundbreaking multi-instrument that will be mounted on a platform on the [surface](#) of Mars and is an important part of ESA's new mission ExoMars 2018. HABIT has the opportunity to evaluate environmental and habitability conditions on Mars, and to demonstrate that we can produce Martian [liquid water](#) for future Mars Exploration," says Javier Martín-Torres, professor of atmospheric science at Luleå University of Technology.

ESA's next expedition to the surface of Mars, ExoMars 2018, includes both a new Mars Rover, and also a new Russian space platform to which two European instruments are selected. One of them is HABIT, led by Javier Martín-Torres and Maria-Paz Zorzano, and another is the Lander Radio Science Experiment (LaRa) who will deliver the details about Mars internal structure.

HABIT is an innovative [instrument](#) with multiple functions. It will, among other things, be able to investigate and quantify the landing area's three most critical environmental parameters for life as we know it: ultraviolet radiation, thermal ranges, and access to water. It will provide also information about the Martian atmosphere.

"With our measurements we will examine the presence of water in the atmosphere and below the surface, as well as we will study how ozone, water and dust behaves over time in the atmosphere," says Javier Martín-Torres.

A third task of HABIT is to be a in-situ resource utilization (ISRU) demonstrator for future space exploration of Mars.

Already in April 2015 a research group lead by Javier Martín-Torres was responsible for presenting the first evidences that there is liquid water on Mars. All the evidence that emerged from the research was based on indirect observations that need to be further verified.

"That's what HABIT is going to achieve by providing irrefutable evidences of the formation of liquid water on Mars," says Martín-Torres.

Provided by Lulea University of Technology

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