Mars Exploration (5)
Mars Exploration (1)

Author: Mrs. Antonella Ferri
Thales Alenia Space Italia (TAS-I), Italy, antonella.ferri@thalesaleniaspace.com

Mr. Federico Massobrio
Thales Alenia Space Espana, Italy, federico.massobrio@thalesaleniaspace.com
Mr. Stewart Pelle
Thales Alenia Space Italia, Italy, stewart.pelle@thalesaleniaspace.com
Dr. Maria Antonietta Perino
Thales Alenia Space Italia, Italy, mariaantonietta.perino@thalesaleniaspace.com

PHOBOS SAMPLE RETURN MISSION

Abstract

The Phobos Sample Return mission is a candidate mission of the Mars Robotic Exploration Preparation (MREP-2) programme, targeted for a launch in 2024. Its main objective is to acquire and return a sample from the Mars moon Phobos, after a scientific characterisation phase of the moon and of the landing site. It also includes as secondary objective the characterisation of Mars moon Deimos at global level. In 2013 a cooperation agreement was signed between ESA and Roscosmos concerning possible collaboration and teamwork for the robotic exploration of Mars and other bodies of the solar system, and it was agreed that a robotic sample return from the surface of Phobos was a mission of common interest as well as relevant to the Mars Sample Return mission (MSR) for some robotic aspects other than for the return leg of the mission. Thales Alenia Space is carrying on the Phobos Sample Return Phase A study, that shall consolidate the designs performed during the previous industrial and CDF studies, taking into account preliminary agreements on the mission elements distribution between ESA and Roscosmos, without discarding the possibility of a full ESA implementation scenario. This paper will present the preliminary results of the study, focusing on the full European mission.