

IAF SPACE EXPLORATION SYMPOSIUM (A3)
Mars Exploration – missions current and future (3A)

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MARS SAMPLE RETURN CAMPAIGN STATUS

Abstract

The Mars Sample Return (MSR) program is a partnership between NASA and ESA that is planning to return the first ever samples from the surface of Mars to terrestrial laboratories to answer fundamental questions about Mars. This paper will provide an overview of the MSR campaign architecture status including the specific proposed missions. Overall proposed campaign objectives, mission phase scenarios and timelines will be described. The Sample Retrieval Lander (SRL) mission concept and reference design, being proposed by NASA, will be discussed. Current operational scenarios will be described, which include the Mars Ascent Vehicle (MAV), Sample Fetch Rover (being developed by ESA), Orbiting Sample container (OS), and the sample tube transfer. The Earth Return Orbiter (ERO) mission concept and reference design, being developed by ESA, will be discussed. The mission concept and reference design of the ERO payload, the Capture/Containment and Return System (CCRS), being proposed by NASA, will be discussed. The information presented about NASA's role in a potential MSR campaign is pre-decisional and is provided for planning and discussion purposes only.