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

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MARS SAMPLE RETURN CAMPAIGN - STATUS OF THE ESA PROVIDED ELEMENTS

Abstract

The analysis in Earth laboratories of soil samples returned from Mars is of extremely high interest to the international scientific community and of key relevance for Mars exploration. The NASA Mars 2020 sample-caching rover mission is the first component of a planned Mars Sample Return (MSR) campaign, so its successful landing and operations on Mars surface constitutes a critical opportunity. In November 2019, at the ESA Ministerial Council Meeting Space19+, ESA Member States have approved the European contributions to a joint MSR Programme with NASA.

This paper describes the characteristics and the project status of the MSR campaign elements provided by ESA. It will focus on the design, operations concept and development status of the Earth Return Orbiter

(ERO), the Sample Fetch Rover (SFR) and the Sample Transfer Arm (STA), outlining as well the mission objectives and the links between these elements and the rest of the MSR campaign.