

SPACE EXPLORATION SYMPOSIUM (A3)  
Space Exploration Overview (1)

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## ASPECTS OF THE TECHNICAL IMPLEMENTATION OF THE RUSSIAN MARS PROGRAM

**Abstract**

Today, the exploration of Mars is one of the strategic goals of Russia to study planets and small bodies of the Solar System. By analogy with the Moon program the main purpose of the program is to deliver to Earth samples of Mars substance. To achieve this in Russia it is developed a perspective program that includes the following main stages : Exomars project - joint mission with ESA for Mars exploration using the rover and landing platform ; project Boomerang - mission to study Mars system, including the delivery of Phobos substance samples; project Mars Sample Return - mission to deliver to Earth samples of Mars substance. Spacecraft to explore Mars systems are designed in a modular approach, with the following main principles: using technical solutions that provide possibility of the foreign cooperation involvement for participation in the international Mars exploration program; ensuring continuity of the background experience from Lunar Exploration program and from Exomars-2018 projects; step by step increasing in complexity of the missions with testing of the key technologies.