

IAF SYMPOSIUM ON COMMERCIAL SPACEFLIGHT SAFETY ISSUES (D6)  
Emerging Space Ventures, including Space Logistics and Space Safety for Sustainability (2-D2.9)

Author: Mr. Christopher Carberry  
Explore Mars, Inc, United States, carberry@exploremars.org

THE BUSINESS CASE FOR MARS EXPLORATION

**Abstract**

As humanity prepares to send humans to Mars in the 2030s, space agencies, companies, and other entities are investigating the innovations required for enabling a sustainable future on the red planet and other locations in our solar system. This includes solutions to such requirements as food production, remote medicine, 3-D printing, artificial intelligence, synthetic biology, life support systems, resource utilization, water extraction and reclamation, agriculture, construction, and many others.

In addition to solving problems that face future Mars explorers, by looking at these problems through the Mars ‘lens,’ we will undoubtedly solve problems here on Earth and create new markets. Indeed, commercial entities and investors have taken notice. A small number of venture capitalists are now investing in Mars related technologies/start-ups, and companies of all sizes and backgrounds (many of which not traditionally from the space industry) are working on solutions that could advance sustainability on Mars and improve life on Earth. This presentation/paper will review the current state of Mars private Mars investment, highlight promising technologies, and discuss how to expand private investment and development.