

IAF SPACE EXPLORATION SYMPOSIUM (A3)
Space Exploration Overview (1)Author: Ms. Natalia Larrea Brito
Novaspace, CanadaMr. Jan Clarence Dee
Novaspace, CanadaGLOBAL PROSPECTS FOR SPACE EXPLORATION:
A STRATEGIC AND ECONOMIC ASSESSMENT**Abstract**

Since the early beginnings of space exploration, the number of countries involved has expanded considerably. The International Space Station (ISS) has been to date the largest international cooperation program. Up until now, international partners have had difficulties establishing a common and sustained vision for the future of space exploration beyond LEO orbit. This, however, is evolving as leading space agencies recognize the importance of expanding a sustainable robotic and human presence on and around the Moon in the 2020s as a pathway to Mars in the 2030s. NASA and ISS partners have begun planning the design of a cislunar station (Lunar Orbital Platform-Gateway) as the next potential large international cooperation program. Concurrently, worldwide agencies plan future robotic and manned missions to the Moon's surface. Governments also agree on the importance of maintaining a sustained presence in LEO. NASA's future vision for LEO includes a sustainable U.S.-led commercial human spaceflight marketplace. Meanwhile, China is developing its LEO space station. Robotic missions to Mars and other destinations will also continue expanding our scientific knowledge and advancing technical capabilities in the next decade. In this global context, world government investment in space exploration totaled \$14.6 billion in 2017, a 6% increase compared to 2016. Fifteen leading space programs worldwide are estimated to contribute to this global investment with the U.S. accounting for 74% of the total. In a still constrained budgetary environment, global space budgets for space exploration are expected to grow to over \$20 billion by 2027. Growth factors include growing investments from leading space programs to support Moon exploration and orbital infrastructure as the Moon become the next global strategic priority, as well as increased funding in transportation programs to support future LEO and BLEO activities. Space exploration, however, is attracting not only the interest of an increasing number of governments but also the private sector; start-ups to large companies seek to exploit the commercial potential of exploration activities. Moving forward, space agencies are increasingly seeking to leverage partnerships with the private sector to achieve their goals more cost-effectively while fostering sustainable space exploration. This paper will provide an overview of Euroconsult's market research report on the Prospects for Space Exploration. It will answer questions such as what are the key trends in space exploration, who are the key commercial and government players, and government investment by application, amongst others.