

HUMAN EXPLORATION OF THE SOLAR SYSTEM SYMPOSIUM (A5) Long Term Scenarios for Human Moon/Mars Presence (2)

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SPACE TOURISM - ESSENTIAL STEP IN HUMAN SETTLEMENT OF SPACE

Abstract

PURPOSE This paper, in alignment with the Congress theme of Space Science and Technology for the Needs of All, draws attention to the essential role of space tourism, as a commercial enabler, in the development of a sustainable long term strategy for exploration and settlement of solar system objects.

METHODOLOGY The premise of the paper is that governments will not be able to obtain all of the necessary funding and public support over the long duration necessary (multiple election cycles) in order to unilaterally conduct missions to explore and colonize the Moon, Mars or other solar system objects. Using well-researched quantitative studies, such as the NASA ASCENT Study, the author explores alternative commercial sources of such potential funding, which would provide an economic development basis for such a venture, and simultaneously engage the general public through direct involvement to eventually make such a venture possible.

RESULTS The analysis determines that space tourism is the one near-term commercial space market sector whose development will lead to the desired long term results, both in terms of development of the infrastructure at limited cost to governments, and engagement of the public for the longer term goals being proposed. A major consequence of a successful space tourism industry, in addition to creating an involved public, will be regular, safe and relatively low cost journeys to and from low earth orbit. This in turn will provide a new starting point, or platform, for the long term exploration and settlement of the solar system through further economic developments.

CONCLUSIONS A basic architecture is described for a sustainable approach to the exploration and colonization of solar system objects, which relies as a key factor on the successful development of a viable space tourism industry.