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A STUDY ON MISSION DESIGN FRAMEWORK OF REUSABLE VEHICLES FOR POTENTIAL
HUMAN SPACEFLIGHT IN LEO

Abstract

Space has always been a keen interest to people as well as to researchers. Till the last centuries only government had resources to send spacecraft and astronauts into the space. But with the advancements in technology and interest of business moving towards space sector, many private companies are also set to launch the major mission for space exploration. However, the main international treaties dealing with this subject are still based on the assumption that space activities are mostly reserved to states. The target is making this sector profitable through more involvement of people.

The major challenge is to design a space mission within the budget. This will not only improve the efficiency of the mission, plus it can be used as tourism for people. A framework has potential application in architecting flexibility in certain mission designs with the objective of maximizing mission utility. It integrates economic principles of cost, return, risk, flexibility, and other concepts.

In this paper, a real option of framework for use in space mission design is presented. The technical paper proposes a study on "capability based" way to deal with space technology research and innovation advancement assets on frameworks to be relied upon for private human access mission or set of missions to space as a primary concern. The way toward choosing future missions would then will in general support those missions that could make utilization of the frameworks and abilities that exist. The objective is to study for economically viability and feasibility percentage of the carrier system for human resources into space, which can be further used as a profitable source of income in space industry. At best it attempts to demonstrate that there are techniques and ways of thinking - frameworks - that offer benefits for trade off selections for a certain human space mission till LEO.