

IAF HUMAN SPACEFLIGHT SYMPOSIUM (B3)  
Commercial Human Spaceflight Programs (2)

Author: Dr. Alexander G. Derechin

S.P. Korolev Rocket and Space Corporation Energia, Russian Federation, alexander.derechin@rsce.ru

Mr. Igor Verkhovsky

S.P. Korolev Rocket and Space Corporation Energia, Russian Federation, Igor.Verkhovsky@rsce.ru

Mr. Nikolay Sevastiyarov

RSC Energia, Russian Federation, irina.agapova@rsce.ru

COMMERCIAL SPACEFLIGHT BEYOND LOW EARTH ORBIT

**Abstract**

Commercial human spaceflights beyond low Earth orbit including high Earth orbit missions, moon fly-by, and lunar orbit missions have been reviewed. Missions' parameters including the crew size, mission duration, volume of the pressurized compartments for crew to work and live in, requirements to the interfaces, mission profile options (two-launch or one-launch), etc. have been determined with regard to the characteristic velocity necessary for each of the reviewed option. Market for each option has been estimated with allowance for the forecasted price of the "ticket".