

IAF SYMPOSIUM ON COMMERCIAL SPACEFLIGHT SAFETY ISSUES (D6)
Enabling safe commercial spaceflight: vehicles and spaceports (3)

Author: Dr. Alessandra Bonavina
NEXT ONE FILM GROUP Srl, Italy, bonavinaalessandra@gmail.com

Dr. Francesco Santoro
Altec S.p.A., Italy, francesco.santoro@altecspace.it
Mr. Cesare Capararo
Altec S.p.A., Italy, cesare.capararo@altecspace.it

IMPLEMENTING SPACEPORT INNOVATIVE CAPABILITIES TO ACQUAINT AND PREPARE
FUTURE SPACE TRAVELERS THROUGH ENHANCED, FULLY IMMERSIVE EXPERIENCE

Abstract

A Spaceport includes infrastructures and facilities to operate a space access platform; while some of the current spaceflight initiatives are aimed at space tourism, corroborated by promising market forecasts, it is evident that filling the existing gap in education and training for the space tourists and future travelers, will certainly enable a wider interest, familiarization and awareness of the opportunities provided by access to space, thus potentially improving the future market; yet, the Spaceport is regarded as the pivotal place to the purpose, since it provides the proper asset frame within a spaceflight-oriented environment. This paper describes how such new approaches can be put in place to provide customers with a comprehensive experience, that proceeds through different progressive phases, leading the customer to live a fully immersive suborbital flight, experience life on board the International Space Station, and eventually reach up to the Moon and Mars; the pathway is based upon the outfitting within the Spaceport of a dedicated training area featuring virtual reality equipment, simulators, scientific-rated audio and video contents, aimed at beefing up the training and education effectiveness, as well as fostering the scientific learning among widespread people; typical space environment aspects such as weightlessness, high level accelerations, and hovering and floating in space will be part of the experience. Educating new generation space travelers will foster the future space tourism development so that training will not only be instrumental to the actual flight, but will inspire people who are only interested to the simulated thrill of space travel; this paper also addresses flexibility and scalability features of this approach to allow modular adjustments and suit the technical and commercial goals of multiple spaceports no matter their location or the technology they support. The ultimate goal is to provide professional and recognized first pass to become a space tourist and will ultimately evolve towards a totally entertainment experience which 'lives' at the Spaceport. Preliminary business case predictions based on different kind of users have been laid out and the expected return for investment looks very promising. Flexibility to different sites is also attractive to operators who are interested in global international operations, wishing to integrate their spaceflight offers with additional value added capabilities. A select initiative in the above described scenario will be illustrated.