

IAF SPACE TRANSPORTATION SOLUTIONS AND INNOVATIONS SYMPOSIUM (D2)
Safe Transportation Systems for Sustainable Commercial Human Spaceflight / Small Launchers: Concepts
and Operations (Part II) (9-D6.2)

Author: Prof. Eva Yi-Wei Chang
University of Science & Technology, Taiwan, China, eva77tw@cc.hc.cust.edu.tw

Prof. Rock Jeng-Shing Chern
Ryerson University, Canada, editor-in-chief@iaamail.org

FROM AVIATION TOURISM TO SUBORBITAL SPACE TOURISM: A STUDY AND DISCUSSION
ON TOURIST SCREENING CRITERIA AND BUSINESS OPPORTUNITIES

Abstract

Most recent development in suborbital space tourism (SST) includes: (1) On 26 October 2017, the Public Investment Fund (PIF) of Saudi Arabia and Virgin Group have signed a non-binding Memorandum of Understanding for a partnership under which PIF intends to invest approximately USD 1 billion into Virgin Galactic; (2) On 18 December 2017, the Virgin Galactic and Italian Space Agency (ASI) announced that they had signed a Letter of Intent under which ASI would secure a full suborbital flight on Virgin Galactic's SpaceShipTwo (SS2) for scientific research in 2019 at Spaceport America in New Mexico; (3) On 12 December 2017, Blue Origin's New Shepard flew again for the seventh time from its West Texas Launch Site with 12 commercial, research and education payloads onboard, featured the next-generation booster and the first flight of Crew Capsule 2.0; and so on. However, there are still many issues for the enhancement from aviation tourism to SST: safety of reusable suborbital launch vehicles (RSLV), requirements on spaceport facilities, study in consumer attitude, facilities for screening and training of tourists, training of pilots, settlement of laws and regulations, promotion of marketing, insurance system, spacelines operations, etc. The major purposes of this paper are to study and discuss the tourist screening criteria and the related business opportunities in the near future. Basically, for the horizontal-take-horizontal-landing (HTHL) RSLV such as SS2 and the vertical-take-vertical-landing (VTVL) RSLV such as Blue Origin's New Shepard, rocket engines are being used with flight environments completely different from aircraft. Training and screening on passengers are necessary which shall generate and develop new business opportunities in the near future. This paper shall study and discuss the passengers training and screening criteria, and the potential business opportunities.