

BUSINESS INNOVATION SYMPOSIUM (E6)
Public/Private Human Access to Space - Supporting Studies (2)

Author: Prof. Eva Yi-Wei Chang
University of Science & Technology, Taiwan, China

Prof. Rock Jeng-Shing Chern
Ryerson University, Canada
Mr. Chih-Hung Chang
Hsinchu County Council, Taiwan, China

FROM AVIATION TOURISM TO SUBORBITAL SPACE TOURISM: A STUDY OF TAIWAN'S
INFRASTRUCTURES

Abstract

The purposes of this paper are to review Taiwan's current infrastructures in aviation tourism (AT) and to study the necessary upgrade to meet the requirements and standard of suborbital space tourism (SST). Investigation and discussion shall include the following areas: traffic tool, airport, laws and regulations, medical (physical and mental) issues, tourist training facilities, and insurance. The crash of one SpaceShipTwo (SS2) of Virgin Galactic at the Mojave Desert, California on 31 October 2014 during test flight startled both the space as well as the tourism communities. Developed for the purposes of SST, satellite launch from suborbit, and scientific research on suborbit, SS2 is one of the reusable suborbital launch vehicles (RSLVs). The tragedy caused the sacrifice of one senior test pilot. But it also waked up tourists that the long overdue of SST might be just a few years away. As of today, the major RSLVs are the Lynx of XCOR, the Spaceplane of Airbus Defense and Space, the Dream Chaser of Sierra Nevada Corporation (SNC), the suborbital shuttle SOAR of Swiss Space Systems (S3), and the SS2 of Virgin Galactic. In Taiwan, about 10 tourists already made reservation and payment for SST. There are plenty of aviation tourism infrastructures. Similar to many other countries, it is inevitable that Taiwan shall develop its SST industry someday in the future. This paper studies the necessary efforts to upgrade from the current AT infrastructures to meet the SST requirements in Taiwan. Basically, Taiwan shall not develop RSLV, but could incubate operation and maintenance capabilities. There are several civil airports which could be upgraded to become spaceports. Also, laws and regulations for SST could be settled and issued based on the current AT laws and regulations. It lacks in Taiwan the tourist medical requirements and training facilities for SST. However, the current Aviation Medical Center and the Aerospace and Underwater Medical Center could be upgraded to meet the SST standard.