

SYMPOSIUM ON COMMERCIAL SPACEFLIGHT SAFETY ISSUES (D6)
Commercial Space Flight Safety and Emerging Issues (1)

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THE FIRST DECADE OF SPACE TOURISM

Abstract

During the first decade from 2001 to 2010, 7 millionaires travelled the space 8 times by taking Russia's Soyuz-TMA spacecraft. They are Dennis A. Tito (28 April to 6 May, 2001), Mark R. Shuttleworth (25 April to 5 May, 2002), Gregory Olsen (1 to 11 October, 2005), Anousheh Ansari (18 to 29 September, 2006), Charles Simonyi (7 to 21 April, 2007 and 26 May to 8 June, 2009), Richard Garriott (12 to 23 October, 2008) and Guy Laliberte (30 September to 11 October, 2009). The costs ranged from 20 to 35 million USD. Sarah Brightman, the famous singer, has also planned a space travel in the near future. However, the true private human access to space (PHAS), or say the true "space tourism" took place in 2004. Let us trace back a little bit of the history. In 1927, the trans-Atlantic aviator Charles Lindbergh won the USD 25,000 Orteig Prize with a nonstop solo driving of the Spirit of St. Louis from New York to Paris. Modeled after this prize, the Ansari X Prize of USD 10,000,000 was won by the private spacecraft SpaceShipOne on 4 October 2004. Both of them accomplished the big events in the aerospace history which represent the major milestones of aviation tourism and space tourism, respectively. Built by the famed aerospace designer Burt Rutan of Mojave-based Scaled Composites, the private program is financially backed by the software billionaire Paul Allen. At its highest point, the rocket plane SpaceShipOne reached an altitude of 367,442 ft or 111.996 km, much higher than the internationally recognized space regime of 100 km altitude required to win the X Prize. It was after this historical moment the spaceflight was no longer the exclusive realm of government. A new private industry for space tourism was born. SpaceShipOne retired immediately after winning the prize. Scaled Composites continued to build the White Knight Two and SpaceShipTwo for space tourism purpose. The Virgin Galactic Spaceline Company plans to purchase three White Knight Twos and five SpaceShipTwos to establish a fleet, and starts commercial suborbital travel operations in late 2013 or later. Preliminary cost estimation is USD 200,000 per person and is expected to be cheaper in the future. This paper studies the first decade as well as the future development of space tourism from the above fact. Comparison between sub-orbital and orbital travel experiences is made, too. Space tourism shall have its prosperity soon.