

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

Author: Ms. Jessica Grapentine  
Embry-Riddle Aeronautical University, United States, [grapentj@my.erau.edu](mailto:grapentj@my.erau.edu)

THE RISE OF THE SPACEFLIGHT PARTICIPANT: AN ANALYSIS OF SFP TRAINING  
PROGRAMS AND REQUIREMENTS IN THE US**Abstract**

While human spaceflight has been conducted since the 1960s, commercial space companies have not succeeded in sending humans into space until recent years. With the rapidly-expanding commercial human spaceflight industry also comes the increasing prevalence of spaceflight participants (SFPs) participating in human spaceflight alongside the traditional professional astronaut. Human spaceflight is now being seen as an option for the average person, the only criteria being the ability to afford the cost of a ticket. Prior to these advancements, human spaceflight was commonly viewed as being exclusive to professional astronauts who have undergone a rigorous selection process. When considering the newness of commercial human spaceflight, it is important to evaluate the training programs SFPs are put through before they are sent into space. Sufficient training programs are essential to maintain an acceptable level of safety for all crew members (which includes both professional astronauts and SFPs) as well as the general public.

This paper will examine the existing regulatory requirements in place for SFP training and how these requirements have been implemented in the most recent commercial human spaceflight missions. Existing US national space law will be examined along with additional guidance materials developed by the Federal Aviation Administration (FAA). Additionally, to gain a better insight into how regulations and standards have been implemented in the commercial spaceflight industry, the SFP training programs for Virgin Galactic's Unity 22 and Blue Origin's NS-16 missions have been analyzed in this paper. The two July 2021 flights will be examined closely, looking at regulations and implementation of current legislation. As these two missions were the earliest successful commercial SFP suborbital spaceflights, the practices adopted by the two set a precedent for the rest of the industry in future missions. Lastly, the additional effects of other factors (e.g. orbital vs. suborbital spaceflight and medical considerations) on SFP training programs will be discussed.