

INTEGRATION OF SUBORBITAL LAUNCHES IN THE NATIONAL AIRSPACE

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Space traffic management can be conceptualized in two different domains: Management of space vehicles transiting through the airspace to and from "space" and management of space vehicles operating on orbit. Each has its own hazards. The National Air Space (NAS) domain is primarily concerned with the complex choreography of scheduling, planning, managing and controlling vehicles in the air so as to avoid their collision with one another and to ensure safety during all maneuvers. The Outer Space domain is primarily concerned with collision avoidance with debris and other operational space vehicles. I will focus on concerns of the former – the need for space traffic management in the NAS and the demands placed upon it by the burgeoning commercial suborbital passenger industry. The United States Federal Aviation Administration (FAA) has a vision for the future of space traffic management which takes advantage of the technological innovations to be developed during its new evolution of air traffic management, the Next Generation Air Transportation System, known as "NextGen," wherein ground radar stations will be replaced by satellite-based technology. I will describe the current way that the FAA handles space operations that interfere with the National Air Space and the tools used to mitigate the potential for collisions and damage due to falling debris. I will then explore the extent to which this concept of operations can be responsive to spaceport, range and operations support so that traditional functions provided by current ranges and spaceports will merge into an integrated system and evaluate the legal challenges inherent in designing and implementing this space traffic management system in the context of current air and space law.