

IAF SYMPOSIUM ON COMMERCIAL SPACEFLIGHT SAFETY ISSUES (D6)
Enabling safe commercial spaceflight: vehicles and spaceports (3)

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THE NEARSPACE INTERFACE BETWEEN AIR AND SPACE TRAFFIC MANAGEMENT

Abstract

NearSpace describes the region between the airspace commonly used by airliners and the beginning of space. It is the region where launching and reentering commercial space vehicles pass through to and from space, where suborbital flights happen, debris breakups occur and concepts for ultrafast passenger transportation and stationary high altitude platforms plan to fly. NearSpace is no longer an exclusive transition zone but an area which sees a significant increase in operations. It extends the interface region between Air Traffic Management (ATM) and Space Traffic Management (STM), which are already required to interact in order to accustom an increased amount of space vehicles during their flights through regular airspace. The diversity of operational types within the NearSpace region poses a challenge with regard to ensuring the safety of operation at all times. The mission profiles and technical requirements for the vehicles used in this environment will make it difficult to rely on established standards and established cooperative processes. New but nonetheless reliable and interoperable means of communication and surveillance will be needed. This paper will present requirements to and related concepts for an extended traffic management for the NearSpace region, taking into account the challenges of ATM and STM interfacing, roles and responsibilities as well as suggested Air and Space Traffic Services.