

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

Author: Mr. Giorgio Cardile
AMIStaDeS Research Center APS, Italy

Mr. Martino Fascendini
AMIStaDeS Research Center APS, Italy

Mr. Riccardo Ricchetti
Università Cattolica del Sacro Cuore, Italy

INVESTIGATING SOUNDING BALLOONS REGULATORY AND TECHNICAL STANDARDS

Abstract

The number of space launches is increasing annually. Reusable launchers and increasing private participation in the field are among the factors contributing to their increase. Sounding balloon technology, which is increasingly used and is innovative in its application fields, ranging from student projects to covert military reconnaissance tools in foreign territory, might undergo a similar trend. This research will pursue the goal of identifying general principles applicable to sounding balloon launches. These principles aim to protect the safety of airspace and scheduled flights in a landscape where activities ranging from telemetry, to the acquisition of meteorological data or images, are currently being observed. The paper will outline the regulatory gaps found in certain jurisdictions, combined with the need to establish industry standards for the technical characteristics of the balloons, so as to incentivize private initiative in the sector and enhance the safety of the apparatus used. In addition, the environmental impact of balloon launches will be considered, as well as the possibility of the presence of specific obligations and rules for their recovery, disposal and/or reuse after launch, in order to minimize the environmental impact and reduce waste of resources inside a sounding balloon mission.