

SecSWIM – Where safety meets security

Regarding current as well as future commercial space transportation (CST) projects, new re-entry trajectory profiles, differing from capsule and shuttle-like approaches, have to be taken into account. These characteristics are mainly ruled by the principle of “landing like an aircraft at an airport”. This directly generates the need to be taken in a system wide information management (SWIM) consideration because of the fact, that all the future air traffic participants are requested to act as SWIM communicating sub-systems by the future Single European Sky Air Traffic Management Research (SESAR) SWIM "Intranet for ATM" concept. Against the background of the global character of future CST operations and the associated SWIM harmonization need referring the U.S. Next Generation Air Transportation System (NextGen) and SESAR, a SpacecraftReentryHazardAreaServer based on the already harmonized data format standards AIXM and FIXM had been realized. Although SESAR SWIM will implement functions that secure information exchanges by infrastructure security, the development of a SecSWIM security application, which enhances the security of a SWIM data consuming client, is presented. The solution benefits from a module based serial-in-the-large-iterative-in-the-small machine learning big data river approach, incorporating a data river→data lake module sequencing.