

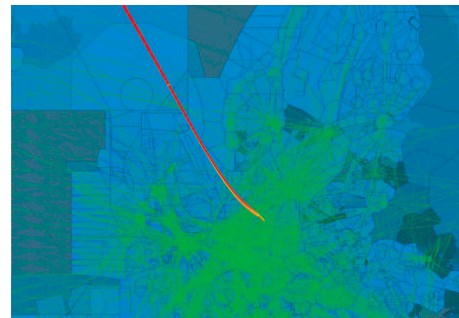
Integration of commercial spaceflight into the air transport system

Interoperable data exchange for safe and efficient launch and re-entry operations



Brief description

The FAA Office of Commercial Space Transportation and DLR are seeking to identify the data that may need to be exchanged between United States and European Air Navigation Service Providers (ANSPs) prior to, during and after a space launch or re-entry operation that is initiated in one country and traverses the airspace of another country. This data exchange should facilitate improved situational awareness, allowing US and European ANSPs to respond as necessary in the event of a vehicle failure.



Aims

Develop and conduct collaborative demonstrations of the exchange of key data between ANSPs. This will facilitate the safe and efficient management of global airspace during launch and re-entry operations. The demonstration of simulated real-world scenarios will result in the identification of key parameters for exchange in reaction to time-critical non-nominal events.



Parties involved

DLR Institute of Flight Guidance,
FAA Office of Commercial Space
Transportation



Applications

- Improved situational awareness for ANSPs during launch and re-entry operations
- Improved ability to respond to non-nominal scenarios in a manner that addresses the potential hazards to public safety

Outlook

- Improve situational awareness and safety
- Enable efficient operation of an increasing number of commercial launch and re-entry operations
- Develop interoperability of global air and space traffic management systems
- Develop the digitalisation/automation of spaceflight planning and monitoring processes



Facts and figures

- The number and type of commercial space launches and re-entry operations is continuously increasing at a global level.
- Initial attempt by the FAA and DLR to share their unique capabilities using the Commercial Space Integration Lab and Air Traffic Validation Center, located in the USA and Germany respectively
- Leverage existing international data standards and infrastructure by using a data exchange approach based on System Wide Information Management (SWIM)



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Interoperatable data exchange for safe and efficient launch and re-entry operations

The German Aerospace Center (Deutsches Zentrum für Luft- und Raumfahrt; DLR) and the Office of Commercial Space Transportation of the US Federal Aviation Administration (FAA) are seeking to identify the data that may need to be exchanged between United States and European Air Navigation Service Providers (ANSPs) prior to, during and after a space launch or re-entry operation that is initiated in one country and traverses the airspace of another country. This data exchange should facilitate improved situational awareness, allowing US and European ANSPs to respond as necessary in the event of a vehicle failure. To this end, the FAA and DLR intend to bring together their unique capabilities using FAA's Commercial Space Integration Lab and DLR's Air Traffic Validation Center, located in the USA and Germany respectively.

In order to be able to cooperate and exchange data in the future, a Memorandum of Cooperation (MoC) in the development of commercial space transportation was signed by Pascale Ehrenfreund, Chair of the DLR Executive Board, and Wayne R. Monteith, Associate Administrator, Office of Commercial Space Transportation, on 24 October 2019. The signatory ceremony was held at DLR's stand at the 70th International Astronautical Congress in Washington, DC.

The MoC reflects the excellent collaboration that FAA and DLR have developed since the first Research and Development Cooperative Agreement of both establishments, which was signed in 2010.

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