

Project #4 **TOTAL SYSTEM RISK** ASSESSMENT



Physical Models for the Prediction of Incident Probabilities

Usage of recorded data from flight operations (e.g. FDM data)

FDM data can be obtained from QAR or FDR directly from the aircraft. Other operational data, e.g. weather, radar can be used.





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Extraction of contributing factors from the data

For each contributing factor, a distribution can be generated from the data. They serve as the input to the model.

Incident Model, incorporating physics and system logics

A model of the aircraft is created based mainly on physical relationships describing the motion of the aircraft (similar to flight simulations). The distributions are propagated through this model.

Model Output: Incident Probabilities



An output distribution is obtained from the model. The area of both the safe operation and the incident can be quantified.

Input into the Total System Risk **Observatory**

With the Risk Observatory (RO) developed in P4 the incident probability can be shown to RO users as a trend in time and serve as input to risk models estimating accident risk.



FUTURE SKY SAFETY PROGRAMME

has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 640597. www.futuresky-safety.eu

PROJECT CONSORTIUM

Stichting Nationaal Lucht- en Ruimtevaartlaboratorium, Office national d'études et de recherches aérospatiales, Centro para a Excelência e Inovação na Indústria Automóvel, Centro Italiano Ricerche Aerospaziali, Instituto Nacional de Técnica Aeroespacial, European Organisation for the Safety of Air Navigation, Civil Aviation Authority UK, Airbus SAS,

Airbus Operations SAS, Thales Avionics SAS, Thales Air Systems SA, Technische Universität München

Deutsche Lufthansa Aktiengesellschaft, Koninklijke Luchtvaart Maatschappij