S2C project.

Re-Engineering and Streamlining the Standards for Avionics Certification

Objectives: The S2C project aims to define a methodological framework for implementing development processes and maintaining data consistency between system architectures and safety analyses by meeting certification requirements. This framework will be validated on a tool-based PoC based on a reference case study. Another objective is to promote the use of this model-based approach in the industry.

4,5 M

euros

48

months

Airbus D&S, All4Tec, APSYS, Dassault Aviation, DGA-TA, LGM, Liebherr, Safran (Tech, HE, LS, AS), Samares Engineering, Thales (AVS, Group), IRIT/INPT, LAAS-CNRS, ONERA, SupMeca

Needs/Locks

- The main market targeted by the project is **civil and defence aeronautics**, which is required by the regulatory recommendations: ARP4754 and ARP4761. We will also study the context of application to the space domain.
- **Optimization of multi-trade co-design internally and/or with partners**
- **Better control of impact analyses during architecture evolutions**
- **collegial decisions on architectural developments (aircraft, systems)**

The locks identified are for:

- Managing differences between SE/SA models
- SA/SA consistency management
- Maintaining consistency over time
- Increasing the level of trust and understanding of the MBSA; Meeting regulatory requirements

Technical approach

- Based on models and on the multidisciplinary consistency of system architecture and safety analysis at different systemic levels of product development, our work will focus on :
- The consistency of system & safety points of view at each level.
- Exchanges of safety analyses between the different systemic levels
- The accessibility, dissemination and use of MBSA methodologies at the systemic levels of "Systems" and "integrated systems".
- All this is integrated into a global process that takes into account the evolutivity of the models during the iterative product development cycle.

Each of the WP is structured as follows in activities:

- ➢ Study of the state of the art and selection of technologies and methods
- ➢ Methodological definition and process
- ➢ Definition and development of case studies
- ➢ Validation of the methodology / process on the case study

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