

AVIATION SAFETY & CERTIFICATION OF NEW OPERATIONS AND SYSTEMS

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## What was ASCOS?

- → EU research project: July 2012 October 2015
- → Tasked to streamline aviation approval processes
- → Cross-industry User Group
- → Industry Partners





#### Why was ASCOS needed?





 → Complex prescriptive processes
→ Innovation stifled











### What we did





### Principles for the Method





## Performance Based vs Compliance Based

Performance Based	Compliance based
high level	detailed
solution independent	solution-specific
goal based approach	"tick box"
Support innovation	Capture established rules
	Constrain interfaces

→ Both approaches can be useful



### **Overview of the ASCOS Method**





#### Safety Argument Approach











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# Acceptable Level of Safety

Δ2005

- → Needs acceptance by all domains
- → Domains use different forms of target
  - $\rightarrow$  absolute vs relative
- → Trade-off between domains
  - → currently impractical
  - $\rightarrow$  needs models which are
    - $\rightarrow$  covering Total Aviation System
    - $\rightarrow$  trusted
    - $\rightarrow$  robust







## Further development

- Definition of *domain / module boundaries*
- → *Who* should be the *argument architect*?
- Document current (implicit) arguments
- → *Integrated* safety targets
- → *Sharing* safety information

## **Conclusions**

 $\rightarrow$  Developed *framework* to streamline safety approval

- → *Existing approaches* are *reused* where appropriate
- $\rightarrow$  *Flexible* to allow *innovation*
- → *Modular safety argument* to integrate approval
  - → Modules aligned to *domains*
  - $\rightarrow$  Focus on total aviation system
  - Contracts to manage *interfaces* and dependencies  $\rightarrow$
  - $\rightarrow$  Overseen by *argument architect*
- Critical to plan integrated *approval path* up front
- $\rightarrow$  Next step is trial application

 $\rightarrow$  ... read the full report on the ASCOS website



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## Project website

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http://www.ascos-project.eu



