

Virtual Reality Tools to Support the Certification of the Cabin

Export Control - not technical

Tenth Triennial International Aircraft Fire and Cabin Safety
Research Conference

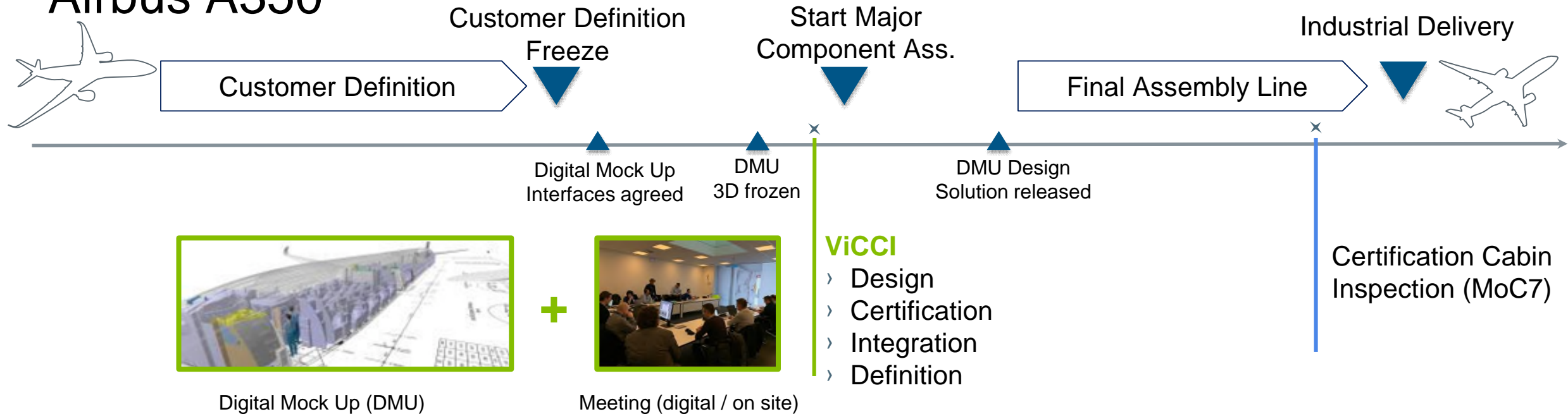
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Agenda

- Virtual Certification Cabin Inspection (ViCCI)
- Our Long Term Vision
- Questions

Virtual Certification Cabin Inspection (ViCCI) – Timeline example

Airbus A350



WHY ViCCI?

- + Reduce late certification findings
- + De-risk complex design
- + Support the certification programme development with the authority

ViCCI BENEFITS

- + Zero Design Queries during the final assembly phase
- + Support industrial efficiency
- + Validate major customised items
- + Customer and authorities buy-in

ViCCI Demonstration

Assist Space Analysis

Exit Sign Visibility

Emergency Equipment accessibility

O₂ mask reachability simulation

Head Injury Criterion (HIC) curve analysis

Need of “No stowage” placard



What we gain - an example

Design findings detected in the Digital Mockup (ViCCI)

Total number of findings: 76

Findings relevant to the certification: 46

Findings detected during the MoC-7 inspection.

Total number of findings: 15

Findings requiring design correction: 5

1 reflection

1 tamper seal

3 placards on Buyer Furnished Equipment



Findings detected during the Moc-7 inspection can be reduced to the cases that are not detectable in the Digital Mockup.

Long Term Vision for Cabin Certification Inspection (5 years)

Partially automated MoC7 checks on the aircraft, e.g. robot with 3D scan procedure

Support to Certification Engineers during MoC-7, e.g.:

- Confirm geometrical measurements

- Placard installation

- Emergency Equipment availability

- Aisle Width analysis

- Emergency Exit Access dimension



gain more time for complex cabin items verification

Questions & Answers

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Abbreviations

A/C	Aircraft
DMU	Digital Mock-Up
3D	3 dimensional
HIC	Head Injury Criterion
MoC7	Means of Compliance 7

Abstract

A virtual reality tool based on the Cabin Digital Mockup is used to perform a Virtual Cabin Certification Inspection before the customer specific cabin design is frozen. This avoids late detection of design related inspection findings after the cabin is installed.