a passion for aviation

An Airbus takes off or lands every 1.4 second

Commercial Aircraft’s global workforce is united by a passion for aviation and restless desire to create better ways to fly

Airbus (commercial aircraft, helicopters, defence & space)
- €64 billion Annual revenue 2018
- 5.8 billion EBIT adjusted

Airbus Commercial Aircraft (2018)
- 7,577 Backlog
- 800 Deliveries
- 400+ Operators
- 25,000+ Daily flights
Airbus new challenge: Digital Design Manufacturing & Services

**maturity**
- Product industrial system Operability

**Cut the Development LEAD TIME**
- Start of concept / MG3 to Entry Into Service

**Design for Manufacturing**
- Robust production set-up
- Flexible production update

**Services**
- ROBUST PRODUCTION RAMP-UP
- Provide tools and process to support services

**DESIGN FOR VALUE**
- Decoupling Fuselage/ Cabin Modules approach

**CUSTOMISATION**
- Mastering of our industrial system
  - Improve Quality perceived by our customer

**quality**
- Zero AOG

**OPERATIONAL AVAILABILITY & RELIABILITY**
- Sustainable

**Step change in our operational efficiency across the whole lifecycle of our programs and product drivers to enable breakthroughs**
DDMS co-development reinforce the value of Standards

Rethinking the way we are designing and operating our aircraft ensuring the co-development of the product/the industrial system/the ways to operate with customer satisfaction & services ambition at the heart of DDMS.
Strong involvement of Airbus in the development of STEP AP242 ed2

- Successful ballot at the unanimity of STEP AP242 ed2 DIS in Oct. 2019
- New interoperability technical capabilities:
  - Electrical Harness design
  - Additive Manufacturing (basic)
  - Validation and Verification
- Main extensions
  - Composite, Kinematics, 3D scanning, etc
  - Product Manufacturing Information

- Compatible with other ISO STEP standards in development
  - STEP AP239 ed3 “Product Life Cycle Support”: planned DIS end of 2020
  - STEP AP243 MoSSEC ed1: introducing RESTful web services for real time collaboration between different MBSE applications
Airbus participates in Interoperability Forums (CAx IF, EWIS IF, PDM IF) to speed up deployment of COTS AP242 interfaces by CAD& PDM vendors

• The industries invest in the development of open interoperability standards. 
  -> It provide business value only if these standards are implemented in COTS solutions with the required level of interoperability.

• Interoperability Forums are set up to ensure the timely deployment of interoperable COTS solutions.
Airbus supports the use of STEP AP242 product data standard for several technical domains of NAS / EN 9300 LOTAR

LOTAR Domains and Related standards Information Models

- LT Archiving & Retrieval of some technical disciplines information: (3D Model Based Definition and PDM – CM) relies on ISO STEP AP242 standard
Importance of governance of actions to ensure maximum benefits of PLM interoperability capabilities based on AP242

• PLM interoperability capabilities based on STEP AP242 are successful if:
  – they are implemented by the main PLM editors and integrators with the appropriate level of quality and performance \(\Rightarrow\) importance of Interoperability Forums
  – they are deployed and used in operation by the Airbus supply chain,
    o agreed and well defined processes and uses cases between OEMs and multi tiers suppliers,
    o Well supported by services providers
  – they can be extended according to new business requirements
    o New technologies (Additive Manufacturing, etc)
    o New use cases (e.g. federation of PLM systems with standardized web services)

• Airbus supports conferences such as the AFNeT – prostep STEP AP242 day, bringing together manufacturers, suppliers, PLM editors / integrators, and R&T centres, \(\Rightarrow\) It strengthen the EU eco system supporting the A&D digital transformation
  – based on COTS applications, such as 3DeXperience, SAP, etc
  – when needed, PLM interoperability capabilities based on standards, such as AP242
Commitment of Airbus in European & international standardization activities

- Participation in governance of European A&D PLM standardization activities
  - ASD Strategic Standardization Group, ASD Stan

- Participation in related Standardization organizations
  - ISO /TC 184/SC 4, CEN /TC 310,

- Contributions to the development of PLM standards
  - ISO STEP AP242 edition 2
  - ISO STEP AP239 edition 3 PLCS
  - ISO STEP AP243 MoSSEC
  - NAS / EN 9300 LOTAR
  - OMG SysML, OMG UAF, OASIS OSLC, etc

- Participation in the Boards & Technical Committees of Standardization associations
  - AFNeT, PDES Inc, prostep ivip

- Contributions to Implementer Forums:
  - CAx IF (AP242), Electrical IF (AP242 ed2 DIS), PDM IF (AP242), CAE IF (AP209 ed2),

- Participation in the Aerospace and Defence PLM Action Group
  - Creation of the “standards” WG in July 2019
Back-Up
Thank you