

## Aerospace and Defence Interoperability – Collaboration between AIA and ASD Teleconference 2019-01-30

0900-1200 EDT, 1400-1700 BST, 1500-1800 CET

### Present

Howard Mason	BAE Systems – Chair, AIA BTIC and member ASD-SSG
Yves Baudier	AFNET – Chair, ASD-SSG and Co-chair, AP239e3
Rick Zuray	Boeing – Co-chair LOTAR and AP239e3, member AIA-BTIC
Chris Carnahan	Director of Standardisation, AIA
Karina Perez	AIA
Jean Brangé	AFNET, Co-Lead AP242e2 and member JWG16, ASD-SSG
Brad Sumner	RR - Chair AIA SGB
Tom Bluhm	Boeing – Co-lead AP242e2
Samy Scemama	Boost Aero International – ASD-SSG
Samir Patel	BAE Systems
Jean-Yves Delaunay	Airbus – ASD-SSG, Co-chair LOTAR, member ASD-STAN Domain 7
Steve Carter	RR – ASD-SSG, UK TDinfo

### Apologies

Evelyn Thompson	LM – AIA BTIC
Ramon Somoza	Airbus – ASD-SSG and ILS Council
Phil Williams	TDinfo – ASD-SSG and chair ASD-PSSG
Bernhard Seidel	ASD-SSG and ILS Council

The meeting was held in the context of the memoranda of understanding governing collaboration between the AIA and ASD on matters related to interoperability, to review status and progress on existing collaborative efforts and explore the potential for undertaking further tasks.

Participants were welcomed by the chairs - Howard Mason – AIA BTIC and Yves Baudier – ASD-SSG

### Progress on solutions

- STEP AP242e2 (Jean Brangé – ASD/Tom Bluhm – AIA) - [See Att1\\_Status\\_AP242-ed2.pdf](#)
  - Needs second ISO DIS ballot for approval
  - On critical path to avoid cancellation under ISO rules
  - Impact from US Government shutdown of NIST resources
  - Clear agreed plan in place following Chicago SC 4 meeting
  - Approvals required for Change Requests and supporting architecture documents

**Action: AIA and ASD member companies to actively support positive ballots and constructive comments**
- STEP AP239e3 (Yves Baudier – ASD/Rick Zuray – AIA) – [See Att2\\_AP239 ed3 Project report.pdf](#)
  - Harmonisation activities continue with Batch 2 due early March
  - Business requirements need \$200K funding or equivalent expert effort to complete Batch 3 by July for DIS ballot
  - Role of AIA and ASD to promote AP239 ed3 and support the development of mappings from ILS specifications (S-Series, SAE-GEIA-0007) to AP239 ed3.

**Action: AIA and ASD companies to be urged to contribute experts/resources**

- MoSSEC (AP243)
  - No participants present
  - Dependent on AP242 and AP239
  - Continued coordination across MBSE activities required

**Action: AIA EMC MBSE project to continue engagement with AP 243 development and other MBSE initiatives**
- STEP AP240 - Process Planning information
  - Identified as requirement at previous meeting

**Action: Specific AP240 requirements to be identified by AIA/ASD-SSG**
- STEP roadmap – target requirements (Jean-Yves Delaunay – ASD/ Tom Bluhm - AIA)
  - Planning for schedule of AP enhancements and underlying SMRL deliveries to ensure consistency
  - Use of existing processes to facilitate agile development of new APs in under 2 years – other APs to be updated based on enhanced SMRL

**Action: AIA EMC/PSC and ASD-SSG to identify capability requirement targets to ISO**
- STEP extended architecture (Jean Brangé – ASD/Tom Bluhm – AIA) – [See Att3\\_STEP Extended Architecture.pdf](#)
  - Required for harmonisation purposes
  - Highlights need for text quality
  - Linked to transition to ISO hosted environment
  - Supported by new Express engine tools

**Action: Companies to support continuing development of technology**
- LOTAR – (Rick Zuray – AIA/Jean-Yves Delaunay – ASD) – [See Att3\\_LOTAR.pdf](#)
  - Rolling programme of enhancements defined and included in AIA 5-year roadmap
  - Process changes may be needed to fit with enhanced AIA and CEN procedures, noting NWI procedure

**Action: SGB to look at alignment between latest approval processes**
- ILS suite of specifications – [See Att4\\_ILS Spec. Overview Presentation.pdf](#)
  - No specific reports
  - Key plan is parallel publication of all specs in 2021

**Action: AIA to circulate summary as presented at last BTIC**
- Geometric Dimensioning and Tolerancing (Jean-Yves Delaunay – ASD) – [See Att5\\_GD&T\\_Interop\\_topic\\_V2.pdf](#)
  - Noted that QIF had its own GD&T model, which needs to be considered as derived from STEP
  - Still challenge of conflict between ISO and ANSI definitions
  - Need to consider information requirements for different lifecycle phases
  - Need to consider GD&T requirements for different classes of part
  - Multiple representation forms

**Action: Further effort required to rationalise industry approach**
- Proposed ISO/IEC Database of Product Properties and Classification/PLIB (Howard Mason – global view)
  - New JWG 24 established between SC 4 and IEC/SC 3D
  - Potential relationship with common data model for fasteners, electrical items, tubing
  - Need to accommodate imperial/metric units

**Action: Convene teleconference across AIA NASC and BTIC, ASD-SSG and ASD-STAN to review impact and opportunities**
- XML strategy for transactions (Samy Scemama – ASD) – [See Att6\\_Boostaero XML standards.pdf](#)

- Need to look at range of messages supported in BoostAero, including VMI
- Need to look at interface to WAWF, including S2000M

**Action: AIA/ASD call to be convened**

- Visualisation – 14306, PRC, 3D-PDF, X3D (Jean Brange – Global view + ASD) – [See Att7\\_JWG16 & visualisation.pdf](#)
  - JWG 16 established with links to PDF and X3D
  - New work on STEP Geometry services
  - Allocation of new ISO 14306 ed3 task, with need for upward compatibility
  - Good opportunity for supporting STEP in PDF environment
  - Consideration of Blockchain for assuring geometry metadata

**Action: AIA and ASD to engage with JWG16 with specific use cases**

- Material properties
  - The LOTAR E&A team have made initial contact with the VMAP project.
  - Potential synergy between VMAP project and LOTAR Engineering Analysis requirements

**Action: Continue to monitor developments**

- Blockchain
  - AIA is producing a white paper suggesting the actions required to set up a Minimum Viable Ecosystem for Blockchain for a range of aerospace and defence use cases

**Action: Continue to monitor developments**

- Model Based Engineering priorities – digital twins
  - Identified as of interest at last meeting

**Action: Continue to monitor developments**

## New requirements

- Five-year roadmap for standards (Brad Sumner – AIA/Yves Baudier – ASD)
  - AIA draft five-year plan presented – [See Att8\\_AIA 5-year Standards Roadmap 2019 rev3.pdf](#)
  - Suggestion that AIA Trade Compliance Standards could be of broader interest
  - New areas of collaboration could include the definition of digital twins, driving standards for smart manufacturing, and approaches to digital transformation
- New AIA Cybersecurity standard
  - Guidelines for compliance with DFARS and applying effective security measures
- S2000M/WAWF
  - Investigation of possible interface between the S2000M transaction set and WAWF
  - Could be extended to cover consideration of BoostAero messages as part of XML discussion

**Action: Further investigation required to identify use cases and barriers**

- QIF and the relationship to STEP
  - Concerns covered under GD&T discussion above – need to ensure QIF geometry is a derived product.

**Action: AIA QAC and ASD-SSG to monitor result of New Work Item and DIS ballots in ISO/TC 184/SC 4**

- Update to AIA PDM recommendation
  - Recognised as useful contribution by A&D PLM Action Group
  - ASD interest in supporting review and update as necessary

**Action: Circulate current edition for “Systematic Review” in ASD and SSG to gather comments as input for joint revision project**

## Adoption strategies

- Implementer Forums – [See Att9\\_CAx-IF status\\_V2.pdf](#)
  - CAE-IF set up alongside CAX-IF, with common administrative structure
  - Proposal to launch EWH-IF for electrical
  - Need to consider how to involve other industries where appropriate

- Moving to a facilitation approach
- Need to ensure viable business model

**Action: Teleconference for launch of EWH-IF to be held February/March**

## **Common standards procedures**

- ASD now having to adopt New Work Item procedure
- AIA now accredited by ANSI

**Action: Need to understand implications for joint voting procedures**

## **Conclusions**

The main conclusions of the meeting were summarised by Howard Mason and Yves Baudier.

The date of the next meeting would be the responsibility of Yves Baudier and the new chair of the BTIC, to be appointed to succeed Howard Mason on his retirement at the end of May.