

## Summary of the LOTAR International Workshop 14 – 18 March, 2022, On-Line

### Summary:

The Q1 2022 LOTAR workshop was well attended by more than 40 participants in total. Below are the highlights of the meeting.

### Project Management, March 14:

- Established expectations (goals and objectives) for the workshop
- Reviewed the status of the Americas and European LOTAR budget plan for 2022 and associated SOWs
- Reviewed AP242 ed4 status (kick-off in January 2022, planned publication of DIS Nov 2022, IS Oct 2023)
- Presented schedule for AP239 ed3, discussed DIS shift from June to September. Potential impact to P4000 in the future.
- Discussed the need for guidelines on the use of external dictionaries to avoid duplicate but conflicting terms and definitions. Prerequisite for the increasing use of SMART / machine readable standards.
- Consistency of OASIS/LOTAR to Data (e.g. STEP) Standards. Developing new style guide and template to help ensure consistency between LOTAR parts. The style guide includes guidance on identification of requirements to improve the ability to audit against the standards.
- Discussed the relationship between the organizations developing LOTAR parts, the information model (data) standards, the data quality tools (e.g. schematron), and the recommended practices (IF). As the models become integrated, support for these interrelationships are critical for ensuring preservation.
- MBSE IF is still under discussion. Currently working validation / verification through select vendors, and the primary activity has been through AFNeT, RV&V IF.
- Discussed the current LOTAR test cases as input for the Implementor Forums.
- Reviewed LOTAR International web pages, discussed some potential improvements, and made some changes to the menu.
- EWIS presented use case for unique/persistent IDs of published elements (anchors).

### General Sessions, March 15 and 17:

- Reviewed ISO 10303 Roadmap and discussed potential impacts to LOTAR parts.
- Discussed MBx-IF activities for the past three months.
- Provided status of Meta Data WG progress and plans. Discussed how to address metadata in the domain parts. Will begin the draft of LOTAR Part 021 in the next quarter.
- Reviewed the LOTAR Basic and Common Parts status and schedule.
- Provided status of LOTAR website updates.
- Reviewed schedule of upcoming 2022 and 2023 meetings. Note: Face to face meeting planned for September 2022 in Charleston, SC, USA.
- Reviewed Project Management session discussions on consistency and integration of LOTAR Parts with IF's and information standards development (e.g. ISO 10303).
- Reviewed ongoing efforts to coordinate review and publication of LOTAR EN/NAS 9300 Parts through AIA and ASD.

### WG “LOTAR Mechanical and PMI” (Parts 1xx), March 17

- Continued the review of EN/NAS 9300 part 100,
- Concluded the LOTAR Part 132 Pilot - phase 2 assembly with fastener
- Reviewed the candidate pilot for 2022 (nutplate, Semantic assembly PMI, ...)
- Reviewed the future STEP AP242 edition 4 benefits and impacts

### WG “LOTAR Product Data Management” (Parts 2xx), March 15-17

- Evolved Part 210 draft: Discussed P4000 mapping review, identified “Work to go” & “Next Change”
- Discussed feedback and proposal from PDM-IF to 200-1TS (Validation Property)
- Further developed PDM-IF Alternate/Substitute Use-Case (methods to identify alternate/substitute)
- Identified new potential statement of work

## **WG “LOTAR of Electrical Wiring Harness” (Parts 4xx), March 15**

- Continued development of Essential Information definition for the LOTAR parts.
- Final results of the 2021 LOTAR EWH pilots. Demonstration of exchange of Electrical Wiring Harness (EWH) models with external element references with 2D or 3D geometry:
  - Pilot 1 by Datakit for NX => STEP AP242 ed2 Export,
  - Pilot 2 by Core Technologie for Catia V5 => STEP AP242 ed2 Export.
  - Pilot 3 with very promising results for the generation of AP242 ed2 quality check rules by AFNeT Services; the associated schematron rules, extracted from the SysML domain model will be provided for the AP242 ed4 project.
- Coordination with the EWIS Interoperability Forum for inputs to the preparation of the Test Round 5E (March 2022 - Sept. 2022): EWH Domain model XML with External Element ref. to P21 3D geometry.

## **WG “LOTAR of Model Based Systems Engineering” (Parts 5xx), March 15-17**

- The MBSE team’s focus is the development of the Part 500 (General MBSE Archiving) and Part 520 (How to Archive Simulation / Analytical Models) documents. The WG has completed several significant updates and anticipates circulation of the P500 draft this quarter.
- The Workshop was well attended (~20 persons avg) holding three sessions including a mix of “team tasks”, as well as technical presentations. The presentations covered “the SOA capabilities of Arrowhead Tools”, “Requirements Management”, “Defining views for digital artifacts”, and “the MOTIF proposal for SpecIF”.
- During the workshop, the team developed a set of SoW criteria defining the next Prototype projects. The SoW criteria extends the linking technology delivered in 4th Qtr 2021, by evaluating alternative linking methods to a variety of model elements. The prototype will attempt to define a process for creating and managing persistent links across federated repositories that could be applied to any domain archive.
- The combined LOTAR – PDES, Inc. MBSE Teams have defined a set of MoSSEC metadata requirements and templates applicable to the different model types and have been coordinating these deliverables with other consortia (prostep ivip, NAFEMS, INCOSE, AFNeT, A&D\_PLMAG, OMG).

## **Summary of the CAx-IF Meeting, March 15-17**

- The CAx-IF Implementor Group held a number of highly successful meetings during the March LOTAR workshop. Highlights from those sessions include:
  - Round 49J test results were reviewed. In addition to progress on continued topics, rosettes guided by a curve at an angle for Composite parts, as well as assembly-level PMI, were tested for the first time.
  - Issues with implementations, the Recommended Practices, and AP242 were identified and a large number of technical topics were discussed in detail. Follow-up actions have been agreed on.
  - A special session was held to discuss Persistent IDs with emphasis on defining a path forward.
- Joint meetings were held with
  - the CAx-IF User Group discussed progress on current activities and review the key &/or new priority areas for future work. Notably ‘Flat to screen annotation and display’ stories group, introduction of a GUIDs story case and discussion of restructuring ‘nutplate’ to facilitate sequenced style testing in support of assemblies and fastener.
  - the EWIS-IF Implementor Group and representatives from the PDM-IF and the AP242 team discussed different approaches for External Element References.

## **Summary of the EWIS-IF Meeting, March 16-17**

- EWIS IF User Group: continuation of the description of use cases and of the links with the underlying functional architecture: schematic systems, electrical wiring harness (EWH) data bases, CAD 3D EWH for 3D installation, EWH manufacturing with form boards, electrical standards parts libraries, etc. Discussions on the enhancements of test cases models, to be used by the Implementer Group.
- Joint meeting between the EWIS IF User Group and Implementer Group: Review of the results of the test rounds 3, and preparation of the priorities for the test round 4 (March – Sept. 2022), including inline-splices, multi terminal and joints, electrical wiring harness models in XML domain model with external element references with geometry models in STEP Part 21 etc.

- Joint meeting of the EWIS IF User Group with the CAx IF User Group on the business requirements and use cases for external element reference, including the P21 anchor mechanisms and persistent identifiers.

### **MBx-IF User-/Vendor Roundtable, March 18**

The MBx-IF User/Vendor Roundtable held on 18 March 2022, was a success. Highlights include:

- Forty-nine attendees from the user and vendor communities attended.
- A summary of the joint MBx-IF user group kick-off was shared, including the operational organization and the overall coordination team.
- Initial list of points of common interest of the three user groups were shared. Next step is to consolidate a common view.
- An update of NIST STEP File Analyzer and Viewer was given on the current version 4.70 along with some features planned for 2022.
- Vendors' updates on their STEP development activities were provided, they included Elysium, ITI Global, Datakit, CoreTechnologie, Jotne EPM, Dassault Systèmes, Siemens, Kubotek 3D, Open Design Alliance. This was the first time for Open Design Alliance.

**Jeff KLEIN**

LOTAR International co-project leader  
Lead Engineer  
Configuration Management  
Boeing Commercial Aircraft  
Mobile : 1 (206) 769-1945  
Mail to : [jeff.r.klein@boeing.com](mailto:jeff.r.klein@boeing.com)



**Jean-Yves DELAUNAY**

LOTAR International co-project leader  
Product & process Information Interoperability  
Engineering Methods and Tools architect  
Airbus  
Phone: (33) (0)5-61-18-31-31  
Mobile: (33) (0)6-76-36-50-59  
Mail to: [jean-yves.delahunay@airbus.com](mailto:jean-yves.delahunay@airbus.com)

# Save **THE** Date

**PDES, Inc. and LOTAR International Technical  
Interchange Meeting & TAC Meeting**

**SEPTEMBER 18-23, 2022**

LOTAR LEADERSHIP MEETING SEPTEMBER 18, 2022

TEAM MEETINGS SEPTEMBER 19-22, 2022

TAC MEETING SEPTEMBER 23, 2022

Charleston Harbor Resort & Marina  
20 Patriots Point Road  
Mount Pleasant, South Carolina 29464