

Summary of the LOTAR Workshop held in Phoenix, AZ USA 16 - 19 September 2024

The Q3 2024 LOTAR workshop was well-attended, with around 35 participants on site in Phoenix, and many additional online attendants. The highlights of the meetings included:

Plenary Sessions

- Jean Brange presented the status for STEP AP242 Ed.4 and initial plans for STEP AP242 Ed.5. Topics discussed included Fasteners, Composites, PMI and Equivalence Validation. In addition, infrastructure topics such as Web Services / JSON and the new STEP Resource Library were presented.
- ISO TC 184 SC4 meeting is scheduled from 18th October in Stavanger/Norway. Several virtual sessions to discuss and the STEP roadmap/strategy are planned.
- A new working group for Electronics has been proposed.
- The EAS WG is again on hold as a new WG leader is being sought.
- LOTAR Project Charter update is in progress.

Upcoming Meeting Dates

- 2-6 December 2024; online (prostep ivip)
- 10-13 March 2025 in Hamburg, Germany (prostep ivip)
- 23-26 June 2025, online (PDES, Inc.)
- Mid-September 2025, Location TBD, USA (PDES, Inc.)
- 1-4 December 2025, online (prostep ivip)

For related dates, also see <https://lotar-international.org/dates-communication/>

WG “LOTAR 3D Mechanical CAD and PMI” (Parts 1xx)

- The STEP AP242 Edition 4 PMI module build errors were reviewed
- CAx-IF user group discussions:
 - Materials,
 - Holes (PMI, explicit or implicit),
 - Unique Universal Identifiers,
 - Assembly PMI and joint.
- The working group review of EN/NAS 9300-110: CAD mechanical 3D Explicit geometry information was finalized
- The third pilot for Assembly PMI using STEP AP242 Ed 4 XML was kicked-off

WG “LOTAR Product Data Lifecycle Management” (Parts 2xx)

- The Working group was renamed to Product Data Lifecycle Management (PLM) as not only engineering processes and data are managed. The entire end-2-end Lifecycle is covered!
- For the prEN and NAS versions of 9300-210, the comments from ASD comments were reviewed and sent back for clarification.
- Continued progress with the 9300-230 revision – focused on As-Maintained Product Structure and Service Bulletins. The statement of work for mapping the conceptual model to STEP was finalized.
- The Technical Specification 9300-200-1 (Product Structure Validation) is ready to be converted to LOTAR Part 9300-205
- Met with the Electric Working Group - Discussion about IEC 81346 RDS how to use such ontology in STEP.

WG “LOTAR Composites and Advanced Manufacturing” (Parts 3xx)

- Reviewed and worked on the draft of Part 300.
- Contributed to CAx-IF user group with various backlog item definition:
 - Development of Composite LLA Data Model in AP242 Ed.4
- Supported modification of the recommended practices for LLAs and Flat Patterns
- Discussed joint AP242/AP238 project to add composite process planning for automated layout into AP238.
 - Significant work accomplished. Identified funding challenges for the next steps.
 - Boeing is still planning to work with a Composites NC Programming software vendor to demo capabilities in 2025
 - Developed draft for final project report.
 - Discussed future possibility for continued development and adding support for hand layout processes including flat patterns, nesting, cutting, laser projection, etc.

WG “LOTAR of Electrical Wiring Harness” (Parts 4xx)

- Continued adding User Stories to Redmine
- Part 400 Outline and initial content have been defined with references to Part 200.
- Reviewed List of Issues for potential inclusion in AP242 Ed 5
- Opened discussion on IEC/ISO 81346 with PDM WG

WG “LOTAR of Model Based Systems Engineering” (Parts 5xx)

- Coordinated Part 500 feedback with SAE, INCOSE, and NAFEMS
- Defined MBSE Integration Forum charter, team, scope and workflow
 - Analyze scope of potential Interoperability Forum
- Reviewed status for SOWs, for Modelon and for University of Madrid
- Collaborator presentations: MIC Core (prostep ivip SmartSE, DDP), Koneksys, AIAA DEIC, INCOSE DEIX WG, A&D PLM Global Collab, OMG CASCaDE, DE MBSE lab
- Defined interoperability theme/content for INCOSE IW 2025 (1-4 Feb 2025 in Seville/Spain)

Summary of the CAx-IF meetings

The CAx-IF Implementor Group had 3 highly successful days of meetings. The following topics were discussed:

- Round 54J testing results review
- Joint meetings with CAx-IF User Group and LOTAR teams
- Review of a wide variety of technical topics
- Updates to NIST’s STEP File Analyzer
- The scope for Round 55J, which will end in March 2025, has been set as:
- Product & Manufacturing Information – continue improvements
 - Composite Materials – scope based on user requirements
 - Persistent Identifiers – for design exchange and downstream collaboration
 - Kinematic Mechanism – extend scope using Unit Test Cases
 - Possible new topics: Material properties

The MBx-IF User/Vendor Roundtable was held on Thursday, September 19. The meeting was very well attended with approximately 25 people present in Phoenix and 30 more online. The following updates were provided:

- CAx-IF Implementor Group and User Group
- EWIS-IF Implementor and User Groups
- PDM-IF Implementor and User Groups
- STEP File Analyzer & NIST Update
- MBx-IF Joint Topics - STEP Viewer Requirements and Test
- STEP Vendor Updates – 10 Vendors