

Summary of the LOTAR International Workshop December 10th to 13th, 2018 – Darmstadt, Germany

28 on-site participants plus 25 persons via teleconference. Parallel meeting with the CAx Implementer Forum.

Project Management

- Finalization of the 2018 LOTAR annual report, to be published in the LOTAR web site. First face to face meeting of the LOTAR MBSE WG.
- Consolidation of the 2019 LOTAR International project and budget plan.
- Sending of 3 parts for publication by AIA and ASD Stan:
 - part 120 Ed.2 “LT Archiving of CAD 3D Explicit Geometry with graphic Presentation of Product and Manufacturing Information (PMI)”
 - part 121 “LT Archiving of Semantic representation of CAD 3D Explicit Geometry with PMI”,
 - part 125 “LT Archiving of Explicit CAD assembly structure with graphic presentation of PMI”.
- Status of STEP AP239 Ed3 project. Continuation of the harmonization of AP242 ed2 and AP239 ed3 for PDM-CM with the launch of the contract “batch 2” funded by PDES, Inc. Next meeting of the project will be held on the 18 – 19 December, hosted by AFNeT in Paris.
- Status of the STEP AP 242 ed2 project. Review of the AP242 ed2 DIS ballot comments with the national bodies. Preparation of the AP242 DIS-2 for end of March 2019. Request of preparation of LOTAR requirements for AP242 roadmap, in order to gather the requirements for the AP242 ed3 New Work Item.
- Summary of the CAx Implementer Forum: The CAx-IF kicked off its 43rd round of testing which will end in March 2019. The group met with the LOTAR PMI team to discuss requirements and various pilot projects, including “Holes and Fasteners” planned for testing in 2019. The 3rd round of CAE-IF testing, FEA validation properties, and updates to NIST’s STEP File Analyzer for AP 209 were discussed with the LOTAR EAS WG. Publication of the AFNeT webpage “CAE-IF on a page”, with reference to the CAx-IF website.
- Status of PDM Implementer Forum. Presentation of the 2018 achievements and planned objectives for 2019. Overview of the STEP AP242 XML Recommended Practices for Product & Assembly Structure as well as Configuration Management. First results of the exchange of explicit configured product structures, and of parametrised / customized PDM information, such as PDM properties / user defined attributes.
- Next LOTAR workshop: 11 – 14 March 2019, Ashville, NC., USA, hosted by PDES, Inc.

WG “LOTAR of 3D CAD Mechanical and PMI” (Parts 1XX):

- The team started the development of their newest document LOTAR P132 “3D CAD + Holes & Fasteners”. The 2019 Statement of Work will be focused on the development of this part.
- 2 pilots planned for 2019 and 1 pilot for 2020 to support P132 “Holes & fasteners”, based on AP242 ed2. Identification of dependencies with AP238 ed2.
- The team reviewed the results of the pilots conducted in 2018 for the LOTAR P125 “saved view”.
- There was a discussion on STEP AP242 edition 2 status and edition 3 requirements for PMI.
- We developed the Table Of Contents (TOC) for a LOTAR usage guide. We plan to have a rough draft available for the March Offsite.

WG “LOTAR of PDM information” (Part 2XX):

- The team prepares the next steps for 2019.
 - Complete the Part 210 and 230 to move them from a technical specification to a full LOTAR part.
 - Provide a mapping of the LOTAR PDM concepts with the STEP P4000 Core Model, resulting of the AP242 ed2 and AP239 ed3 harmonization project.
 - Propose a use case for the PDM-IF.
 - Participation to the Functional Architecture and MetaData working Group.

WG “LOTAR of Composite design” (Part 3XX):

- The team reviewed the AP242 Composite Recommended Practice for validation properties.
- Discussed the status on the 2018 pilot activity, “Ply orientation”.
- The team reviewed the VMAP project presentation (“Virtual Material Modelling in Manufacturing”) from Klaus Wolf (VMAP technical project leader); follow on discussions between the AP209 team and the VMAP project are planned in 2019.
- Plan to have an internal draft of Part 300 “Fundamental and concepts for LT Archiving and retrieval of composite design” ready for the March Offsite.

WG “LOTAR of Electrical Harness” (Part 4XX)

- Work on the AP242 ed2 XML tutorial for Electrical Wiring Harness and associated test cases. Experimentation of the AP242 ed2 model with regards to referencing external geometry and properties defined in an external library (PLIB).
- Discussions of some technical issues with the two vendors involved in implementations of LOTAR electrical pilots (Datakit and Core Technologie).
- Preparation of the launch of the Electrical Implementer Forum, part of the CAx IF, with a planned extension part of the future xDM IF. Definition of way of working for 2019: start with the User Group until June 2019 to work on business values and use cases. Target to launch the Electrical Implementor Group in Q3 2019. LOTAR Electrical Wiring Harness WG and the Electrical IF will be separated in terms of organisation (different calls and meeting days, web site...).

WG “LOTAR of Model Based Systems Engineering” (Part 5XX)

- The MBSE WG met for its first physical meeting (5 people) with additional attendance via WebEx (14 people).
- The meeting presented the structure of the LOTAR MBSE parts (P5XX), and discussed potential parts to progress first (P520 “Analytical Models” is a strong possibility).
- The meeting agreed to start holding regular (bi-weekly) LOTAR MBSE WG teleconferences, alternating with the MBSE PDES Inc call (Wednesday 15:30 CET). First call will be January 16th 2019.
- The bi-weekly meetings will initially be used to progress the business requirements and develop relevant use cases. These will be further elaborated at the March workshop
- We identified strong links with other activities/standards such as “MBSE for PDES”, MoSSEC, FMI etc. We encouraged companies who work on these activities, but who are not LOTAR members, to become members (especially Honeywell, Collins Aerospace and NASA).

WG “LOTAR of Engineering Analysis and Simulation” (Part 6XX)

- Initiated discussion with VMAP project on the possible use of AP209 to meet their needs and planned technical discussion in January 2019.
- Defined the scope of CAE-IF Round 4S to include validation properties and gave orientations for the “CAE-IF roadmap”.
- Defined final edits for public release of AP209 Handbook Vol. 2 (Loads & Boundary Conditions) and reviewed Vol. 3 (FEA results).
- Gained involvement from the CAE-IF participants in the “round trip” demonstration at the NAFEMS World Congress (June 2019 – Quebec, Canada) and scripted the test scenario.
- Defined the content of all sections of LOTAR Part 620 “LOTAR of FEA Structural Analysis information”.
- Jotne presented on “Relating Structural Test and FEA Data with STEP AP209” through the CRYSTAL project and demonstrated the EDMopenSimDM tool.