Summary of the LOTAR International Workshop
20 - 24 March, 2023, face-2-face in Toulouse Holiday Inn Blagnac

The Q1 2023 LOTAR workshop was well attended by over 30 participants as well as numerous remote participants. Below are the highlights of the meeting.

Project Management:

- Opening Plenary: Reviewed meeting expectations and quick 2-5 minutes outlook (single slide) by each WG leader on planned accomplishments for the week.

- Each WG shall create a ~2-page presentation about their WG that will become part of the "LOTAR 101" presentation:
    - The goal is to have "marketing materials" to gain new users as well as vendors

- Meeting dates 2023:
    - 1st Qtr. Workshop: 20-24 March 2023; Toulouse, France
    - 2nd Qtr. Workshop: 26-29 June 2023; Online Meeting
    - 3rd Qtr. Workshop: 17-21 September 2023; Phoenix, AZ, USA in conjunction with GPDIS
    - 4th Qtr. Workshop: 27-30 November 2023; Online Meeting
    - All meetings in conjunction with MBx-IF Workshop

- Proposed meeting dates 2024:
    - 11-15 March 2024 (preferred), or 18-22 March; Darmstadt (prostep ivip)
    - 17-21 June 2024 (preferred), or 10-14 June; Online (PDES, Inc.)
    - September 2024; exact date and location tbd., USA (PDES, Inc.)
    - 2-6 December 2024; Online (prostep ivip)

General Sessions:

- A Composites Interoperability presentation was provided by SAFRAN. It would be beneficial for them to become participant (main focus on coverage of composite methodology by STEP standard and Data Exchange more than Archiving).

- A discussion took place about a multi domain test data/model (not to start with a too big & complex dataset). Mars Rover and MBE Demonstrator are candidates, with additional data for Composites and Electrical Wiring.

- Editorial rules and processes between Europe (ASD-STAN) & America (AIA) for publishing LOTAR standard documents still differ. Examples and clarification need to be developed

- The work groups need to start working on planning of content for Standards Track of GPDIS in September.

- There was a presentation by about the handling of large amount of files/large size of generic data such as Office files. The proposal could be ISO Office standard, CSV or PDF. In some cases the data could be also software for simulation or calculation. A list of generic data would be useful.

WG "LOTAR Basic & Common Process Parts" (Parts 00x and 0xx)

- Sessions were held with all on-site WG's for B&C parts review status

- Alignment on traceability and a feedback loop between of all WG's during their ongoing review cycles were discussed

- Discussion and agreement to prepare and use a joint multi-domain test model

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

- Part 100 final review of comments.

- Part 120, 121, and 125, we started the review of ASD Stan comment,

- Finalize the LOTAR assembly PMI pilot 1 based on a trial schema of STEP AP242 edition 4

- EWIS-and CAx IF WGs held a common session to review common requirements:
  - clipping plane,
  - external element reference.

- MBx-IF viewer requirements prioritization was discussed further

- Status of AP242 Edition 4 regarding Limited Length or Area Indicators for composites was discussed

WG "LOTAR Product Data Management" (Parts 2xx)

- Creation of Part 210 "as designed" in appropriate template is ready for external ballot!

- Review of the use cases from the PDM WG to the PDM-IF was held

- Start of the creation of metadata use case – re-use of the template created by the meta data WG

- Start the review and update of Part 230 "as maintained"

WG "LOTAR of Electrical Wiring Harness" (Parts 4xx)

- Essential Information of the Part 410 document was updated

- External element references use cases were discussed:
  - Part 21 direct references to geometry
  - AP242 Domain Model XML referencing geometry with Anchors

- Reviewed the progress of the XML Quality Checks pilot (Schematron)

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

- Defined and agreed on Modelon SOW on Verification and Validation

- Defined and agreed on UC3 SOW on Linking

- MBSE AIP Architecture updated, including short term and long-term transitions

- AP243 Interoperability Forum planning including next MoSSEC clarifications/improvements identified

- Alignment with prostep ivip (Digital Data Package project status)

- Planning for a joint GPDIS-LOTAR MBSE Workshop Monday, September 18th, Phoenix, AZ

Summary of the CAx-IF meetings

The CAx-IF Implementor Group completed another highly successful round of testing, 51J. Highlights include:

- For the review meeting, 12 participants attended in person, plus another 15 online, representing the hosting organizations as well as 11 vendors in total.

- AP 242 Business Object Model XML (assembly validation properties, external references, and user defined attributes), Composite Materials (multiple rosettes per ply group), and Kinematic Mechanism had either near perfect or perfect testing results. Consequently, some of these topics will be closed.

- Assembly level PMI, alternative shape representation, composite materials (rosette guided by curve), PMI representation, and user defined attributes will be retested to resolve issues found during this round.

- Technical discussions were held on a variety of subjects including Persistent IDs, Kinematics, Datums, Bounding Boxes, Applied Notes, as well as updating and restructuring the PMI Recommended Practices document.

- Joint meetings were held with the JT Implementor Forum, CAx-IF User Group, and the EWIS-IF.

- The scope for Round 52J will be similar to Round 51J, with the possible addition of Engineering / Manufacturing End of Ply for Composites, as well as new test models for Kinematics and PMI.

MBx Round Table

The March 2023 MBx-IF User/Vendor Roundtable was very well attended with 24 participants present in person and over 30 on-line. Highlights from the meeting include:

- An update on the joint MBx-IF user group, infrastructure extensions, and coordination and leadership team

- Summaries of testing results from the CAx-IF, EWIS-IF, and PDM-IF Implementor Groups

- Updates on Use Cases and requirements from the CAx-IF, EWIS-IF, and PDM-IF User Groups

- Updates from NIST on the STEP File Analyzer and Viewer and personnel changes

- Vendor STEP updates from:

    - Kubotek Kosmos

    - Elysium

    - T-Systems

    - Datakit

    - CT CoreTechnologie

    - Siemens

    - Dassault Systemes

    - ITI-Global

    - Open Design Alliance