

LOTAR

LOTAR is a project group managed under the AIA, ASD-Stan, PDES, Inc. and ProSTEP iViP consortium. The project goal is to develop, test, pilot, publish and maintain standards designed to provide the capability to archive and retrieve digital product and technical information, including CAD, PDM, Composite Design, Electrical Harness, Engineering Analysis and Simulation, and 3D Visualization data, in a standard form that can be read and reused throughout the product lifecycle, independent of changes in the IT application environment originally used for creation. The multi-part standard covers the information content as well as the processes required to ingest, store, administer, manage and access the information. It is published as EN/NAS-9300.

Tasks

Goals of the project include:

- Developing a standard series (EN/NAS 9300) for archival and retrieval of product & technical data
- Standardization of methods, process modules and data models
- Providing methods, process modules and data model(s) to enable long-term archiving and retrieval of 3D CAD with PMI, PDM, 3D Composite Design, Electrical Harnesses, Engineering Analysis & Simulation, 3D Visualization and other types of data
- Development of recommendations for practical introduction of long-term archiving of relevant data in the industry
- Advancement of commercial-off-the-shelf solutions based on user requirements by close cooperation with the CAx-IF, the PDM-IF, and conjoined funded pilot projects

Milestones 2015

Four workshops have been conducted; two in the USA (March – Gaithersburg, MD; October – Albuquerque, NM) and two in Europe (June – Darmstadt, France; December – Toulouse, Germany).

The new workgroup for Engineering Analysis and Simulation (EAS) gained momentum this year and has been specifying a test case for its initial scope for structural analysis. In parallel, the team supports an update of the related Recommended Practices and prepares engaging CAE vendors with [STEP AP209](#) translators. The Wiring Harness and Mechanical / PMI (Product and Manufacturing Information) workgroups have been supporting the development of 2nd edition of STEP AP242 to ensure it meets the requirements of long-term archiving in these domains.

The LOTAR project has prepared a 5 years roadmap of LOTAR standards, including the identification of the main dependencies with associated ISO STEP Application Protocols and Implementers Forums.

Two new LOTAR Parts have been balloted and approved in 2015 and will be sent to AIA and ASD Stan for publication in Q1 2016:

- Part 110 e2 “CAD mechanical 3D Explicit geometry information“,
- Part 200 “Concepts for Long term Archiving and Retrieval of Product Structure Information”.

The LOTAR team has passed on three more parts of the EN/NAS-9300 LOTAR Standard series to AIA and ASD-Stan for official ballot and publication in 2016:

- Part 7 Term and reference“,
- Part 020 “Governance and Planning“,
- Part 120 edition 2 “CAD 3D PMI with graphic presentation“;

The LOTAR project was presented at: COE in USA, EUMETSAT Preservation Planning 2015 in Germany, 3D Collaboration and Interoperability Congress in USA and other conferences. In addition the public LOTAR internet homepage at <http://www.lotar-international.org/> is being constantly updated and extended.

Outlook 2016

The following milestones are planned for 2016:

- The 3D Mechanical / PMI workgroup will finish the part 125 “CAD 3D Assemblies with PMI Presentation”, the part 121 “Semantic PMI Representation”, and part 120 edition 2 “CAD 3D PMI with graphic presentation”; they will be sent for ballot in 2016.
- The PDM workgroup will extend the scope of Part 210 to cover effectivity and variant management. LOTAR also supports the STEP AP239 “Product Life Cycle Support” edition 3 project and the PDM-IF, which are important foundations for this workgroup.
- The Composite workgroup will facilitate pilots for 3D tessellated plies, and will draft the part 300 for fundamental and concepts for LT Archiving of composite design.
- The Electrical Harness workgroup will prepare test cases and support proof of concepts for STEP AP242 Edition 2, and will support the preparation of draft AP242 elec. harness recommended practices.
- The Engineering Analysis and Simulation (EAS) workgroup will focus on Structural Analysis and facilitate first pilot tests based on AP209 Edition 2. The team supports the extension of the CAx Implementor Forum to the EAS domain in 2017.
- Continuation of close cooperation with the CAx Implementor Forum (CAx-IF), including joint meetings at all four LOTAR workshop 2016.
- Setting up of the cooperation with the PDM Implementor Forum, created in 2015.
- Continuation of the cooperation with NAFEMS for long term archiving of Structural Analysis information.
- Contributions to the STEP AP242 e2 and AP239 e3 project in order to support A&D business requirements for long term archiving of 3D mechanical, composite, electrical harness and Product Management information.
- Integration of additional partners into the project group,
- Extension of the LOTAR public web site.

Participants

Europe:

Europe: AFNeT, Airbus Commercial, Airbus Defense & Space, Airbus Helicopter, IAI Israel Aerospace Industries, SAFRAN.

Americas:

BAE Systems, Boeing, Embraer, General Dynamics, GE, Goodrich, Honeywell, Lockheed Martin, NIST, Sandia National Laboratories, Spirit Aero.

Chairmen:

Europe

Jean-Yves Delaunay

Airbus

jean-yves.delaunay@airbus.com

USA

Rick Zuray

Boeing

richard.s.zuray@boeing.com

Project Coordinators:

Europe

Jochen Boy

ProSTEP iViP

jochen.boy@prostep.com

USA

Jeff Holmlund

Lockheed Martin

jeffrey.a.holmlund@lmco.com