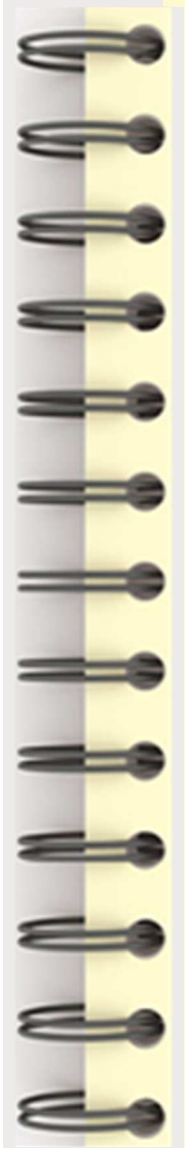
ASD SSG Newsletter

July 2022 Issue

AeroSpace and Defence Industries Association of Europe (ASD) is the European association representing the interests of industries in the aeronautics, space, defence and security sectors. http://www.asd-europe.org/

ASD Strategic Standardisation Group (SSG) is the governance group in charge of Aerospace and Defence digital interoperability. http://www.asd-ssg.org/

IDENTIFYING THE SET OF STANDARDS REQUIRED FOR AEROSPACE AND DEFENCE DIGITAL INTEROPERABILITY.



Bernd Feldvoss replaces Jean-Yves Delaunay

Bernd is holder of a Diploma Thesis with Title “Surface Exchange with STEP” (March 1993). He has been working for more than 30 years in different positions in Airbus Hamburg (GE). He has a great experience in Data exchange and a wide knowledge of PLM tools. He is a member of different Technical Groups (e.g. ProSTEP iViP Technical Steering Committee, JT Open Technical Review Board, CIMdata Aerospace & Defence) and delivered an impressive number of presentations in different Standard organisations.
Bernd is the new editor-in-chief of the Newsletter.

Warm welcome, Bernd!

Jean-Yves was the first chairman of the SSG, created in 2008. Jean-Yves started in the automotive industry as CAD software developer of a 3D curves & surfaces interface between Catia V3 and CADDS3 based on the French SET standard. He spent 32 years in Aerospatiale, Matra, EADS and finally Airbus. He co-chaired the EADS Strategic Standardisation Committee and worked a lot with external companies, standardisation associations (e.g. AFNeT, prostep ivip, PDES Inc), and standardization bodies (Afnor, CEN, ASD STAN, ISO /TC184 /SC4). He was the initiator of the merge of STEP AP203 and AP214 in STEP AP242. Jean-Yves relentlessly promoted the value of the Interoperability standards and reached a level of expertise internationally acknowledged.

Hats off to Jean-Yves and a big thank for his remarkable contribution to Standards!

Evolution of the ASD SSG mission

After the long period of Covid-19, where all meetings had to take place remotely, the Strategic Standardisation Group members decided to undertake a stress test of their mission and to submit to the ASD an evolution of the operating model.
During the first post-Covid physical quarterly session, organised 5th and 6th July 2022 in the Air Business Academy in Toulouse (FR), the following action plan has been decided:

- All actual members will be contacted individually to confirm their involvement in the SSG;
- The Companies represented in the SSG and other major Aerospace Companies will be canvassed in order to consolidate their expectations in terms of Standards;
- Questions related to their assessment of the value from Standards, the process they put in place to develop their usage, the impacts of Standards on their supply chain or their needs in future Standards will be debated with executives in charge of Methods & Tools;
- A communication paper retracing the synthesis of the interviews and describing the proposed update of the SSG operating model will be elaborated.

Contributions to the debate are warmly welcome and should be addressed to Bernd Feldvoss (bernd.feldvoss@airbus.com)

Summary of AIA / ASD Cooperation

After two years of virtual meetings the Integrated Product Support Council held a face-to-face meeting in Stockholm, Sweden. ASD members were joined by their colleagues from the AIA and after 2½ days, reviewing the Governance of the Council, the timelines for the next "block" release in Apr 2024 et al, all agreed that significant progress had been made thanks to the enhanced communication that only physical meetings can achieve.

In line with the SSG's recent collaboration call with the AIA, where topics such as joint initiatives on exploitation of Digital Twins, Digital Ledger Technology et al. were discussed; the IPS Council are keen to increase the depth of cooperation across the Atlantic and will seek to meet with the AIA's Product Support Council's Chair, Lynn Williams. Lynn will be invited to join the IPS Council to achieve parity with the Chair of the ASD's PSSG. Lynn is lobbying hard in Washington to encourage the US DoD to follow many European Defence Ministries and adopt the IPS S-Series Specifications.

There is an opportunity to hold a joint meeting in Washington in October 2022, when the Institute for Defence and Government Advancement are hosting a conference entitled, "Defense Logistic and Support". The AIA will look to host a joint meeting around the dates of the aforementioned conference, due week commencing 10th Oct, the week before the IPS User forum in Vienna.

Summary of the 11 & 12 May 2022 AFNeT standard days

Key Note by Philippe LATOMBE, a Member of French Parliamant

Common presentation by Datakit, CoreTechnologie and Airbus

ATLAS Project Days Exhibition

After a 2 years' covid-19 crisis, the AFNeT Standard days had a special taste this year, as it is coupled with the ATLAS Projects Days : a permanent exhibition providing a global view of ATLAS projects. Social events at the end of each day fostered networking opportunities.

Good level of attendance for an " hybrid " event combining remote mode and on-site mode : 152 registrations with a pic of 110 participants on-site.

The standard journey was organised around the 8 domains of ATLAS program : System Engineering, PLM, Smart Manufacturing, Supply Chain, Maintenance, Digital Twins, Data and Infrastructure, BIM. Each half day started with a key note of industrial leaders. In addition to industrial leaders, *Philippe LATOMBE,* a member of French Parliament, delivered a key note on "Building and promoting national and European sovereignty".

Attendees gave top grade to this edition for the level of cooperation between companies around common presentation. As example: Airbus, Dassault Aviation, Safran and Daher presented together " Configured multi-views product structure interoperability ".

Overall : 8 tracks, 6 key notes, 15 presentations and 1 roundtable.The detailed agenda of the 2 days with presentations and videos is available here : https://www.afnet.fr/en/afnet-standards-days/

The ATLAS Projects Days exhibition was also structured according to ATLAS program. Overall, 22 projects were under the spot through their posters, highlighting their objectives, activities, achievements and perspectives. " This poster based presentation is the perfect way to present ATLAS program and to arouse the interest of industrials" says Emeric JESSON (THALES). The 2022 ATLAS Projects Days posters catalog is available here : https://atlas.afnet.fr/en/atlas-projects-days-2022/

Summary of 8 & 9 June 2022 prostep ivip symposium

The prostep ivip symposium at Stuttgart has been a successful event with great interest following two years of networking abstinence: Many had sorely missed the personal contact. And so the mood at the world's largest get-together of the PLM industry was upbeat. More than 520 people from 15 countries and 35 exhibitors met up at the ICS in Stuttgart to network to their hearts' content once again. The mission - to learn about the latest developments in industrial AI, the growing need for digital twin, the modernization of PLM landscapes, the Internet of Things (IoT), Industry 4.0, model-based systems engineering, etc. https://www.prostep-ivip-symposium.org/en/program/

Announcement of next years sponsors

Presentations & workshops were wired spreaded but also aligned with the following strategic topics: software in the product, beyond automotive, virtual homologation, people & skills and future (cloud based) collaboration

Next year prostep ivip Symposium will be sponsored by Siemens PLM & Volkswagen and again same location Stuttgart 3rd & 4th May 2023.

Opening by prostep ivip Board

At the most recent annual general meeting, held on the eve of the prostep ivip Symposium in Stuttgart, https://www.prostep.org/en/medialibrary/news/detail/article/strategic-reinforcement-for-the-prostep-ivip-association/

The association's member companies elected Jens Poggenburg, executive vice president at AVL, as the board's new representative of the automotive suppliers. He replaces Armin Hoffacker from Bosch, who did not stand for re-election. They also confirmed Dr. Henrik Weimer (AIRBUS) as the representative of the OEMs, Philipp Wibbing (UNITY AG) as the representative of the IT vendors and service providers, and Prof. Dr. Rainer Stark (TU Berlin) as the board member representing universities and research institutes.

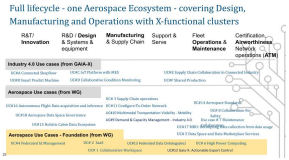
To ensure that greater focus can be placed new strategic topics, the annual general meeting also confirmed the board's proposal to add two special mandates holders to the ranks of the board members. Thomas Kamla, who as senior director reports directly to Volkswagen's executive board member responsible for development, will ensure that the role the association plays in the fields of systems engineering and software in the product receives greater attention.

The expanded board will also strengthen the association's international expansion. Tomohiko Adachi of Mazda Motor Corp. is taking on the task of boosting the association's international profile and attracting new cooperation partners. He will deal with quality assurance issues at board level and is also chairman of JAMBE's (Japan Automotive Model-Based Engineering Center) planning committee.

Importance to prepare European Industrial data space for Aerospace & Defense

Since the generalization of the Virtual Product development process, European Aerospace has experienced a deep digital transformation, relying on highly meshed digital collaboration processes and data flows across the complex ecosystem.

In the scope of the GAIA-X initiative, an Aerospace Industry working group sponsored by GIFAS and BDLI has been formed, considering the implementation of an Industry Vertical and corresponding Data Spaces (terms coined by the GAIA-X association) compliant with Aerospace regulations and constraints.



Some processes and use cases that could benefit from Aerospace compliant Data Spaces include:

Collaboration over extended enterprise for trusted document exchange and co-edition

Interoperability for co-design of Aerospace programs (aircraft, space systems, helicopters…) with partners and consumption of technical data for level 1 and level 2 subcontractors

Innovation leveraging massive data collection to support the development of next generation cockpits navigation systems and more autonomous aircraft built upon Artificial Intelligence

Co-design of product and systems and of their manufacturing and operation systems

Trust in the cloud service providers for high performance computing required for ubiquitous Modeling & Simulation

Enhanced and trusted collaboration with supply chain and logistics,

Aircraft or program assembly, with integrated planning and quality processes,

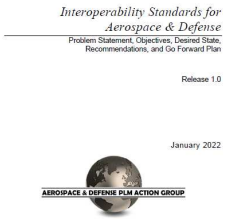
Certification process, continuous airworthiness and safety management over 40-50 year Product life-cycles,

Optimized aircraft operation & maintenance with trusted data sharing of in-service operational data, flight and fleet operations

Trusted Identity management as a key foundation for all the other use cases, and as the basis of Cyber security.

More than 20 use cases have been identified by the User Group and are described in an extended “position paper” document under validation by GIFAS and BDLi.

Summary of the Standards Position Paper ed1 of the A&D PLM AG



Interoperability Standards for Aerospace & Defense Position Paper has been published beginning of 2022:

Collaboration within a large, global, distributed supply chain of design and development partners is seriously hindered by both ineffective implementation of interoperability standards industry- wide and selective capabilities embraced by PLM providers. These two factors prevent the digital continuity needed to set up a Model-Based Enterprise. Future A&D development of civil aircraft, aerospace products, and associated systems will rely on model-based paradigms. A Model-Based Enterprise will require long-term archiving and retrieval of the associated model-based design, more specialized and complex data structures, and management of their meta data. Globally, PLM interoperability standards are identified as key enablers to support the new ways of working, based on the introduction of digital twins that will exist in a digital ecosystem. This position paper supports the A&D industry by identifying international standards of high business value, recommending their incorporation into PLM systems and integrations, and using them in operation within A&D companies and also with their supply chains. This paper is iterative and will be extended with future editions that support new PLM interoperability capabilities requested by the AD PAG.

A presentation was held at PLM Road Map Fall 2021. It considers the premise that collaboration in a large, global, distributed supply chain of design and development partners is seriously hindered by both ineffective implementation of interoperability standards industry-wide, and the selective capabilities embraced by PLM providers. These two factors prevent the digital continuity needed to set up a Model-Based Enterprise. Future A&D development of civil aircraft, aerospace products, and associated systems will rely on model-based paradigms. In addition, a Model-Based Enterprise (MBE) will require long-term archiving and retrieval of the associated model-based design, more specialized and complex data structures, and management of their meta data. Globally, PLM interoperability standards and associated Interoperability Forums are identified as key enablers to support the new ways of working, based on the introduction of digital twins that will exist in a digital ecosystem. This presentation reports on work by the A&D PLM Action Group which has come together to examine the value proposition of standards enablement of MBE interoperability. The report begins by framing the problem, followed by articulation of objectives, requirements, and desired future state. The discussion then progresses to recommendation of a first set of interoperability standards for key MBE focus areas, including Model-Based Definition, Multi-View Bill of Materials, Global Collaboration and Model-Based Systems Engineering, and concludes with a plan for accelerating adoption.

https://www.cimdata.com/en/aerospace-and-defense/publications/standards

Announcement of ESA conference for System Engineering in S2 2022

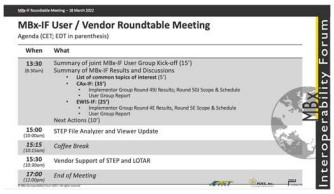
In co-operation with Airbus and CNES, the European Space Agency is organising a three-day workshop on Model Based Space Systems and Software Engineering (MBSE2022) from 22-24 November 2022 hosted at the Airbus Leadership Academy in Toulouse (France).

The workshop will provide a forum to exchange practical experiences, lessons learned and novel way forward ideas from applications of model-based techniques in the area of Space System and Software Architecting and Engineering.

We expect the workshop to be attended by both practitioners from space agencies and European space industry (primes and their suppliers), and researchers in applied model-based techniques.

The symposium will include invited talks/keynotes, participant presentations and interactive discussion sessions.

Summary of MBx round table with PLM editors



High-level agenda

MBx-IF STEP Vendor updates : detailed agenda

The MBx-IF User/Vendor Roundtable held on 18th of 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 held on the 21 Jan. 2022 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. A next coordination confcall is in preparation in the next months.
- The CAx IF presented the results of the test rounds 49J (Sept. 2021 – March 2022) and the preparation of the test round 50J
- The EWIS IF presented the results of the test round 4Ed (Sept. 2021 – March 2022) and the preparation of the test round 5E.
- 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 Systemes, Siemens, Kubotek 3D, Open Design Alliance. This was the first time for Open Design Alliance.
- The next MBx-IF User/Vendor Roundtable is planned on Thursday 22nd of Sept. 2022, in Charleston.

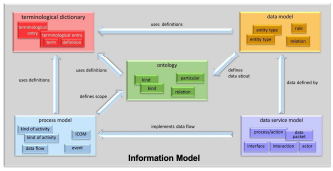
NOTA :

All the presentation of 18th of March are now available on PDES Inc, ONLY PARTICIPANTS web site.

Next MBx-IF User/Vendor Roundtable : Preparation on track

Summary of the Reference Model for industrial data standard

The standardized deliverables needed for the storage and exchange of data for a particular industrial domain are not necessarily all in one standard, or all developed by one Technical Committee, or developed under one standardization body.



Therefore, it is important for the standardized deliverables to be able to utilize, reference, or map to, content from other standardized deliverables.

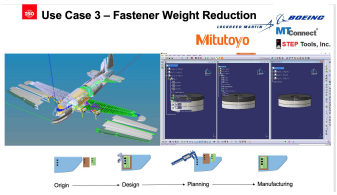
The types of deliverables include Technological dictionaries, Process models for information requirement context and for process specification, Ontologies, including classifications and reference data, Data models, Data service model, Information models.

The ISO TC 184/SC 4 has set up a Task Force to develop a reference model of an architecture for industrial data standards. The resulting Technical Report ISO/DTR 17999 is currently under Ballot until August 12.

The proposals addressed by the architecture for industrial data standards include the combination the different types of standardized content to create a semantically precise industrial data standard, the specification of semantic links between different types of standardized content, the reusability of the standardized content of one industrial data standard by another one, the integration the standardized contents from different industrial data standard, the presentation of an industrial data standard to an expert in an industrial domain, the choices between different technologies for the representation of standardized content.

For more information contact Jean.Brange@afnet.fr or your national body representative to review the Draft Technical Report.

Summary of ISO TC 184 SC4 meeting May 2022 meeting



The last ISO TC 184 SC4 was plenary took place virtually. It was a small session as the Committee is still

For the STEP standards (WG12):

- the long awaited AP242 ed3 FDIS was signed off by the convenor and is now under Ballot,
- the STEP Architecture (10303-1) edition 3 is under CD Ballot,
- the STEP vocabulary (10303-2) CD Ballot is in review for DIS preparation,

For the Manufacturing Digital Twin Standards (WG15) has released a few Use Cases associating ISO 23329 and STEP AP 238 standards as Digital Twins for products and processes:

- Use Case 1 – Tooling Optimization
- Use Case 2 – Assured Processes for AM
- Use Case 3 – Fastener Weight Reduction

A liaison has been established between the SC4 and the JTC1/SC 41.

For ISO 8000 Data Quality (WG13), the group is very active, and the ISO 800 has now 25 parts and 6 new project upcoming.

For the Oil&Gas Group (WG3), a 36 month New Project for Nuclear Digital Ecosystem Framework was successfully submitted.

For the Data Dictionaries (JWG24) the objective is to develop a common vision on the future of ISO-IEC libraries.

On the ISO SMART Standard Initiative, the SC4 has proposed 4 industry Use Cases:

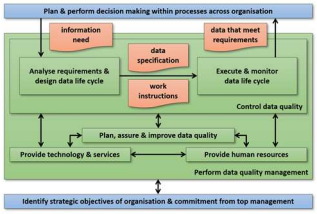
- Reference data libraries and open technical dictionaries with means of extension
- Common Data Dictionary
- Model based standards deployed as computer interpretable models
- Chained requirements from standards extracted through normative references

The next SC4 plenary will be in Hamamatsu, Japan from October 31 to November 4.

This first real life meeting wince the Covid surge will be the opportunity to celebrate our second ISO L.D. Eicher award (award video at https://youtu.be/jeiGT2jB-to)

The meeting registration is https://sd.iso.org/meetings/112988

Introduction on ISO 8000



2022 has already been a busy year for ISO 8000, the international standard for data quality. The ISO 8000 series now consists of 21 published parts, which include the following published this year:

- ISO 8000-1 (Overview);

- ISO 8000-64 (Application of Test Process Improvement);

- ISO/TS 8000-82 (Data rules);

- ISO 8000-150 (Data quality management roles and responsibilities).

Work has also begun on a new part to look at sensor data (ISO 8000-210).

In the first week of November, the ISO 8000 working group (WG 13) will be joining the rest of the SC 4 committee to meet face to face for the first time in three years. This meeting is due to take place in Hamamatsu in Japan.

Introduction to Export Control

In addition to Cyber Security and IP Protection Export Control has to be taken into account more and more.

An export license from the U.S. government may be needed if your business intends to export items with defense- or national security-related applications. Additionally, an export license may be needed for “dual-use” items that have both commercial and military functions.

The International Traffic in Arms Regulations (ITAR)

The International Traffic in Arms Regulations (ITAR) is a set of United States Government
regulations on the export and import of defenserelated articles and services. In a global marketplace, many U.S. prime contractors arerequiring their suppliers to be “ITAR compliant.”

In order to be ITAR compliant, you must register with the Directorate of Defense Trade Controls(DDTC).

All manufacturers, exporters and distributors of defense articles, related technical data and defense services as defined by ITAR are required to register with the DDTC.

The Export Administration Regulations (EAR)

The Export Administration Regulations (EAR) is a set of United States government regulations on the export and import of most commercial items. The U.S. Department of
Commerce is responsible for implementing and enforcing EAR. Many of these items are “dual-use” items, meaning that they have both commercial and military functions.

https://www.bis.doc.gov/index.php/documents/technology-evaluation/781-export-licensing/file

Next events *still affected by the impact of Covid19*

- LOTAR physical workshop in Charleston: 18th – 23th September
- MBx-IF users and PLM vendors round table in Charleston: 22th September
- IPS user forum in Vienna: 17th – 20th October: https://www.ips-uf.com/
- STEP AP242 day in Munich: 20th October
- Defence Logistic and Support conference in Washington: 26th – 27th October
- STEP AP242 ed4 workshop in Japan: 27th – 28th October
- ISO SC4 TC184 meeting in Japan: 30th October – 4th November
- Model Based Space Systems and Software Engineering – MBSE2022 in Toulouse: 22nd – 24th November 2022