

ASD SSG Newsletter

December 2021 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. [Link](#)

ASD Strategic Standardisation Group (SSG) is the governance group in charge of Aerospace and Defence digital interoperability. [Link](#)

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

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Obituary to Nigel Shaw (expert on ISO 10303 standard and in particular PLCS)



The SSG is sad to announce the passing of our friend and colleague Nigel Shaw: Nigel Shaw had many roles in ISO/TC 184/SC 4 over more than 30 years but most importantly to the ASD standards community, he was project leader for the first edition of ISO 10303-239 (PLCS).

He showed the highest levels of technical leadership, continued innovation and personal dedication to the development of ISO 10303, including editing the first edition of the standard, leading the development of its extension from design and manufacture to supporting the full product life cycle, automating production of the text and promoting and implementing software solutions in industry.

16 Nov. 2021 presentation "The Business Value of Standards-based Information Interoperability for Aerospace and Defense"



On the 16 November, during the CIMData PLM Roadmap - PDT Europe virtual conference, the A&D PLM Action Group presented "The Business Value of Standards-based Information Interoperability for A&D". This presentation reported on work by the A&D PLM Action Group to examine the value of standards to enable Model Based Enterprise interoperability. It presented the problem statement, the business value, the role of the interoperability forum, criteria for interoperability standards and the resulting key standards recommendations. This presentation will be detailed in a public A&D PLM AG position paper "Interoperability standards for Aerospace and defence", planned to be published early 2022.

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

Summary of the 13 – 17 Sept. 2021 GPDIS (Global Product Data Interoperability Summit)



The annual Global Product Data Interoperability Summit (GPDIS) was held online on the 13 - 17 September 2021. This conference, organized by Boeing, Northrop Grumman and Parker Aerospace with the support of PDES Inc, CIMData and Elysium, aimed to accelerate the deployment of Model Based Enterprise principles in the American Aerospace ecosystem. The motto of this 8th annual summit was "**Data readiness in a new age of digital collaboration**", it was organized in 5 parallel tracks: DevOps, MBSE, CAMSC, 3D MBD and ET/IT (Emergent Technologie / Industry Transformation)

Access to the pdf presentations: <https://gpdisonline.com/event-history/>

Access to the YouTube playlist of the presentations: [Link](#)

4 November 2021 EASA webinar on "Digitalisation in the aviation industry"



This webinar had the objective "How can EASA accompany the digital transformation of the European aviation sector? It includes the results of an EASA survey on digitalization, and presentations of different National Competent Authorities.

The IATA presentation highlights the important issues, such as data ownership, cybersecurity, artificial intelligence, digital thread and digital twins, interoperability and data transfer harmonization; it sums up the needs of the industry (e.g. acceptance of paperless processes), and examples of standards already in use, such as the Schedule Maintenance Data Standard in S1000D, ATA Spec 2400 for allowable configuration data exchange, etc. The Webinar gave also examples of Approved Organisations that manage electronic workflow and ensure trust in their electronic approval.

Youtube Playlist:

https://www.youtube.com/playlist?list=PLTfS24aKkJn6GKhVvxJGhI_TTqxKgXDF

Publication of ISO 10303 AP243 MoSSEC international standard by end of January 2022

The MoSSEC (ISO 10303-243) project has passed the final hurdle for

Edition 1 publication targeted for end January 2022

, by the SO/TC 184/SC4/WG12 convenor sign-off on September 24th

This concludes almost 10 years of ceaseless effort and determination by **Judith Crockford & Adrian Murton (Airbus)** to get this from a vision outlined during FP7 CRESCENDO EU project back in 2010 to an official ISO standard ready to use. But the journey does not stop here, the next step lies already ahead: to prepare a MoSSEC Interoperability Forum to ensure implementation across SPDM / PLM vendor solutions!

The MoSSEC standard enables a proper exchange and sharing of modelling and simulation data with traceability to its systems engineering & PDM context. This enables competitive and robust product development in global teams, where modelling and simulation data is fully traceable to the PDM referential, and enabling quick validation of next design changes, whether in product development or in-service phases.

MoSSEC website: <http://www.mossec.org>

Corresponding ISO website: <https://www.iso.org/standard/72491.html>



Implementer Group of the RV&V Interoperability Forum now began

The objective of the RV&V-IF is to provide industry with operational solutions for data exchange in the Model-Based System Engineering field, starting with the exchange of Requirements and Validation&Verification data.

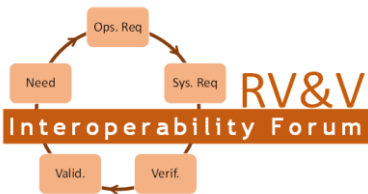
The RV&V-IF was launch the **8th of September 2021** supported by the AFNeT and AFIS associations.

User Group : Airbus, Airbus D&S, Ariane Group, Thales Group, Naval Group, Safran

Implementer Group : Dassault Systemes, Siemens PLM, Aras, CS group, AFNeT Services, CIMPA

The first test round will be on the “Exchange of Requirements with traceability links” using ISO 10303 STEP standards.

Link: <http://www.asd-ssg.org/rvandv-if>

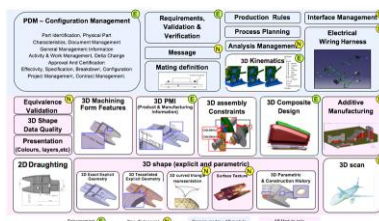


Launch of ISO 10303-242 ed3 “Managed model-based 3D engineering” New Work Item ballot

During the last ISO TC 184/SC 4 plenary in November, resolution was taken to launch a New Work Item (NWI) for the development and delivery of ISO 10303-242 ed3 (AP242 ed3). The NWI is out for ballot since December 1, and the target date for publication is Q3 2023.

The scope for AP242 ed3 includes:

- Updates for: Assembly PMI & PMI updates, Incorporation of Part 59(PDQ) ed3 and related PMI data quality module and Triangulated shape data quality module, Identification of Structural Joints with fasteners in the domain model, Composites material in the modules, EWIS updates
- Enhancements for: Process planning, Integration of CAX-IF recommended practices in standard documentation, Bounding boxes and Level Of Details (LODs) in Domain model
- Extensions for: Isogeometry, Polyhedral B-Rep, Guides that supports lifecycle traceability, Visual Issue Management, Web services implementation using JSON (Using 10303 Part 18)



Link: <http://www.ap242.org>

Summary of 28 Sept. CEN - CENELEC - ETSI workshop “standards for industrial data”



The three European Standardization Organisations CEN, CENELEC and ETSI held a stakeholders’ workshop ‘Standards in support of the industrial data value chain’ on 28 September 2021, mobilizing a high number of participants from industry, policy and standardization organisations, on the following agenda:

Opening by Dany Sturtewagen, CENELEC’s President, and Neviana Nikoloski, Chair of ETSI General Assembly

Keynote address from Kerstin Jorna, Director General of DG GROW

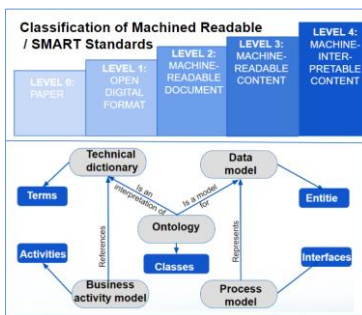
Industrial data economy (the Gaia-X initiative - the European Legislative framework for Industrial Data)

Case studies from the industry, with sectoral perspectives and a showcase of good practices, including a presentation of JP Souzy, ASD SSG chairman, [“Business value of standards for the Aerospace and Defence sector”](#).

Panel discussion on cross-sectoral synergies and common gaps to be addressed by standardization to build a trustworthy and reliable industrial data value chain.

Access to the presentations and records: [Link](#)

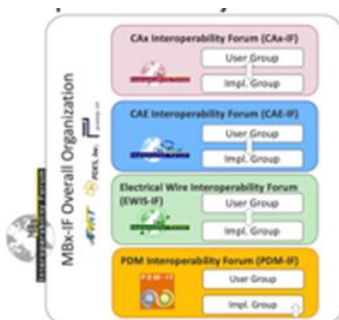
Values of Machine Readable Standards to support the aerospace digitalization



Machined Readable Standards (MRS) will strongly contribute to support the digitalization of the industries and the deployment of the digital twins. They will cover the full product life cycle, including operations and maintenance; they will allow specification of requirements, KPIs, dictionaries, data classification, process models, part libraries, interoperability data model, formats and services, ontologies. Specific methods and tools are requested to develop them and support their deployment.

Work is organized at the international level (e.g. ISO-IEC) and European level (CEN-CENELEC). But there are specifics of the A&D products and processes. ASD and ASD STAN are starting activities to define business values, priorities, and governance of Aerospace and Defense MRS in order to plan their development at the international and/or European levels.

Signature of the MBx IF MoU by PDES Inc, AFNet and prostep ivip



The MBx-IF Memorandum of Understanding (MoU) was signed by AFNeT, PDES Inc. and prostep ivip on August 2021.

The primary purpose of this MoU is to intensify cooperation between the Participating Associations in regard to the Model Based Engineering and Manufacturing Interoperability Forum based on user groups and implementor groups focused on specific capabilities of a named standard.

User Group - A group of industrials or industry representatives, all members of at least one of the Supporting Associations.

Implementor Group - A group of software editors, integrators, and standardization experts that develop and validate recommended practices based on prioritized use cases defined by the user group, all members of at least one of the Supporting Associations

Press release is available at: <https://www.afnet.fr/en/prostep-ivip-pdes-inc-and-afnet-have-signed-memorandum-of-understanding-mou/>

For more information on the MBx IF: <https://www.cax-if.org/index.php>

Preparation of ISO 23301 STEP geometry services standard

ISO 23301 STEP geometry services document is scheduled to be published by ISO in December 2021.

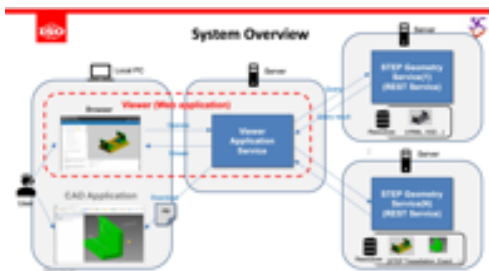
Geometry data sets, as long as they are under the management of a single product lifecycle management system, can be linked together. This allows audit trails and transformation processes to be controlled.

Once a geometry data set is taken out of a product lifecycle management system we lose the traceability of the evolution of this data set.

There is a need for a mechanism that shall allow the industry to keep track of the geometry data set origins and evolutions.

During the last ISO TC 184/SC 4 plenary in November, resolution was taken to launch the second edition of ISO 23301 with: enhancements to the metadata set, the webservices definitions and a pilot for a JSON linked data AP242 Domain model based distributed product structure.

Link: <https://www.iso.org/standard/75189.html>



ISO 23247 Series Digital twin manufacturing framework ISO published in August 2021

The ISO 23247 series 'Digital twin framework for manufacturing' was published in August '21, this includes four parts in total Part 1: Overview and general principle, Part 2: Reference architecture, Part 3: Digital representation of manufacturing elements, Part 4: Information exchange. This standard provides a reference for the term 'Digital Twin' within manufacturing. This is beneficial for both end users and also technology providers to have common understanding and also how different data sets and ISO standards can be used within the data thread (biased to part Geometry) in Manufacturing to obtain 'Digital TWIN' and 'Data Interoperability'.

Core standards which ISO 23247 series uses within the framework include amongst STEP ISO 10303-242 ED1 (Model Based Definition), ISO 10303-238, ISO 13399, 23952 QIF, ISO 6983 (G-Codes, M-Codes) etc. Part 4 includes real manufacturing 'Digital TWIN' user cases 1 Dynamic Scheduling, 2 Advanced Metrology, 3. Optimization of material removal operations, 4. Example of enhanced G-Code.

Overall, the ISO 23247 series provides a enabler with the framework and shows practical examples of how these data standards can be used effectively retaining MBD Data Interoperability within Manufacturing thread, once again biased towards part geometry thread. The ISO 23247 series has been in development in the last 3 years, during the ballot phase a practical demo video of the user cases using real CAD models, shopfloor machines and using the standards https://www.youtube.com/watch?v=wbsC_qzB8us.

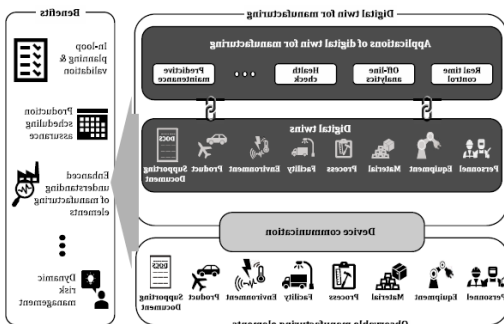
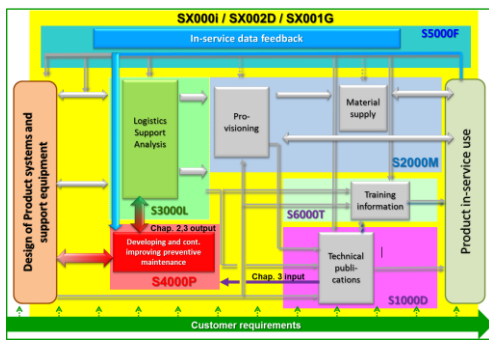


Figure 5 - IoT framework for digital twins in manufacturing

Publication of the Integrated Product Support S-Series 2021 Block release

The block release of the S-Series Specifications has seen a new era dawn in the Integrated Product Support world; the co-publication will help to ensure interoperability in both process and data exchange. Furthermore, under the auspices of the IPS Council, teams drawing membership from the Aerospace Industries Association in the USA, the ASD in Europe and yet further afield have already turned their thoughts to the next block release; producing an S-Series handbook and encouraging the next generation of support engineers to join the working groups.

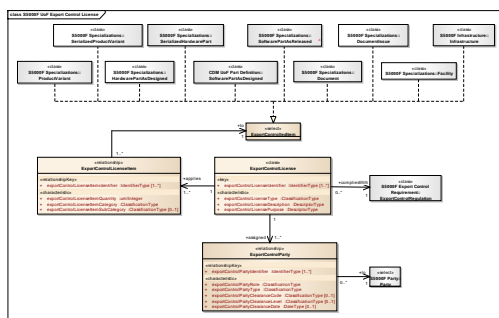


The many thousands of downloads of the aforementioned S-Series indicates a thriving market and as the number of users grow, there will be an increasing need to provide training and again the ASD via the Service Commission in Brussels and its Customer Support Services Training Operational Group, CSSTOG, will be to the fore.

Link: <http://www.sx000i.org/>

Export Control in the S-Series of Integrated Product Support (IPS) Specifications

Export Control (EC) is becoming an increasingly hot topic in the global industry, as countries scramble to protect their technological secrets in addition to the military ones. But one issue that the industries face is that there seems to be no common way to exchange EC information between the EC-involved parties.



Actually, such an exchange mechanism exists since 2019: Both [SX000i](#), *International specification for Integrated Product Support (IPS)* and [S5000F](#), *International specification for in-service data feedback*, share the same definition of business objects and data dictionaries, as well as a common XML exchange schema to share EC information across multiple parties.

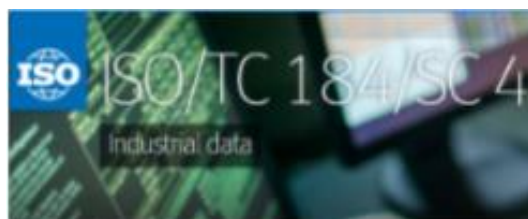
These EC units of functionality will be included in the next release of [SX002D](#), *Common Data Model*, for use by all S-Series IPS specifications.

ISO/TC184/SC4 "Industrial data" receives the ISO Lawrence D.Eicher Award

The Lawrence D. Eicher Leadership (LDE) Award recognizes the superior performance of an ISO subcommittee (SC) to the development of ISO International Standards.

ISO/TC 184/SC 4, Industrial data, through the publication of 770+ International Standards, brings a key advantage to the organizations using high-quality data throughout the life cycle of a product. Moreover, the subcommittee has developed an agile, responsive and inclusive way of working, focusing on effective collaboration and continuous improvement.

"In receiving the ISO LDE Award, the committee was most notably recognized for its proactivity, its large volume of quality standards, the growth of the number of participants in the standardization process and taking an innovative approach to committee work."

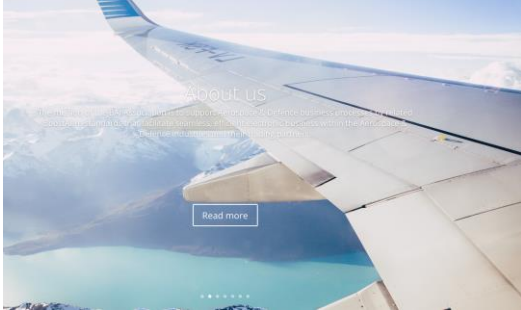


Link: <https://committee.iso.org/home/tc184sc4>

and

<https://lnkd.in/gvzvFUuN>

Integration of Boost Aero International association in AFNeT association



In order to centralize the standardization task of the Aerospace & Defence (A&D) industry, BoostAero International has been integrated into Afnet SCM Task Force.

The mission of the BoostAero International (BAI) Association is to support A&D business processes by related BoostAero standards (business processes, documents, data dictionaries, and IT framework) that facilitate seamless, efficient electronic business within the A&D industries and their trading partners.

A Consultative Committee representing the major A&D Industries provides strategic advice and recommendations to the BoostAero International Association

The BoostAero standards are available for A&D companies who want to exchange commercial documents with their trading partners, and for A&D suppliers who have the Boost-Aero standards imposed on them by their customers.

The BoostAero standards have been specified and developed in ebXML by European and American A&D companies following the best international standardization practices, and their specifications (Business Requirement Specifications) have been submitted to the [UN/CEFACT](#) by the [ASD](#) (AeroSpace and Defence Industries Association of Europe) and the AIA (Aerospace Industries Association).



Next events, still affected by the impact of Covid19:

- PDM-IF workshop: 7-8 December 2021
- MBx-IF user group call (CAx-IF – PDM-IF – EWIS-IF): beginning of 2022
- LOTAR International meeting: 14-18 March 2022



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