



ASD-STAN
Standardization

**WORK PROGRAMME
FOR 2024 AND BEYOND**

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About ASD-STAN

ASD-STAN is an industrial non-profit association (AISBL¹) dedicated to establishing, developing, publishing, and maintaining standards on behalf of the European aerospace industry.

ASD-STAN in a nutshell

As an associated body to CEN (European Committee for Standardization) we are the primary provider of European Norms (EN) for the aerospace industry.

Over the years, ASD-STAN crafted an efficient standardization process in collaboration with the European Committee for Standardization (CEN). Despite our success, our ongoing objective is to continuously reduce lead times in the standards development process to align with industry demands. ASD-STAN publishes projected-EN standards (ASD-STAN prEN) which are technically identical to the final European Norm (EN). Our cooperation with CEN ensures compliance with the openness and transparency requirements for standard development included in the [Regulation \(EU\) 1025/2012](#), [WTO/TBT Agreement](#) and the relevant provisions of CEN-CENELEC Internal Regulations.

To date, ASD-STAN has published a total of 2608 European Norms (EN) through CEN. All our standards (ASD-STAN prENs) will ultimately be released by CEN as European Norms (EN). With over 2608 ENs, constituting 12% of available EN-Standards in Europe, ASD-STAN stands out as a primary contributor to European Aerospace Norms. Additionally, 79 Technical Reports (TR) were published, and 300 ASD-STAN prEN standards slated for transformation into European Norms through CEN in the near future. Currently, over 300 standard developments are underway, involving hundreds of experts from the European aerospace industry organized into 38 ASD-STAN Working Groups.

Our values of openness, transparency, consensus, and balance are at the core of our Working Groups. Bringing experts from across Europe and industry together, we guarantee the safety of our standards by having Original Equipment Manufacturers (OEMs) and Type Certificate (TC) holders chair our Working Groups.

Overview of the ASD-STAN's vision and goals

Our vision is centred on enhancing the industry's impact by streamlining the European Standard Publication Process for swift accessibility of standards. We aim to achieve this through the following key objectives:

- **Swift Accessibility:** Prioritizing the expeditious availability of standards is fundamental to our vision. We are committed to streamlining the publication process to ensure that standards are readily accessible, facilitating a more agile response to industry demands.
- **Dynamic Work Programme:** Tailoring a dynamic work programme is crucial to align with the ever-evolving demands of the European Aerospace Sector. ASD-STAN strives to create a responsive and adaptable framework that anticipates and addresses emerging industry needs efficiently.

¹ Association Internationale Sans But Lucratif (AISBL)-International Non-Profit Association

- **Preventing Overlaps and Duplications:** Proactively preventing overlaps and duplications with other Standards Development Organizations (SDOs) is a key aspect of our vision. ASD-STAN is dedicated to fostering collaboration while ensuring a streamlined and cohesive approach to standardization, avoiding redundancy in efforts.

ASD-STAN Goals: Shortening the European Standardization Process

Our primary goal is to significantly reduce the European Standardization process duration to meet the pressing needs of the industry for a quicker time to market for standards. We are committed to:

- **Efficiency Enhancement:** Implementing measures to expedite the standardization process without compromising quality, thereby supporting industry requirements for a more efficient and streamlined approach.
- **Optimizing Collaboration:** Enhancing collaboration with stakeholders to identify and eliminate bottlenecks in the standardization process, ensuring a seamless and accelerated pathway to market for standards.
- **Continuous Improvement:** Instituting a culture of continuous improvement within ASD-STAN to iteratively refine and optimize our processes, responding promptly to industry feedback and evolving technological landscapes.

By pursuing these goals and adhering to our vision, ASD-STAN aims to be at the forefront of advancing standardization practices, contributing to a more agile, responsive, and impactful European aerospace industry.

[Summary of key achievements from the previous year](#)

ASD-STAN has shown resilience and adaptability in the face of unprecedented challenges posed by the global pandemic. We are thrilled to report a substantial increase in the number of new project proposals submitted throughout 2023. A total of 90 new projects were proposed in 2023, which reflects a remarkable 70% increase compared to the previous year. This surge in project proposals demonstrates the unwavering commitment of our members and stakeholders to driving innovation and setting new industry standards.

In line with our mission to foster collaboration and develop critical standards for the aerospace and defence sectors, ASD-STAN has achieved a significant milestone in the publication of new projects. Throughout 2023, we successfully published 80 ASD-STAN prEN standards (105% increase from 2022), and 64 European Standards (ENs) underscoring our determination to enhance safety, quality, and interoperability within the industry. These standards cover a wide range of topics, from design, performance, safety, or other technical parameters and guidelines. Our dedicated Working Groups

have worked tirelessly to ensure that these publications meet the highest quality and relevance standards.

The year 2023 was characterized by a strong determination to recover and rebuild after the disruptions caused by the Covid-19 pandemic. ASD-STAN remains committed to providing a platform for industry leaders to come together and drive innovation, ensuring the continued growth and competitiveness of the European aerospace and defence sectors. The substantial increase in new project proposals and the successful publication of projects underscore our collective efforts to rebuild and advance our industry.

Our Deliverables

At ASD-STAN, we develop and publish two types of deliverables: ASD-STAN prEN and ASD-STAN TR.

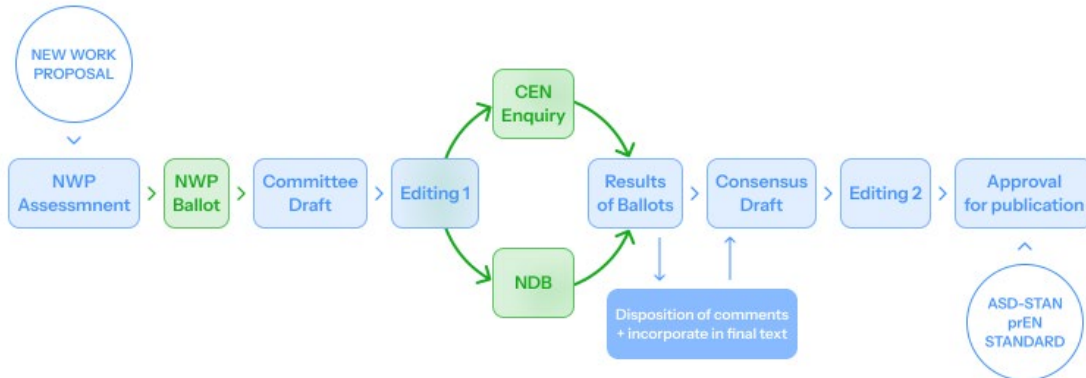
The ASD-STAN publication process is meticulously designed to adhere to the transparency requirements set forth in [Regulation \(EU\) 1025/2012](#). Additionally, it aligns with the fundamental principles outlined in the WTO Agreement on Technical Barriers to Trade, specifically following the '[Code of Good Practice for the Preparation, Adoption, and Application of Standards](#)'. Furthermore, our process ensures strict compliance with the pertinent provisions outlined in the [CEN-CENELEC Internal Regulations](#). This comprehensive approach guarantees that ASD-STAN standards meet the highest international standards while promoting transparency, fair trade, and regulatory consistency.

ASD-STAN projected European Norm (ASD-STAN prEN)

ASD-STAN prEN is projected as the European Norm and is a precursor to the official CEN EN. Developed within a streamlined standardization process, all ASD-STAN prENs are subsequently transformed and published as EN standard without technical changes by CEN and its members.

The ASD-STAN prEN (projected European Norm) is an early publication of the CEN EN. ASD-STAN prENs are technically identical to the future EN publications by CEN members. All the European Standards (EN) in the range between 2000-9999 originate from ASD-STAN. ASD-STAN prEN publications can be used for training and/or certification purposes!

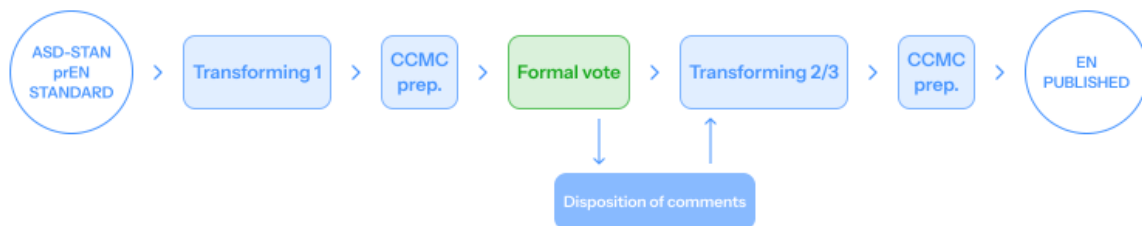
ASD-STAN prEN Process



Development & publication time is 8 to 17 months.

After maximum 6 months an ASD-STAN prEN is transformed into its final EN form. The transformation process is shown in the here below graph:

ASD-STAN Transforming Process



Development & publication time is at least 14 months.

No technical change is accepted during ASD-STAN prEN transformation into EN.

The ratification of an EN entails several significant outcomes:

- **Publicly Accessible Standard:**

The resulting standard becomes publicly accessible, owned, maintained, and distributed by National Standardization Bodies (NSB). This ensures widespread availability and adherence to standardized practices.

- **Elimination of Competing National Standards:**

Within a six-month timeframe, competing National Standards are eliminated, contributing to the harmonization, and streamlining of industry practices. This reduction in variability enhances consistency and efficiency across sectors.

- **Seamless Incorporation into European Legislation:**

The standardized EN may seamlessly integrate into European legislation, elevating its significance and applicability. This integration bolsters the regulatory framework and ensures alignment with overarching European legislative requirements.

- **Empowerment of ASD-CERT:**

The production of ENs empowers ASD-CERT to provide cost-effective industry qualification services. By adhering to standardized practices, industry players benefit from a streamlined and efficient qualification process facilitated by ASD-CERT.

Explore the list of ASD-STAN originating EN standards by following [this link](#)!

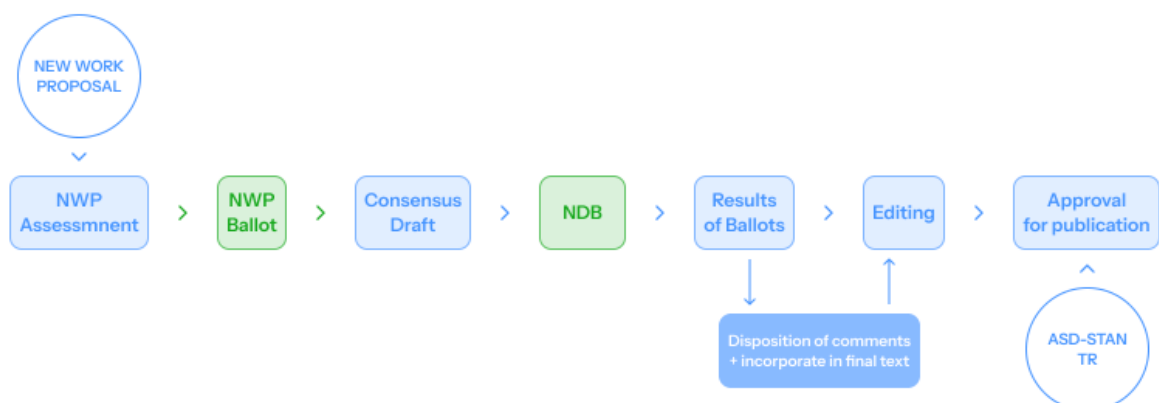
ASD-STAN Technical Report (TR)

ASD-STAN TR is an informative document shedding light on the technical content of standardization work. It is published when:

- The subject is still under technical development, requiring wider exposure at its current status.
- Informative data of a different kind cannot be published as a European Standard (EN).

ASD-STAN TR does not undergo transformation into CEN TR and is part of the 5-year periodic review.

ASD-STAN Technical Report (TR) Process

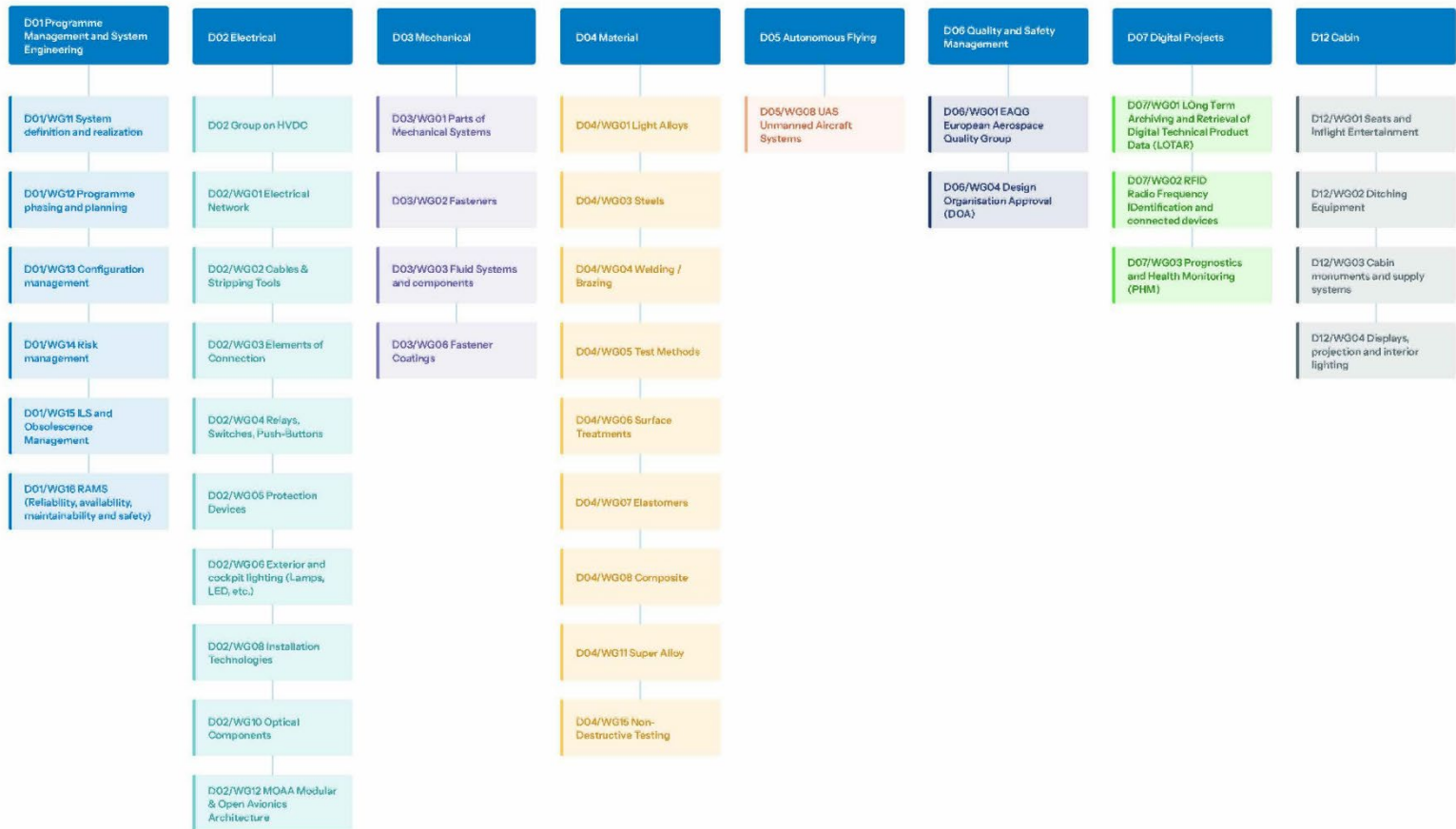


Development & publication time is minimum 6 months.

8 domains of activity

We manage standardisation projects in 8 Domains, sub-divided in 38 active Working Groups:

Table of the Technical Organization with Domains and Working Groups



ASD-STAN Technical Authority

Chair:

Mrs. Eva Faure, Airbus, France

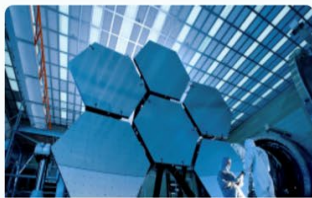
Member Coordinators:

1. GIFAS: Karim Benmeziane, BNAE
2. DIN e.V.: Achim Schaube, DIN NL
3. AIAD: Carmine Scafa, UNAVIA
4. ADS Group: Graham Stockley, BSI
5. TEDAE: Jacinto Llorente, Airbus DS
6. AIRBUS SE.: Gilles Goujon, Airbus
7. ASD: Stuart Anderson, ASD

Domains:

- Domain D01: Programme Management and System Engineering
- Domain D02: Electrical
- Domain D03: Mechanical
- Domain D04: Material (Metallic & Non-Metallic)
- Domain D05: Autonomous Flying
- Domain D06: Quality and Safety Management
- Domain D07: Digital Projects
- Domain D12: Cabin

For detailed information on each domain and associated working groups, please refer to the relevant pages in the ASD-STAN Work Programme.



Domain D01 Programme Management and System Engineering



Domain D02 Electrical



Domain D03 Mechanical



Domain D04 Material (Metallic & Non-Metallic)



Domain D05 Autonomous Flying



Domain D06 Quality and Safety Management



Domain D07 Digital Projects



Domain D12 Cabin

Our Work programme

Background and context for the technical work programme

ASD-STAN is committed to advancing and harmonizing standards to meet the evolving needs of the industry. With a robust history of collaboration and innovation, ASD-STAN's Technical Work Programme serves as a dynamic roadmap outlining the organization's strategic initiatives and priorities. This programme reflects the collective efforts of industry experts, working groups, and stakeholders to address emerging challenges, integrate cutting-edge technologies, and ensure the highest standards of safety, quality, and interoperability in aerospace applications. Grounded in collaboration and foresight, ASD-STAN's Technical Work Programme is a catalyst for shaping the future of aerospace standards.

As we navigate the ever-evolving landscape of Industry 4.0, it is imperative to stay at the forefront of technological advancements. In anticipation of this transformative era, our Technical Work Programme envisions a future where standards seamlessly integrate with digitalization.

Recognizing the onset of Industry 4.0, and acknowledging its current application in various sectors, our focus is shifting towards embracing digital standards. We are proactively exploring avenues to incorporate digitalization considerations into our future standards, ensuring relevance and adaptability in an era of rapid technological change.

Join us on this journey as we pave the way for the standards of tomorrow, aligning with the dynamic needs of Industry 4.0 and beyond.

Key industry trends and challenges

In constructing the Technical Work Programme of ASD-STAN, it's crucial to consider key trends and challenges shaping the aerospace industry. These include:

- **Digital Transformation:** Integration of digital technologies, IoT, and data analytics in aerospace systems for enhanced efficiency and connectivity.
- **Sustainability:** The industry's commitment to eco-friendly practices, requiring standards for green technologies, fuel efficiency, and reduced environmental impact.
- **Advanced Materials:** Evolution in materials science, including composites and alloys, necessitates updated standards for manufacturing and structural design.
- **Global Collaboration:** Harmonization of standards on an international scale to facilitate global interoperability and regulatory compliance.
- **Regulatory Compliance:** Continuous adaptation to evolving aviation regulations and safety standards imposed by aviation authorities worldwide.
- **Human Factors and Automation:** Balancing increased automation with human factors considerations, with standards ensuring safe and efficient human-machine interactions.

By aligning the Technical Work Programme with these trends and challenges, ASD-STAN proactively contributes to the industry's growth, innovation, and sustainability.

High-level summary of the planned work for 2024-2026

ASD-STAN's strategic focus for 2024-2026 centres on advancing aerospace standardization. Key initiatives include:

- **Enhanced Collaboration:** Strengthening partnerships with industry stakeholders and standardization bodies.
- **Innovation Integration:** Incorporating emerging technologies into standards, fostering industry resilience. Proactively exploring avenues to incorporate digitalization considerations into our future standards.
- **Global Harmonization:** Aligning standards with international frameworks for seamless global interoperability.
- **Agile Standard Development:** Implementing efficient processes for rapid standardization in response to industry dynamics.
- **Sustainable Practices:** Integrating eco-friendly standards, reflecting commitment to environmental responsibility.

Domain D01 “Programme Management and System Engineering”

Contacts:

- Domain Technical Coordinator: Gilles Beuzelin, Framatome, France
- Domain Secretariat: Marina Epis, BNAE, France
- Executive Manager: Anja Lange, ASD-STAN

Domain Scope:

The focus of the D01 Domain extends to the intricacies of delivering a comprehensive system, coupled with the enabling systems essential for production and logistical support in aerospace programmes. The overarching aim of the D01 domain is to optimize the development of best practices in programme management and systems engineering.

Programme Management:

The programme management aspect within this domain targets a diverse audience, encompassing programme breakdown structures, development logic featuring synchronisation reviews (project and systems maturity reviews), risk assessment, cost estimation, configuration management, and other domains falling under the purview of the Programme Management. By doing so, D01 strives to refine and enhance programme management practices.

Systems Engineering:

Within the technical processes of Systems Engineering, the operational target audience spans the expression of stakeholder needs, defining the system across various stages of design maturity, ensuring system security and safety, incorporating industrialization practices from system definition to production end-of-life, managing the relationship with the production process, evaluating logistic system capabilities to support the system, and guaranteeing compliance with Qualification and Certification processes. These processes collectively contribute to the robustness and efficacy of System Engineering practices.

Interconnected Lifecycles:

Both Programme Management and Systems Engineering practices are interconnected, covering the entire lifecycle of the system—from conceptualization to disposal. The domain ensures a holistic approach to addressing the intricate facets of system development, deployment, and eventual decommissioning.

Working Groups:

Domain D01 is facilitated by six active Working Groups, each dedicated to refining and advancing specific aspects of programme management and systems engineering. Through collaborative efforts,

these groups contribute to the continuous improvement and evolution of practices within the aerospace sector, aligning with the overarching objectives of Domain D01.

Active Working Groups:

- [D01/WG11](#) “System definition and realization”
Convenor: Gilles Beuzelin, Framatome, France

Scope:

ASD-STAN's Working Group D01/WG11 is dedicated to standardizing the comprehensive life cycle process of a product, whether tangible or intangible. This includes overseeing the product's development, industrialization, and production phases, covering everything from the analysis of operational needs to operational qualifications. This holistic approach may encompass certification processes as well.

Key Standardization Activities:

- EN 9208 “Programme management – Expression of need – Guidance on and format for (Need) – Technical Specification”
 - ASD-STAN prEN EN 9212 “Aerospace series - Industrialization — Guidelines for establishing the manufacturing and inspection file and the associated justifications” (ongoing)
 - EN 9215 “Programme Management – Design justification and qualification - A guide to drawing up the design justification plan and of the design justification file”
 - EN 9277 “Aerospace series — Programme Management — Guide for the management of Systems Engineering”
-
- [D01/WG12](#) “Programme phasing and planning”
Convenor: Gilles Beuzelin, Framatome, France

Scope:

ASD-STAN's Working Group D01/WG12 is dedicated to standardizing common repositories that facilitate coordination among diverse stakeholders. The primary focus is on synchronizing and sequencing all activities within a programme. This effort ensures a standardized framework for collaborative efforts, fostering seamless coordination and efficient workflow across different entities involved in the programme.

Key Standardization Activities:

- EN 9200 “Aerospace series - Programme Management - Guidelines for project management specification”
- EN 9320 “Aerospace series - Programme Management - General guidelines for acquisition and supply of open systems”

New projects:

- ASD-STAN prEN 92xx “Programme management – Recommendations for implementation of phasing and scheduling”

- ASD-STAN prEN 92xx “Aerospace series — Programme management — Guide for establishing and implementing a development plan”.
- [D01/WG13](#) “Configuration management”
Convenor: Gilles Beuzelin, Framatome, France

Scope:

ASD-STAN Working Group D01/WG13 is dedicated to the standardization of configuration management. This involves overseeing the technical description of a system, including its various components, and effectively managing all changes made during the system's evolution. Configuration management encompasses a set of processes designed to ensure a product's continual compliance with requirements throughout its entire life cycle.

Key Standardization Activities:

- EN 9223-100 “Programme Management — Configuration Management — Part 100: A guide for the application of the principles of configuration management”
 - Part 101: Configuration identification
 - Part 102: Configuration status accounting
 - Part 103: Configuration Verifications, Reviews and Audits
 - Part 104: Configuration Control
 - Part 105: Glossary

New projects:

In the pipeline for the upcoming years, ASD-STAN is slated to embark on the revision of the prEN/EN 9223 series, specifically focusing on Configuration Management. This endeavour underscores our commitment to continuous improvement and ensuring the highest standards in managing technical descriptions and changes throughout the life cycle of systems.

- [D01/WG14](#) “Risk management”
Convenor: Gilles Beuzelin, Framatome, France

Scope:

ASD-STAN's Working Group D01/WG14 is actively engaged in standardizing risk management, a vital component seamlessly integrated into programme management. This comprehensive approach involves implementation from the project's inception during the feasibility phase and extends throughout the entire life cycle, culminating in material disposal. The overarching goal is to significantly contribute to a precise definition of programme objectives, including costs, schedules, and performance metrics. Emphasizing a proactive stance, the group ensures these objectives are not only consistently met but also enhanced, even in the face of potential events that may impact the programme throughout its lifecycle.

Key Standardization Activities:

- EN 9239 “Aerospace series – Programme Management – Guide for the risk management”.

- [D01/WG15](#) “ILS and Obsolescence Management”
Convenor: Gilles Beuzelin, Framatome, France

Scope:

ASD-STAN's Working Group D01/WG15 is dedicated to the development of standards focused on Integrated Logistics Support (ILS). This encompasses a set of techniques employed to define the support system intricately linked to the main system. These ILS standards are formulated during the design phase of a system or as soon as the user's requirements are identified. The core objective of ILS support is to exert influence on the definition of the main system, enhancing overall readiness while effectively managing the total cost of ownership.

Key Standardization Activities:

- ASD-STAN prEN 9276 “Aerospace series - Programme management — Recommendations for the implementation of the integrated logistic support” (ongoing).
- EN 9278 “Aerospace Series - General Principles of Obsolescence Management of chemicals, materials and processes”.

- [D01/WG16](#) “Reliability, availability, maintainability and safety (RAMS)”
Convenor: Gilles Beuzelin, Framatome, France

Scope:

The success of any programme hinges on the meticulous optimization of the trade-off between the product's production lead-time, cost, and the anticipated technical and operational performance within specific conditions. Attributes encapsulated by RAMS (Reliability, Availability, Maintainability, Safety) are integral considerations spanning the entire lifecycle of a product or system. In this framework, the management of RAMS attributes emerges as a critical activity, seamlessly interwoven with other methods of controlling product performance and overarching programme management. The interconnected nature of RAMS underscores its pivotal role in ensuring the holistic success and performance excellence of a product or system throughout its lifecycle.

Key Standardization Activities (Non-Exhaustive List):

- ASD-STAN prEN 9227-1 “Aerospace series — Programme management — Part 1: Guide to dependability and safety control” (ongoing).
- ASD-STAN prEN 9227-2 “Aerospace series — Programme management — Part 2: Guide for reliability control” (ongoing).

Domain D02 “Electrical”

Contacts:

- Domain Technical Coordinator: vacant
- Domain Secretariat: Mohamed Bhaouih, BNAE, France
- Executive Manager: Anja Lange, ASD-STAN

Domain Scope:

Domain D02, named "Electrical," spearheads European standardization endeavours in the realm of electrical parts, components, and systems tailored for aerospace applications. The domain, currently propelled by 9 active working groups, is dedicated to the development and upkeep of standards crucial for the aerospace industry.

Comprehensive Standards Coverage:

The expansive scope of Domain D02 encompasses the standardization of electric cables, stripping tools, connectors, contacts, accessories, crimping tools, protection systems (including circuit breakers), optical components, and various other electrical elements essential to aerospace applications. By meticulously crafting and maintaining these standards, Domain D02 ensures the harmonization of electrical components across the European aerospace sector.

HVDC Focus:

One distinctive feature of Domain D02 is the "HVDC group," which plays a pivotal role in formulating strategies and standardization activities related to High Voltage Direct Current (HVDC) applications in aircraft and aerospace constructions. This forward-looking group aligns its efforts with the diverse working groups within ASD-STAN/D02 Electrical, ensuring a cohesive approach to handling HVDC technologies in the aerospace domain.

Expert Participation:

ASD-STAN D02 boasts participation from leading experts representing major OEMs and suppliers from the European aerospace industry. The collective expertise of these participants ensures that the standards developed within the domain meet the highest industry benchmarks and reflect the latest advancements in electrical technologies for aerospace applications.

In summary, ASD-STAN Domain D02 stands at the forefront of electrical standardization, fostering collaboration, innovation, and precision in the development of standards crucial for the dynamic and evolving landscape of the aerospace industry.

Active Working Groups:

- [D02 HVDC group](#)

Convenor: Christian Donadille, Airbus, France

Scope:

The current shift toward more-electric aircraft systems, exemplified by iconic models like A380, B787, and A350, involves the substitution of hydraulic and pneumatic-powered systems with electric-powered alternatives (e.g., bleedless systems, APU starters). This transition necessitates a significant power increase. These more-electric, non-propulsion aircraft systems operate on the existing 230VAC and, in the future, on +/-270VDC voltage systems. The evolving aviation landscape, coupled with eco-efficient regulations, has underscored the need for a specialized focus on High Voltage Direct Current (HVDC) strategy within the ASD-STAN Electrical domain.

The ASD-STAN group dedicated to High Voltage plays a pivotal role in steering and defining the strategy for implementing these new systems. It also drives the continued development of associated components, a task distributed among various working groups within the ASD-STAN/D02 Electrical domain.

In its initial phase, the group addresses voltage levels ranging from 270VDC to 1500VDC (e.g., E-FanX on BAE 146), encompassing the 800VDC level (e.g., City Airbus, PopUp). Looking ahead, the group's scope may expand to cover much higher voltage levels, potentially reaching multi-thousands of volts (i.e., 3 to 5kV), essential for the propulsion systems of commercial aircraft in the future. Access to this strategic group is restricted to OEMs, TC holders, system designers, and regulators, ensuring focused and informed collaboration.

- [D02/WG01 “Electrical Network”](#)
Convenor: Paul Miller, Rolls-Royce, UK

Scope:

ASD-STAN's Working Group D02/WG01 serves as the representative for European standardization activities in the realm of electrical networks for aerospace applications. Within ASD-STAN's domain, D02/WG01 takes the lead in defining requirements for various critical aspects, including Characteristics of Aircraft Electrical Supplies, Aircraft Electrical Power Systems, Testing Methods for Aircraft Wiring Systems, and Electrical Bonding methods of aircraft structures and equipment. Moreover, the group plays a pivotal role in crafting Electrical System Load Analysis documents.

Going beyond current standards, D02/WG01 stands as the central hub for standards activities poised to support the anticipated future electrical power systems reaching up to multi-kilovolts, a critical element in the realm of aircraft propulsion. This forward-looking perspective positions D02/WG01 at the forefront of ASD-STAN's HVDC-related initiatives, showcasing its leadership in shaping the standards landscape for the evolving needs of aerospace electrical networks.

Key Standardization Activities (Non-Exhaustive List):

- EN 2282 “Characteristics of aircraft electrical supplies”
- EN 2283 “Testing of aircraft wiring”
- EN 3371 “Electrical Bonding – Technical Specification”

- EN 3830 “Electrical System Load Analysis”
- D02/WG01 is currently drafting a Technical Report TR 4907 “Guidelines on Component design for high voltage in Aerospace applications” under the umbrella of the ASD-STAN HVDC group.

New projects:

D02/WG01 is set to undertake the update of EN 2283:2010, focusing on the "Testing of Aircraft Wiring". Concurrently, the group is actively engaged in the review process of EN 2282, specifically addressing the "Characteristics of Aircraft Electrical Supplies." This dual effort underscores our commitment to ensuring that these standards remain current, relevant, and aligned with the latest advancements in the aerospace industry.

- [D02/WG02](#) “Cables & Stripping Tools”
Convenor: Pierre Baena, Airbus, France

Scope:

The ASD-STAN Working Group D02/WG02 serves as the main point for European standardization activities pertaining to "Wires and Cables and associated stripping tools" in aerospace applications. Its comprehensive scope includes different cable models (e.g., single conductor, multiconductor, coaxial), various cable materials (e.g., copper, aluminium, coated or unclad), and models of electrical conductors (e.g., stranded conductors, braided strands, solid conductors).

D02/WG02's diligent work addresses the intricate distribution of electricity in aircraft, covering diverse applications such as data buses and transmission lines. The group also considers environmental factors, including variations in pressure and temperature. While encompassing the distribution of signals and power, D02/WG02 extends its focus to high voltage topics. It's important to note that this working group does not cover fibre optic cables (addressed by D02/WG10 "Optical Components").

The documents produced by this diligent working group include technical specifications, reports and standards for cable and conductor characteristics, test methods, cable markings, and standards for stripping cables. This holistic approach ensures the development and maintenance of robust standards, fostering excellence in the aerospace wiring and cable sector.

Key Standardization Activities (Non-Exhaustive List):

- Arc tracking test methods rationalization studies for 230VAC cables.
- EN 3475 series on “Cables, electrical, aircraft use - Test methods”

New projects:

D02/WG02 will be working on the following projects for the upcoming months:

- ASD-STAN prENs/ENs 3475-404, 3475-701 and 3475-808 “Cables, electrical, aircraft use - Test methods”/ Thermal shock; Strippability and adherence of insulation to the conductor and Cross-talk.
- ASD-STAN prEN/EN 3719 “Aerospace series - Aluminium or aluminium alloy conductors for electrical cables - Product standard”
- Laser marking for cable printing.

- ASD-STAN prEN/EN 2267-002 “Aerospace series - Cables, electrical, for general purpose - Operating temperatures between - 55 °C and 260 °C - Part 002: General”.
- ASD-STAN prEN/ENs 2714-013 “Aerospace series - Cables, electrical, single and multicore for general purpose - Operating temperatures between - 55 °C and 260 °C - Part 013: DR family, screened (spiral) and jacketed, UV laser printable - Product standard”.
- ASD-STAN prEN/EN 4604 series “Cable, electrical, for signal transmission”.

D02/WG02 actively supports and contributes to the electrification strategies emanating from D02/WG01 and HVDC group. The Working group maintains the highest level of standardization for products by identifying and preparing test methods that align with or can be revised (or created) to cater to higher voltage requirements. Additionally, D02/WG02 fosters effective coordination with relevant SAE committees to ensure seamless alignment and collaboration in advancing electrification standards.

- [D02/WG03](#) “Elements of Connection (Connectors, Contacts, Rear Accessories, Crimping Tools)”
Convenor: Steffen Ohde, Airbus, Germany

Scope:

ASD-STAN's Working Group D02/WG03 serves as the main point for European standardization activities in the realm of electrical connectors for aerospace applications. This comprehensive scope includes diverse connector models, such as rectangular, circular, coaxial, and quadraX, along with various associated contacts used for electricity distribution in aeronautical constructions. Applications span from ethernet to high-frequency transmission, adapting to different environments like engines and landing gear.

The working group also delves into accessories (e.g., back shell, grommet, fittings) and contacts (e.g., barrel, chamfer, flange), along with the essential aspect of crimping tools. While covering the distribution of signals and power, it's important to note that optical connectors and contacts fall outside the purview of this working group.

Notably, D02/WG03 actively participates at the domain level in ASD-STAN's initiatives related to High Voltage (HVDC). The group's outputs encompass technical specifications, reports and standards for contact and connector characteristics, as well as standards for test methods on contacts and electrical connectors. This comprehensive approach ensures the development and maintenance of robust standards, contributing to excellence in aerospace electrical connector systems.

Key Standardization Activities (Non-Exhaustive List):

- EN 3155-xxx “Electrical contacts”: This standard series contains one Technical Specification (TS) and more than 80 standard products, describing the technical performance and design of all contacts used in EN specified elements of connection.
- EN 4873-xxx “Hand crimping tools”: Airbus and RENNSTEIG initiated a project to develop a European standard for hand crimp tools as counterpart to the famous US based M22520 standard for those tools.
- REACH compatible standards: To respect the European regulations regarding REACH, several standards were updated to restrict the use of hexavalent chromium compounds during

manufacturing process or in the final product. Therefore, new classes V and Z (both zinc-nickel plating's) are introduced in standards like EN 3645 and EN 3660.

New projects:

D02/WG03 is slated to undertake the following projects in the upcoming months:

- Revision of EN 3660 series “Cable outlet accessories for circular and rectangular electrical and optical connectors”.
- Revision of EN 3155 series “Electrical contacts used in elements of connection”.

- [D02/WG04](#) “Relays, Switches, Push-Buttons”
Convenor: [Dominique-Robert Meux, Crouzet, France](#)

Scope:

ASD-STAN's Working Group D02/WG04 comprehensive coverage extends to electromagnetic relays, switches, and their associated accessories, including relay contactors and push-button switches, utilized in aeronautical constructions.

Significantly, D02/WG04 actively engages at the D02 domain level in ASD-STAN's initiatives related to High Voltage (HVDC). The primary output of this working group encompasses the development of test method standards for relays and switches. This focused approach ensures the creation and maintenance of robust standards, contributing to the excellence and reliability of aerospace electrical connector systems.

Key Standardization Activities (Non-Exhaustive List):

- EN 2349 “Aerospace series — Requirements and test procedures for switching devices” would be updated to EN2349-001, and EN2349-002 to -003.

- [D02/WG05](#) “Protection Devices”
Convenor: [Dominique-Robert Meux, Crouzet, France](#)

Scope:

ASD-STAN's Working Group D02/WG05 is the representative body for European standardization activities in the realm of protecting electrical equipment for aerospace applications. The group's scope encompasses various types of electromechanical circuit breakers, including thermal and magnetic variants, utilized in aeronautical construction to safeguard electrical equipment in the event of anomalies such as arc faults.

It's important to note that D02/WG05 specifically addresses electromechanical circuit breakers and does not cover other protection systems such as fuses. Additionally, the working group actively engages at the domain level in ASD-STAN's initiatives related to High Voltage (HVDC).

The working group's contributions manifest in the form of technical specifications and standards outlining circuit breaker characteristics, along with standards specifying test methods for circuit

breakers. This focused approach ensures the development and maintenance of rigorous standards, fortifying the protection mechanisms for aerospace electrical equipment.

Key Standardization Activities (Non-Exhaustive List):

- EN 2665 series “Aerospace series - Circuit breakers, three-pole, temperature compensated, rated current 20 A to 50 A”.
- EN 2794 series “Aerospace series - Circuit breakers, single-pole, temperature compensated, rated currents 20 A to 50 A”.
- EN 2995 series “Aerospace series - Circuit breakers, single-pole, temperature compensated, rated current 1 A to 25 A”.
- EN 2996 series “Aerospace series - Circuit breakers, three-pole, temperature compensated, rated current 1 A to 25 A”.
- EN 3841 series “Aerospace series - Circuit breakers - Test methods”.

New projects:

- Revision of EN 3773 / 3774 / 3661 / 3662
- Revision of EN 2996 series “Aerospace series - Circuit breakers, three-pole, temperature compensated, rated current 1 A to 25 A”.
- EN 2995 Full FASTON for signal contact blades
- TR data frame and recommendation for monitoring CB status
- Revision of EN 3841-100 (test method for FASTON)

- [D02/WG06](#) “Exterior and cockpit lighting (Lamps, LED, etc.)”

Convenor: [Andre Hessling, Collins Aerospace, Germany](#)

Scope:

The Working Group represents interests for the European standardization activities in the field of exterior and cockpit lighting for aerospace applications. The work includes the development of standards integrating aspects of human vision and perception in lighting systems in the aeronautical context. This includes the visual range under adverse weather conditions (e.g. fog, rain) and the visibility of the aircraft on ground and in flight.

Specifically, the Working Group is dedicated to preparing ASD-STAN prEN standards, ASD-STAN Technical Reports, and EN standards. Simultaneously, it actively engages in various European and international projects. The Working Group provides a platform for interested stakeholders to actively contribute to standardization procedures, share ideas and suggestions, and participate in the exchange of information among national and European experts.

It's important to note that interior lighting falls under the purview of ASD-STAN D12/WG04 “Displays, projection and interior lighting”.

Key Standardization Activities (Non-Exhaustive List):

- EN 2240 series “Aerospace series — Lamps, incandescent”

New projects:

The following list is a compilation of proposed new topics, with the primary focus intended for the Working Group to address the first item:

- Evaluation Method to rate exterior illumination performance in terms of providing environmental awareness - based on uniformity, range/intensity, glare, and color, on product and system level.
- Optimal Characteristics of Cockpit Lighting: Which characteristics of cockpit lighting (e. g. intensity, contrast etc.) are most efficient and most agreeable for the crew in different weather conditions?
- Consideration of LED lighting under icing conditions.
- Communication protocol between aircraft and dynamic exterior lighting.
- The development of European standards & guidelines for lighting equipment, inspired by existing SAE Aerospace Recommended Practice (ARP) guideline reports.
- Additional empirical research on light perception in aerospace. These outcomes can then be used for specifying improved luminaire designs that are better suited to environmental conditions, glare reduction, improved eye acuity, etc. This should also be valuable input for any standardization in aerospace lighting applications.
- Acquisition of pilot feedback on lighting conditions and perception, using a scientific method. The goal is to translate their qualitative experiences into quantitative standardized rules & guidelines for new aerospace lighting designs and applications.

- [D02/WG08](#) “Installation technologies”
Convenor: [André Lepers, Airbus, France](#)

Scope:

The ASD-STAN Working Group D02/WG08 focuses on European standardization activities in the domain of electrical installation technologies for aerospace applications. D02/WG08 focuses on techniques, recommendations, and components crucial for securing and safeguarding the data and power distribution aspects of electrical and optical systems in aeronautical and space constructions. This includes elements such as cable ties and terminal lugs for attachment, as well as protective measures like sleeves and sleeving designed for flame resistance and fluid protection in the face of external aggression.

The working group actively produces various types of documents (ASD-STAN prEN and EN standards, Technical Reports) to support these efforts, including standards specifying characteristics and test methods for harness wiring hoops, lugs, and protective sheaths. Additionally, it contributes to the development of standards outlining characteristics for aircraft bonding braids and sleeves. This comprehensive approach ensures the creation and maintenance of robust standards, essential for the integrity and reliability of aerospace electrical installation technologies.

Key Standardization Activities (Non-Exhaustive List):

- EN 3197 “Aerospace series — Design and installation of aircraft electrical and optical interconnection systems”
- EN 4057 series “Aerospace series — Cable ties for harnesses - Test methods”

- EN 4199 series “Aerospace series - Bonding straps for aircraft”
- EN 4708 series “Aerospace series — Sleeving, heat-shrinkable, for binding, insulation and identification”
- EN 4840 series “Aerospace series - Heat shrinkable moulded shapes”
- EN 6049 series “Aerospace series - Electrical cables, installation - Protection sleeve in meta-aramid fibres”
- EN 6059 series “Aerospace series - Electrical cables, installation - Protection sleeves”

New projects:

In the forthcoming months, D02/WG08 will closely track and participate in the evolving discussions regarding test methods and installation rules:

- EN 2591-217 (P2) “Aerospace series — Elements of electrical and optical connection; Test methods — Part 217: Voltage drop under specified current for terminal lugs and in-line splices”.
- 2591-218 (P2) “Aerospace series - Elements of electrical and optical connection - Test methods - Part 218: Ageing of terminal lugs and in-line splices by temperature and current cycling”.
- EN 3197 (P5) “Aerospace series — Design and installation of aircraft electrical and optical interconnection systems”.
- EN 6049-004 (P2) “Aerospace series - Electrical cables, installation - Protection sleeve in meta-aramid fibres - Part 004: Braided, tubular, high expandable - Product standard”.
- EN 6059-505 (P1) “Aerospace series — Electrical cables, installation — Protection sleeves — Test methods — Part 505: Lightning strike”.

- [D02/WG10](#) “Optical Components”

Convenor: Stéphane Formont, Thales, France

Scope:

ASD-STAN Working Group D02/WG10 is the group for European standardization activities in the domain of optical components for aerospace applications. D02/WG10, under ASD-STAN’s purview, comprehensively addresses the realm of fiber optic cables, diverse types of optical fibers (e.g., single mode and MT), and a range of connectors and associated contact accessories (e.g., physical contact, non-contact expanded beam termini) crucial for high-speed data distribution in aeronautical constructions.

The working group actively contributes to the development of various types of documents, including technical specifications, technical reports and standards for optical fiber cables, test methods standards for optical fiber cables, as well as associated contacts and connectors. Additionally, D02/WG10 produces a valuable handbook focusing on the applications of optical fibers in aerospace, providing essential insights and guidance for industry stakeholders. This collective effort ensures the establishment and maintenance of robust standards, promoting excellence in aerospace optical components.

Key Standardization Activities (Non-Exhaustive List):

- EN 2591-100 “Aerospace series - Elements of electrical and optical connection — Test methods”. Major update of technical content concerning fiber end preparation, new definitions for light launch and light detection systems in various sizes and types of fiber.

- EN 3745 series “Aerospace series - Fibres and cables, optical, aircraft use – Test methods”. Continuous improvement of the documents.
- EN 4869 series “Expanded beam termini, fibre optic nonphysical contact in EN 3645 standard cavities – “ 001 / 101 / 102 /103 / 104.
- EN 4733 series “Connectors, optical, rectangular, modular, operating temperature 125 °C, for EN XXXX-10X MT contacts” 001 / 002 / 003.
- EN 4734 series “Mechanical transfer contact, fibre optic contact Multi connectors” 101, 102, 103, 104.
- EN 4641 series “Optical fibre” 102/ 202 / 301 / 401.
- EN 4533-xxx series “Fibre optic systems — Handbook”. Continuous improvement of the handbooks.

New projects:

In the months ahead, D02/WG10 will be actively engaged in the following projects:

- EN 3745-xxx: revision of documents according to the 5-years process.
- EN-3745-100: Introducing a comprehensive document consolidating all test methods, simplifying management and updates. This self-contained document will streamline accessibility compared to the current interconnected series. The subsequent focus will be on refining test methods for multi-fiber cables.
- EN 4533-xxx: continuous upgrade and update optical inspection section to take into account MT and EB contacts.
- Revision of EN 4733-xxx, EN 4734-xxx and 2591-xxx series and overseeing the deployment process across nearly all existing standards.
- Proposition of a multi fiber ribbon cable for MT connector standard.

Additionally, the group will embark on new studies to further enhance its portfolio:

- Optical fibre: Improvement of transceiver data rate (>>10Gb/s) implies to normalize new 50/125 GI fibre-based cables able to handle such data rates. These cables may include single cables or ribbon cables (multi-fiber) based on OM2, OM3, OM4, or single-mode fiber.
- Expanded beam connectors: Single and multimode as well as Single and Multi-pin.
- Optical connectors for ribbon fibres: Single and multimode (EN 4645 series).

- [D02/WG12](#) “Modular & Open Avionics Architecture (MOAA)”
Convenor: Martin Theodor Gangkofer, ESG, Germany

Scope:

ASD-STAN Working Group D02/WG12 is the driving force behind European standardization activities in the realm of "Modular and Open Avionics Architectures (MOAA)." The primary focus of this working group is the standardization of Integrated Modular Avionics architectures (IMA), with a paramount objective to ensure efficiency and interoperability. Notably, D02/WG12 played a crucial role in the ASAAC project—a trilateral research and technology initiative involving Germany, France, and Greece—resulting in the development and validation of IMA architectures' effectiveness until 2004.

During this project, standards and guidelines for an open Avionics architecture based on integrated modular Avionics were meticulously defined and documented. D02/WG12 has since converted these

documents into European Standards. The current focus of D02/WG12 is the ongoing maintenance of the EN 4660 series (Aerospace series – Modular and Open Avionics Architectures), ensuring the relevance and applicability of these standards in the ever-evolving aerospace landscape.

Key Standardization Activities (Non-Exhaustive List):

- EN 4660 series “Aerospace series - Modular and Open Avionics Architectures”

New projects:

- Revision of EN 4660 Parts 001 and 002/further work on EN 4660 series depending on funding from the German Ministry of Defence.
- New topic in discussion: standard for a transmission protocol for fast avionics networks.

Domain D03 "Mechanical"

Contacts:

- Domain Technical Coordinator: Dean Rogers, Airbus, UK
- Domain Secretariat: Dorothee Kretschmar, DIN NL, Germany
- Executive Manager: Anja Lange, ASD-STAN

Domain Scope:

Domain D03, titled "Mechanical," is at the forefront of European standardization efforts, focusing on the meticulous regulation of parts and technical requirements essential to aerospace mechanical systems. This encompassing domain addresses a spectrum of components including bearings, rods, bushes, vibration isolators, fasteners (such as bolts, nuts, screws, washers, high-locks, quick fasteners, rivets), and fluid systems (including couplings & fittings, clamps, flexible hoses, tubes).

Precision in Standards Development:

Domain D03 is committed to preparing, updating, and revising standards that set the benchmark for quality and precision in the aerospace mechanical realm. By doing so, the domain ensures that the aerospace industry adheres to the highest technical requirements, fostering innovation and reliability in mechanical systems.

User-Centric Maintenance:

Standards within Domain D03 are not static; they are dynamic entities shaped by the feedback of users. The domain places a strong emphasis on maintaining standards through continuous user feedback, ensuring that the standards evolve in response to the changing needs and technological advancements within the aerospace sector.

Sector Representation and Collaboration:

Moreover, Domain D03 plays a crucial role in representing the aerospace sector's opinion on standards established by other authorized standardization development organizations. Through active collaboration, the domain ensures that the standards developed align seamlessly with the unique demands and aspirations of the aerospace industry.

In essence, ASD-STAN Domain D03 stands as a beacon of precision in mechanical standardization, working tirelessly to uphold the highest quality and reliability standards for aerospace mechanical systems. The domain's commitment to adaptability, user-centricity, and sector representation underscores its pivotal role in shaping the mechanical landscape of the aerospace industry.

Active Working Groups:

- [D03/WG01](#) “Parts of Mechanical Systems”
Convenor: Markus Horst, Airbus, Germany

Scope:

The ASD-STAN Working Group D03/WG01 represents the interests of European standardization activities in the realm of mechanical systems for aerospace applications. The group is actively involved in the preparation of ASD-STAN prEN & EN standards and Technical Reports. Additionally, it participates in various European and international projects, contributing to the global advancement of aerospace standards.

This Working Group provides a collaborative platform for stakeholders, offering them the opportunity to actively engage in standardization procedures, share innovative ideas, and participate in the exchange of information among national experts. D03/WG01 has a crucial responsibility for standardizing diverse components such as bearings, rods, bushes, vibration isolators, and other mechanical parts integral to aerospace systems.

With an extensive work programme, the focus of the WG lies prominently on spherical bearings, tie rods, and rod ends. This commitment ensures the development and maintenance of robust standards, facilitating excellence and innovation in aerospace mechanical systems.

Key Standardization Activities (Non-Exhaustive List):

- EN 4880 “Aerospace series - General technical specification for standard parts”.
- EN 3904 “Washers, wire locking, in aluminium alloy, anodized”.
- EN 4854 series “Aerospace series — Bearings, spherical plain, in corrosion resisting steel with self-lubricating liner, low starting torque and low friction coefficient, elevated duty cycles under low oscillations at different operating conditions”.
- EN 4036 “Aerospace series — Rod end, adjustable, with self-aligning double row ball bearing and threaded shank, in corrosion resisting steel, reduced internal radial clearance — Dimensions and loads”.

New projects:

- Update of Material Comparison List: Enhancing and revising the Material Comparison List to ensure it remains current and comprehensive.
- Update on REACH Conform Standards: Ensuring the standards align with REACH regulations through a comprehensive update process to uphold compliance and environmental considerations.

- [D03/WG02](#) “Fasteners”
Convenor: Jürgen Rösing, SFS Group, Germany

Scope:

ASD-STAN Working Group D03/WG02 represents European standardization activities in the domain of mechanical fasteners for aerospace applications. This collaborative platform offers stakeholders the opportunity to actively engage in standardization procedures, contribute innovative ideas, and participate in the exchange of information among national experts.

With an extensive work programme, the focus of D03/WG02 lies prominently on the standardization of a wide range of mechanical fasteners, including bolts, nuts, screws, washers, high-locks, quick fasteners, rivets, and more. By fostering collaboration and expertise exchange, the working group ensures the development and maintenance of robust standards, facilitating excellence and innovation in aerospace mechanical fasteners.

Key Standardization Activities (Non-Exhaustive List):

- EN 3740 "Aerospace series - Bolts, shouldered, thin hexagonal head, close tolerance shank, short thread, in titanium alloy, anodized, MoS2 coated — Classification: 1 100 MPa (at ambient temperature)/315 °C".
- EN 3278 "Aerospace series - Sleeves, tubular, protruding head, in corrosion resisting steel, passivated (0,25 mm wall thickness)".
- EN 3672 "Aerospace series - Shank nuts, self-locking, in heat resisting nickel base alloy NI-P101HT (Waspaloy), silver plated, for 30° swage - Classification: 1 210 MPa (at ambient temperature)/730 °C".
- EN 2885 "Aerospace series — Screw, pan head, offset cruciform recess, coarse tolerance normal shank, short thread, in alloy steel, cadmium plated — Classification: 900 MPa (at ambient temperature)/235 °C".
- EN 6069 "Aerospace series — Rivet, 100° reduced flush head, close tolerance — Inch series".

New projects:

- Consolidation and focussing of the standards portfolio.
- Evaluation of existing AQL level requirements.

- [D03/WG03](#) "Fluid Systems and components"
Convenor: Ulrich Müller, Airbus, Germany

Scope:

ASD-STAN Working Group D03/WG03 manages European standardization activities in the field of fluid system components for aerospace applications. This collaborative platform enables stakeholders to actively participate in standardization procedures, share innovative ideas, and exchange information among national experts.

D03/WG03 has the important responsibility of standardizing a wide range of components, including tubes, pipes, fittings, couplings, caps, plugs, and clamps. By fostering collaboration and the exchange of expertise, the working group ensures the development and maintenance of robust standards, that contribute to excellence and innovation in aerospace fluid system components. To date, the Working Group has successfully published around 150 EN standards.

Key Standardization Activities (Non-Exhaustive List):

- (NEW) EN 6079, Pipe coupling 24° cone — Female fitting ends, flareless type — Inch series.

- (REVISION) EN 3049:1998, Aerospace series — O-rings, in fluorocarbon rubber (FKM), low compression set — Hardness 80 IRHD.
- (REVISION) EN 3050:1998, Aerospace series — O-rings, in fluorocarbon rubber (FKM), low compression set — Technical specification.
- (REVISION) EN 3078:1998, Aerospace series — P, Q and saddle clamps with rubber cushion — Technical Specification.
- (NEW) EN describing the technical requirements, delivery conditions and measurement methods based on TR 4891 (P1), Aerospace series — Clamps, cushioned and un-cushioned, for installation of fluid systems and electrical harnesses — Technical report.

New projects:

In the upcoming months, D03/WG03 will be actively engaged in the development of:

- New Fitting Design Standards for Hydrogen Technology: Create standards that address the specific needs of hydrogen technology to ensure compatibility and reliability.
- Standards for Local Power Generation (e.g., Hydraulic Power Packs): Develop standards for local power generation, focussing on components such as Hydraulic Power Packs, to improve efficiency and performance.

- [D03/WG06 "Fastener Coatings"](#)
Convenor: Nils Murray, Howmet Fastening Systems, Germany

Scope:

This working group deals with standards defining coatings and coating processes for aerospace fasteners such as Al-pigmented coatings, IVD and dry film lubrication. The group places a significant emphasis on the substitution and harmonization of outdated and existing standards, making it a central theme for discussion and action within the WG.

Key Standardization Activities (Non-Exhaustive List):

- EN 6117 "Aerospace series - Specification for lubrication of fasteners with cetyl alcohol"
- EN 6118 "Aerospace series - Process specification - Aluminium base protection for fasteners"
- EN 4473 "Aerospace series - Aluminium pigmented organic coatings for fasteners - Technical specification"
- TR 4676 "Aerospace series - Aluminium pigmented coatings - Lists of commercial products"
- General coating projects
- Aluminium pigmented coatings projects
- Pure-aluminium coating (IVD)
- Cetyl lubrication
- MoS2 coatings projects
- Silver coatings projects

New projects:

- ASD-STAN prEN 6117 (P2) " Specification for lubrication of fasteners with cetyl alcohol".
- ASD-STAN prEN 6118 (P4) " Pure aluminium IVD coating for fasteners".
- ASD-STAN prEN 4473 (P3) "Aluminium pigmented organic coatings for fasteners — Technical specification".
- ASD-STAN prEN 4474 (P4) "Aluminium pigmented organic coatings — Coating methods".

- ASD-STAN TR 4676 "Aerospace series — Aluminium pigmented coatings — Lists of commercial products".
- ASD-STAN prEN 2491 (P2) - "Molybdenum disulphide dry lubricants — Coating methods".
- ASD-STAN prEN 3021 " Aerospace series - Molybdenum disulphide dry film lubricants graphite and halogen free - Technical specification".
- ASD-STAN TR 4070 " Aerospace series – Molybdenum disulphide coatings – List of commercial products".
- ASD-STAN EN 2786 " Aerospace series - Electrolytic silver plating of fasteners".

Domain D04 “Material”

Contacts:

- Domain Technical Coordinator: Robert Jarczyk, Airbus, Germany
- Domain Secretariat: Christopher Wild, DIN NL, Germany
- Executive Manager: Anja Lange, ASD-STAN

Domain Scope:

Domain D04 takes charge of European standardization endeavours in the critical domain of materials for aerospace applications. Its purview extends across metallic materials (such as aluminium, steel, titanium, and superalloys), non-metallic materials (encompassing elastomers, composites, and sealants), and various essential processes (including surface treatments, welding and brazing, and additive manufacturing).

Comprehensive Material Coverage:

Domain D04's comprehensive work ensures that the aerospace industry adheres to stringent standards for both metallic and non-metallic materials. From the robustness of metallic alloys to the cutting-edge properties of composites, the domain meticulously guides and regulates the materials landscape of aerospace applications.

Coordination and Promotion:

Beyond standardization, Domain D04 assumes the vital role of coordinating sector-related work and propelling the development of innovative European standards for the aerospace industry. It serves as the driving force behind the evolution of standards, aligning them with the industry's evolving needs and fostering innovation in materials for aerospace applications.

Inclusive Standardization Procedures:

Domain D04 opens its doors to all interested groups, providing a platform for active participation in standardization procedures. This inclusive approach encourages the free exchange of ideas, suggestions, and fosters collaboration among European and international experts. Through this dynamic engagement, the domain ensures that diverse perspectives contribute to the creation of robust and forward-thinking standards.

In summary, ASD-STAN Domain D04 stands as a trailblazer in aerospace materials standardization, safeguarding the industry's integrity by championing excellence, coordination, and inclusive collaboration. The domain's commitment to innovation and inclusivity reflects its pivotal role in shaping the future of aerospace materials standards.

Active Working Groups:

- [D04/WG01 “Light Alloys”](#)
Convenor: Jean-Manuel Ruppert, Safran Helicopter Engines

Scope:

D04/WG01 Working Group plays a pivotal role in the comprehensive preparation, coordination, and revision of documents (ASD-STAN prENs, ASD-STAN TRs, ENs) related to a diverse range of alloys, specifically focusing on aluminium, titanium, magnesium, and copper-based alloys. The WG is committed to ensuring the accuracy and relevance of these standards, contributing significantly to the advancement within the field of light alloys.

Key Standardization Activities (Non-Exhaustive List):

- EN 2087 Aluminium alloy AL-P2014A. Scope: Correction of composition of "Zr+Ti" that was 0,02 but should be 0,20 because "Ti" is 0,15.
- EN 3311 Titanium alloy TI-P64001 (Ti-6Al-4V) Scope: The EN 3311 standard is limited to 100mm. The objective is to increase the diameter of the bars up to 300 mm.
- EN 2955 Recycling of titanium and titanium alloy scrap Scope: Major element of this revision is the authorization of recycling of material that have been used in flight.
- EN 4800 series (-001-005 & -007) - Titanium and titanium alloys - Technical specification
Scope: Major element of this revision is the authorization of recycling of material that have been used in flight.

New projects:

The current focus within the aircraft industry revolves around the recycling of aircrafts and their components, with a particular emphasis on engines. While older aircrafts had limited titanium content, newer models like the A380 are incorporating more titanium, making recycling increasingly relevant. Challenges arise in recycling parts that have been in flight, mainly due to existing specifications and standards.

Aiming for compliance with a 2025 EU regulation requiring 30% materials from EN sources, the industry anticipates a shift towards manufacturing scrap as the primary source, rather than recycling scrap.

It is worth noting that existing requirements are often rooted in historical technologies, and efforts are underway to align them with contemporary needs and regulations. In pursuit of this objective, the following projects are currently under revision:

- Revision of EN 2955 “Recycling of titanium and titanium alloy scrap”
- Revision of EN 4800-002 “Aerospace series - Titanium and titanium alloys - Technical specification - Part 002: Bar and section”

- Revision of EN 4800-005 "Aerospace series - Titanium and titanium alloys - Technical specification - Part 005: Forging stock"

- [D04/WG03 "Steels"](#)
Convenor: Thomas Garaix, Ugitech, France

Scope:

ASD-STAN Working Group D04/WG03, specializing in "Steels," is dedicated to the meticulous preparation, coordination, and revision of documents concerning a broad spectrum of steels. The focus extends to Corrosion and Heat Resistant Steels, Carbon, Low Alloy Steels, and Alloys, encompassing Stainless Steels within its purview. This collaborative effort within the Working Group serves as a platform for knowledge and idea exchange among metals suppliers, users, and other stakeholders.

The primary objective of the Working Group's activities is to foster an environment that facilitates the sharing of insights and experiences. By doing so, it aims to contribute to the collective knowledge base of the aerospace industry. The ultimate outcome of these collaborative efforts is the publication of meticulously crafted specifications tailored to meet the standards of the aerospace sector. The Working Group's commitment to serving the entire supply chain of the aerospace business is underscored by its dedication to enhancing the quality and precision of steels used in this critical industry.

Key Standardization Activities (Non-Exhaustive List):

- EN 4630, EN 4631 Steel X4CrNiMo16-5-1 (1.4418). Scope: This entails a comprehensive review, covering heat treatment, hardness values, macrostructure test methods, and grain size criteria.
- EN 4890 Steel X4CrNiMo16-5-1. Scope: A new standard for this grade, distinguished by higher sulphur content, reflecting the material available on the market compared to EN 4642.
- EN 3639 Steel X6NiCrTiMoV26-15 (1.4980). Scope: Aiming for clarity, this revision addresses the reference condition for the specified steel.
- EN 4842 Steel X5CrNiCu15-5 (1.4545). Scope: The proposed amendment seeks to enhance the fracture toughness test by increasing the section diameter for qualification.
- EN 4700 series (-001-007). Scope: Focused on technical specifications for steels and the correct macrostructure test method, ensuring precision hardness alignment with TT values.
- EN 4500 series (-001-006) Rules of drafting. Scope: This initiative involves updating NDT terminology and table formats in accordance with current CEN drafting rules.
- EN 4911 This document provides a list of designations of steels. Scope: This document emphasizes adherence to material standards, highlighting that interchangeability is not automatic and must meet specified criteria.

New projects:

Specification for higher diameter bars made in Steel 36NiCrMo16.

Specification for a non-standardized aerospace Steel grade 4116N (1.4116).

- Revision of EN 4700 series "Aerospace series - Steel and heat resisting alloys - Wrought products - Technical specification".

- Revision of EN 2002-001/-002 (tensile test at ambient and high temperature). Scope: The revision aims to clarify measurement requirements, addressing variations in application practices among manufacturers.
 - TR List of designation of steels. Scope: The objective is to demonstrate that different designations correspond to the same material, ensuring consistency and coherence.
- [D04/WG04](#) “Welding / Brazing”
Convenor: Thibaut Larrouy, Safran Helicopter Engines, France

Scope:

ASD-STAN Working Group D04/WG04, dedicated to "Welding and Brazing," is at the forefront of crafting and refining documents integral to the definition of standards in welding, brazing, and structural soldering for aerospace applications. The group's scope spans a comprehensive spectrum, encompassing requirements related to the qualification of personnel, procedures, design, and quality standards. This encompasses everything from inspection and testing to equipment qualification and the rigorous standards governing ground support equipment. By actively preparing, coordinating, and revising these crucial documents, the Working Group plays a pivotal role in shaping and upholding the exacting standards essential to the aerospace industry's safety, reliability, and performance.

Key Standardization Activities (Non-Exhaustive List):

- EN 4258 (P3) “Aerospace series — Metallic materials — General organization of standardization — Links between types of European Standards and their use”. Scope: This revision is to allow to write filler metal standards in only one document (prEN 4877-002).
- ASD-STAN prEN 4877-001 & -002 (P2) “Aerospace series - Filler metals for welding - Part 001: Technical specification / -002: List of filler metals”. Scope: To replace current technical spec EN 3879 and to have additional filler metals in one spec.

New projects:

- Revision of EN 4677-001 “Aerospace series - Welded and brazed assemblies for aerospace construction - Joints of metallic materials by electron beam welding - Part 001: Quality of welded assemblies”
- [D04/WG05](#) “Test Methods”
Convenor: Olaf Drinkuth, Airbus, Germany

Scope:

ASD-STAN Working Group D04/WG05 serves as the advocate for European standardization activities in the realm of test methods for materials used in aerospace applications. This group takes on the crucial responsibility of defining standards for general mechanical, physical, and chemical testing of materials crucial to aerospace endeavours. D04/WG05 is the group managing both general non-metallic and metallic test standards, encompassing a broad spectrum of materials.

In cases where a specific material is under consideration, and an existing ASD-STAN/D04/ Working Group is already in place, the responsibility for writing test standards transitions to the specialized group focusing on that particular material. D04/WG05 is instrumental in the preparation of ASD-STAN prEN & EN standards. Beyond these activities, the Working Group actively engages in collaborative efforts on various European and International projects, reflecting its commitment to advancing aerospace material testing standards on a global scale.

Key Standardization Activities (Non-Exhaustive List):

Current projects within the Working Group are temporarily on hold, with a hiatus of three years despite a recent convenor election. A meeting will be convened to prepare a comprehensive work programme soon. Participants have observed that the test method standards developed in this group have relevance both to cabin-related aspects and metallic materials. To optimize efficiency, it is planned to assess whether ISO standards could potentially replace European aerospace standards for the latter.

- ASD-STAN prEN 4860 (P2), Test Xb: Abrasion of markings, letterings, surfaces and materials caused by rubbing of fingertips and hands;
- ASD-STAN prEN 4876 (P1), Hand abrasion and fingerprint test on cabin touchscreen and pencil abrasion on signing touch pads;
- ASD-STAN prEN 3873 (P2), Determination of fatigue crack growth rates using Corner-Cracked (CC) test pieces.

New projects:

Interest is expressed by the WG in revising EN 6072, titled “Aerospace series — Metallic materials — Test methods — Constant amplitude fatigue testing.” Additionally, a keen interest in advancing the development of prEN 3874 (P1), titled “Aerospace series — Test methods for metallic materials — Constant amplitude force-controlled low cycle fatigue testing” is shown by the group. This anticipated revision and development demonstrates a commitment to advancing industry standards and methodologies within our working group.

- [D04/WG06 “Surface Treatments”](#)
Convenor: Véronique Marcel, Safran, France

Scope:

ASD-STAN Working Group D04/WG06, specializing in "Surface Treatments," takes on the pivotal role of preparing, coordinating, and revising documents pertaining to a comprehensive array of surface treatment processes. This encompasses organic and inorganic coating products, ranging from paints and varnishes to dry lubricants. The group's purview extends to cover diverse coating methods and test methodologies, ensuring a thorough and precise approach to standards within the realm of surface treatments for aerospace applications. With a commitment to excellence, D04/WG06 plays a vital role in shaping industry standards, reflecting the dynamic and evolving landscape of surface treatment technologies within the aerospace sector and promotes REACH compliant processes.

Key Standardization Activities (Non-Exhaustive List):

- EN 2516 (Passivation): Scope: Precision enhancements include specifying de-embrittlement temperatures, correcting bath compositions, refining tests for evaluating iron contamination absence, and establishing precise water quality standards.
- EN 4827 (Anodizing): Scope: To undergo updates informed by the work of the GIFAS sub-team, particularly focusing on sealed TFSA and TSA processes, with a comprehensive review of relevant aspects.
- EN 4868 (Anodic Electrodeposition of Cr6-Free Primer): Scope: Addresses the anodic electrodeposition process for Cr6-free primers, ensuring alignment with contemporary standards and industry requirements.
- EN 4881 (Micro Arc Oxidation of Al): Scope: Specifies standards for the micro arc oxidation of aluminium, providing clarity and precision in the procedures and requirements for this surface treatment.
- EN 4902 (Definitions & Test Methods): Scope: Aims to establish common definitions across surface treatment specifications to ensure consistency and designates this specification for general test methods, consolidating practices like the specific cross-cut test method for aerospace, which was removed from EN ISO 2409.
- EN 4908 (Hexavalent Chromium Free Chemical Conversion Process of Mg Alloys): Scope: Outlines the prerequisites for the hexavalent chromium-free chemical conversion process applied to magnesium and magnesium alloys. Its primary purpose is to establish a foundation for adhesion before bonding and painting, ensuring a high-quality surface treatment. The specification delves into design, quality, and manufacturing requirements, providing comprehensive guidance for industry adherence. It is important to note that while this document sets the standards for the process, it refrains from detailing complete in-house process instructions. Instead, such detailed instructions are to be explicitly outlined in the processor's individualized and comprehensive process documentation.

New projects:

Currently, no new projects are in the planning stages. The focus lies on analysing the outcomes of the 5-year review and preparing for the anticipated revisions.

- [D04/WG07](#) "Elastomers"
Convenor: Nicolas Guérin, Trelleborg Sealing Solutions, France

Scope:

ASD-STAN D04/WG07, specializing in "Elastomers," actively manages, revises, and develops documents pertaining to a diverse range of elastomers. These include but are not limited to NBR (acrylonitrile-butadiene base), CR (chloroprene base), VMQ (silicone base), EPM/EPDM (ethylene-propylene base), FKM (fluorocarbon base), and FVMQ (fluorosilicon base). The documents produced by the working group encompass technical specifications and materials standards. Notably, it is essential to highlight that these standards do not extend to cover final parts, such as O-rings. The commitment of ASD-STAN D04/WG07 lies in maintaining the highest standards for elastomeric materials, contributing to the quality and reliability of components within the aerospace industry.

Key Standardization Activities (Non-Exhaustive List) & new projects:

- Engaging in the revision of silicone standards, specifically focusing on EN 2259 (50 IRHD), EN 2260 (60 IRHD), and EN 2261 (70 IRHD) to ensure accuracy and alignment with industry requirements.

- EN 3827 (80 IRHD). – Scope: Notably declared in March 2022, the objective of integrating EN standardization for Airbus is to fortify requirements, enhancing the robustness and precision of standards.
 - Focus on establishing a seamless connection between French national standards (NF L) and EN standards. In the event of silicone standards revision, this initiative encompasses the revision of EN 3207 (technical spec) and a comprehensive review of all elastomer standards.
 - Sealants projects – Scope: A two-fold approach involving an initial assessment of available ENs related to sealants, followed by dedicated efforts to develop new standards that meet evolving industry needs and advancements.
- [D04/WG08 “Composites”](#)
Convenor: [Mathias Wietgreffe, Airbus, Germany](#)

Scope:

ASD-STAN Working Group D04/WG08, specializing in "Composite," assumes the pivotal responsibility of formulating and upholding European standards for the utilization of composite materials in aerospace applications. This includes the development and maintenance of material and performance specifications, along with the establishment of precise test methods. The comprehensive scope of the Working Group spans diverse topics such as CMC (ceramic matrix composites), MMC (metal matrix composites), OMC (organic matrix composites), adhesives, honeycombs, and test methods specifically tailored for non-metallic materials assigned to D04/WG08.

However, it's crucial to note that the scope excludes certain topics, namely pure ceramics, anaerobic polymerizable compounds, pure textiles, and aircraft glazing. This focused approach ensures the working group's dedication to maintaining high standards and precision within the specified group of composite materials in aerospace applications.

Key Standardization Activities (Non-Exhaustive List):

- Upcoming project: ASD-STAN prEN 2243-7 (P1), Aerospace series — Structural adhesives — Test methods — Part 7: Determination of the flow of adhesive film.
- EN 2559: Aerospace series — Carbon, glass and aramid fibre preimpregnates — Determination.
- ASD-STAN prEN 6042 (P1), Aerospace series — Organic compounds — Test method — Analysis by infrared spectroscopy.

New projects:

The newly initiated project, "Test Methods for Fiber Composites under Cryogenic Conditions (testing in liquid hydrogen, helium, or nitrogen)," is currently underway and hosted by the FIBRE Institute in Bremen, with active participation from members of D04/WG08. The overarching goal is to elevate this project to the status of a European Standard within the purview of D04/WG08. This strategic initiative aligns with the commitment to advancing standards in the use of composite materials in aerospace applications, specifically focusing on robust testing methodologies under challenging cryogenic conditions involving liquid hydrogen, helium, or nitrogen.

- [D04/WG11 “Super Alloys”](#)
Convenor: Marie-Agnes Mace, Aubert & Duval, France

Scope:

ASD-STAN Working Group D04/WG11, dedicated to "Superalloys," takes on the crucial responsibility of preparing, coordinating, and revising documents specifically focused on alloys based on nickel or cobalt. This includes a comprehensive scope covering the meticulous development and refinement of standards for these high-performance materials, ensuring their adherence to industry-leading specifications and quality standards within the aerospace sector.

Key Standardization Activities (Non-Exhaustive List) & new projects:

- EN 2302 (Ni base alloy Ni-Cr20Co3Fe3) - Scope: The proposed revision involves referencing technical specification EN 4700-001 for comprehensive general testing, enhancing the standard's clarity and aligning it with industry best practices.
- Designation of superalloy standards - Scope: This initiative aims to streamline the designation process for superalloy standards by removing ASD-STAN designations and adopting industry-recognized designations. This ensures coherence with prevailing industry norms.
- Review of old standards - Scope: A comprehensive review of antiquated standards is underway to identify any pertinent requirements on critical products. The objective is to discern if updates are necessary to align these standards with contemporary industry needs and advancements.

- [D04/WG15 “Non-Destructive Testing”](#)
Convenor: Tony Warren, Airbus, UK

Scope:

ASD-STAN Working Group D04/WG15 plays a pivotal role in advocating for European standardization activities in the realm of Non-Destructive Testing (NDT) for aerospace applications. This group is dedicated to preparing ASD-STAN prEN standards, EN-standards, and actively participating in various European and international projects. The working group serves as a collaborative platform, offering interested stakeholders the opportunity to actively shape standardization procedures, contribute valuable ideas and suggestions, and engage in a meaningful exchange of information among national experts. This collective effort underscores the commitment to advancing NDT standards and fostering collaboration within the aerospace industry.

Key Standardization Activities:

- Revision of EN 4179 "Aerospace Series - Qualification and approval of personnel for non-destructive testing. This document establishes the minimum requirements for the qualification and certification of personnel performing non-destructive testing (NDT), non-destructive inspection (NDI), or non-destructive evaluation (NDE) in the aerospace manufacturing, service, maintenance and overhaul industries".

Domain D05 “Autonomous Flying”

Contacts:

- Domain Technical Coordinator: Fredrik Nordström, Airbus, Germany
- Domain Secretariat: Josef Saurer, DIN, Germany
- Executive Manager: Anja Lange, ASD-STAN

Domain Scope:

Domain D05 serves as the advocate for European standardization activities in the domain of autonomously or remotely controlled aircraft. Encompassing systems falling under the Open Category and Standard Scenarios of the Specific Category, as defined by EASA Opinion 01/2018 issued in February 2018 and in the Delegated Regulation 2019/945 amended by the Delegated Regulation (EU)2020/1058, this domain actively engages in the preparation of ASD-STAN prEN standards, contributes to EN-standardization projects, provides informed comments, and actively participates in various European and international projects. This comprehensive scope reflects the commitment to shaping standards for cutting-edge aviation technologies and fostering collaboration within the rapidly evolving landscape of autonomous and remotely controlled aircraft.

Active Working Groups:

- [D05/WG08](#) UAS Unmanned Aircraft Systems
Convenor: [Christophe Mazel](#), expert-consultant affiliated to [Fédération Professionnelle du Drone Civil](#), France

Scope:

ASD-STAN Working Group D05/WG08, dedicated to Unmanned Aircraft Systems (UAS), actively represents interests in European standardization activities covering a broad spectrum, including the classification, design, manufacture, operation (including maintenance), and safety management of UAS operations. Focused on the Open Category of Unmanned Aerial Vehicles (UAVs), as defined by EASA Opinion 01/2018 issued in February 2018, and in the Delegated Regulation 2019/945 amended by the Delegated Regulation (EU)2020/1058, this working group centers its efforts on drones used by both hobbyists and professionals, emphasizing simplicity and safety in operations, which currently dominates the market in volume.

Within the OPEN category, manufacturers have the flexibility to "mark" their products with class numbers ranging from C0 to C4, indicating usage and drone system performance. This CE marking process provides manufacturers with a recognizable quality label for the European market, facilitating straightforward registration for remote pilots. In the short term, this process ensures a clear quality standard for manufacturers and facilitates registration for remote pilots.

To achieve this, D05/WG08 is actively collaborating with regulators (EC, EASA) and key industry stakeholders, working towards delivering harmonized standards (hEN) for CE marking.

Key Standardization Activities:

- EN 4709-001 to EN 4709-004 series — UAS product requirements, CE marking and operating rules for the Open category (harmonized European standards)
- Further activity is covered by CEN/TC 471- Unmanned aircraft systems.

Domain D06 “Quality and Safety Management”

Contacts:

- Domain Technical Coordinator: Fabrizio Dido, Safran Landing Systems, France
- Domain Secretariat: Marina Epis, BNAE, France
- Executive Manager: Anja Lange, ASD-STAN

Domain Scope:

The ASD-STAN D06 Domain “Quality and Safety Management” covers on one side the activities of the International Aerospace Quality Group “IAQG” and represents the European sector (EAQG) of IAQG to achieve and involve a European position on the IAQG developments. In October 2021, IAQG decided to abandon the sector publications of standards and selected a single publisher (SAE) for the internationally recognized, unique version of the quality standards (with the new designation “IA”). Previously released standards will be transitioned from sector designations of AS, EN, SJAC/JISQ to the new singular designation (“IA”) at the time of revision. The link between IA and equivalent EN standards is currently under consideration. Further information will be shared upon the conclusion of these discussions.

To continue its involvement in IAQG and allow its own members to provide their input in the development of global Aerospace Quality standards, ASD-STAN accepted to become an affiliate member of IAQG since March 2023 and implemented a policy from October 2023. ASD-STAN mirrors all IAQG ballots at SMC level via ASD-STAN D06. This approach serves the crucial purpose of gathering and submitting valuable feedback from European stakeholders, who are members of ASD-STAN D06. This concerted effort underscores ASD-STAN's dedication to contributing to the development and refinement of global standards, fostering collaboration within the aerospace quality domain.

On the other side, under the umbrella of the ASD Airworthiness Committee and mirrored by ASD-STAN for the standard development and publication process, an initiative was put in place, DOA Think Tank, with the primary objective to develop a set of standards to answer the requirements of Sub-Part J of Commission Regulation (EU) No 748/2012. EASA actively participated in the development of these standards with the aim to become Acceptable Means of Compliance with Sub-Part J of Commission Regulation (EU) No 748/2012. This standardization can also be used by Supplier of Design Organization Approval (DOA) holders to answer regulatory requirements through a common, uniform and clear methodology and forms.

Both activities, EAQG and ASD Think Tank, prepare a common set of requirements for the aerospace industry to progress towards the common goal of “simplification” via minimum requirements, guidance materials and the creation of industry standards.

Active Working Groups:

- [D06/WG01](#) EAQG European Aerospace Quality Group
Convenor: Antonio Saldana, Airbus, EAQG

Scope:

This working group operates as a mirror committee specifically designed to address IAQG ballots and oversee publication processes tailored for Europe. This role was crucial before the shift to a single publisher. IAQG, being the driving force behind the development of quality management standards, relies on the coordination and contribution of this mirror committee to ensure alignment with European requirements and facilitate a streamlined publication process.

As of 2023, SAE exclusively oversees all revisions and new projects, publishing them with the designation "IA," signifying "International Aerospace."

Currently ongoing Standardization Activities:

- EN 9102 “First article inspection requirement (FAI)”
- EN 9104-2 “Requirements for oversight of aerospace quality management system registration/certification programmes”
- EN 9116 “Supplier Notice of Change (NOC)”
- EN 9125 “Aerospace series - Requirements for ASD Organizations - Non-Deliverable Software”

New projects:

All the new projects are now managed by SAE and published as “IA” standards.

- [D06/WG04](#) Design Organisation Approval (DOA)
Convenor: Gilles Fontaine, Airbus, France / Vice-Convenor: Stéphane Boussu, Airbus, France

Scope:

As an initiative within the European Aerospace Industry, aimed at distributing the oversight of design suppliers among Design Organization Approval (DOA) holders, the ASD Airworthiness Committee entrusted the DOA Think Tank with the mission of crafting DOA guidelines. The ASD-STAN Working Group D06/WG04 serves as a mirror committee specifically to oversee the ballot and publication processes related to DOA Think Tank initiatives, particularly the development of DOA guidelines as reflected in the TR 9250 series. This collaborative effort ensures a harmonized approach to design organization approval within the European aerospace sector.

Key Standardization Activities (Non-Exhaustive List):

These TR editions are published and poised for consideration in the upcoming Part 21 AMC/GM NPA, shaping the landscape of Design Organization Approval.

- ASD-STAN TR 9250:2023 - Edition P1 - November 2023: Test organizations — General requirements for test process and capabilities
- ASD-STAN TR 9251:2023 - Edition P1 - November 2023: Flammability test organizations qualification standard
- ASD-STAN TR 9255:2023 - Edition P1 - November 2023: Acceptance of supplier's design capabilities and management of design organization authorizations

New projects:

Current initiatives are underway for the publication of additional TR 92xx. Future projects are contingent upon active engagement and official endorsement by the European Union Aviation Safety Agency (EASA).

[Domain D07 "Digital Projects"](#)

Contacts:

- Domain Technical Coordinator: Bernd Feldvoss, Airbus, Germany
- Domain Secretariat: Marie-Noëlle Touzeau, BNAE, France
- Executive Manager: Anja Lange, ASD-STAN

Domain Scope:

Domain D07, known as "Digital Projects," advocates for European standardization activities in the realm of Information and Data-related technologies for aerospace applications. This includes, but is not limited to, areas such as Archiving, Cybersecurity, and health monitoring. The domain is actively involved in crafting ASD-STAN prEN and EN standards and participating in various European and international projects.

This collaborative domain offers interested stakeholders the chance to actively engage in standardization procedures, share their ideas and suggestions, and partake in a valuable exchange of information among national experts. The efforts within Domain D07 underline a commitment to advancing standards in the dynamic and evolving field of digital technologies for aerospace applications.

Active Working Groups:

- [D07/WG01](#) "Long Term Archiving and Retrieval of Digital Technical Product Data (LOTAR)"
Convenor: Bernd Feldvoss, Airbus, Germany

Scope:

ASD-STAN Working Group D07/WG01 plays a crucial role in advocating for European standardization activities specifically focused on "LOTAR" (LOng Term Archiving and Retrieval of Digital Technical Product Data) for aerospace applications. The working group is actively engaged in the formulation of ASD-STAN prEN & EN standards and actively participating in various European and international projects.

This collaborative working group opens avenues for all interested stakeholders to actively participate in standardization procedures, share innovative ideas and suggestions, and engage in a robust information exchange among experts at the National, European, and international levels. The efforts of Working Group D07/WG01 reflect a commitment to advancing standards and fostering collaboration in the critical domain of long-term archiving and retrieval of digital technical product data for aerospace applications.

Key Standardization Activities (Non-Exhaustive List):

- EN 9300 series "Aerospace series - LOTAR - LOng Term Archiving and Retrieval of digital technical product documentation such as 3D CAD and PDM data"

New projects:

- EN / NAS 9300 -7xx: Electronic (PCB, PCA, etc)
- EN / NAS 9300-8xx: Mechanical transport elements (tubing, mechanical / hydraulic, ducting, etc)
- Definition of the ASD-STAN vision for the development of Machine-Readable Standards (MRS) in the different Technical Domains: business value, state of the arts, organization, planning, interdependencies, etc.
- Opportunities to define practical implementation of the recommendations of collaboration between ASD SSG and ASD-STAN.
- Revision of EN 9300 Part 1 "Structure".
- Revision of EN 9300 Part 3 "Fundamentals and concepts".
- Revision of EN 9300 Part 7 "Terms and references".
- Revision of EN 9300 Part 10 "Overview Data Flow".
- Revision of EN 9300 Part 210 "Product Management Data in an "as designed" view".
- Revision of EN 9300 Part 230 "Product Management Data in an "as planned" view".
- Revision of EN 9300 Part 500 "MBSE Fundamentals and Concept".
- [D07/WG02](#) "Radio Frequency IDentification and connected devices (RFID)"
Convenor: Vincent Melchor, Safran Group, France

Scope:

ASD-STAN Working Group D07/WG02 actively represents the collective interests of National, European, and international standardization efforts in the realm of "Connected devices, including but not limited to Radio Frequency Identification (RFID) technologies" for aerospace applications. The working group is dedicated to preparing ASD-STAN prEN & EN standards and participating in a variety of European and International projects.

The specific focus of ASD-STAN D07/WG02 encompasses the standardization of UHF Passive RFID, HF Passive RFID, Contact Memory Buttons (CMB), and Aerospace Active RFID Tags integrated or

positioned on aircraft structures. Recently, the scope has been broadened to address standardization needs related to the Internet of Things (IoT) and on-board equipment of wireless avionics intra-communication systems. The overarching objective is to consider end-users' needs and foster interoperable standards, thereby reducing reliance on proprietary solutions and promoting collaboration among stakeholders.

D07/WG02's mandate extends to providing specifications not only for manufacturers of active and passive UHF RFID tags but also for embedded equipment in wireless avionics intra-communication systems. This involves designing, manufacturing, and testing these components for the aerospace industry, ensuring their usability during ground and/or flight operations within the global flight environment.

Recognizing the importance of harmonization, the working group also collaborates in developing European standards that complement existing American standards. These European standards encompass the necessary requirements and tests for European aeronautical players, fostering collaborative efforts with label manufacturers.

In a forward-looking approach, the scope has further expanded to address standardization needs for IoT and embedded equipment in wireless avionics intra-communication systems that may arise based on industry demands. This involves defining minimum performance and RF emissions requirements for integrating such equipment inside or near an aircraft. The comprehensive efforts of D07/WG02 underscore its commitment to advancing standardization and technological interoperability in the rapidly evolving landscape of connected devices in aerospace applications.

Key Standardization Activities (Non-Exhaustive List):

- EN 4905 Aerospace series — Passive UHF RFID for airborne use
- EN 4906 Aerospace series — Embedded tags — Choice of fixation for installation, removal, and replacement of embedded tags

New projects:

No new projects are currently planned.

- [D07/WG03](#) “Prognostics and Health Monitoring (PHM)”
Convenor: Gilles Debache, Dassault-Aviation, France

Scope:

The primary objective of Working Group D07/WG03 is to enhance and harmonize communication among manufacturers, prime contractors, owners, and customers, specifically focusing on simplifying the formulation of specifications for Built-In Tests (BITs). The group aims to facilitate the exchange of architecture models and technical configurations of systems during the operational use phase, acknowledging the challenges posed by the dynamic nature of support activities.

In the realm of support, which is inherently complex and subject to volatility, uncertainty, and ambiguity, the group recognizes the significance of embracing digital transformation. The surge in data

volume, a consequence of the functional richness enabled by digital transformation, presents opportunities that support activities should leverage:

- Dematerialization: Tangible objects are replaced by algorithms, offering equivalent or enhanced services, such as the transition from paper to digital data storage and transmission.
- Modelling based on System Engineering (MBSE): Formal characterization of services exchanged among actors within the same activity, such as support, becomes feasible through modelling.
- The Digital Twin: Cooperative efforts among diverse actors within a complex activity necessitate consensual supervision and decision support, fostering the emergence of a shared digital twin.

The group's involvement in standards development, exemplified by EN 9721 and EN 9722, has addressed industry collaboration on BITs and the communalization of services related to aircraft health record data.

Digital transformation prompts critical questions, and D07/WG03 actively engages with these challenges:

- How to reconfigure value chains for enhanced efficiency and relevance.
- How to streamline data collection and processing for personalized technical actions on aircraft configurations.
- How to develop support activities that are not only reactive but also proactive, flexible, and fluid.
- How to steer support actors through knowledge enabled by digital continuity and modelling.
- How to ensure subsidiarity at the right level to provide decision-making freedom and maintain professional attractiveness.
- How to rethink professions and share experiences for professional advancement.
- How to increase the residual value of assets and share value among interconnected actors.

D07/WG03's overarching goal is to address these multifaceted questions, fostering a shared vision within the community and contributing to the ongoing evolution of support activities in the context of digital transformation.

Key Standardization Activities (Non-Exhaustive List):

- EN 9721 "Aerospace series - General recommendation for the BIT Architecture in an integrated system". EN 9721 addressed the issue of industry cooperation on BITs (Built-in-tests) and sharing of the test design features.
- EN 9722 "Aerospace series - Centralized Health System Management Architecture". EN 9722 gave a first oversight of the services to be communalized around the data of the aircraft health record and to be exchanged between the support actors.

New projects:

At French national level, a General Recommendation was published (RG.Aéro 723) as a continuation of the previous EN 9721 and EN 9722. It extends this trajectory by focusing on characterizing the digital twins of actors involved in support activities, aiming to facilitate cooperation and the emergence of shared digital twins.

Decision will be taken early 2024 to propose this document as a NWP for developing a European Standard. Discussions are open at national level.

Domain D12 “Cabin”

Contacts:

- Domain Technical Coordinator: Ralf Schliwa, RWTH Aachen, Germany
- Domain Secretariat: Achim Schaube, DIN, Germany
- Executive Manager: Anja Lange, ASD-STAN

Domain Scope:

This domain is dedicated to standardization projects pertaining to aircraft cabin systems.

Active Working Groups:

- [D12/WG01 “Seats and Inflight Entertainment”](#)
Convenor: Peter Wiegmann, Airbus, Germany

Scope:

The Working Group represents interests for the European standardization activities in the field of seats and Inflight Entertainment for aerospace applications.

It prepares ASD-STAN prEN standards, EN-standardization projects and comments as well as participates in other European and International projects.

The Working Group provides interested stakeholders the opportunity to actively work on standardization procedures, contribute their ideas and suggestions and take part in the information exchange between national experts.

Key Standardization Activities (Non-Exhaustive List):

- EN 4888: “Aerospace series — Commercial aircraft passenger seats - Reliability testing”.
- EN 4727: “Aerospace series — Standardized passenger seat weight information”.

New projects:

ASD-STAN D12/WG01 will study the possibility to extend EN 4888 to consider business class seats in its second edition.

- Revision of EN 4727 “Aerospace series — Standardized passenger seat weight information”
- EN 4912 “Aerospace series — ECO efficiency of seats”.

- [D12/WG02](#) “Ditching Equipment

Convenor: Gavin Anthony, Gavins Ltd, UK

Scope:

The Domain 12 (Cabin) Working Group 02 (Ditching Equipment) represents interests for the European standardization activities in the field of ditching equipment and procedures for Rotocraft.

It prepares ASD-STAN prEN standards, EN-standardization projects and provides comment on other related European and International projects.

The Working Group provides interested stakeholders the opportunity to actively work on standardization procedures, contribute their ideas and suggestions and take part in the information exchange between national experts.

Key Standardization Activities (Non-Exhaustive List):

- EN 4886 “Aerospace series — Rotorcraft life raft - Requirements, testing and marking”.
- EN 4856 “Aerospace series — Rotorcraft Emergency Breathing Systems (EBS) - Requirements, testing and marking”.
- EN 4862 “Aerospace series — Rotorcraft constant wear lifejackets - Requirements, testing and marking”.
- EN 4863 “Aerospace series — Rotorcraft immersion suits - Requirements, testing and marking”.

New projects:

No scheduled activities are anticipated until the existing standards are up for their five-yearly review.

- [D12/WG03](#) “Cabin monuments and supply systems”

Convenor: Thorsten Otto, Airbus, Germany

Scope:

The Working Group represents interests for the European standardization activities in the field of cabin monuments and supply systems for aerospace applications.

It prepares ASD-STAN prEN standards, EN-standardization projects and comments as well as participates in other European and International projects.

The Working Group provides interested stakeholders the opportunity to actively work on standardization procedures, contribute their ideas and suggestions and take part in the information exchange between national experts.

Key Standardization Activities (Non-Exhaustive List):

- EN 4703 “Aerospace series — Test specification for verification of the permeability of electrical insulation”.
- EN 4855 series “Aerospace series — ECO efficiency of catering equipment”

New projects:

The idea for a New Work Item Proposal (NWP) centered around EN 4855, titled "Aerospace series — ECO efficiency of catering equipment," was thoroughly deliberated, and a unanimous decision was reached to proceed with the NWP application. The proposed NWP comprises the following parts:

- Part 01 (P2): General conditions
- Part 03 (P2): Chilling equipment
- Part 04 (P2): Beverage makers
- Part 05 (P1): Trash compactor
- Part 06 (P1): Espresso maker

This comprehensive initiative aims to address and standardize the ECO efficiency aspects of catering equipment within the aerospace industry.

- [D12/WG04](#) “Displays, projection and interior lighting”
Convenor: Carsten Weichbrot, Airbus, Germany

Scope:

The Working Group represents interests for the European standardization activities in the field of displays, projection and interior lighting for aerospace applications.

It prepares ASD-STAN prEN standards, ASD-STAN prEN Technical Reports, EN-standardization projects and comments as well as participates in other European and International projects.

The Working Group provides interested stakeholders the opportunity to actively work on standardization procedures, contribute their ideas and suggestions and take part in the information exchange between national experts.

Exterior and cockpit lighting is handled by ASD-STAN D02/WG06 „Exterior and cockpit lighting”.

Key Standardization Activities (Non-Exhaustive List):

- EN 4731 “Aerospace series — Spectral quality of LED luminaires used with photoluminescent marking systems”.
- ASD-STAN TR 4885 “Aerospace series — Jet lag and lighting - Biological effects and recommendations”.

- ASD-STAN TR 4896 “Aerospace series — UV radiation for aircraft cabin disinfection”.
- ASD-STAN TR 4897 “Aerospace series — Aircraft cabin disinfection with visible light”.
- EN 4828 “Aerospace series — Thermal drift of LED luminaires - Classification and measuring methods”.

New projects:

ASD-STAN D12/WG04 is currently discussing the possibility of starting the following standardization projects:

- EN/TR idea: Aerospace series — Cargo lighting for freighter aircraft
- EN/TR idea: Aerospace series — Light transmissive materials for aircraft cabin
- Project idea EN/TR: Aerospace series — Lighting control architecture (LCA) for aircraft cabin lighting will be reevaluated in 2024.

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Various membership types are available, including individual/expert participation in a standards development working group.

Become a member

Various membership types are available, including Independent expert contracts. The eligibility criteria, rights, and responsibilities of each category are outlined in the Association's Statutes.



Promoting members

[Contact us](#)

The category of Promoting Members is reserved only for National/Trade Associations representing the interests of states of the European Union, EFTA Member States and the United Kingdom and for European Agencies;

- **Delegate Participation:** Promoting members can delegate representatives to attend dedicated group meetings within the Technical Authority, with voting rights.
- **General Assembly Influence:** Promoting members wield two votes each in the General Assembly, amplifying their influence.
- **Board of Directors Representation & Influence:** Promoting members appoint two directors to the Board, each with one vote, shaping the Association's direction.

55,000€/year



Regular members

[Contact us](#)

The category of Regular Members is reserved only for: (a) National/Trade Associations representing the interests of States of the European Union, EFTA Member States or the United Kingdom, and (b) Industrial Companies whose registered office is located in one of the Member States of the European Union, EFTA Member States, the United Kingdom or European Agencies.

- **Delegate Participation:** Regular members can delegate representatives to attend Technical Authority meetings with voting rights.
- **General Assembly Vote:** Regular members hold one vote each in the General Assembly, shaping the Association's decisions.
- **Board of Directors Role:** Regular members appoint one director to the Board, influencing the Association's direction with one vote.

12,000€/year



Associate member

[Contact us](#)

The category of Associate Members is open to: (a) any National/Trade Association, regardless of the State whose interests it represents; (b) any Industrial Company, regardless of the location of its headquarters; (c) European Agencies.

- **General Assembly Representation:** Associate members can designate one representative for General Assembly meetings without voting rights.
- **Technical Authority Involvement:** Upon Board approval, Associate member representatives can join specific Technical Authority or Board of Directors meetings.

3,000€/year

Independent expert contracts – We invite independent experts to join our collaborative efforts, regardless of ASD-STAN membership. Non-member organizations can easily participate in our working groups, with experts required to contribute €1,500 annually per working group to sustain our collaboration.

Participating as an ASD-STAN member

In addition to the general advantages, ASD-STAN members enjoy:

Direct Influence

Directly influence the working areas and strategic development of ASD-STAN.

High-Level Networking

Have direct contact with other high-level decision-makers.

Involvement in Ballots

Participate in the New Work Proposal (NWP) Ballot and National Domain Ballot (NDB), influencing the decision and prioritization of standardization projects.

Process Improvement

Influence the definition and improvement of the ASD-STAN standard development process.

First-Hand Information

Receive first-hand information about ASD-STAN activities and deliverables.



Our members



Groupement des Industries Françaises Aéronautiques et Spatiales
www.gifas.fr



Deutsches Institut für Normung
www.din.de



Federazione Aziende Italiane per l'Aerospazio, la Difesa e la Sicurezza
www.aiad.it



Spanish Association of Defense, Aeronautics, Security and Space Technology Companies
www.tedae.org



Säkerhets Et Försvars Företagen
www.soff.se



UK Aerospace, Defence, Security & Space Industries
www.adsgroup.org.uk



European Aviation Safety Agency
www.easa.europa.eu



AIRBUS SE.
www.airbus.com



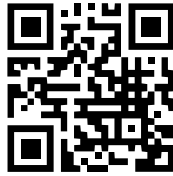
AeroSpace and Defence Industries Association of Europe
www.asd-europe.org



Did you know?

- ≈300K aluminium rivets per aircraft standardised using ASD-STAN prENs 6069, 6080, 6081, 6101
- ≈200K fasteners per aircraft manufactured using ASD-STAN prENs 6114 & 6115
- ≈100K Blind bolts per aircraft manufactured using ASD-STAN prENs 4613, 4614, 4538
- ≈200 bearings per aircraft manufactured using ASD-STAN prENs 4613, 4614, 4538
- ≈10K electrical connectors and circuit breakers per aircraft manufactured utilising the following standards: ASD-STAN prENs 2997, 3545, 3645, 3646 3841, 3661

www.asd-stan.org



Rue Belliard 40

Brussels-1040
Belgium

Phone: +32 2 786 312 8
Email: contact@asd-stan.org
Website: www.asd-stan.org

