



STANDARDS FOR THE DIGITAL STAGE

Logen Johnson
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LEADING
MOBILITY
THROUGH
INNOVATION

SAE INTERNATIONAL

**SETTING THE STANDARDS
THAT LEAD TO SUCCESS**



ENDS

SAE International enterprise is preeminent in serving its members and industry, by providing:

- A neutral forum that convenes to address society's mobility needs
- The most reliable and comprehensive collection of mobility engineering resources
- STEM education and professional development programs that inspire and build mobility's future workforce
- Consensus-based standards to advance quality, safety and innovation
- A global community whose collective wisdom makes mobility more safe, clean and accessible

AEROSPACE, AUTOMOTIVE, COMMERCIAL VEHICLE





KEEPING PACE WITH INNOVATION

- DDSG
- G-34
- G-31
- G-32
- MBAE
- V2X
- Micro-Mobility
- Data Sharing
- Data Marketplace
- Data Governance
- HRCS
- UTM



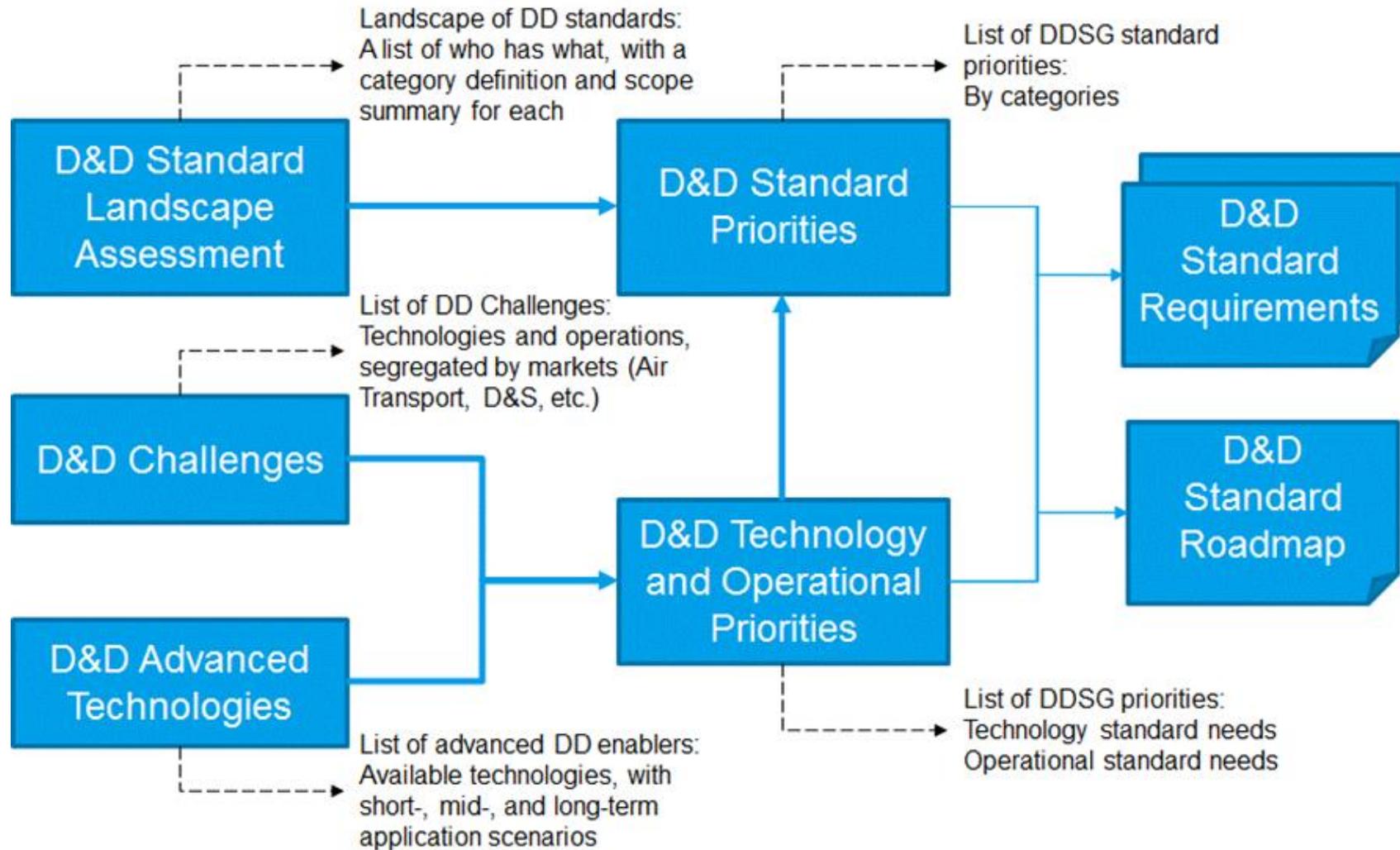
THE ROLE OF DDSG

- The Digital & Data Steering Group helps alleviate disparate digital activities by coordinating industry consensus standard development within SAE, supporting industry cohesion and certification
- The Steering Group's activity will be critical in shaping a digitally integrated approach to design, manufacturing, operations and maintenance through consensus standards and other materials

Interest Areas:

- Data safety and security
- Digital Thread/MBSE
- Part 25 aviation applications (VDL, ADS-B)
- Integration of MBE data with early lifecycle modeling (cost, utilities", etc.
- Data Exchange
- Data Analytics
- IVHM

ADVANCING TECHNOLOGY ADOPTION



SAE'S CASE EXAMPLE 1

SAE ARP6984: Determination of cost benefits from implementing a blockchain solution

Electronic transactions are not new, but they are being recorded in new ways. Blockchain specifically is one means of recording electronic transactions that is not well understood outside of specific communities and is hindered by its complicated CBA or ROI.

SAE'S CASE EXAMPLE 2

SAE JA6268: Provides recommendations for the integration of both the design-time data and the run-time messages

JA6268 seeks to provide uniform requirements, practices, and methods to address the sharing of critical component/subsystem design-time information. This will facilitate real-time platform level communication and the implementation of supplemental IVHM functions.

SAE'S CASE EXAMPLE 3

SAE AS7496: Response to a Significant and Increasing Volume of Cyber Physical System Exploits

Attack vectors are introduced through vulnerabilities in electronic parts and software that could be used to compromise cyber physical system function or gain access to critical and sensitive system information.

SAE'S CASE EXAMPLE 4

SAE AS6983: Guidelines for the Development of Aircraft Systems Leveraging Artificial Intelligence (AI)

AI as a technology has become increasingly useful for different software applications. As for today, there are no software approval standards that consider AI for embedded aircraft systems.

RELEVANT CHALLENGES

Dynamic & Scalable Standards

- How do we develop standards given today's rapid pace of technology innovation and data driven approaches?
- How we increase the utility of standards?

INNOVATIVE SOLUTIONS

SAE EDGE™ Research Report: Key Topics & Emerging Tech

- Examine the most significant emerging topics in mobility engineering. Each report is designed to identify critical issues and stimulate further discussion and research toward the necessary frameworks, practices, and protocols.
- “SAE EDGE Research Reports are designed to be preliminary investigations of new technologies,” Frank Menchaca, Chief Product Officer for SAE International, said. “The over-arching goal is to stimulate discussion among industry professionals, helping to lead to the speedy resolution of identified issues.”

SAE DIGITAL STANDARDS

- Next generation of standards development focused on structuring data and for downstream standards consumption and integration into third-party tools.
- Feasibility projects have yielded positive results with high level of industry interest and engagement



Major outcomes of digital standards...

- Data aggregation
- Structuring unstructured data
- Change management
- Systems integration

CHALLENGES TO INDUSTRY OPERATIONS SURROUNDING STANDARDS

- Need to reduce transcription errors resulting from manual extraction of numerical and textual data from SAE standards
- Need to discover standard parts to drive down materials costs and remove redundancy and low volume orders
- Need for better system integration, especially from companies with high acquisition strategies, in order to capitalize on cost synergies
- Need to improve workflow performance and operational efficiencies dependent on the exchange of normalized data
- Organizational goals surrounding digital thread initiatives

AEROTECH AMERICAS PANEL

Questions?