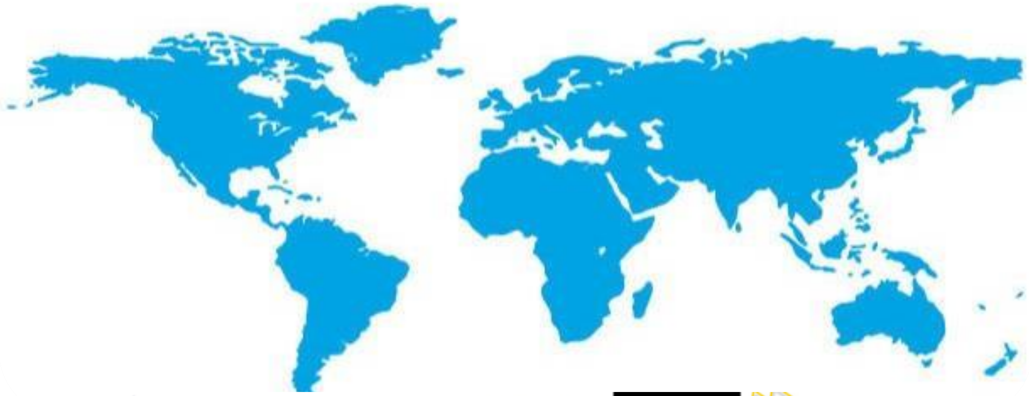
The Digital Standards Alliance

Integrating Standards Content into Digital Ecosystems

GLOBAL PRODUCT DATA INTEROPERABILITY SUMMIT 2024



Alton Sanders, DSA Consortium Chair
Designated Expert, Standards Management, The Boeing Company
Leslie McKay, DSA Consortium Vice Chair
Director of Digital Standard Development, SAE International
Sam Gambrell Quality Project Engineer, Lockheed Martin

Panelists

Alton Sanders, DSA Consortium Chair
Designated Expert - Standards Management, The Boeing Company

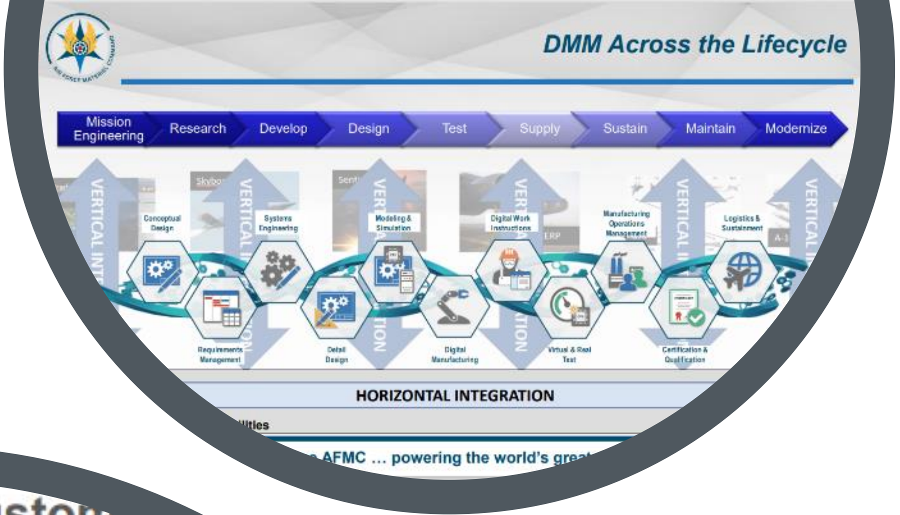
Alton Sanders is an award-winning Senior Project Engineer and Designated Expert in Standards Management in the Enterprise Product Standards Management Office at The Boeing Company. He is a second-term member of the ANSI Executive Standards Council and has been active with SES, the Society for Standards Professionals since 2011. The focus of his 38-year career has been in improving the quality of standards, making standards management at Boeing an enterprise-level activity, and transitioning standards from documents to digital data. Sanders holds a Bachelor of Science in Engineering from Southern Illinois University at Edwardsville, an MBA and a Masters in Management from the University of Phoenix, and a Juris Doctor from the St. Louis University School of Law. He is a former member of the Illinois bar.

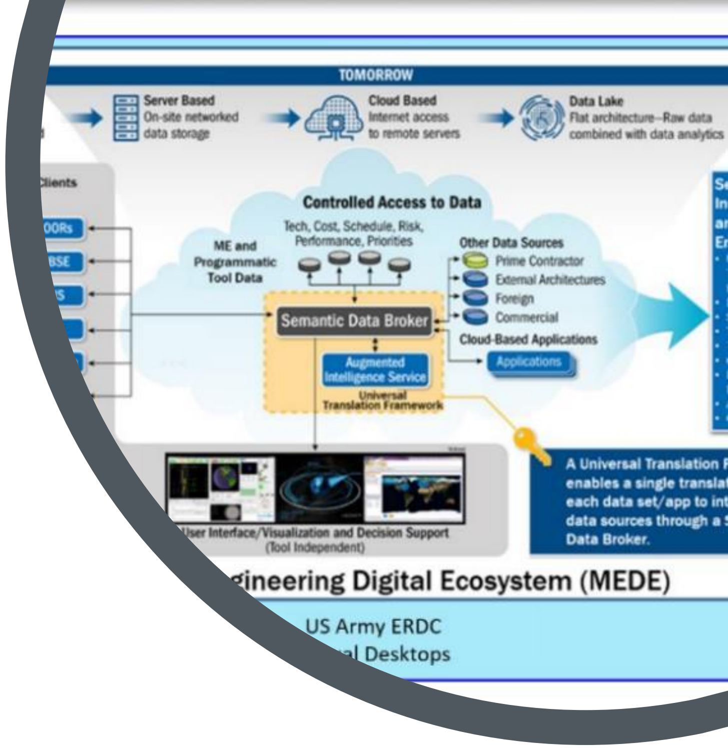
Leslie McKay DSA Consortium Vice Chair
Senior Manager, Digital and Information Products, SAE International

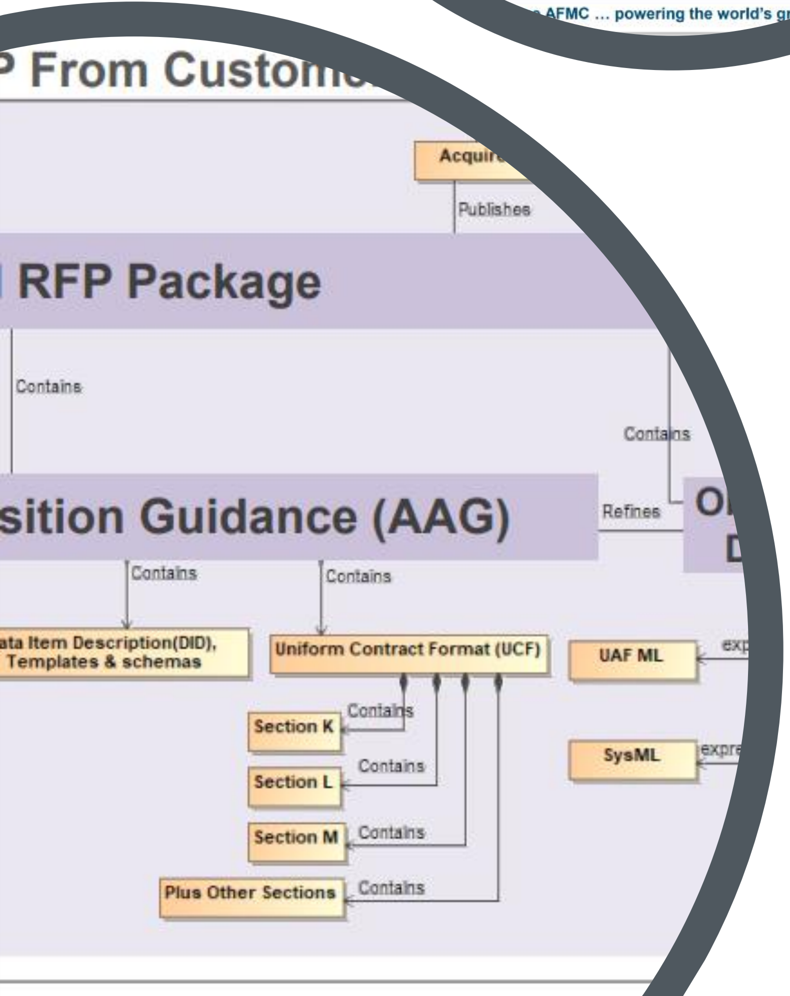
Leslie McKay has over 20 years' experience managing software and hardware products. Much of her career has focused on developing successful products that leverage artificial intelligence and machine learning, specifically voice recognition and natural language processing solutions. She won two User Experience Awards from Honeywell for leading a team to develop a voice-recognition system used to direct warehouse workers in distribution centers. Leslie joined SAE International in 2021 to drive the adoption for the digital standards. She is dedicated to establishing best practices for the authoring and use of digital standards in the product development lifecycle.

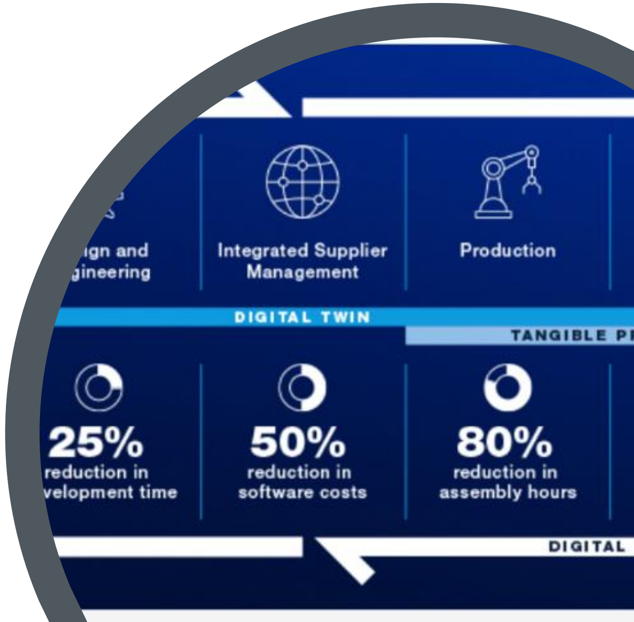
Sam Gambrell Quality Project Engineer, Lockheed Martin

Sam Gambrell is a Quality Project Engineer and has been with Lockheed Martin Rotary and Mission Systems for 18 years. He is working on digital transformation initiatives that will positively impact the quality organization. His primary focus is on how the data we generate, from engineering requirements to shop floor inspections, can be used to improve the quality workflow while also providing information that can be used for data analytics. He is actively involved in the adoption of the Quality Information Framework (QIF) standard at Lockheed Martin along with the development of QIF 4.0 as a Director of the Digital Metrology Standards Consortium









Everyone is Talking About Digital Engineering

GLOBAL PRODUCT DATA INTEROPERABILITY SUMMIT 2024

Challenges with Product Development and Supply Chain Processes Today

Risk to Quality

- Transcription errors
- Manual extraction of numerical/textual data

Increased Cost

- Hard to find standard parts
- Increased costs due to low-volume orders
- Increased material costs and redundancy

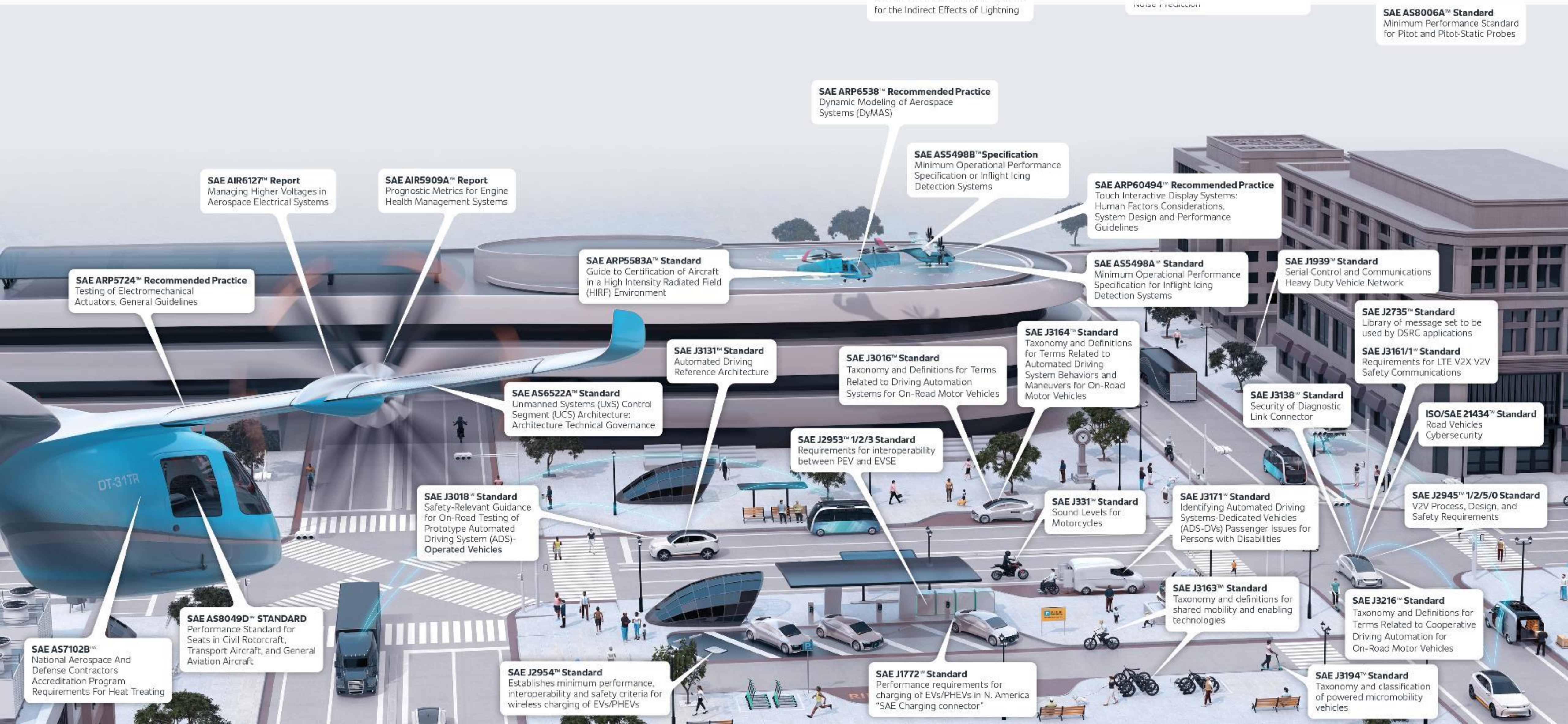
Lack of Integration

- Many legacy systems, especially in companies with high acquisition strategies
- Little to no data migration/sharing between systems

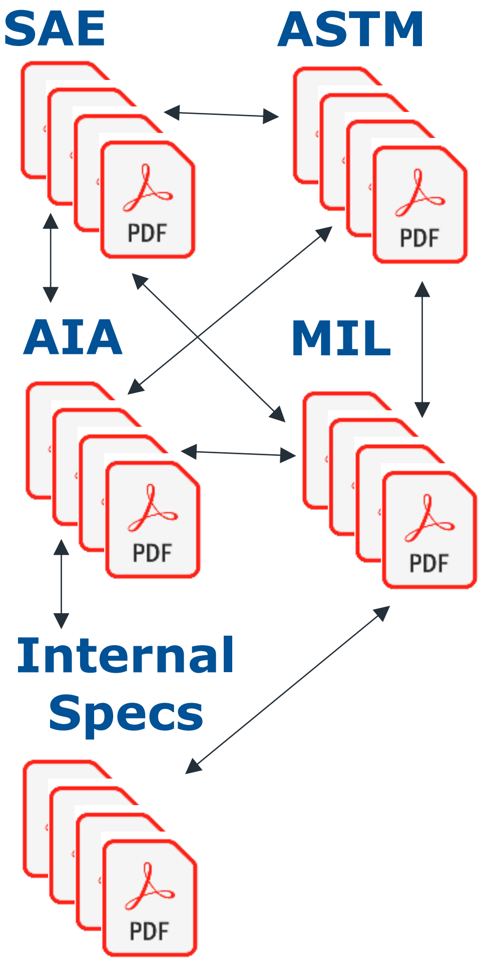
Workflow Inefficiencies

- Lots of rework to pull in standards data to multiple systems
- Lack of data normalization

But How Are Standards Going to Fit Into these Digital Ecosystems?



Interoperability Across Digital Standards Will Be Critical



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Requirements
Or
Test Process
Or
MFR Process
Or
...

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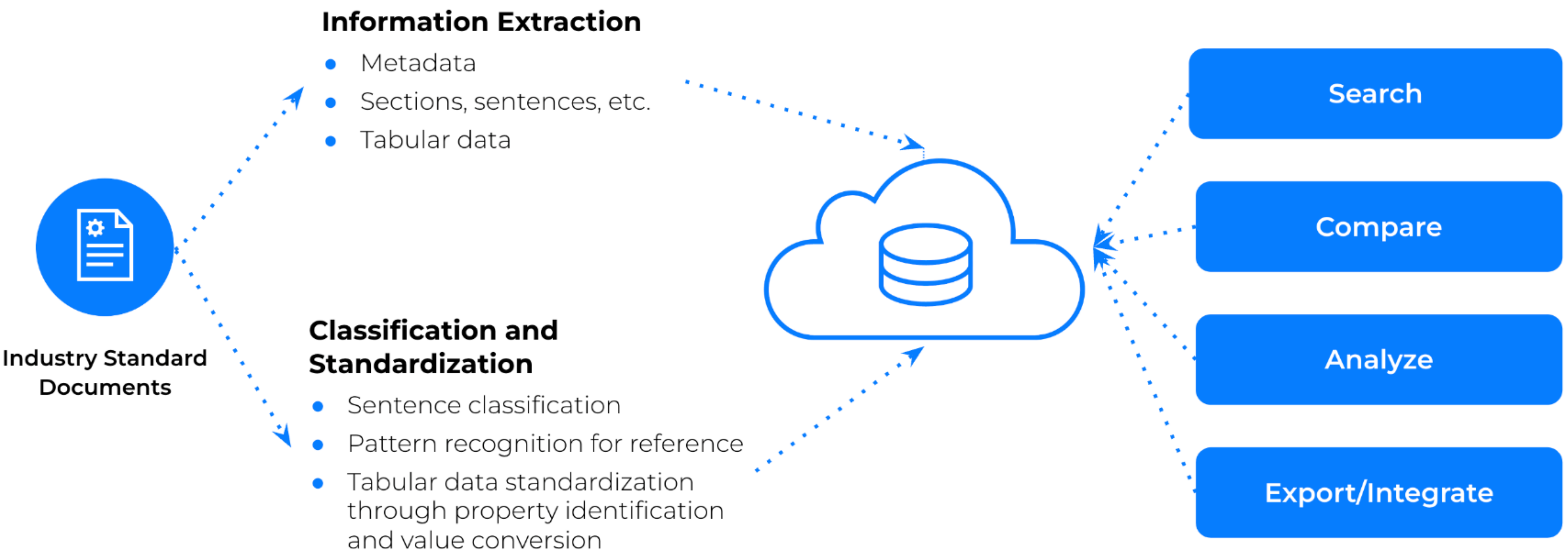
SAE’s Digitization Approach

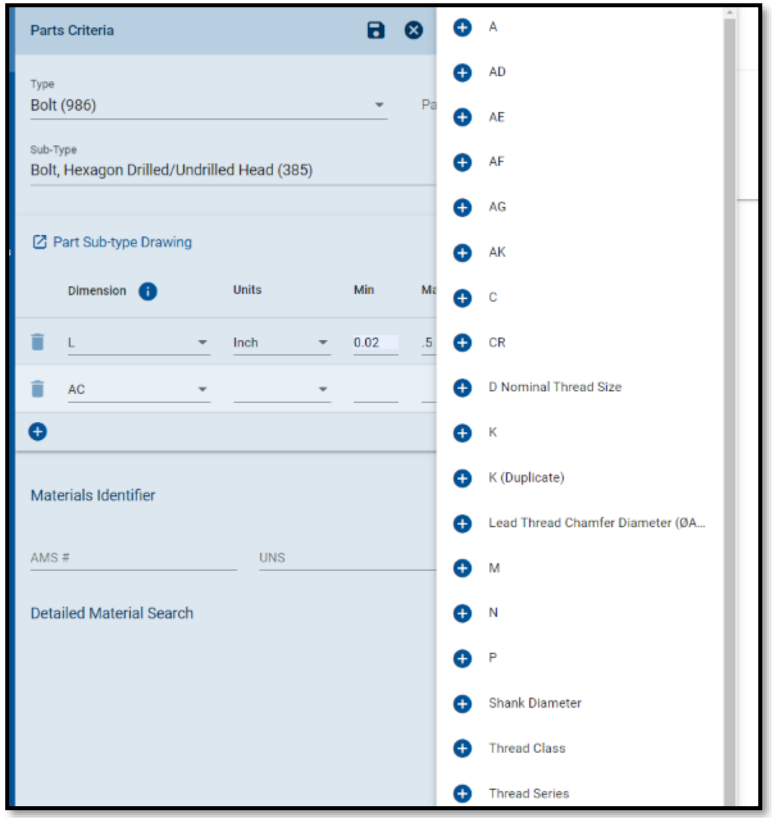
Mobility, Advanced™



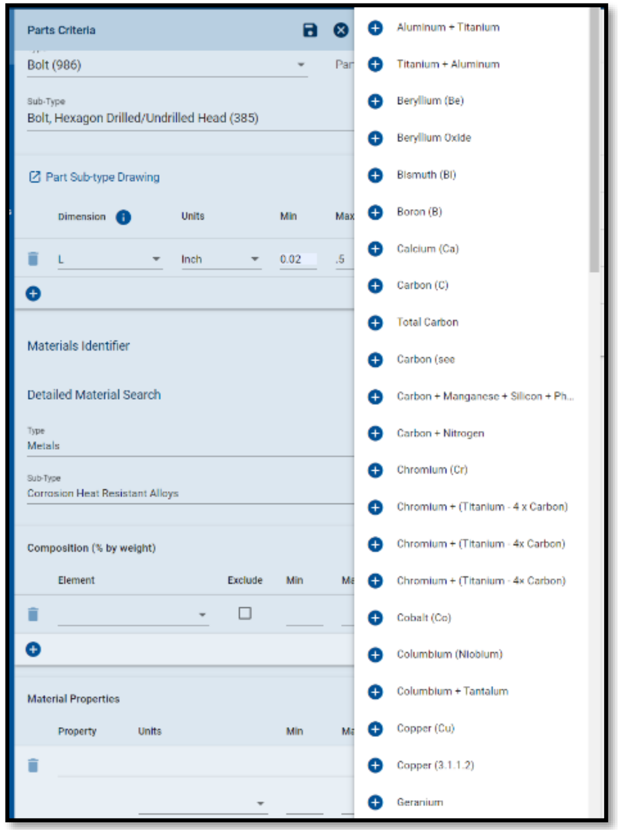
SAE's First Attempt At Digital Standards: OnQue

Mobility, Advanced™

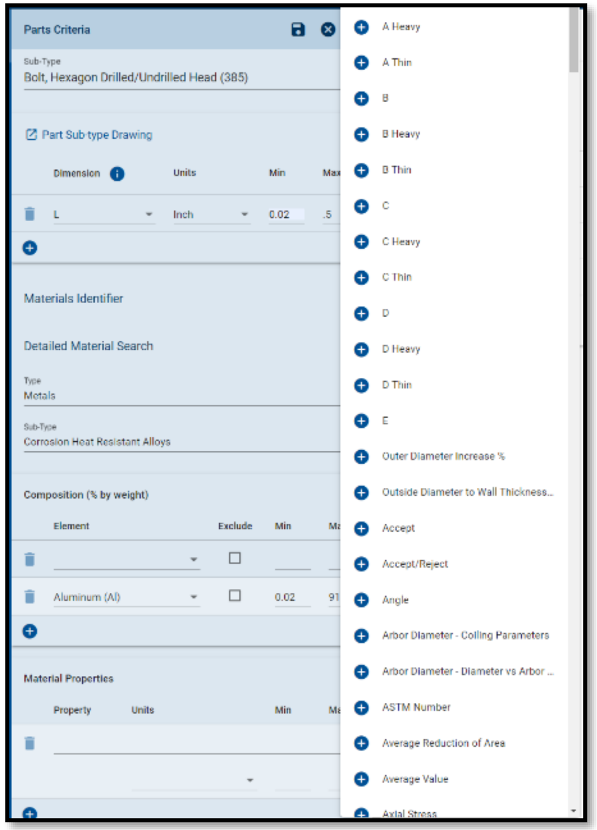
Dimensions



Composition



Materials Properties



Eliminate Transcription Errors

Support Systems Integration

Maximize Re-Use

Lower Costs

Minimize Change Management

Digitally Track Requirements

Lessons Learned

- Requirements Identification
- Data Normalization
- List Handling
- Information Classification

Standards Development Organizations (SDOs) Have Traditionally Been Publishers

- Some SDOs only provide PDFs
- Standards offered in XML are typically in schemas focused on document formatting, not data communication
- Some SDOs have never heard of MBSE, much less SySML
- Interoperability will be critical
- Standards need to be consumable by major PLMs—engineers do not want more tools!

Digital Standards Alliance

- Bringing together:
    - Industry
    - Government Agencies & Regulators
    - Standards Development Organizations (SDOs)

- Provide More Direction from Government and Industry About Digital Standards

DIGITAL STANDARDS ALLIANCE

A Consortium of SAE ITC

Operating principles

The Consortium will endeavor to:

- Operate a neutral, unbiased forum to facilitate secure, trusted interoperability
- Develop best practices that are simple, prescriptive, and auditable
- Build on existing industry standards
- Deliver results through focused activities
- Collaborate with other industry groups to ensure broad applicability of solutions

Standards Support 40% of Product Definition

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Standard Parts and Materials

Standard Manufacturing Processes

Digital Twin

Digital Thread

User Consumption

- Users want to download the CAD model and the technical data either for all permutations and configurations of parts and materials or for very specific callouts of a standard product.
- No one wants to pay for a PDF and then have to recreate the digital twins of the products defined by the standard.
- This is not just a standards developer/consumer problem. This is a challenge to overcome up and down and across the whole supply chain.

Digital Standards Alliance

DIGITAL STANDARDS ALLIANCE
A Consortium of SAE ITC

Influences the standardization and conformance industry in transforming multiple types of standards, creating efficiencies throughout the digital thread used in the design, manufacture, and support of the next generation of industry

Accelerate Standards Data Integration

Promulgation of digital standards of interest to be used in the entire product lifecycle.

Best Practices and Education

Best practices for authoring and converting legacy standards into digital standards (beyond XML)

Liaison with Other Digital Initiatives

Collaborate with other initiatives and organizations to ensure interoperability of digital standards in larger ecosystems

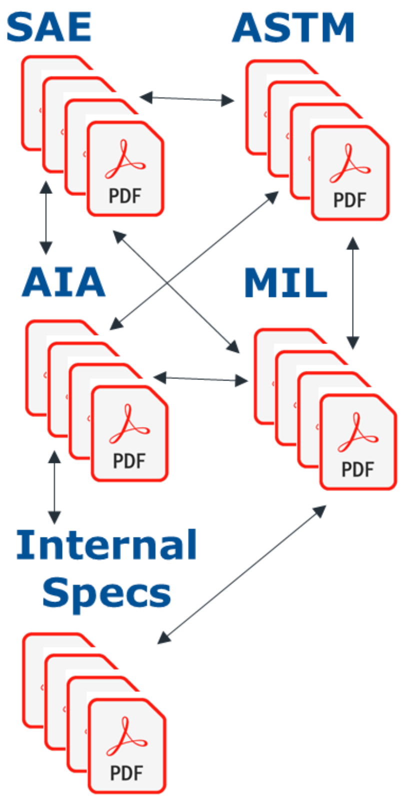
Join us!

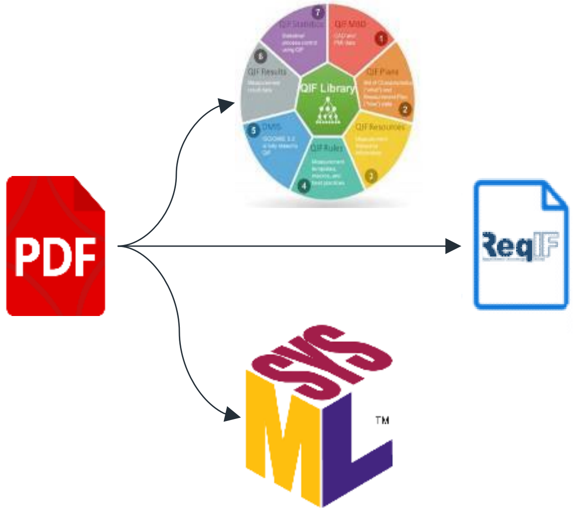
Accelerate Standards Data Integration

The big push is for <u>data interoperability</u>

That means structuring the data:

- Data models
- Ontologies
- Dictionaries





Best Practices and Education

HOW TO WRITE DIGITAL-READY STANDARDS

HOW TO CONSISTENTLY MAP INFORMATION FROM STANDARDS TO TARGET SCHEMAS/FORMATS

HOW IS VALUE BEST REALIZED FROM DIGITAL STANDARDS

Liaison with Other Digital Initiatives

digital twin CONSORTIUM

DTO

DRIVE CONSORTIUM

AEROSPACE & DEFENSE PLM ACTION GROUP

PROSTEP integrate the future

Possible Committees

DIGITAL STANDARDS ALLIANCE

Digital Standards Alliance

Establishing best practices for the authoring and use of digital standards in the entire product development lifecycle
(R&D, design, simulation/testing, verification/validation, certification, procurement, manufacturing, operation, and MRO)

Ontology Working Group

Identify families of parts that share similarities and develop a standard ontology for each family

Inter-operability and Authoring

Define interoperable formats and tools to support SDOs and companies in converting and/or writing digital standards

Solutions for Legacy Standards

Define solutions for converting legacy standards that have no established authors

Licensing and Business Challenges

Establish guidelines around licensing, pricing, and other business challenges https://www.sae-itc.com/programs/dsa

Join Us!

- We want to focus on digital standards, not the entire digital ecosystem
- We want to collaborate with the other consortia focused on the larger digital ecosystems.
- You can join as a voting member or as a participant at the working group level

Questions?