



# Evaluation of SysML v2 for use in Collaborative MBSE between OEMs and Suppliers

AD PAG MBSE Collaboration Working Group



**PLM Road Map™ & PDT North America 2026**

AI in PLM: A Disruptive Opportunity and Challenge

*Turning AI disruption into enterprise value:*

*Strategic insights for the PLM professional*

6-7 May 2026

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- Model-Based Systems Engineering  
Fundamentals Graduate Certificate  
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# Aerospace & Defense PLM Action Group

Founded in February 2014

## Mission

An association of aerospace & defense companies within CIMdata's globally recognized PLM Community Program, which functions as a **PLM advocacy group** to . . .

## Members



## Project Workstreams

- PLM Technology Obsolescence Management
- Global Collaboration
- Model-based Definition (MBD)
- Multiple View Bill of Material (Multi-view BoM)
- Interoperability Standards
- ➔ ■ Model-Based Systems Engineering (MBSE)
- Digital Twin/Digital Thread
- Manufacturing Engineering Co-development
- PLM for In Service

## Research with Solution Providers

- Digital Thread
- Model-based Systems Engineering

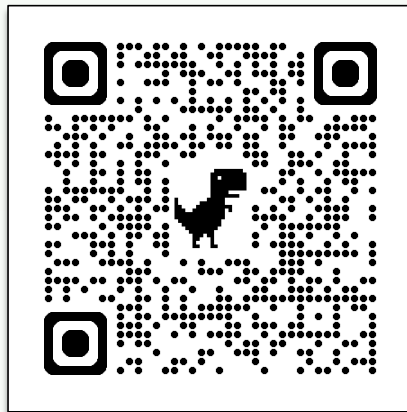
Website: [www.ad-pag.com](http://www.ad-pag.com)

Administered by **CIMdata**



# Project Report Now Available

- Project Conducted  
Q3 2023 – Q2 2025
- Download Report:



- Today's Agenda
  - What is SysML v2? Benefits?
  - Rollout: Collaboration Scenarios
  - Identified Gaps / Proposed Solutions
  - External Considerations

## Project Members

AIRBUS

BOEING

GE Aerospace

Gulfstream®  
A GENERAL DYNAMICS COMPANY



Rolls-Royce

SAFRAN

SPIRIT  
AEROSYSTEMS

# Problem Statement



Currently there are no common methods and standards for exchanging digital model-based requirements and architecture deliverables for the design, procurement, and acceptance of aerospace systems equipment across the industry.

# SysML v2



## New Standard for MBSE Collaboration

- OMG recently published: September 2025

CLAIM: "interoperate with other models & tools"

ref: OMG press release July 21, 2025

INVESTIGATION: Will SysML v2 satisfy claim?  
What would roll-out look like?

# MBSE Collaboration

Raw Data

**Information**

**Knowledge**

Ontology

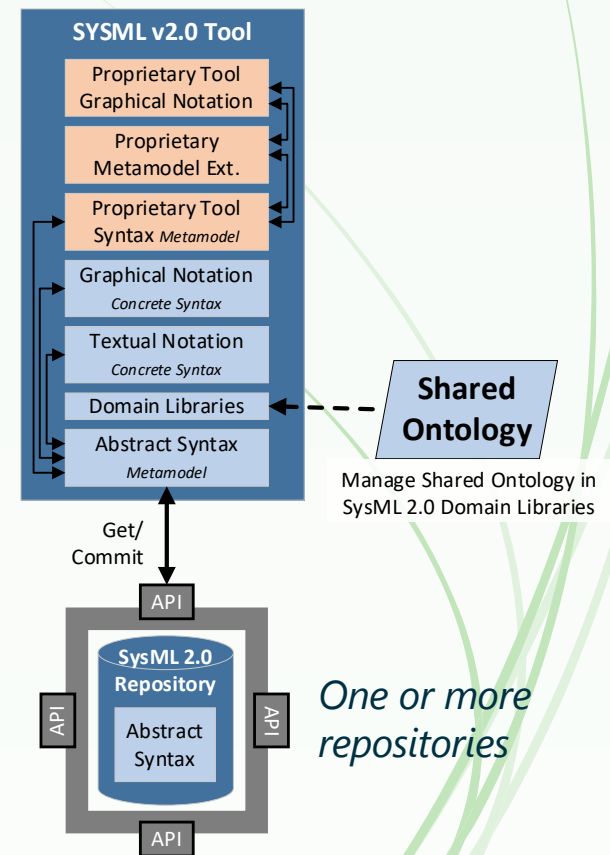
**Compatibility**

Accessibility

**GOAL: Avoid Tool Vendor Lock**

# What is SysML v2?

- Model stored in Abstract Syntax or Textual Notation
  - Kernel Modeling Language (KerML)
- Represented in Concrete syntax
  - Graphical Notation
  - Textual Notation
- Domain Libraries provide standard way to share **ontologies**
- RESTful APIs provide standard **accessibility**
  - Infers a SysML v2 Data Repository



# SysML 2.0 Collaboration Scenarios

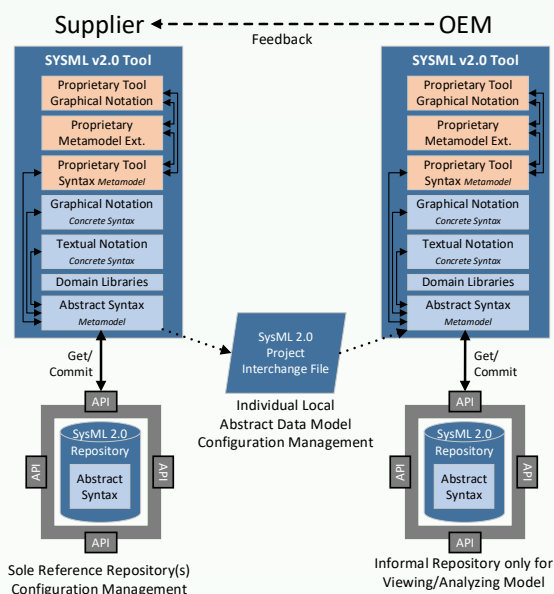


Boeing Collaboration Levels

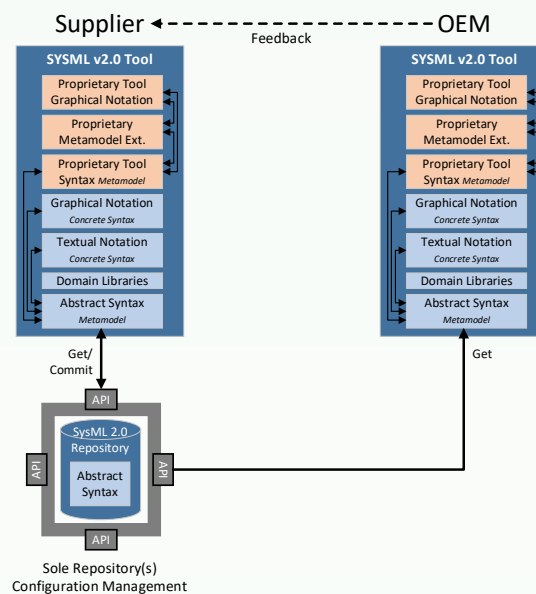


Airbus Collaboration Schemes

## Unidirectional Exchange

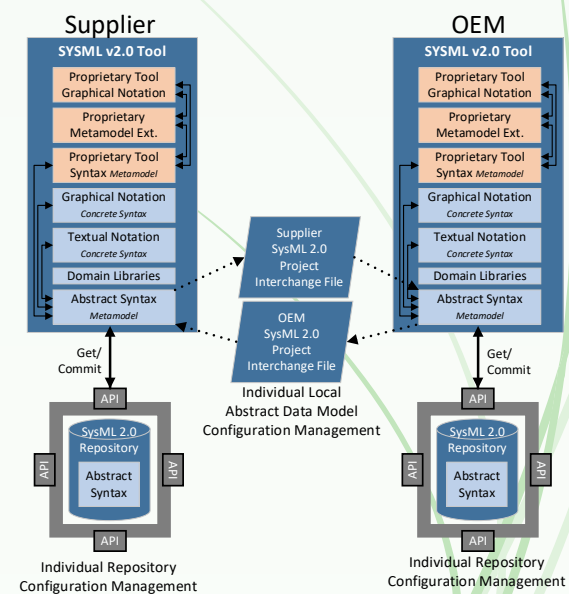


Project Interchange File



Shared Model Repository(s)

## Bidirectional Exchange



Project Interchange File

# SysML 2.0 Collaboration Scenarios

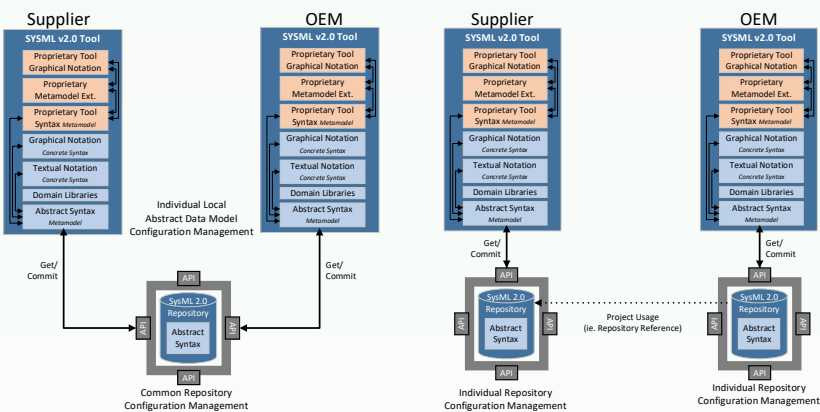


Boeing Collaboration Levels



Airbus Collaboration Schemes

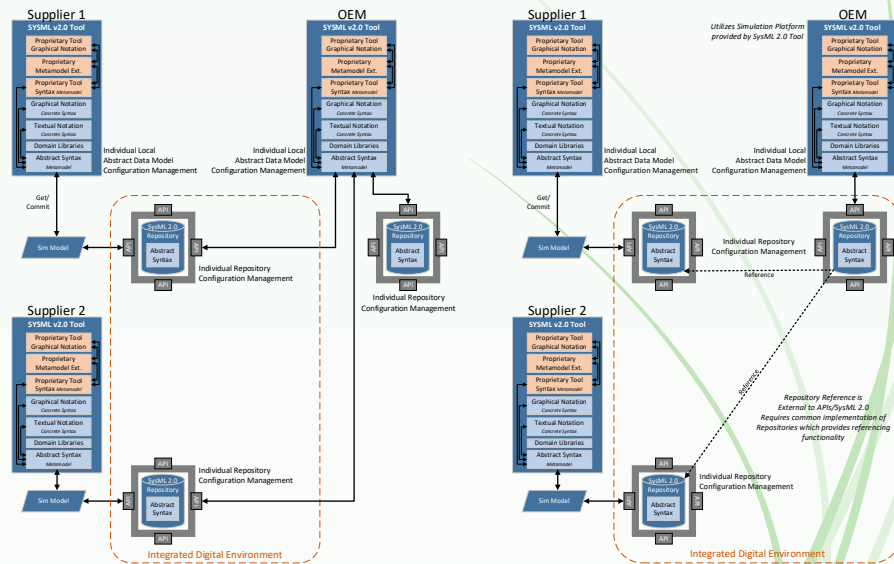
## Collaboration



Shared Model Repository(s)

Referenced Model Repository(s)

## Platform Co-Simulation



Shared Model Repository(s)

Referenced Model Repository(s)

# Identified Gaps

## Universally Unique Identifiers (UUID)

- Textual Notation Omits UUIDs – Change Management Concerns
- Tools Catching-up to Newer UUID Stability Specification

## Lacks Graphical Layout Storage Standard

## Lacks Mapping to Common Query Languages

# External Considerations

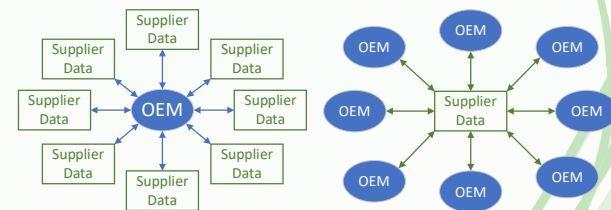
No Path to Transition SysML v1.x to v2

Need Well Define Ontology

- SysML v2 provides method to share ontology, but does not define ontology

Shared IT Environment

- Organization's PLM, Security and Data Retention Needs Drive Distributed IT, not Shared IT



# Conclusions

- Brings Significant Collaboration Opportunities for A&D
- Widespread Adoption Likely Depends on Future v2.x Releases
- Must Exercise the Tools + New KerML Language for Full Evaluation
- Not Just About a Standard.  
External Considerations in Roll-Out Planning
- Next Step: Phase 6 Project

## **A first Look: SysML v2 Collaborative Change Management**

# Questions & Answers

*What's on Your Mind?*



