



INCOSE Digital Engineering – Working Group 11-02-21

## CIMdata PLM Action Group

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CIMdata is the leading independent global strategic management consulting and research authority focused exclusively on PLM and the digital transformation it enables.

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PLM RESOURCES EDUCATION PLM CONSULTING RESEARCH MEMBERSHIPS EVENTS CALENDAR

## CIMdata PLM Road Map™ 2021

Virtual Events in Spring & Fall

What happened at our 2020 event?

### CIMdata Top Ten PLM News Stories

View Now

PLM Resources Education Research Consulting

CIMdata understands how important it is for you to keep up with PLM industry trends and information. Make CIMdata Resources your first and last stop for all things PLM. From whitepapers to commentaries; from news to events, CIMdata has everything you need. [Learn More.](#)

**News From CIMdata**  
 Key Sponsors for PLM Road Map and PDT Fall 2021 Virtual-Live Announced  
 CIMdata's PLM Certificate Standard Program® Available Virtually in December  
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**PLM Industry & Featured Events**  
 PLM Road Map  
 PLM Certificate Program  
 PLM Market & Industry Forum  
 Complimentary Educational Webinars  
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**New on CIMdata.com**  
 New Aras CEO Roque Martin succeeds Peter Schroer  
 ESI's Virtual Prototyping Accelerates Automotive Vehicle Development  
[See More.](#)

**Trending at CIMdata**  
 Weekly PLM Industry News Summary  
 Top Ten PLM News Stories of the Week  
 Top Ten PLM News Stories for 2020



Aerospace & Defense  
PLM Action Group Membership

Association of aerospace Original Equipment Manufacturers (OEMs) and aircraft engine manufacturers focused on PLM-related challenges in that industry

High Technology Electronics  
PLM Action Group

Association of High Technology companies focused on PLM related challenges, to close technology gaps, expose needed standards

Industrial Consortium

A consortium to help collectively address current PLM-related challenges by identifying the top PLM market issues



## A&D PLM Team Overview

Founded in 2014, the Aerospace & Defense PLM Action Group is an association of aerospace & defense companies within CIMdata's globally recognized PLM Community Program, which functions as a PLM advocacy group.

## Mission

- Set the direction for the aerospace & defense industry on PLM-related topics that matter to members
- Promote common industry PLM processes and practices
- Define requirements for common interest PLM-related capabilities
- Communicate with a unified voice to PLM solution providers
- Sponsor collaborative PLM research on member-prioritized industry and technology topics



## PLM Global Collaboration 2021

### White Paper Focus:

The exchange of information between

- Product Data Management (PDM)
- PDM Computer-Aided Design (CAD)
- Bill of Materials (BOM)

### Scope:

Data within the Aerospace & Defense industry including OEMs, engine manufacturers, and supply chain partners.

- Analysis, Standards, Guidelines
- Use Case Definitions (Current \ Desired)
- Collaboration Methodology



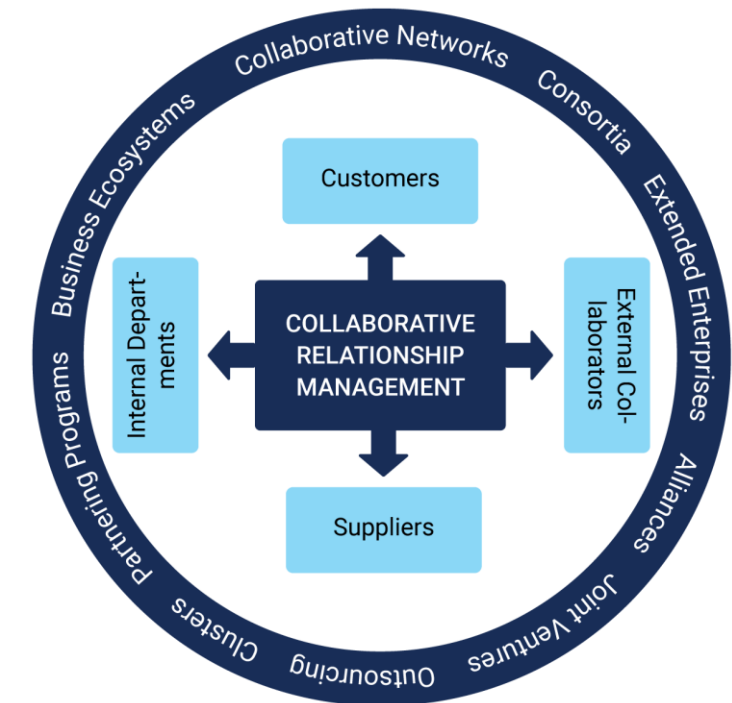
## ADPLM Global Collaboration Support

- 1) ADPLM requested a productivity aide based on the ISO 44001 strategic lifecycle framework
- 2) Central Repository for Working Group documents
- 3) Support industry forum and action groups for Model Based Systems Engineering data collaboration capability



## Collaboration Management Aide utilizing the ISO 44001 standard

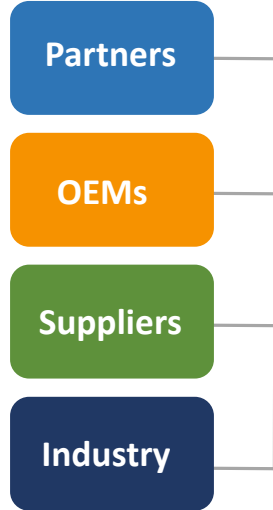
- **Stage 1: Operational Awareness** - business relationship lifecycle focuses on the executives within the initiating organization and the establishment of policies for collaborative approaches
- **Stage 2: Knowledge** - Body of knowledge on which to develop specific strategies and approaches to address any identified collaborative opportunities
- **Step 3: Internal Assessment** - The organization evaluating its readiness to support a collaborative approach. Understanding internal capabilities
- **Step 4: Partner Selection** - initiating organization's processes for identifying and selecting appropriate collaborative partners
- **Step 5: Working together** - Establish a governance structure that with the selected or potential partner(s), to foster an environment that will sustain the collaboration
- **Step 6: Value Creation** - Establish processes for creating additional value through collaboration and enhanced alignment between organizations. Continual improvement and innovation.
- **Step 7: Staying together** - Ensuring that the sustainability and value of the relationship is effectively maintained through the joint management of activities and performance
- **Step 8: Exit Strategy Execution** - Define the parameters of engagement and the performance measures required to meet the objectives of the parties in the collaboration. Clearly defining the rules of disengagement



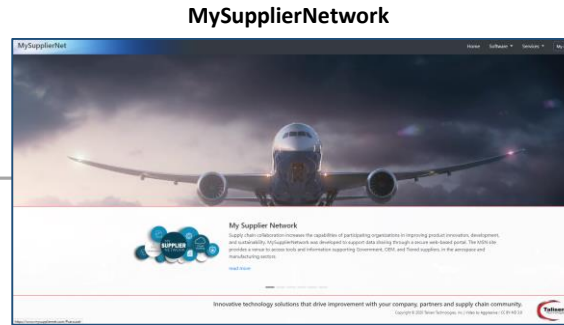
ISO 44001 strategic lifecycle framework



# Information Collaboration Productivity Aide



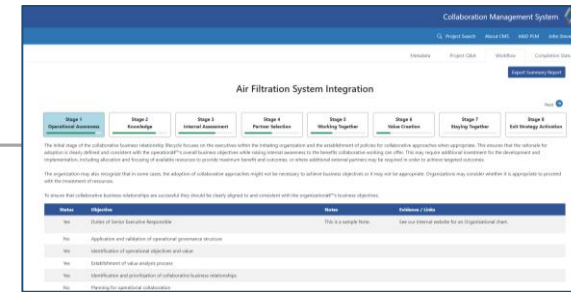
Global Secure Gateway



<https://www.mysupplier.net.com>



## Authorized Application - CMS



Cloud hosted  
Web App

## CMS Characteristics

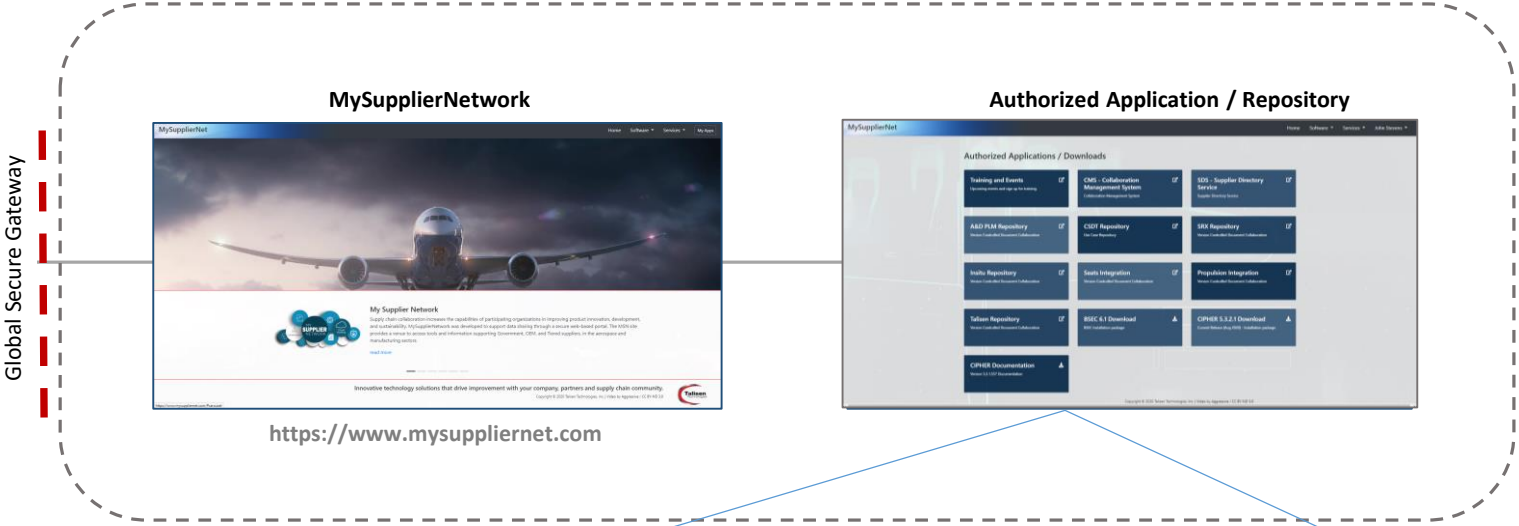
- ISO Standards Based
- Workflow 8 stage process
- Stage-Objectives mapping
- Version Control Repository
- Role Based Access / Administration
- Configuration / Customization
- Relational Database Model
- Project Tracking and Reporting
- Pre-Phase Data Capture
- Secure Authentication





# Aerospace forum information sharing and repository

- Partners
- OEMs
- Suppliers
- Industry



Cloud hosted Industry Support

### Information Sharing Site

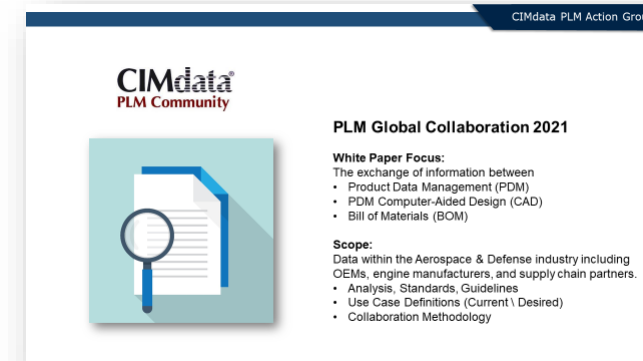
- Free Secure Info Sharing Site
- Secure Authentication
- Version Control Repository
- Web based access application
- Use Case / Requirements
- Configuration / Customization
- Relational Database Model
- Project Requirements Tracking and Reporting
- Encrypted Data Transmission



## Model Based Exchange Supply Chain Collaboration

### Collaboration Criteria – the growing list...

- Requirements Management
- Model Based Collaboration Service – OEMs and Suppliers
- Buy Package Management
- Digital Data Package Management
- Requirements Reuse
- PLM lifecycle, ERP and MFG integration to industry software
- Export Controls
- Exporter for XML
- Collaboration Workspace
- Repository with configuration control
- Authentication Web Services
- SysML, ReqIF support
- Verification / Validation



Support the vision with enabling technology

- Application Programming Interface support
- Data Item Definition, Contract-Supplier Requirements List
- Reporting and Analysis
- OEM Digital Thread integration
- Partner-OEM-Supplier Interoperability
- Process Workflow / Approvals
- And more....



Collaboration Management Solution supporting PLM Data Exchange methods

### Enterprise Collaboration Ecosystem for Government, Manufacturing and Supply Chain



PLM / ERP / MFG Integration

Digital Engineering

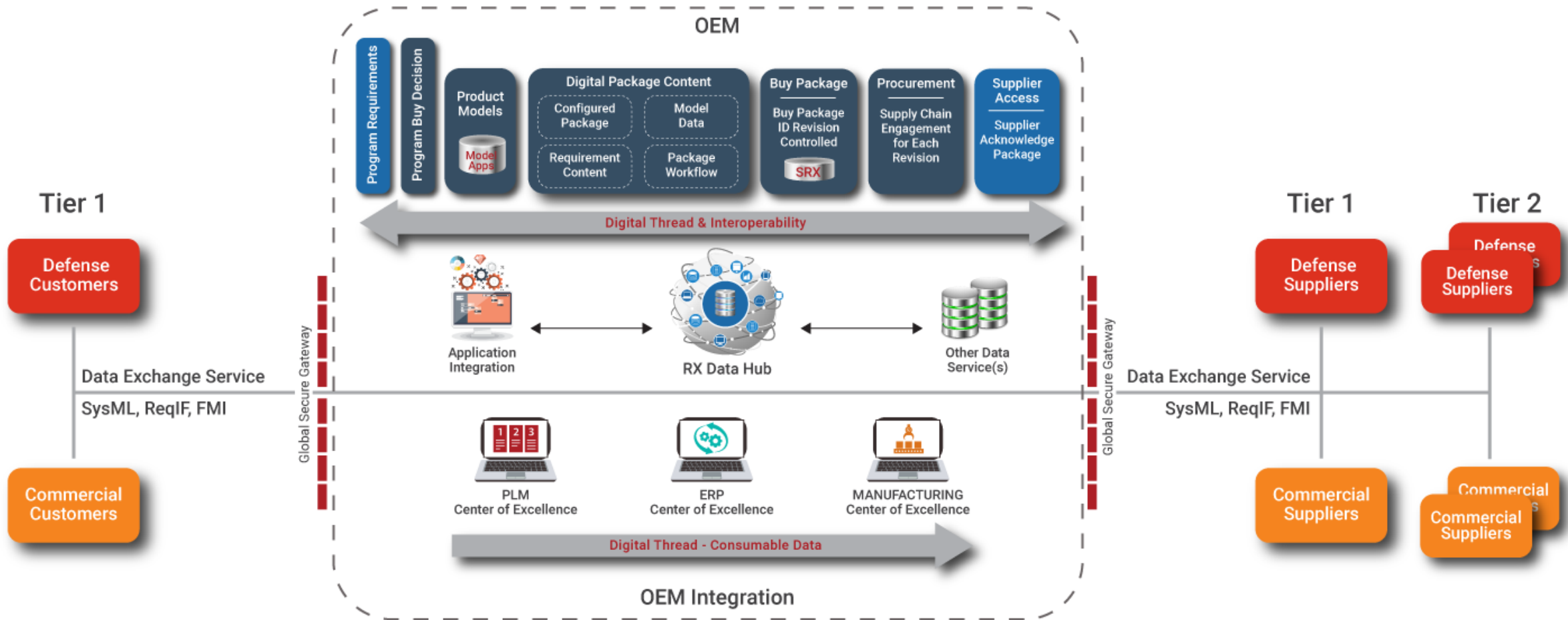
Verification / Validation

Requirements Management

Part Obsolescence Management



## Model Based Exchange Supply Chain Collaboration




ReqIF (Requirements Interchange Format)  
XML file format used to exchange requirements, along with its associated metadata, between software tools from different vendors

Systems Modeling Language (SysML):  
SysML is a general-purpose architecture modeling language for Systems Engineering applications.



## Next steps

- Would be happy to help connect the INCOSE Digital Engineering working group to the CIMdata team
- Will check on the date for the PLM Global Collaboration White Paper
- INCOSE Digital Engineering Working group Repository (if needed)



# Aerospace & Defense

Leading in A&D Digital Transformation



<https://www.talisentech.com>

# Thank you

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