AEROSPACE & DEFENSE PLM ACTION GROUP

Achieving Digital Integration for Post-Delivery Operations: Harmonizing PLM Requirements for In-Service Aircraft Support & Services

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PLM Road Map™ & PDT EMEA 2026
AI in PLM: A Disruptive Opportunity and Challenge
Turning AI disruption into enterprise value:
Strategic insights for the PLM professional
4-5 November 2026
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About the Presenters

Rob Birch



Chief of Digital for Engineering for Services in Rolls-Royce – Design & Service Engineering.

Before joining Rolls-Royce, Rob served in the Military across a variety of Maintenance, Repair and Overhaul roles.

Marcellin Dagicour



Senior Expert in Configuration Management within the Airbus Support & Services Department,

Before joining Airbus, Marcellin held key roles at IBM and Dassault Systèmes, where he specialized in PLM consulting and R&D product management for the aerospace and automotive sectors.

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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

AIRBUS, BOEING, Bombardier, EATON, GE Aviation, GKN AEROSPACE, Gulfstream A GENERAL DYNAMICS COMPANY, HondaJet, MOOG, ROLLS ROYCE, RTX COLLINS AEROSPACE PRATT & WHITNEY RAYTHEON, SAFRAN

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

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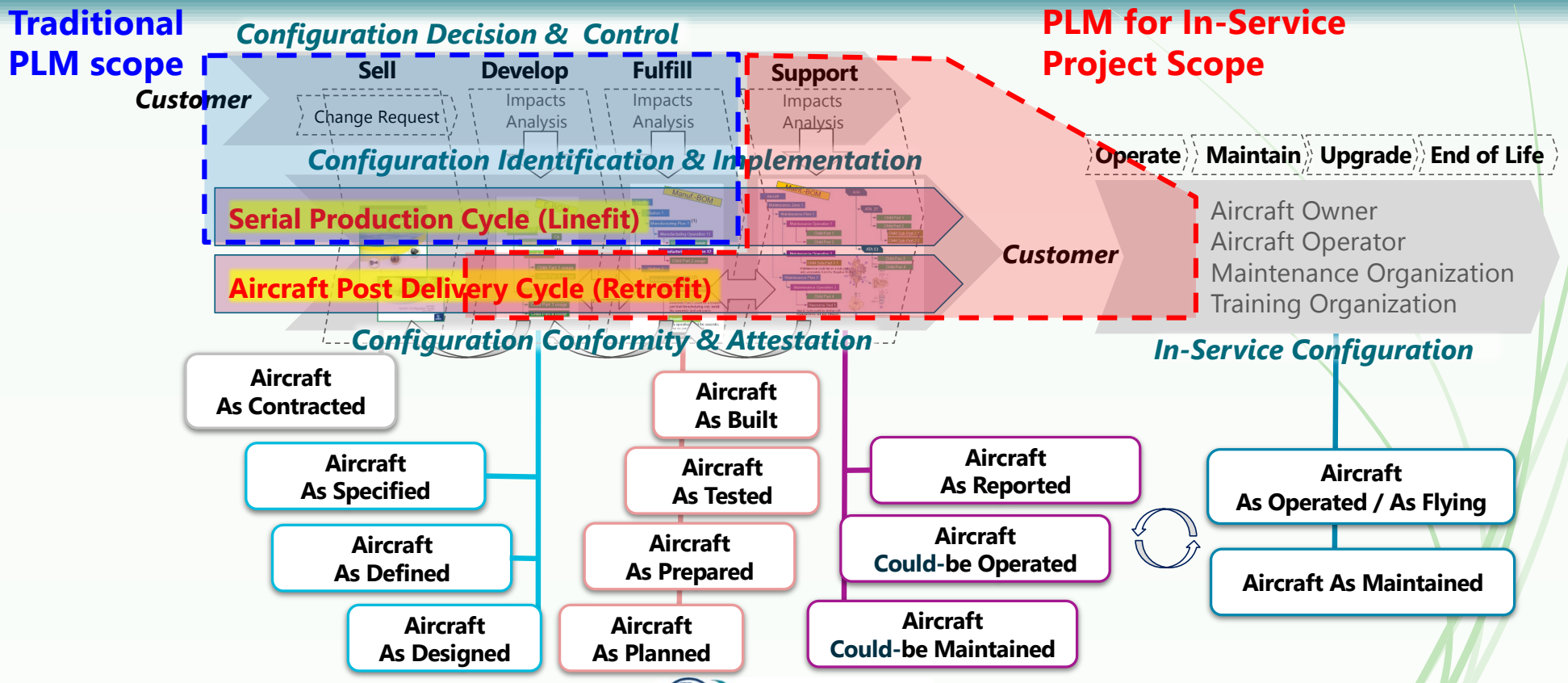
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PLM for In-Service Project

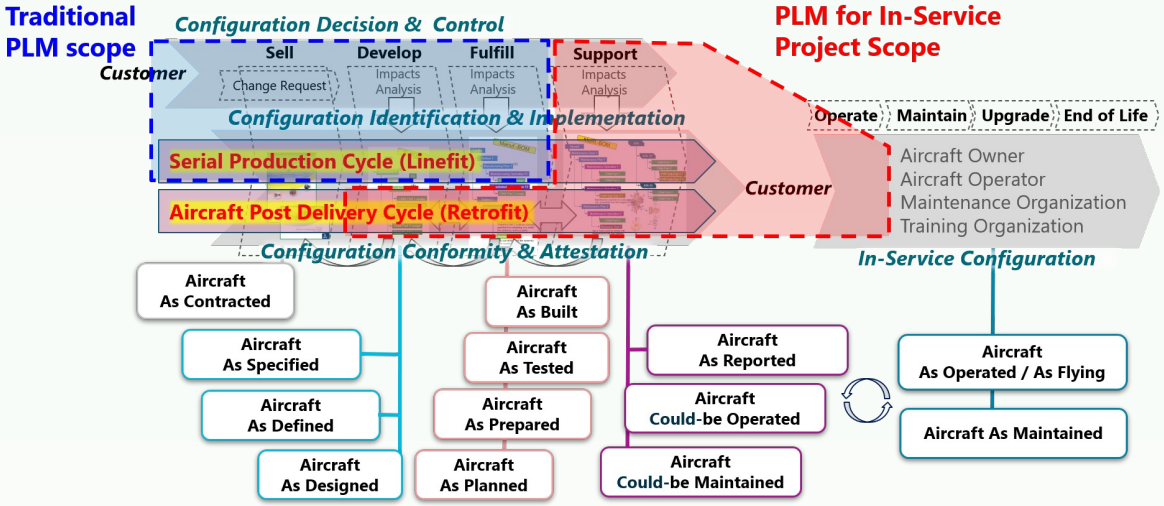
Scope



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PLM for In-Service Project

Intention / why



Asymmetric PLM Investment

- Design for Manufacturing
- Design for Services

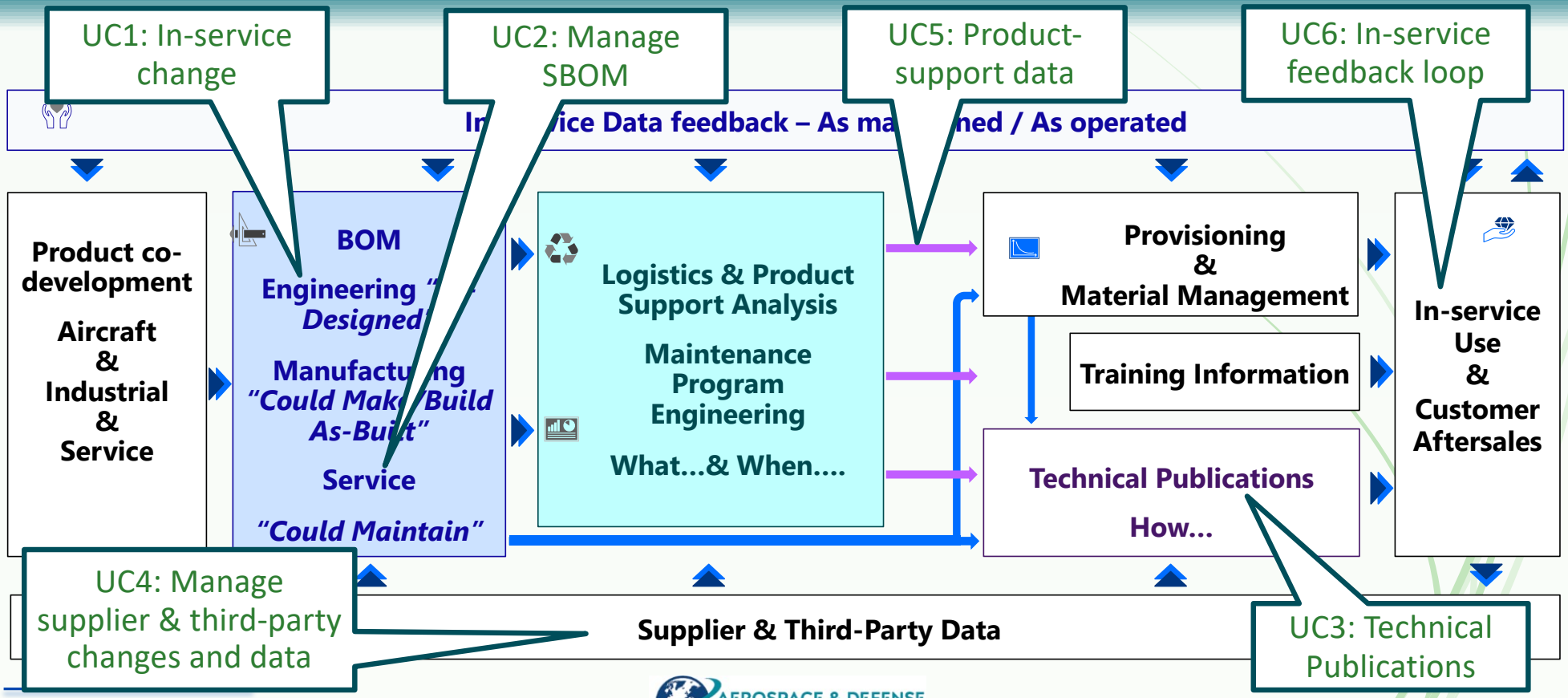
Multi-Decade Operations

- Fly for 30 to 50+ years
- Mixed Data Vintages
- Post-Delivery Digital Gap

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A Common Framework

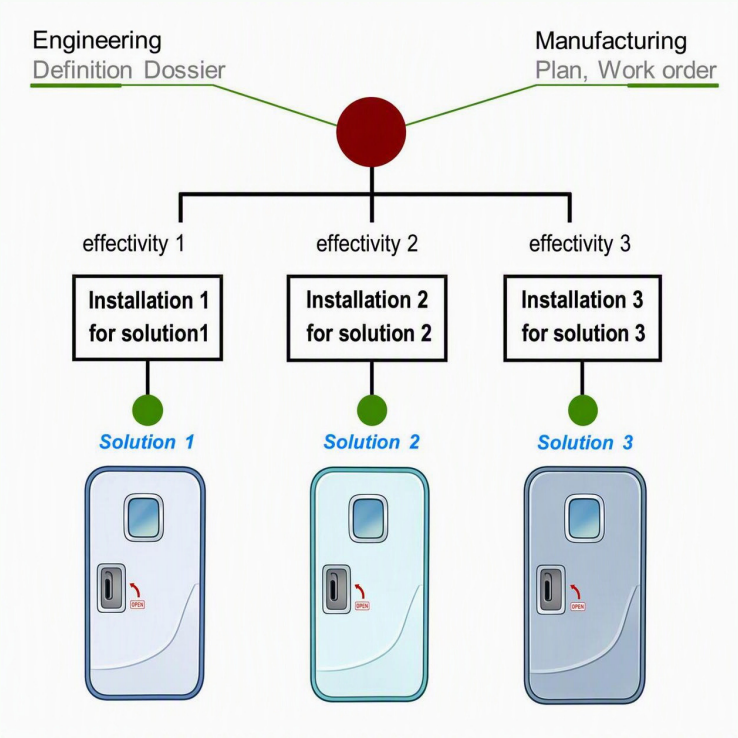
Integrated product support



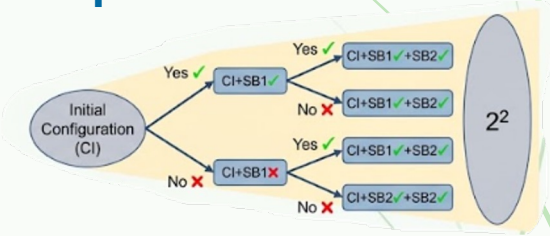
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UC1: Designing an In-service Engineering Change

The PLM Gaps



- **Designing for retrofit differs from production design.**
- **Proliferation of design-solutions with 3D-as-Master baseline**
- **Configuration explosion with Service Bulletin sequences**

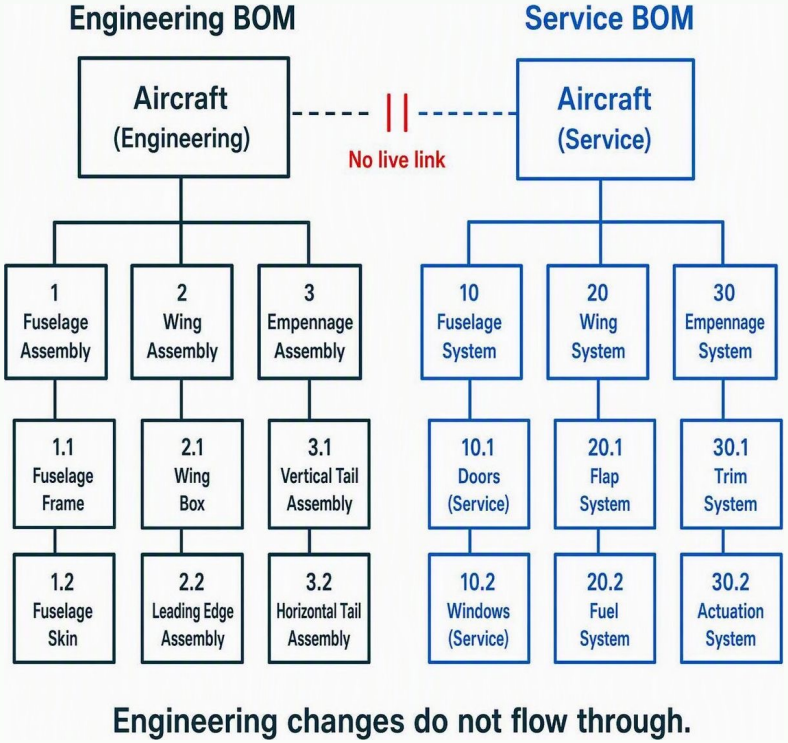


Risk: Incompatible changes

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UC2: Disconnected Service BOM (SBOM)

The PLM Gaps



Illustrative structures

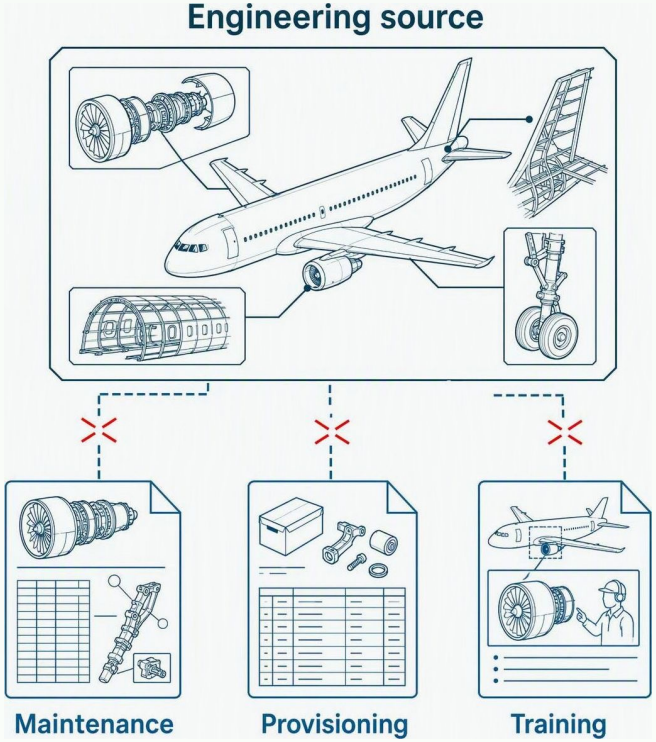
- **Engineering changes are difficult to follow and trace into service.**
- **Manual population leads to unintended discrepancies.**
- **Failure modes and criticality not flowing into Service Decisions**

Risk: Disconnected Service Configuration

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UC5: Product-Support Data Packages

The PLM Gaps



Illustrative concept

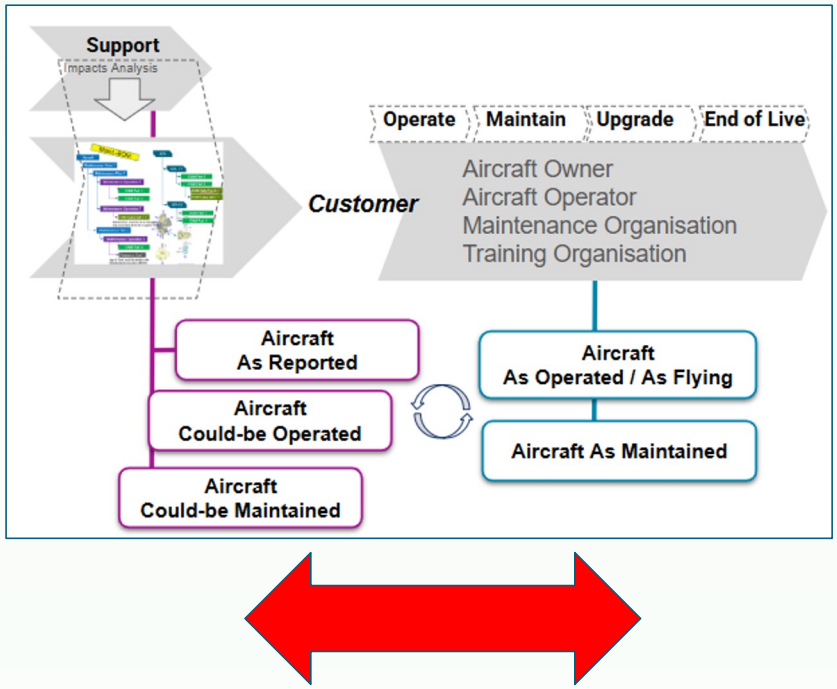
- **Support teams manually create documentation from engineering sources.**
- **Support analysis and provisioning tools sit outside the digital thread.**
- **Customer & supplier mandated formats require multiple exchange paths & models.**

Risk: Repeated manual rework

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UC6: Closing the In-service Feedback Loop

The PLM Gaps



- **Undefined OEM to Customer and Operator boundaries**
- **Inconsistent embodiment and as-maintained reporting**
- **Discrepancy and timeline validity of reports**

Risk: Incomplete fleet knowledge & lower decision velocity

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Operational & Financial Impact

Systemic Cost & Risk Drivers

80%
O&S Cost Fixed Pre-Build

60-90%
Re-Authoring Rework Saved*

2N
Configuration Explosion

$ Millions
Spent on Custom Integrations

Erosion of Automation Gains

Initial savings erode rapidly as unsynchronized changes accumulate.

Custom Integration Tax

Millions spent on custom code to support basic EBOM-to-SBOM updates.

Delivery Handover Risks

Manual parsing delays create backlogs and risk delivery blockages.

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Five Systemic Root Causes

1. **PLM Architecture Mismatch**
   Standard PLM built for nominal BOMs fails to track multi-decade per-serial divergence.
2. **Provider Market Coverage Gap**
   No single provider offers complete out-of-the-box support for in-service standards.
3. **Multi-Party No-Obligation Ecosystem**
   Independent entities modify products without contractual obligation to report back to OEMs.
4. **Legacy Migration Economics**
   High cost of migrating legacy data creates permanent dual-track IT architectures.
5. **Organizational & Process Silos**
   In-service engineering treated as an afterthought with barriers to data reuse.

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AI-enabled Harmonization Across OEMs

Methodology to align perspectives of domain experts from eight OEMs

Phase 1 Problem Definition

AI consolidates as-is inputs into shared problems, use cases and industry gaps.

Phase 2 Capability Definition

AI aligns to-be proposals into common capabilities and prioritised scenarios.

Phase 3 Position Paper

AI synthesises capabilities into draft requirements and evaluation criteria.

Phase 4 Vendor Evaluation

AI compares vendor evidence with agreed criteria and highlights solution gaps.

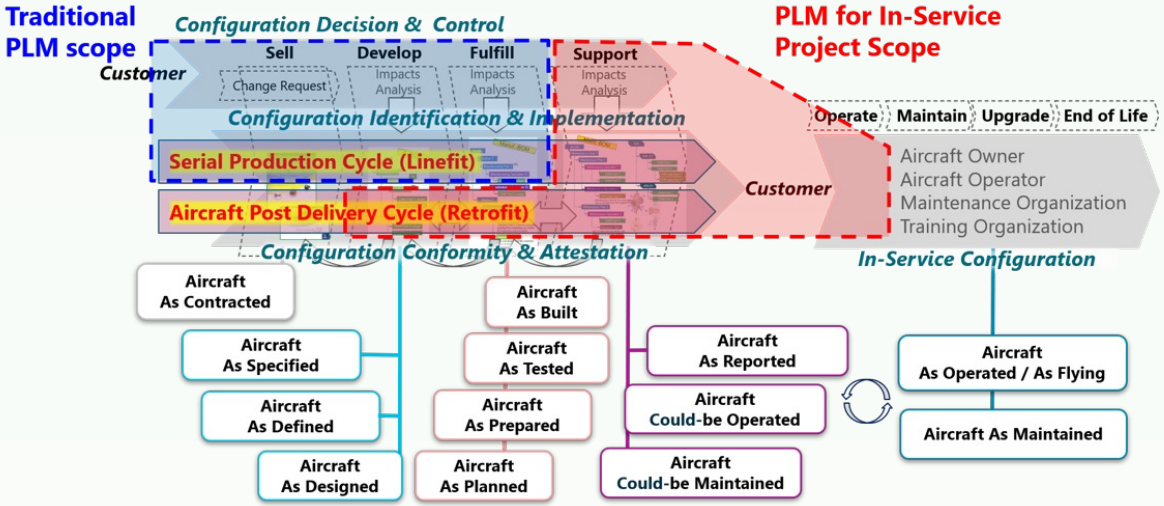
The same AI-assisted workflow repeats within every phase

Common framework → **OEM input** → **Record & transcribe** → **AI synthesise** → **Review & iterate** → **Agreed deliverables**

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PLM for In-Service Project

Summary and Conclusion



Achieved

- Cross-OEM Alignment at multiple tiers of supply chain
- Common understanding and problem statement

Future/Next Steps

- Continue working group using AI methodology
- Engage vendors
- Collaborate on vision

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Questions & Answers

What's on Your Mind?



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Thank You



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