

AP242 XML for Product Data

Dan Ganser, Gulfstream Aerospace

Thu., 1 October 2026 | nh Frankfurt Airport West | Raunheim, Germany

PLM Master Data

PLM Models (not just 3D models)

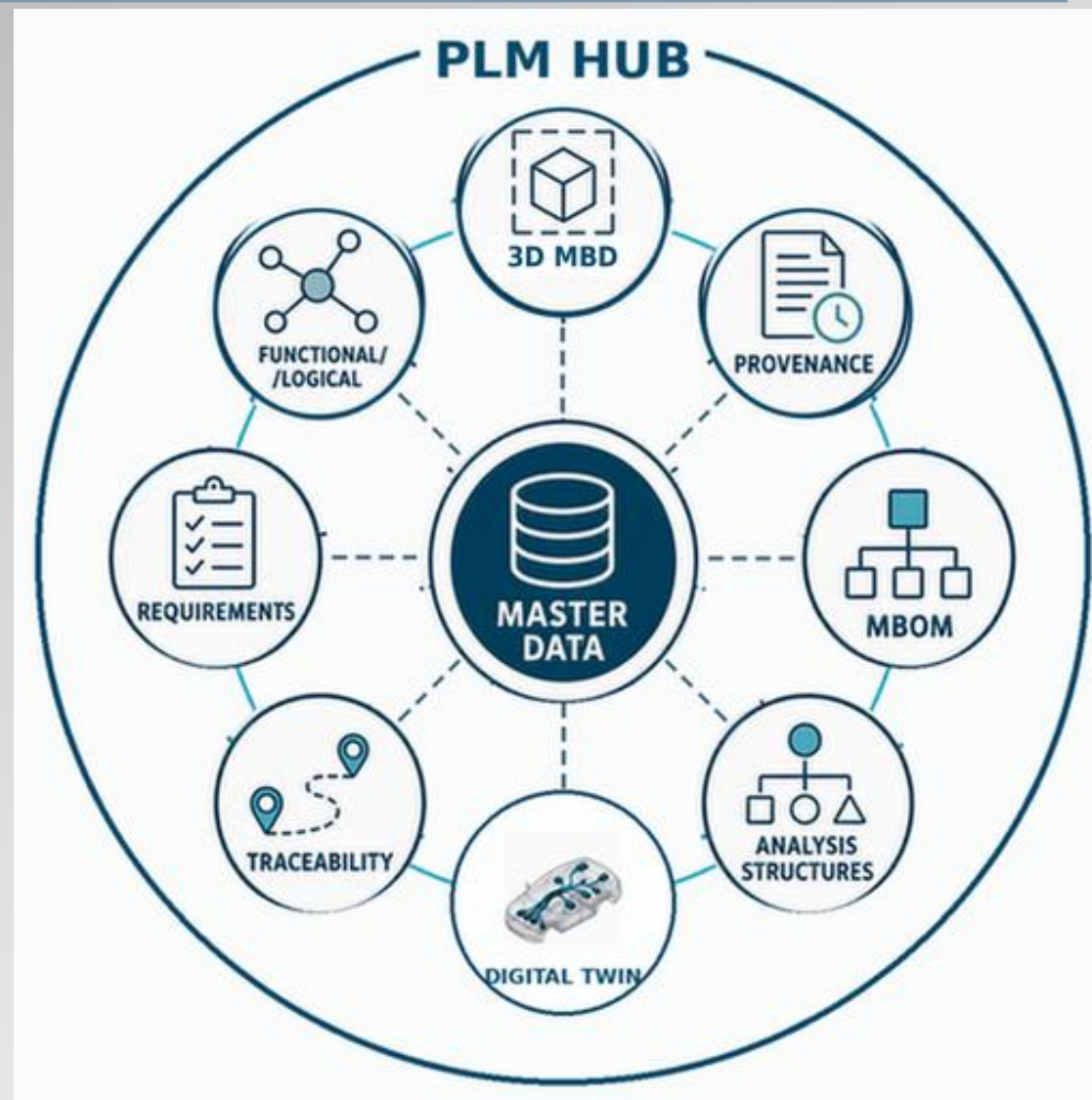
- Managed/Master data with a data model
- Mono detail and relationships

PLM data, not CAD data

- Expose as much of your model as possible in a database for AI
- Composite data needs to be restructured and redefined with traceability
- Flexible Wire harness

PLM is multi-CAD, Data exchange should be multi-cad too

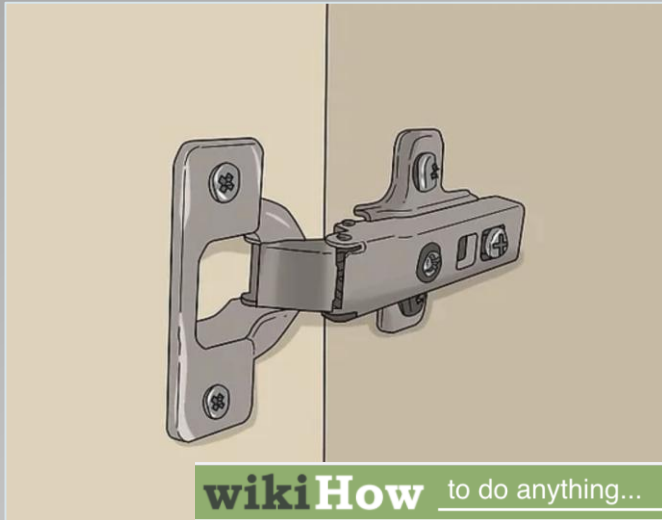
- Applications should choose the format to use
- AP242 supports multi-cad... Sorta.



PLM Managed 3D Models

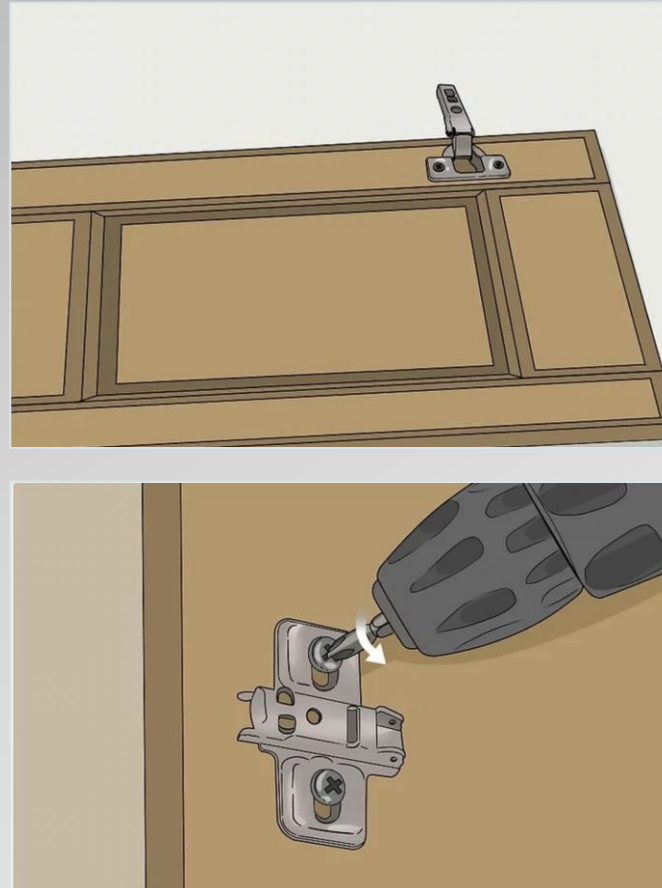
01 AS PURCHASED

AS PROVENANCE



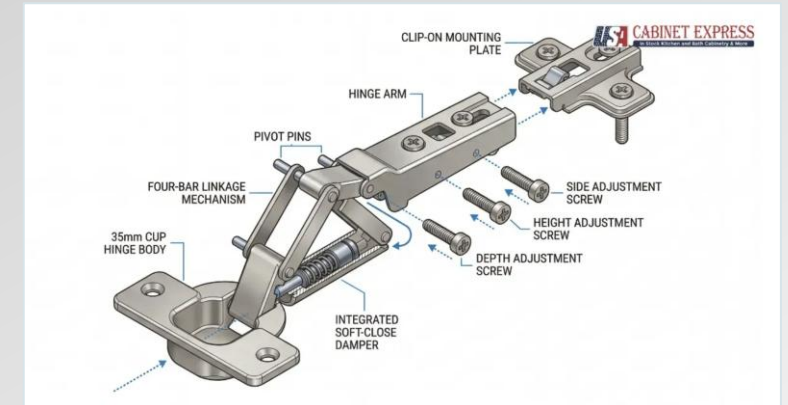
02 AS INSTALLED

DIFFERENT PROCESSES + WORK CELLS



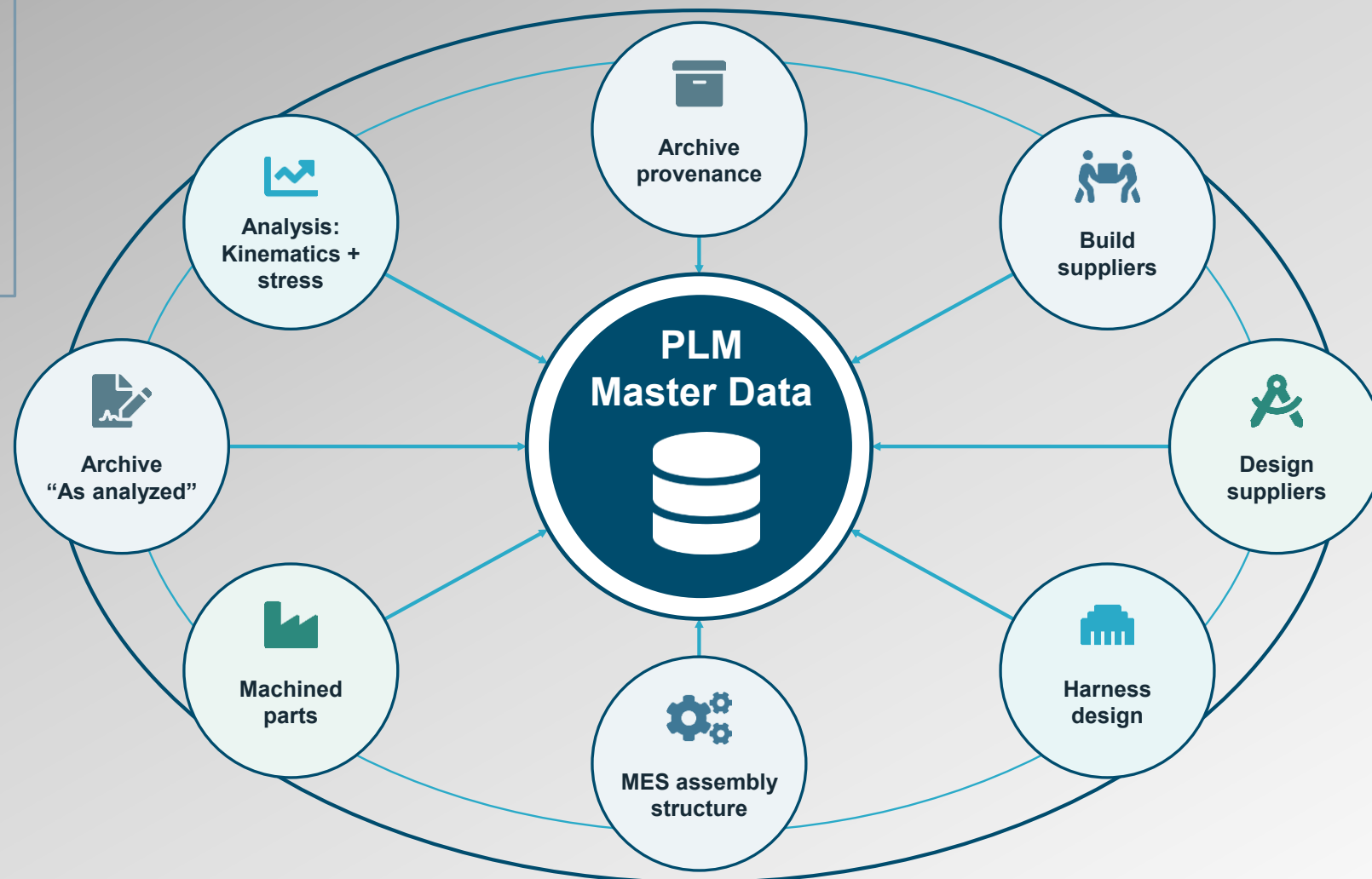
03 AS ANALYZED

KINEMATICS



External Integration with Ap242

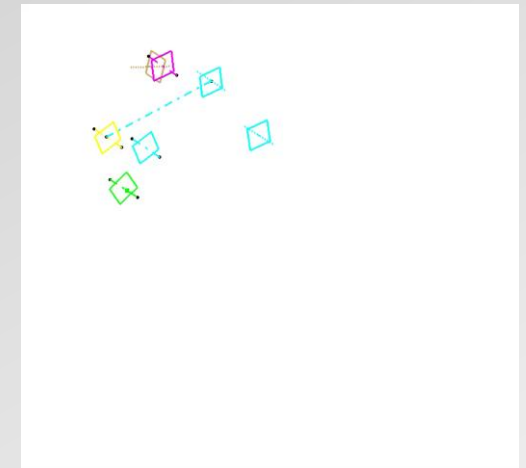
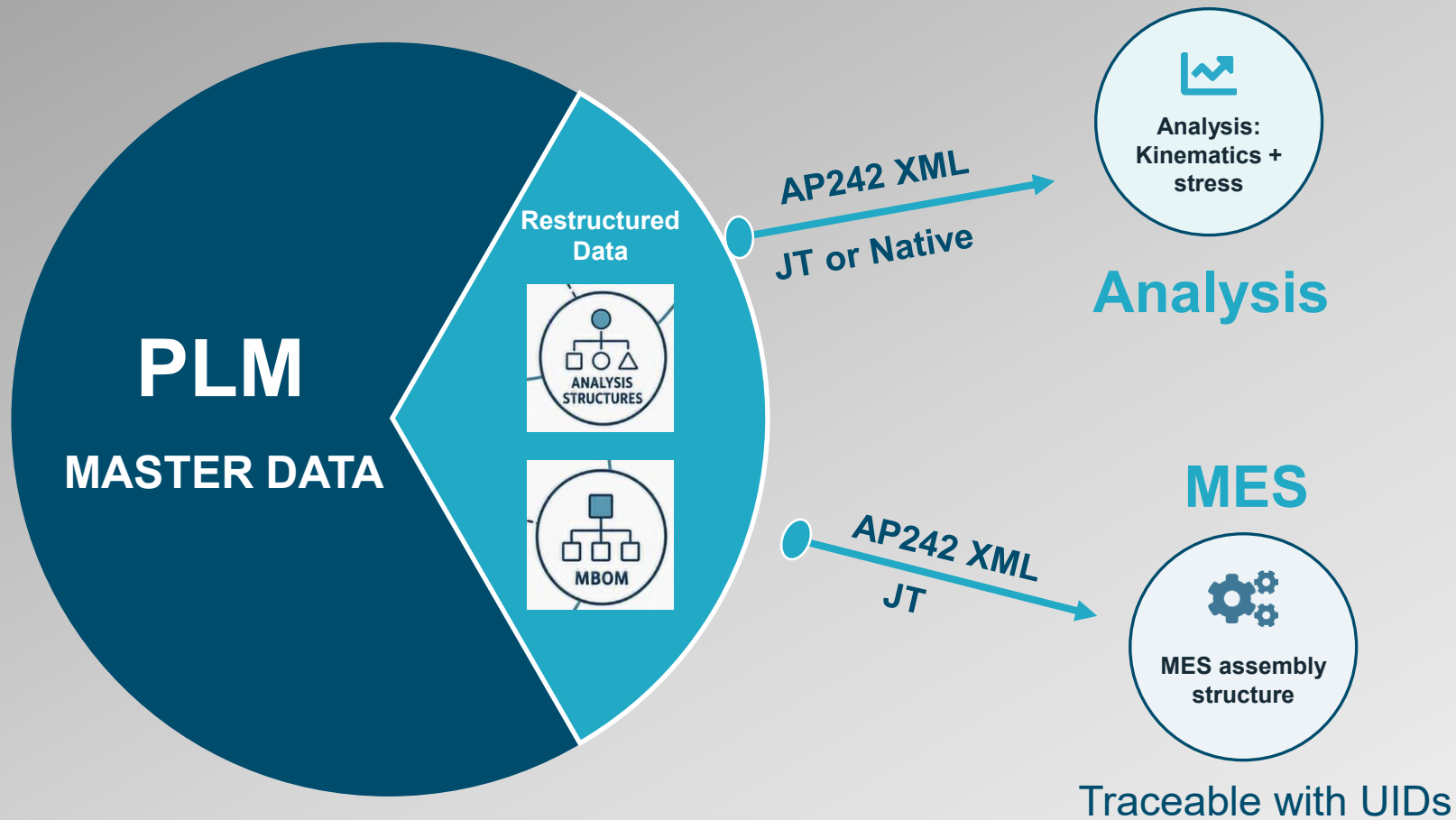
- Include CAD Format as required by the external applications:
- JT, STP and/or Native



AP242 XML delivery

PLM restructured Data

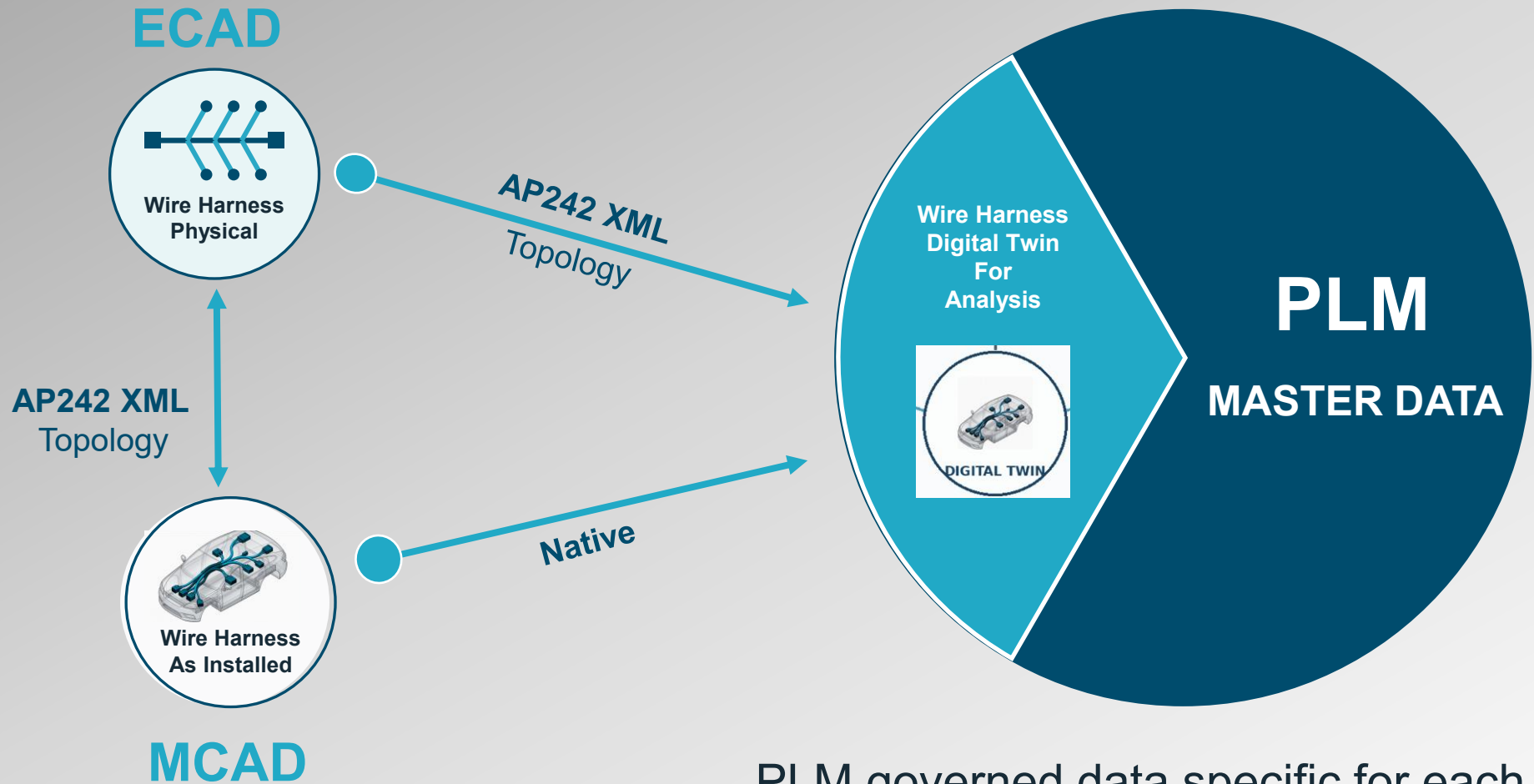
One master data set → fit-for-purpose structures → AP242 XML delivery



PLM governed data specific for each purpose.

Wire Harness Design

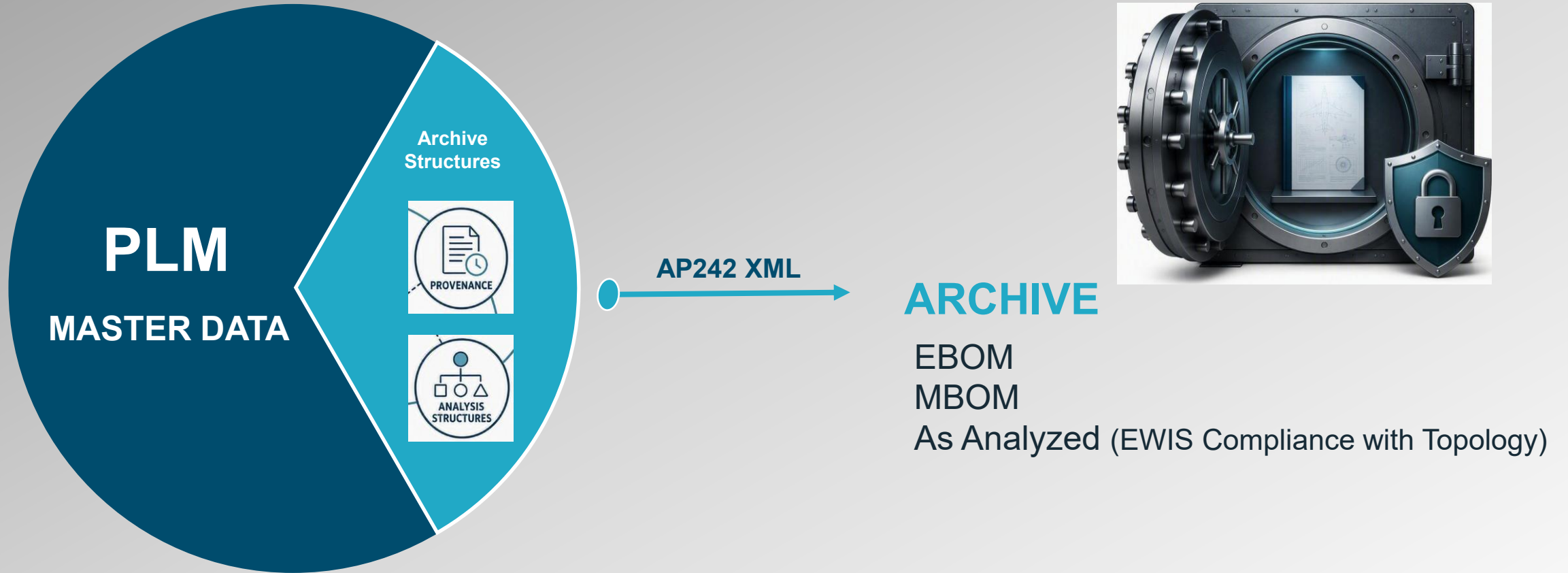
purpose built tools → AP242 XML delivery → One master data set



PLM governed data specific for each purpose.

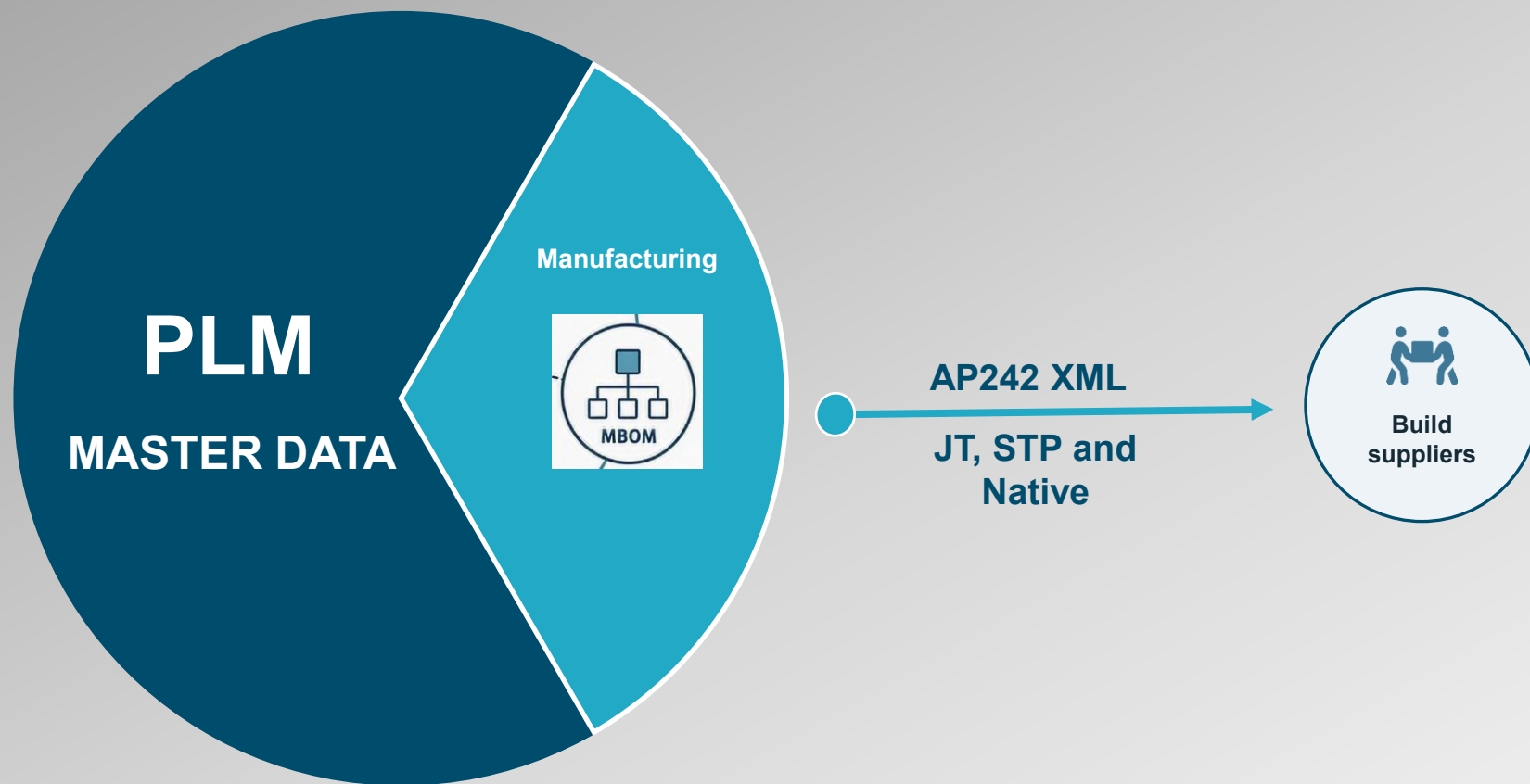
Archive Data (LOTAR)

One master data set → fit-for-purpose structures → AP242 XML delivery



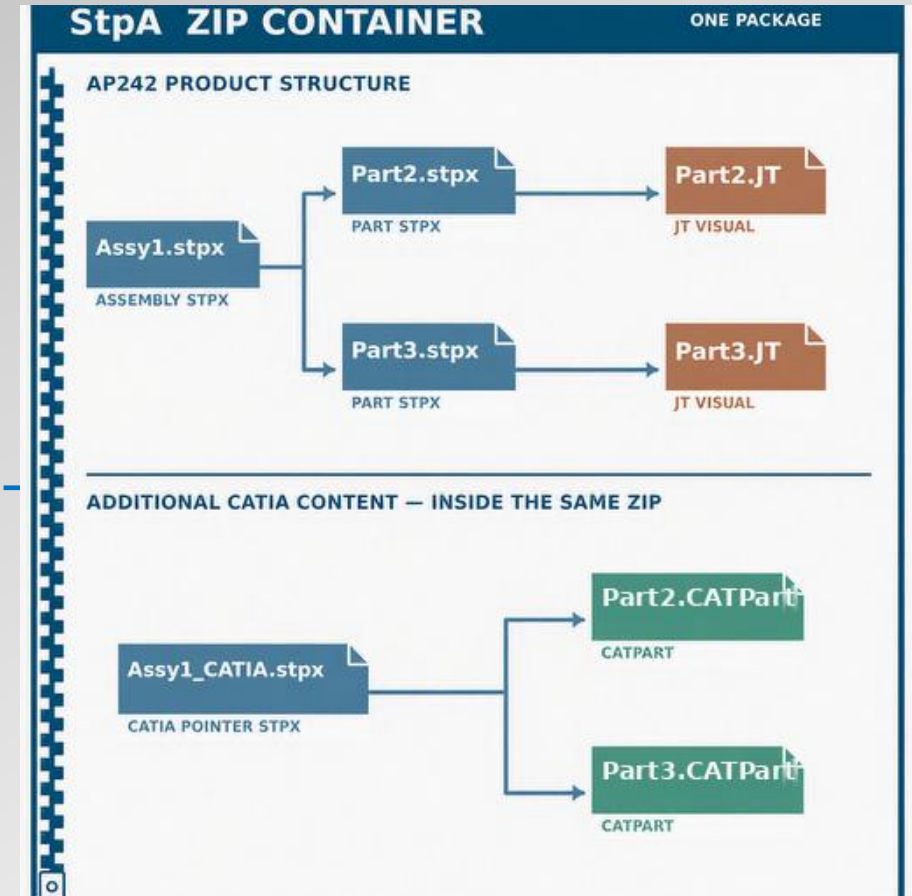
Build to Model Suppliers

One master data set → fit-for-purpose structures → AP242 XML delivery



Technical Data package (TDP)

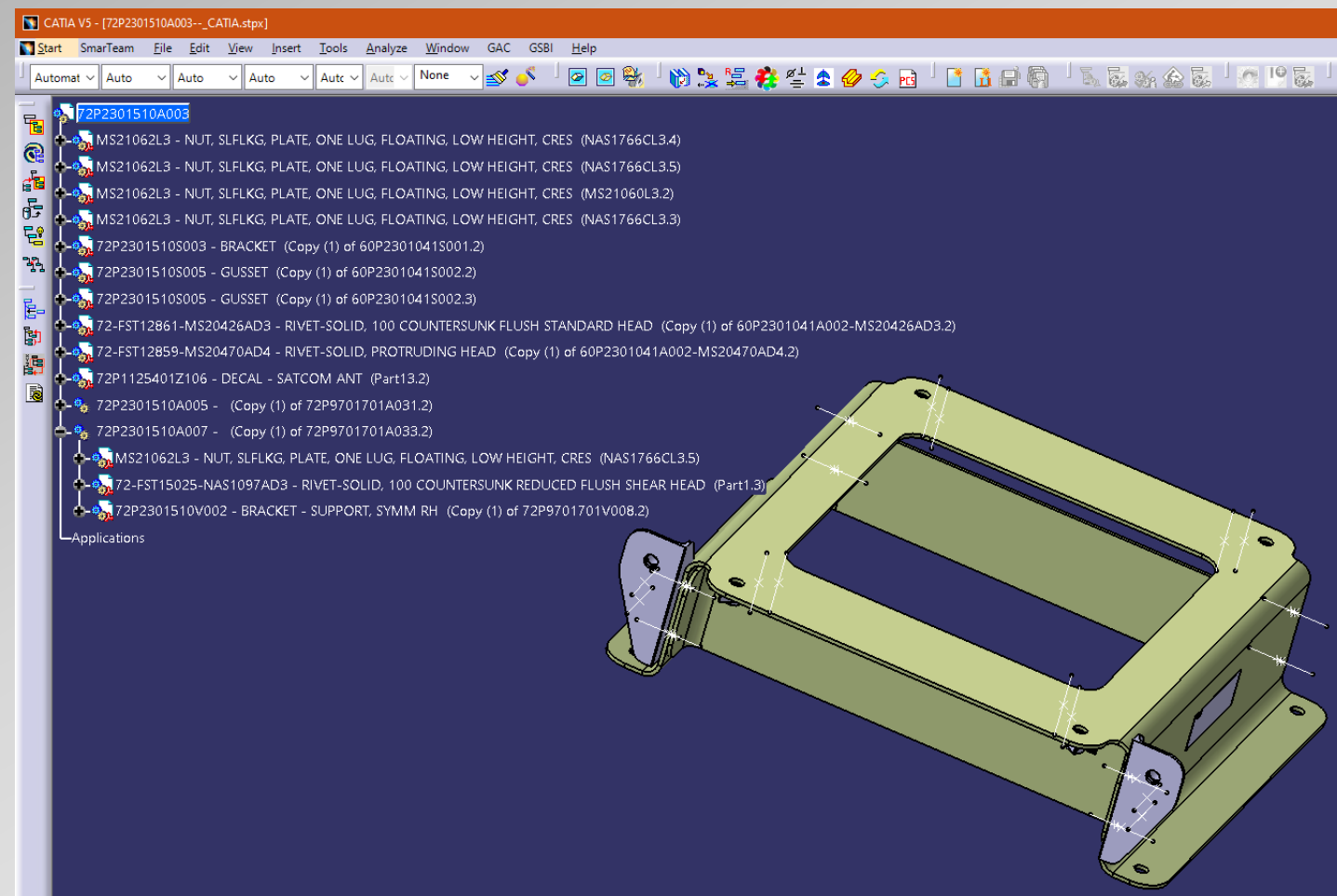
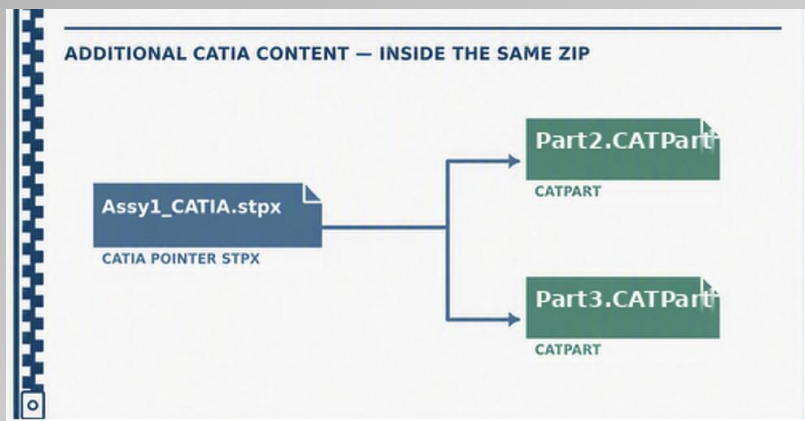
1. StpA – ZIP container for every file in the STEP data package
 2. Stpx – AP242 Xml for BOM attributes and assembly definition (One per Part)
 3. JT – ISO standard for 3D visualization, PMI and has a **Parasolid BREP**.
-
4. Also included per Detail Part
 - ❖ CATPart (Deprecated, included as long as we design with CATIA V5)
 - 5. CATIA pointing STPX to enable assembly in CATIA
 - Minimal monolithic Xml with CATParts (or STP)



Not multi-CAD, multiple single CAD solutions

CATParts with STPX

- Suppliers can leverage their CATIA investment for manufacturing if they desire.
- (Gradual adoption)



Standard supplier Catia license includes STEP import



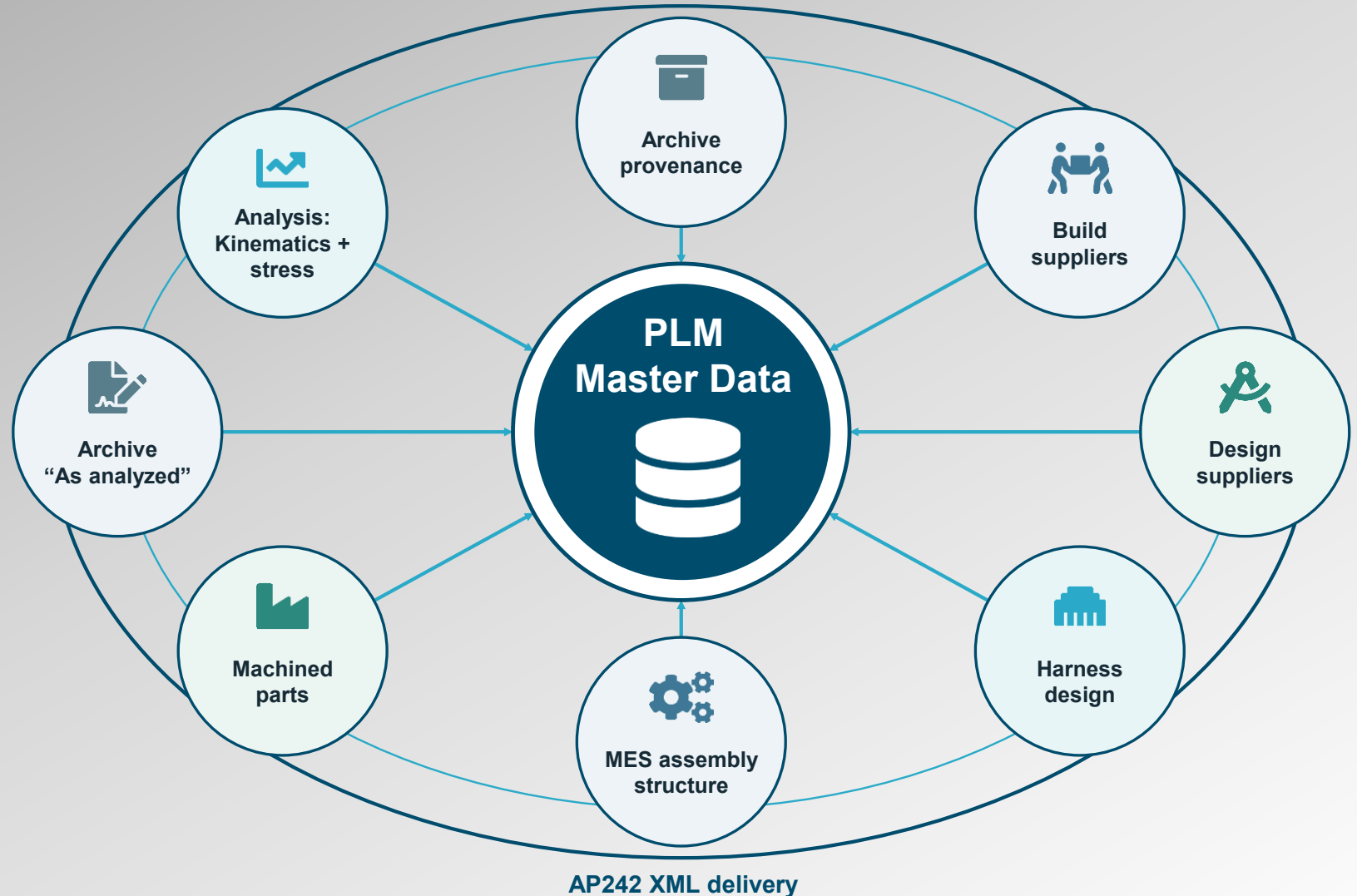
- Occurrence attributes
- Multi-value attributes
- Support for StpA

- Product Structure
- Geometry
- PMI
- XML attributes (most)



Conclusion

- AP242 XML provides a consistent solution for integrations to external systems for Physical Product information.
- Vendor adoption of AP242 XML varies, but the use of 3rd party translators has proven viable.
- AP242 BOM still needs improvements but is usable today for many integrations.





Name

Dan Ganser

Phone

+1 912 667 0338

Mail

Dan.Ganser@Gulfstream.com

Thank you for
your time,
your energy,
and your invaluable insights.