



MOVING MBD FROM OEM TO  
SUPPLIER:  
IS THERE A RINGMASTER  
SOMEWHERE IN THIS CIRCUS?

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Ryan Gelotte and Jennifer Herron, Action Engineering

IDE

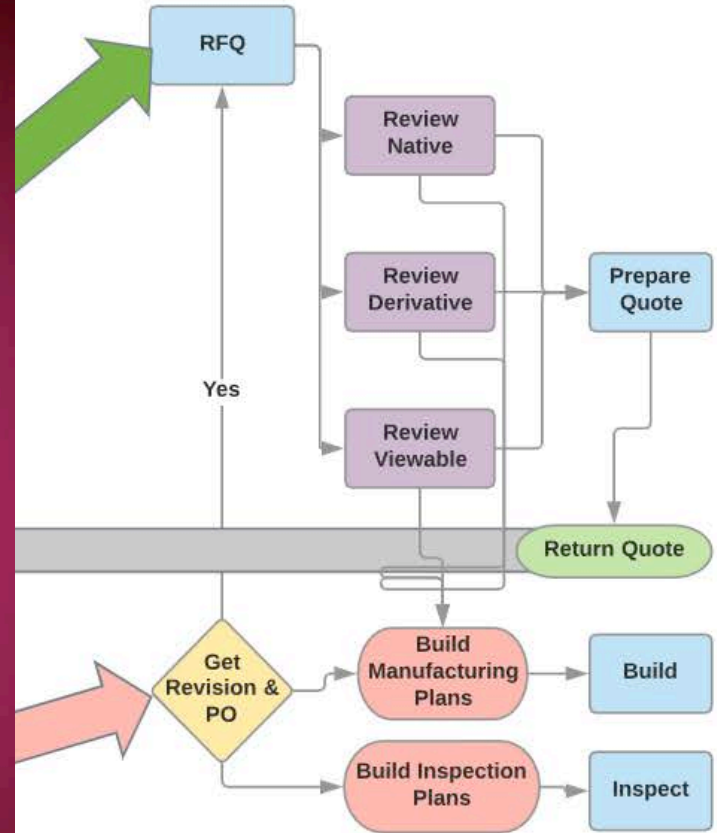
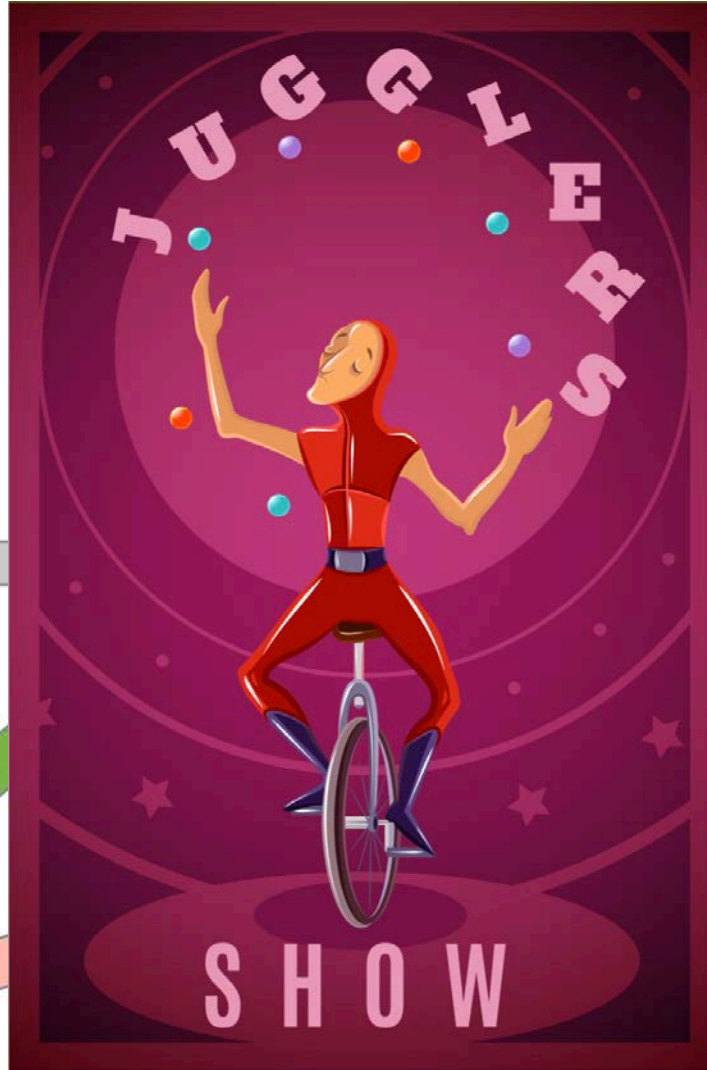
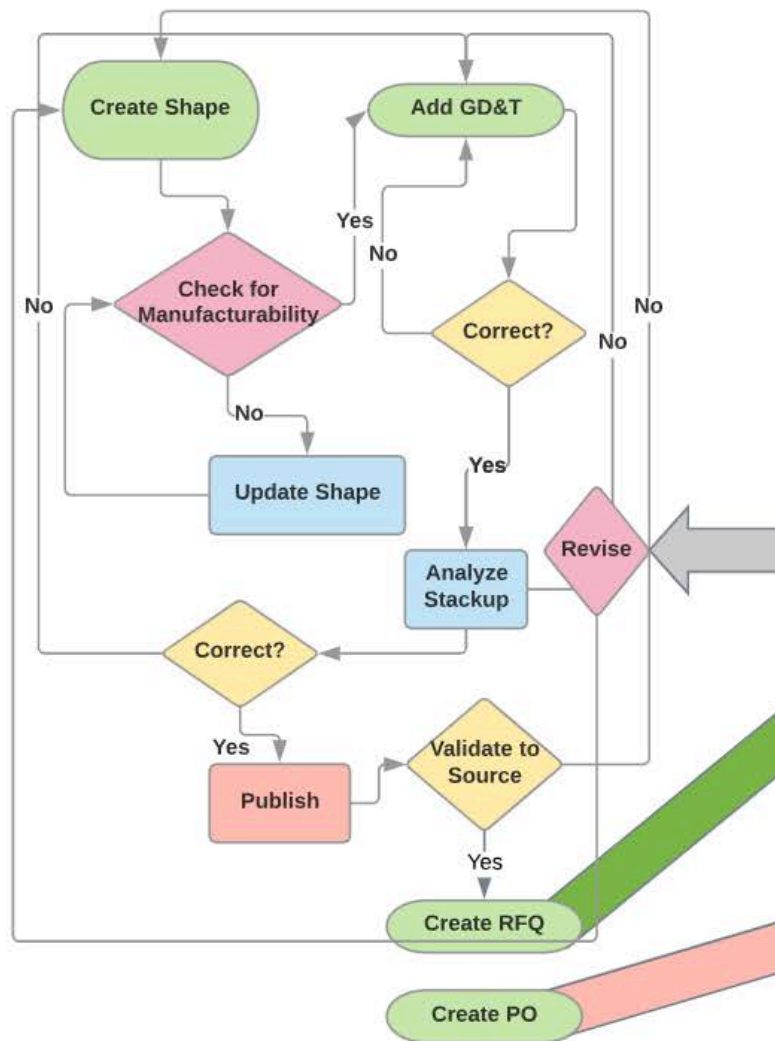


ANNING

**COSTING**  
**MODELING DESIGN**  
**SUPPLY CHAIN**  
**MANAGEMENT & QUALITY**  
**CONTROL**  
**ASSEMBLY**  
**WORK INSTRUCTION**



# The Supply Chain Handoff is Chaotic



# Manual Supply Chain Handoff



Drawings, Models, Process  
Requirements Specifications, RFQ

- 6-20 data exchange handoffs
- Most rely on human reading and re-entry.
- Suppliers should not re-create drawings or models.

Quote, Clarification Requests, FAI,  
End item, Process Verification



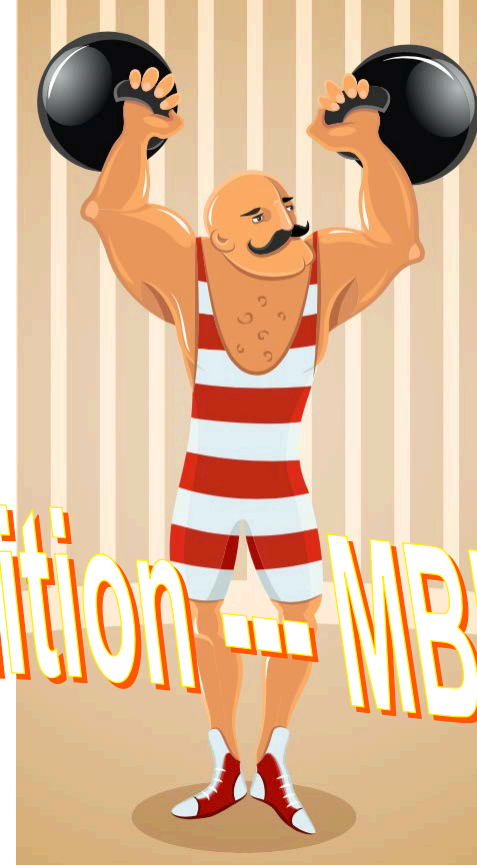
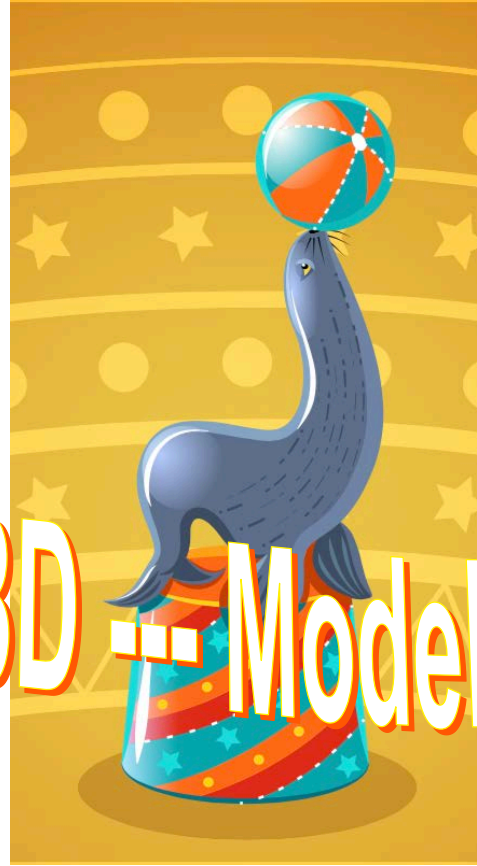
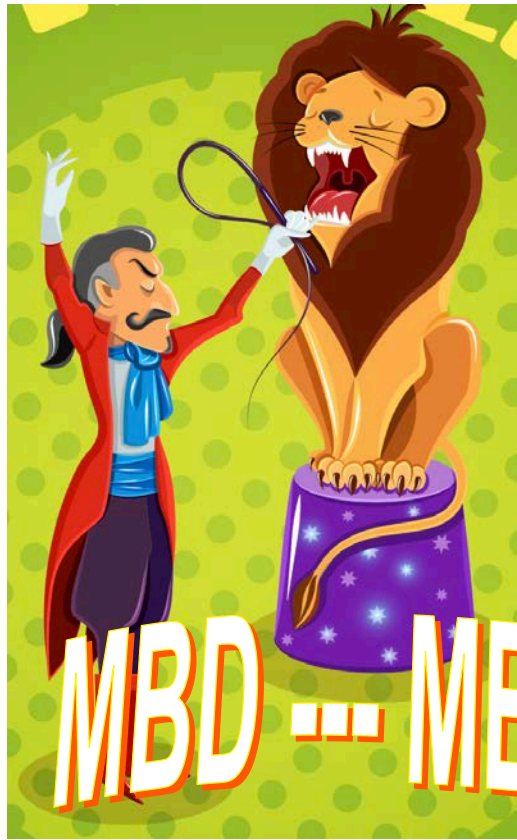
OEM

Drawings, Models, Process  
Requirements Specifications, RFQ

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End item, Process Verification

Supplier



**MBD --- MBD --- Model-Based Definition --- MBD --- MBD**

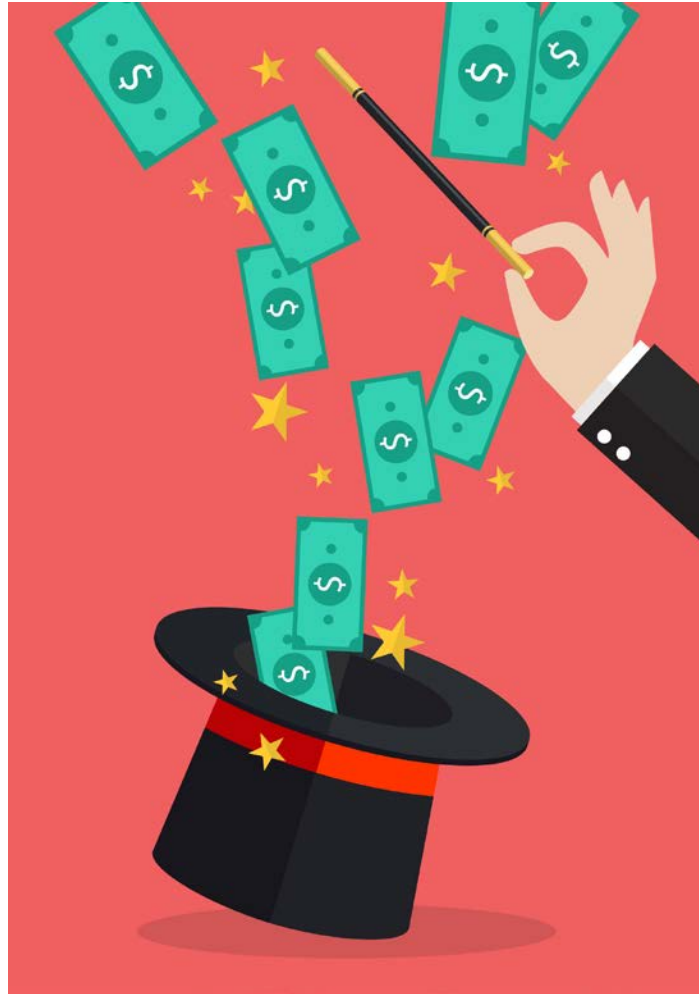
## Supply Chain Handoff Needs:

1. Model-Based Definition (MBD)
2. Traceability

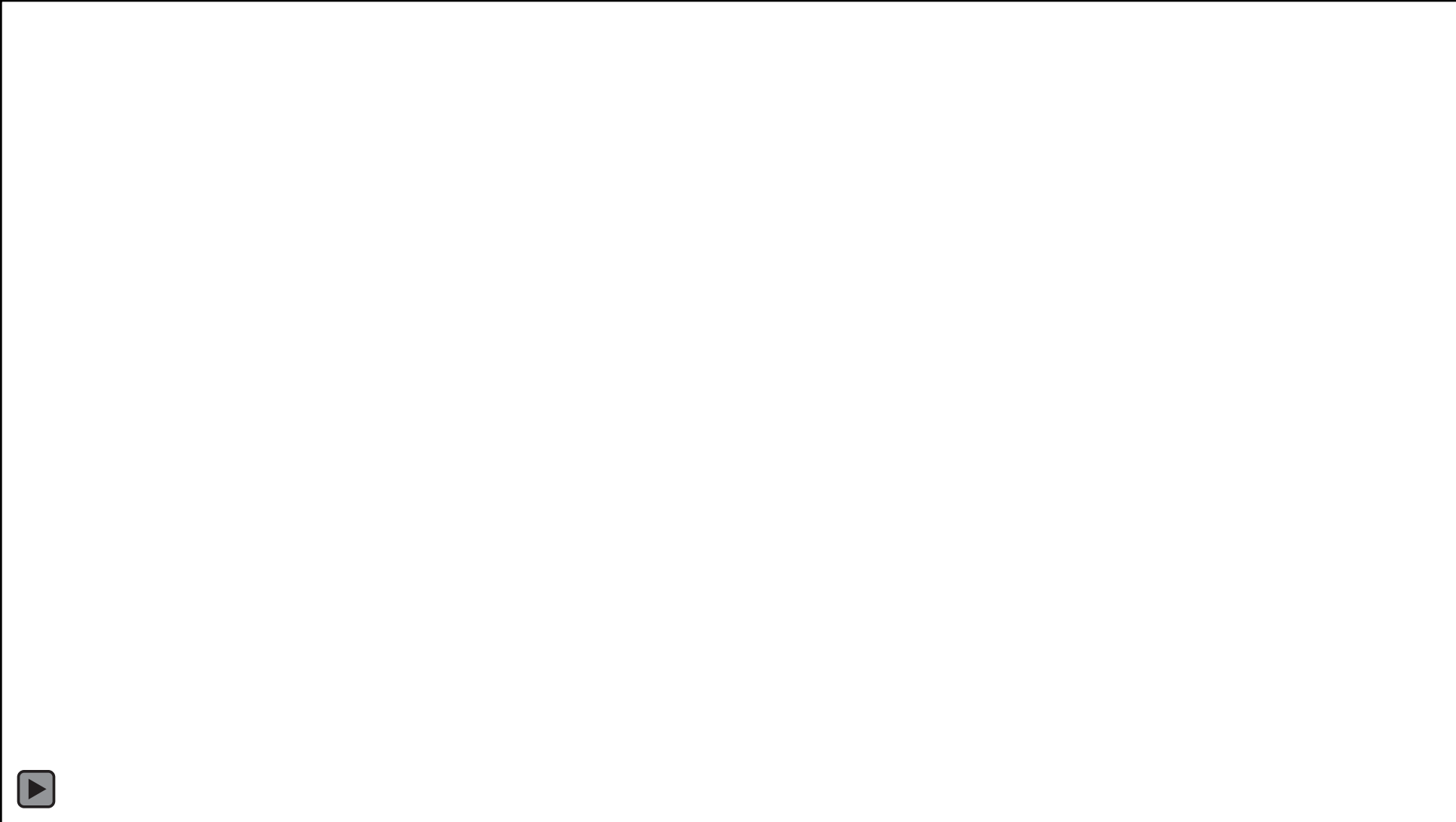


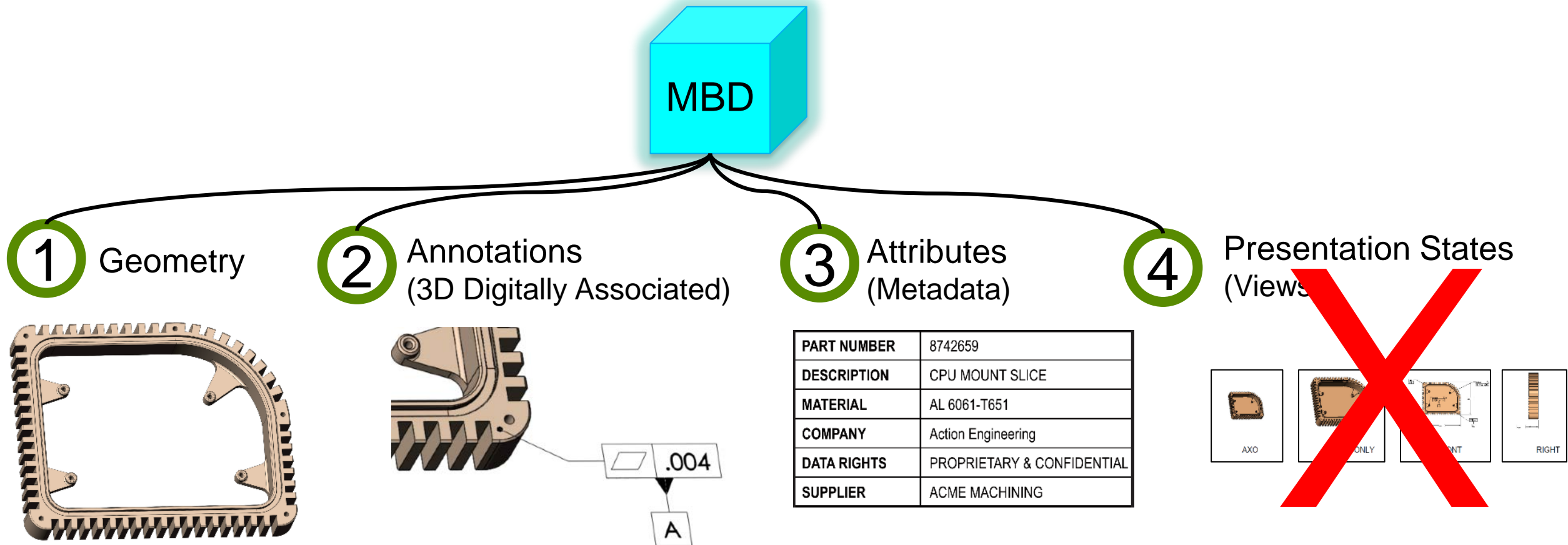
# Avoid the Status Quo

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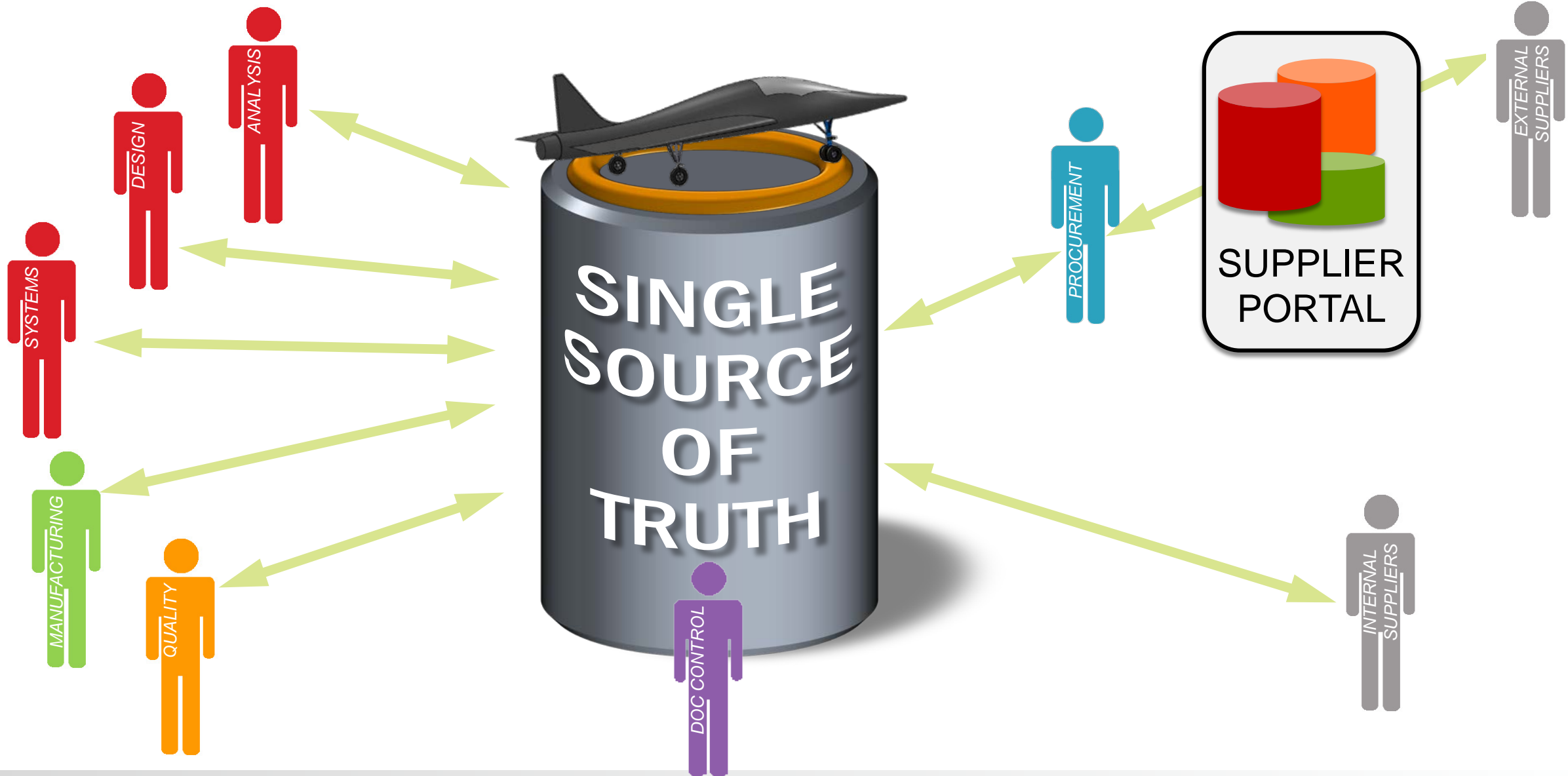




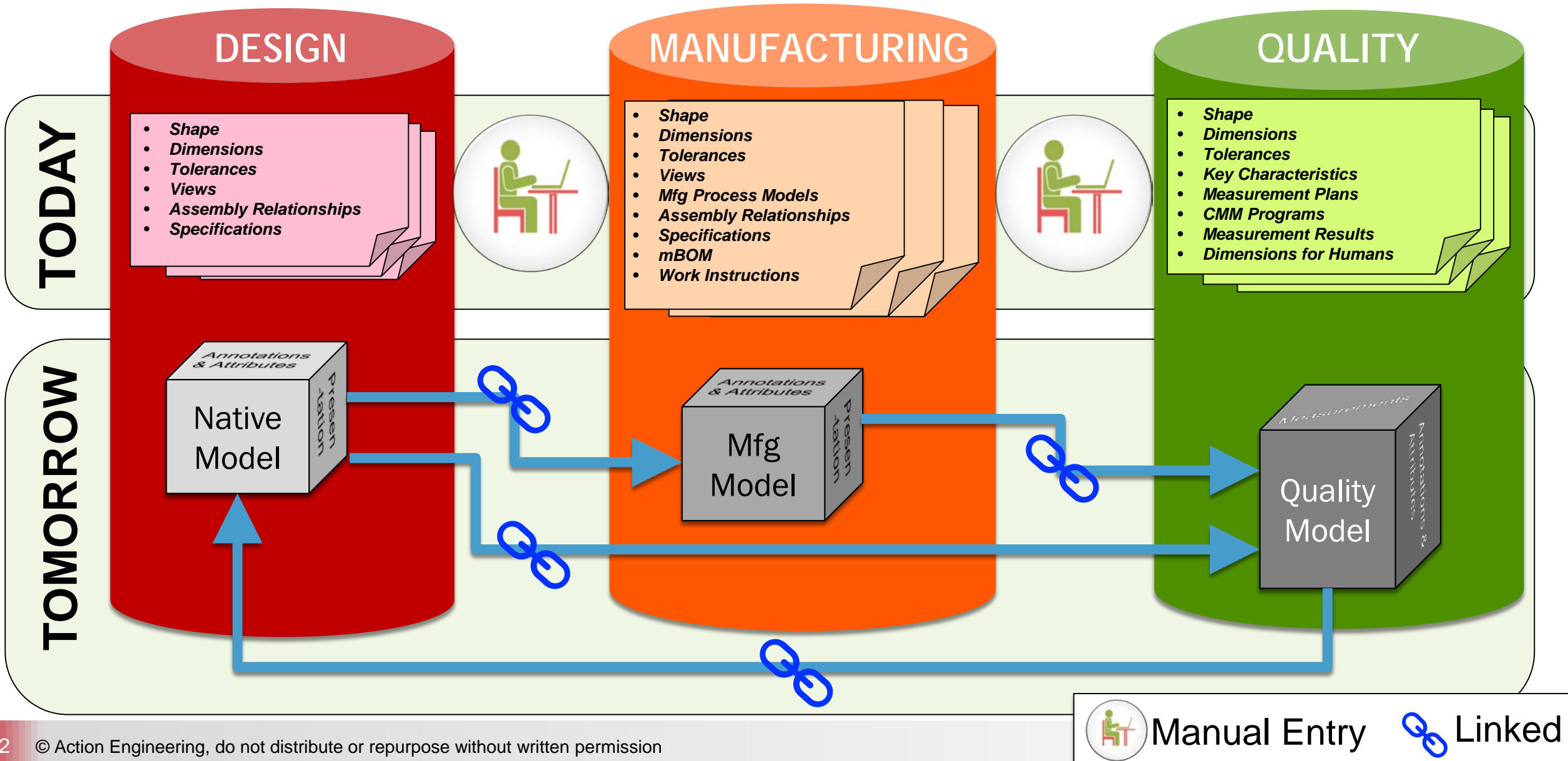




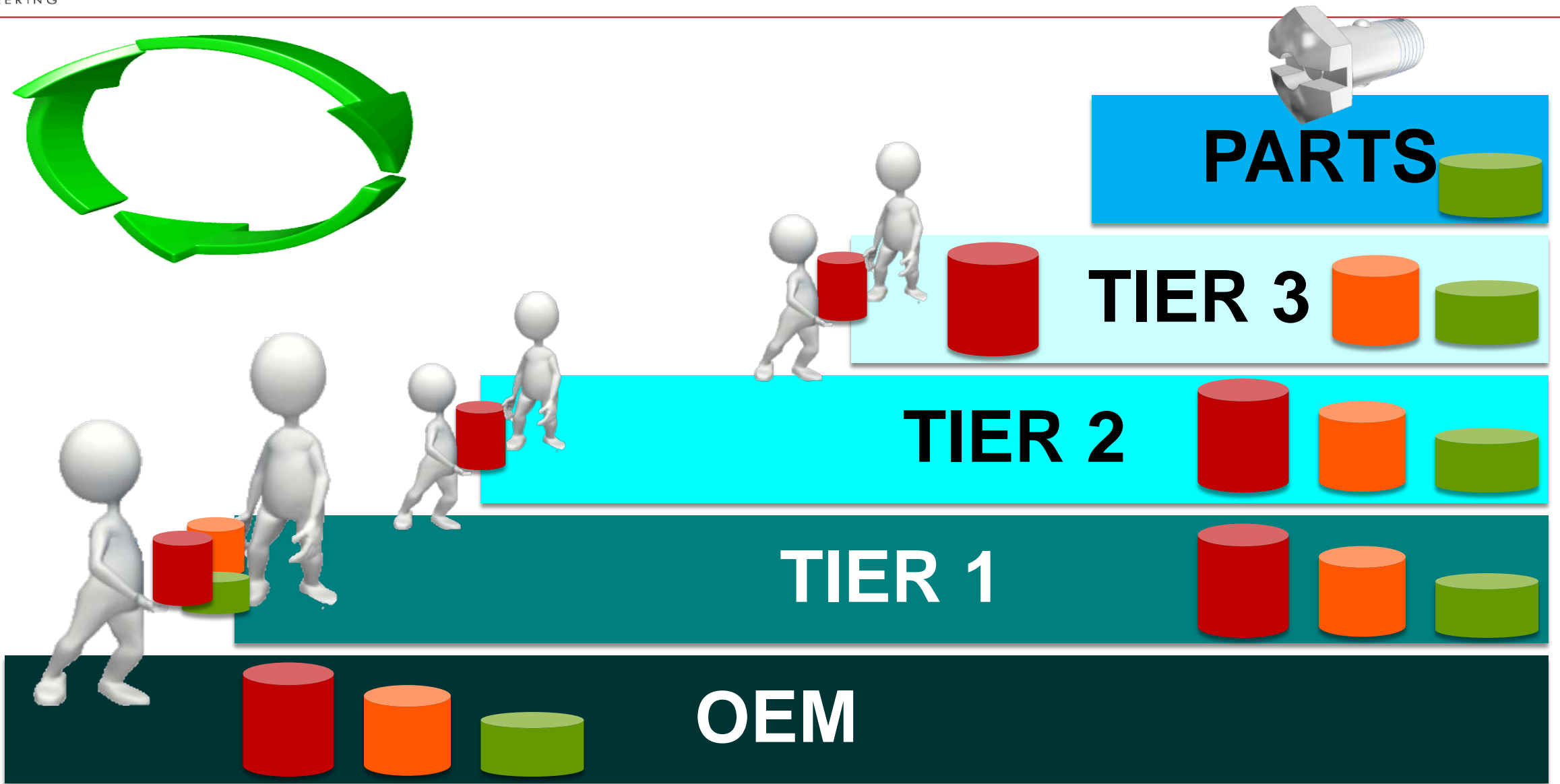
# Why MBE is Needed



# Information Flows Throughout the Lifecycle

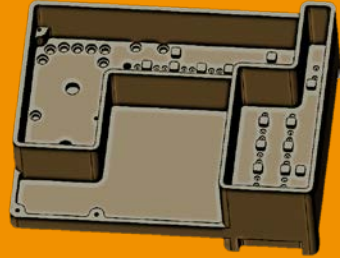


# OEM to Supplier Information Feedback Loop



**MODEL +  
DRAWING**

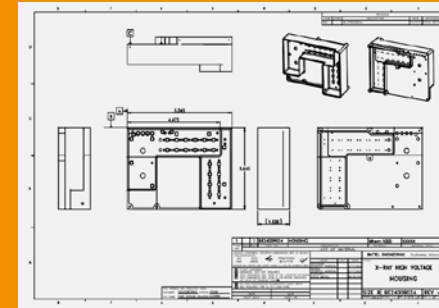
**Authority for  
3D Shape**



**+**

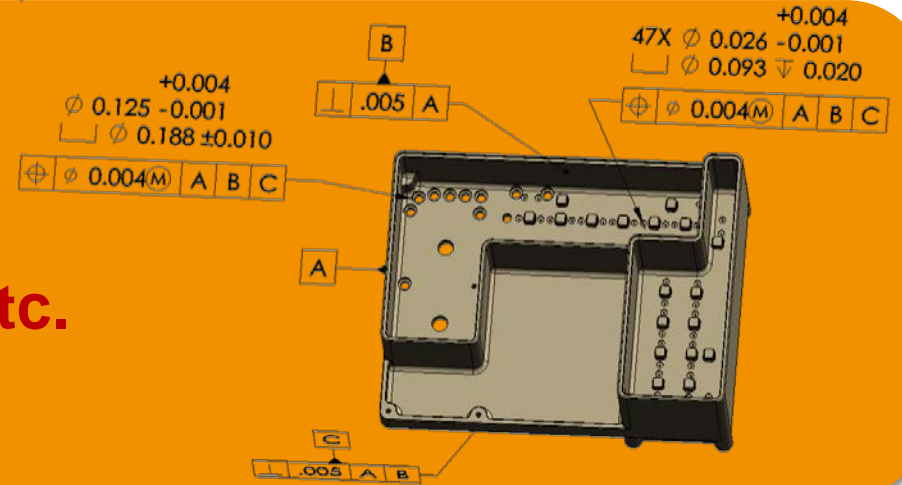


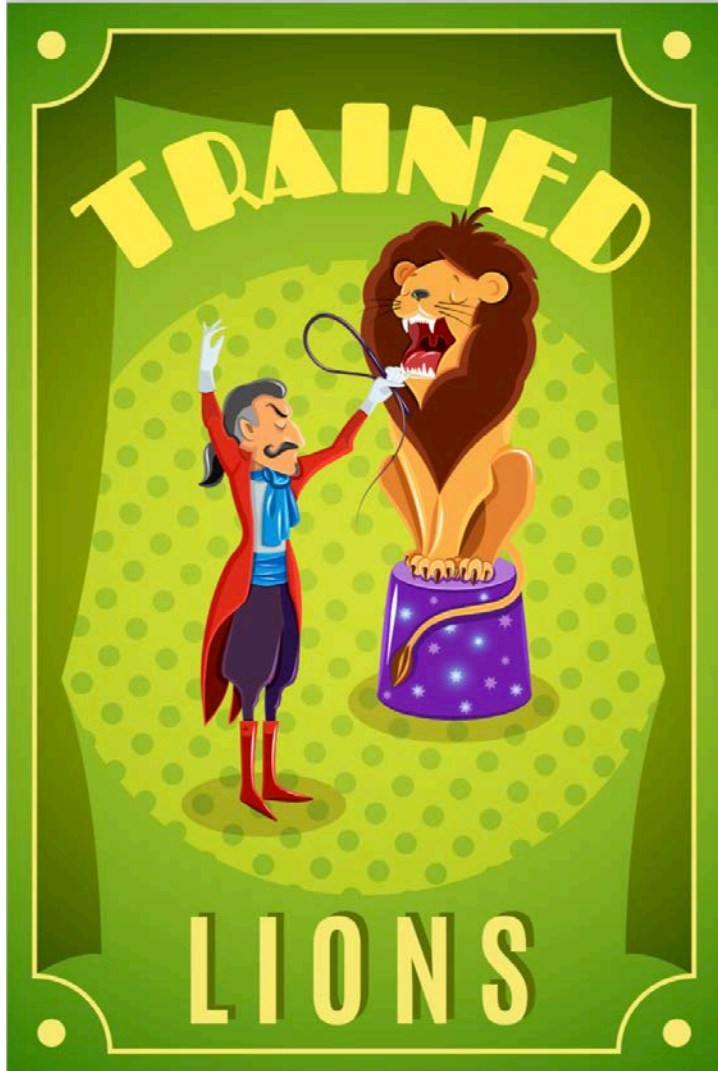
**Authority for  
Notes, Tolerances, Material, etc.**



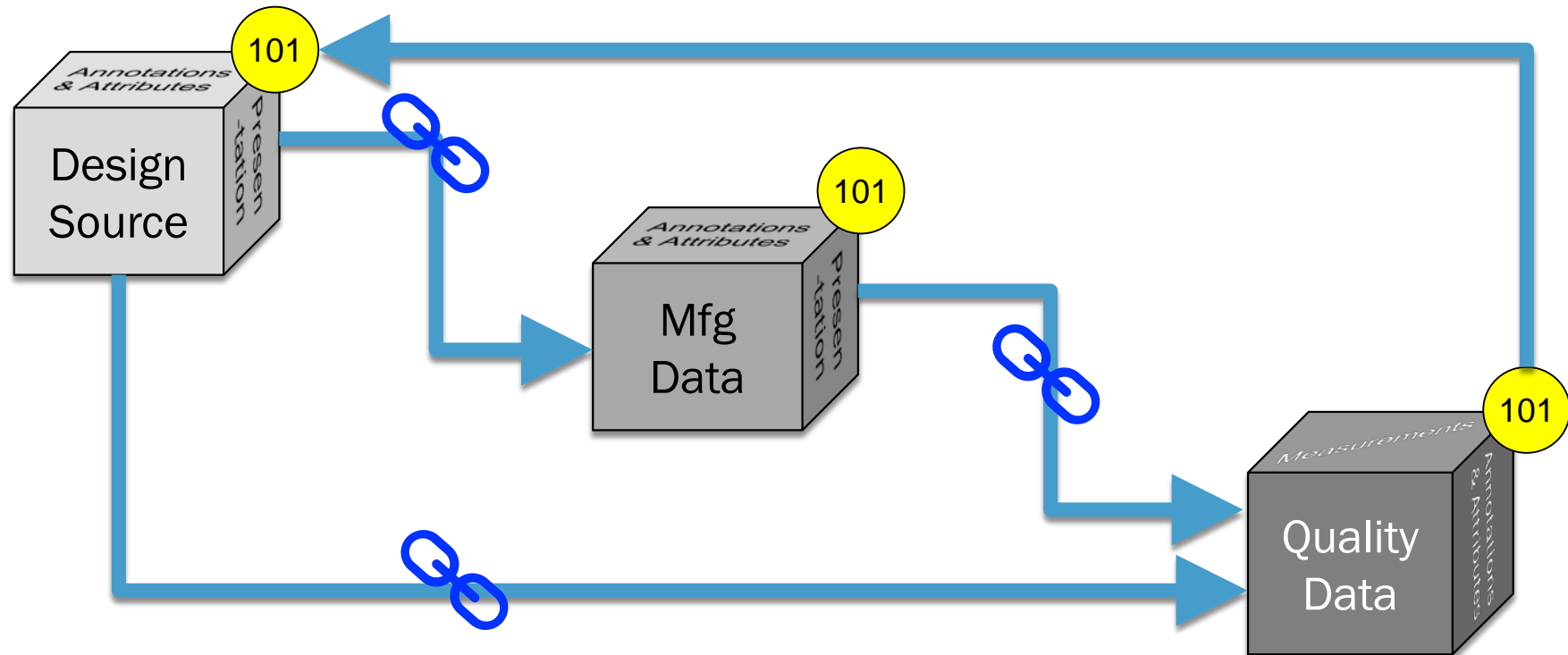
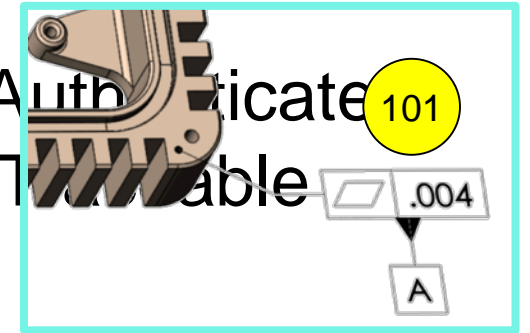
**MODEL  
ONLY**

**Authority for  
3D Shape,  
Notes, Tolerances, Material, etc.**

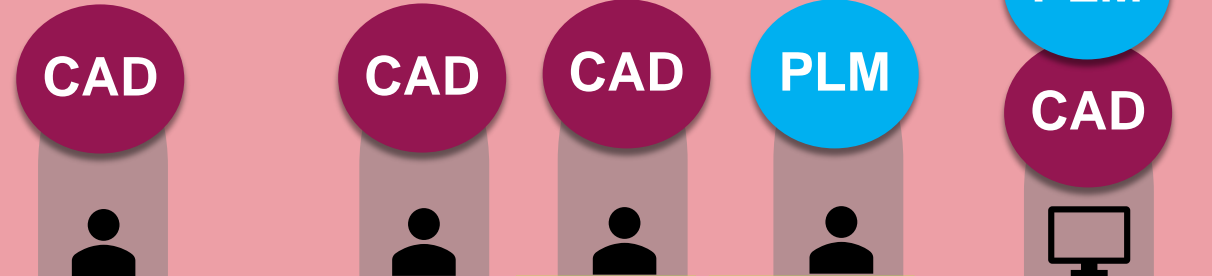




Trusted Models are Authenticated, Authorized, and Traceable



## Data Definition



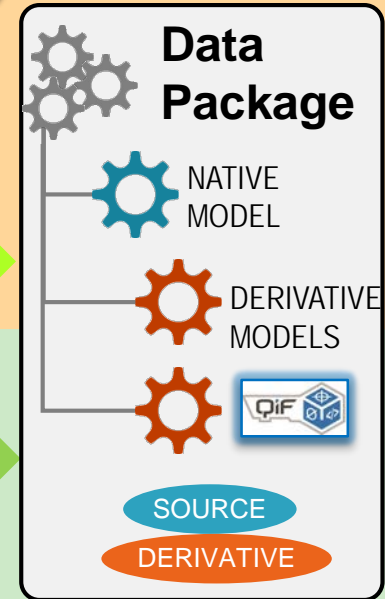
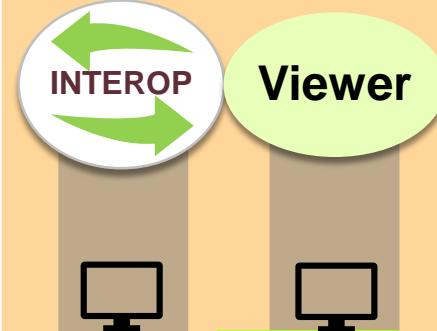
**Check**  
Geometry

**Check**  
Tolerances, Annotations, Attributions, Presentation

**Check**  
Derivatives, Published Data



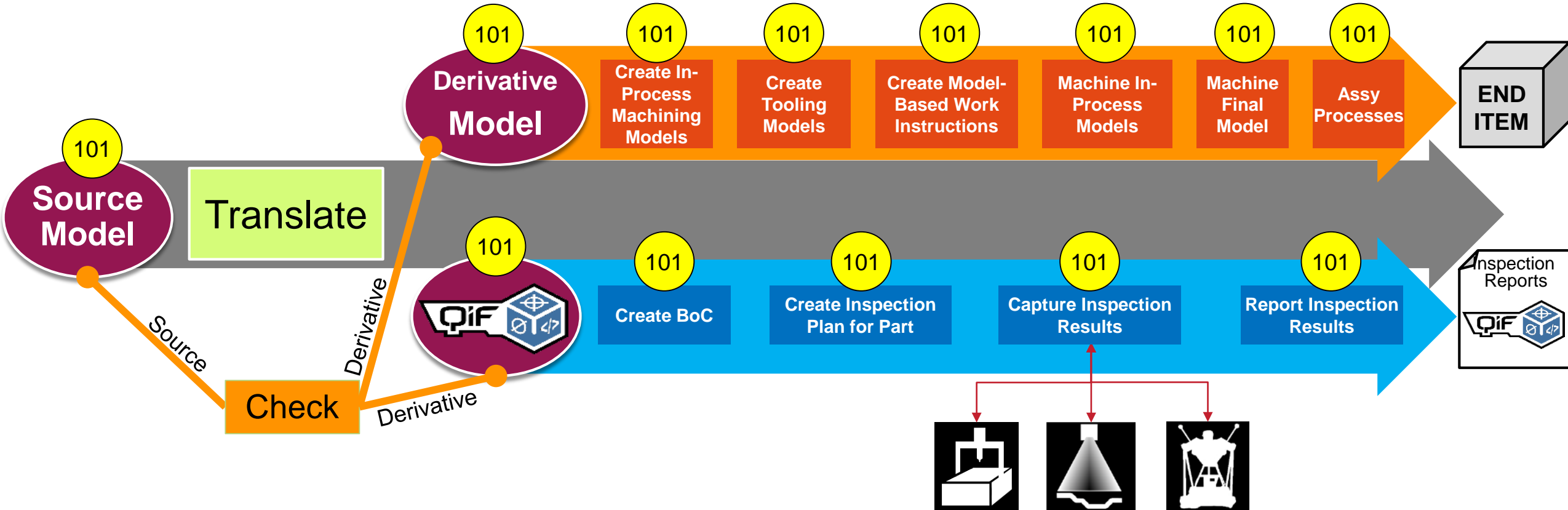
## Release



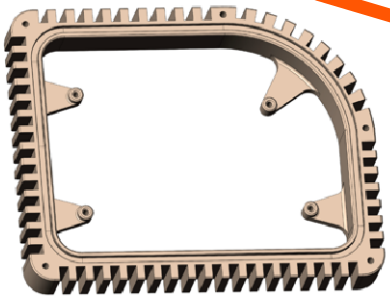
## Data Checking (Data Traceability over the Lifecycle)



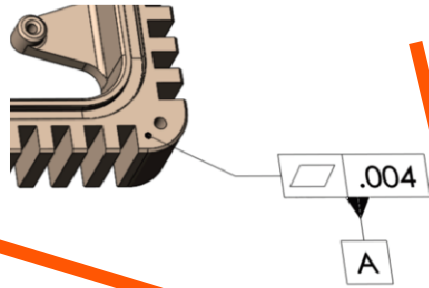
# Traceability through the Supply Chain Handoff



**1** Geometry

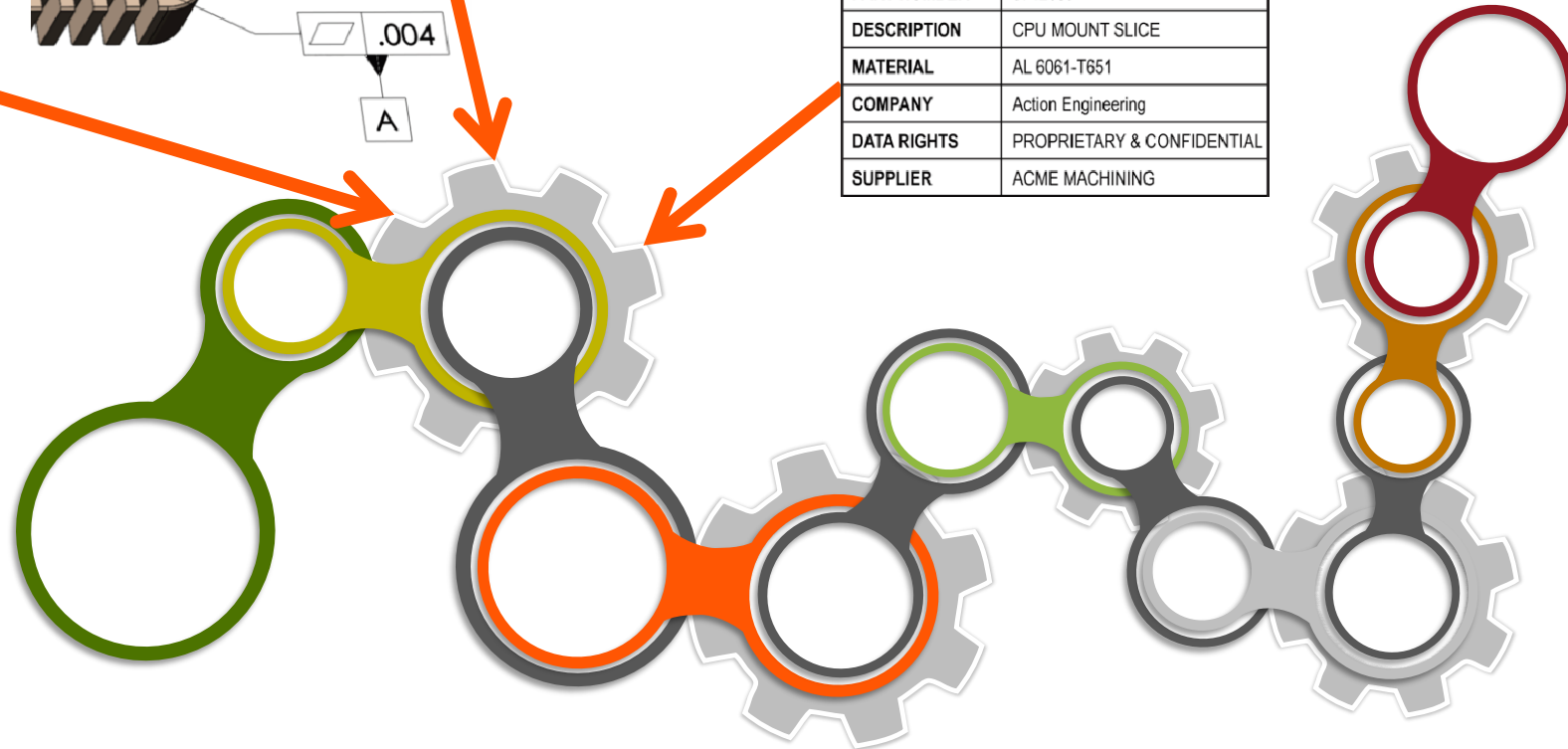


**2** Annotations  
(3D Digitally Associated)



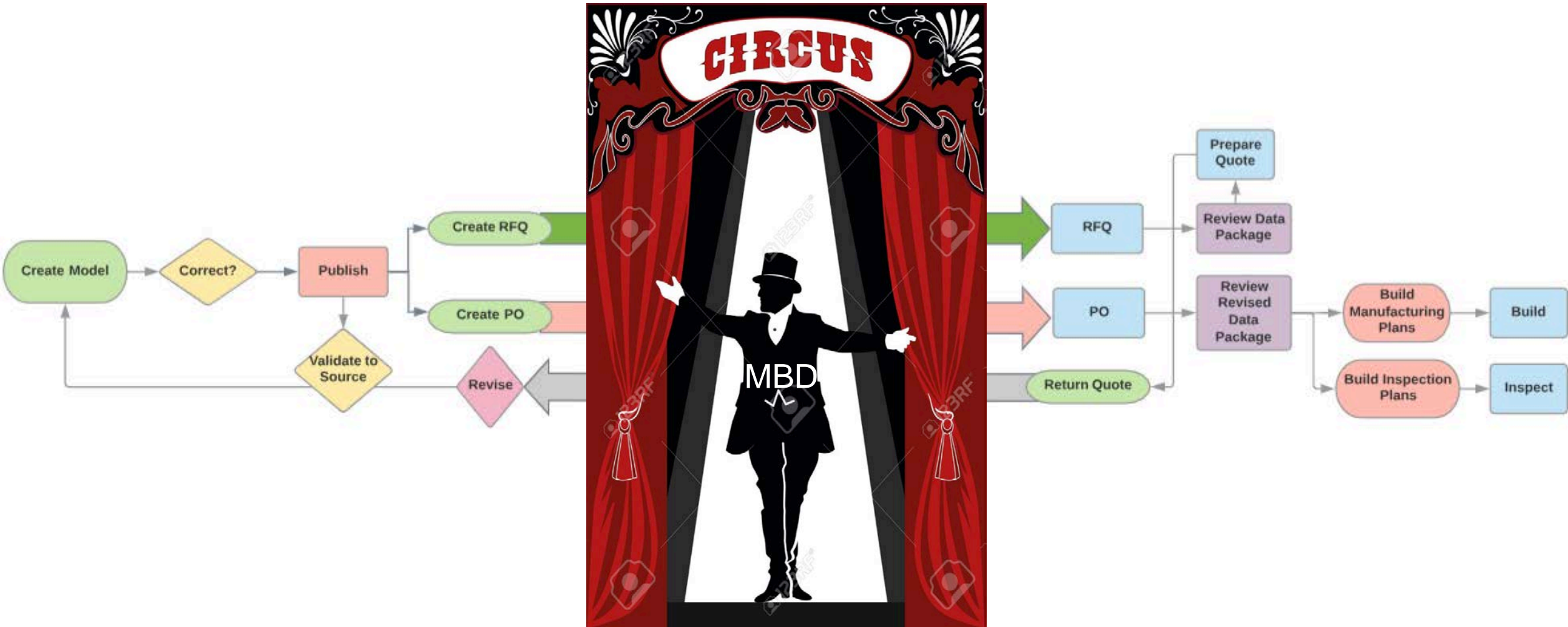
**3** Attributes  
(Metadata)

PART NUMBER	8742659
DESCRIPTION	CPU MOUNT SLICE
MATERIAL	AL 6061-T651
COMPANY	Action Engineering
DATA RIGHTS	PROPRIETARY & CONFIDENTIAL
SUPPLIER	ACME MACHINING



## Machine Readable Data Moves

# MBD Tames the Supply Chain Handoff Circus





Ryan Gelotte  
Action Engineering  
[duane@action-engineering.com](mailto:duane@action-engineering.com)

## Re-Use Your CAD University

<https://www.action-engineering.com/courses>

101 ACTION MODEL-BASED ENTERPRISE OVERVIEW RE-USE YOUR CAD	108 ACTION REVIEWING & COMMENTING 3D PDFS RE-USE YOUR CAD	110 ACTION MBD USING MODERN GD&T RE-USE YOUR CAD	301 ACTION USING CREO FOR MBD RE-USE YOUR CAD
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# Questions