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Real-World MBD Use Cases with ISO QIF

PTC USER Orlando — October 4, 2022

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Capvidia Customers

Schneider Electric

LOCKHEED MARTIN

Baker Hughes

GE APPLIANCES

Medtronic

NAVAL AIR SYSTEMS COMMAND

TOYOTA

stryker

Raytheon Technologies

THALES

GENERAL DYNAMICS
Ordnance and Tactical Systems

Lam RESEARCH

CISCO

TATA
ADVANCED SYSTEMS

PRATT & WHITNEY
DEPENDABLE ENGINES

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Capvidia Products for MBD

MBDVidia

MBD Workflow Software

1. Import / Export MBD
2. MBD Ready Check for CMM & Scanning Workflows
3. Automated FAI, PPAP and other reports

CompareVidia

Comparative Validation Software

1. Validate CAD Translations
2. Semantic PMI Comparison
3. Revision Comparison

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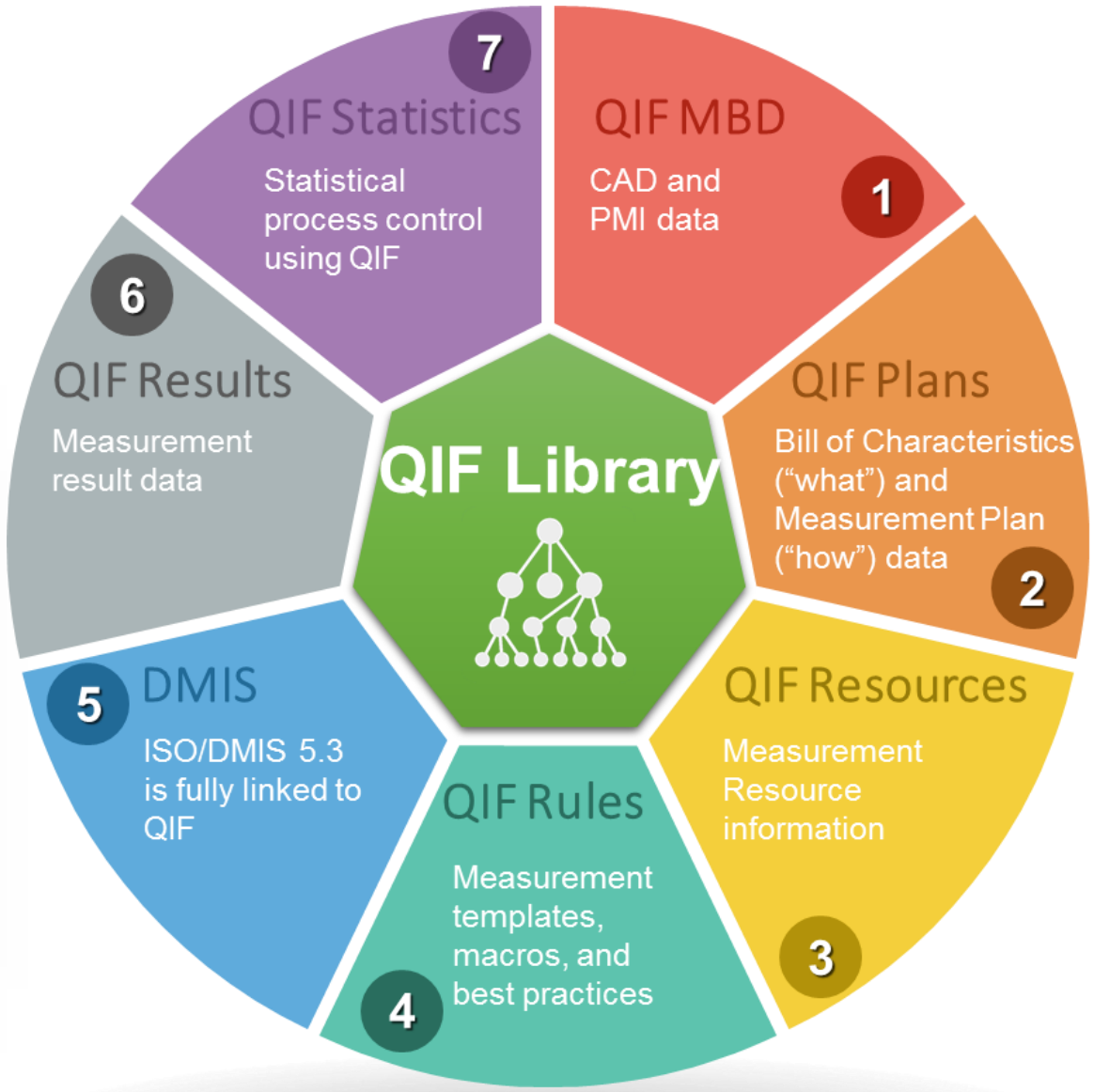
QIF: What is it?

- ISO 23952:2020
- Data format for manufacturing quality information
- Contains semantic data model for machine-to-machine communication



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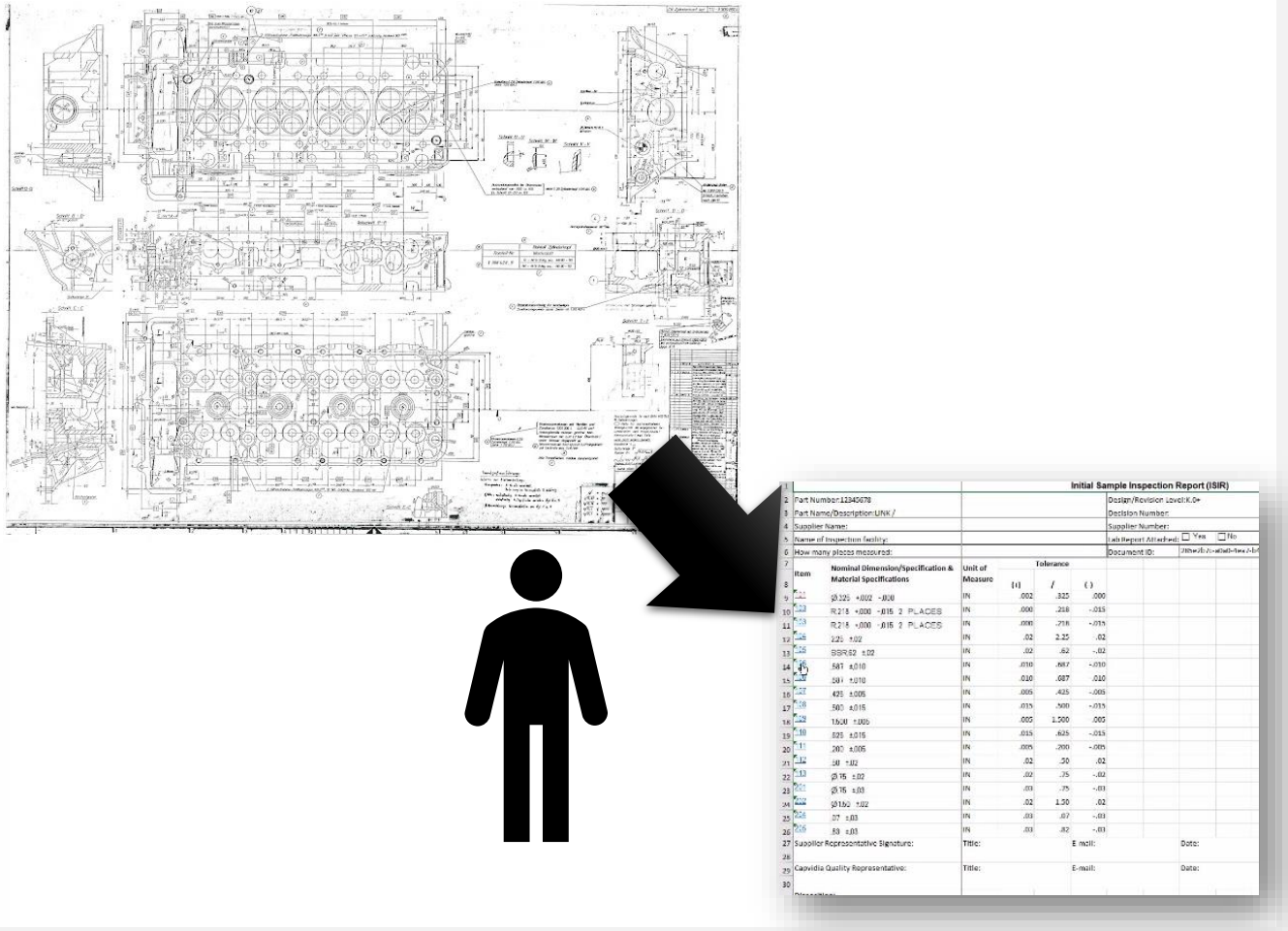
Quality Current State: Manual

Creating a Quality Plan (like an AS9102 First Article Inspection (FAI) Report) is a manual process: you create a drawing in CAD, only to use a human to re-digitize it at the quality and manufacturing stage.



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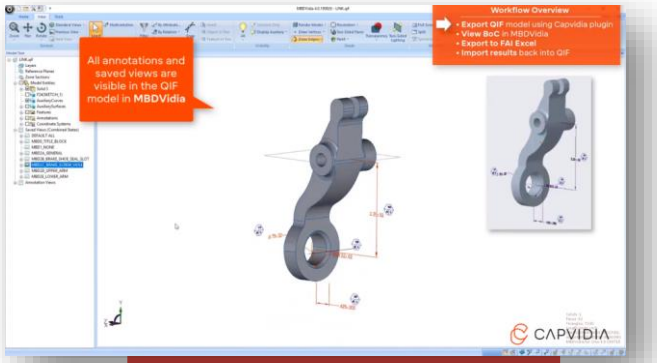
Getting Started with MBD: FAI

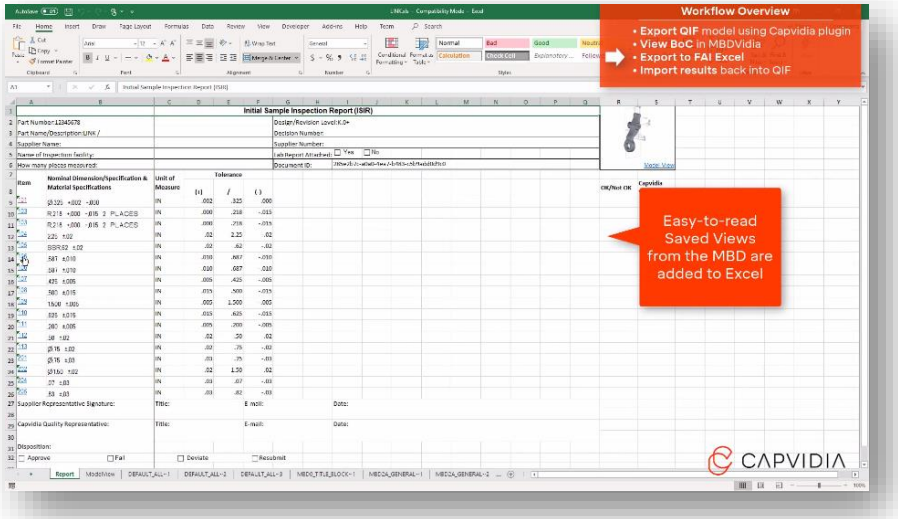


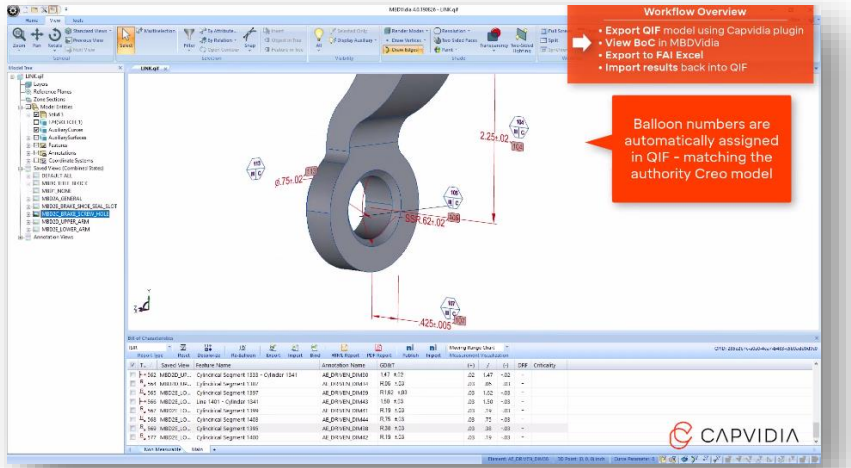
Publish MBD

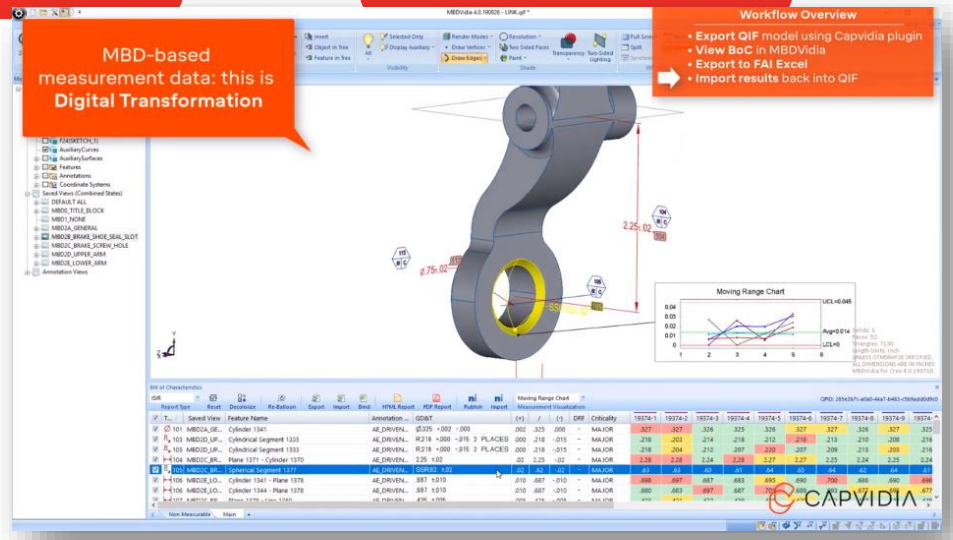
Bill of Characteristics

Publish AS9102 FAI Report

Harvest Digital As-Built Data







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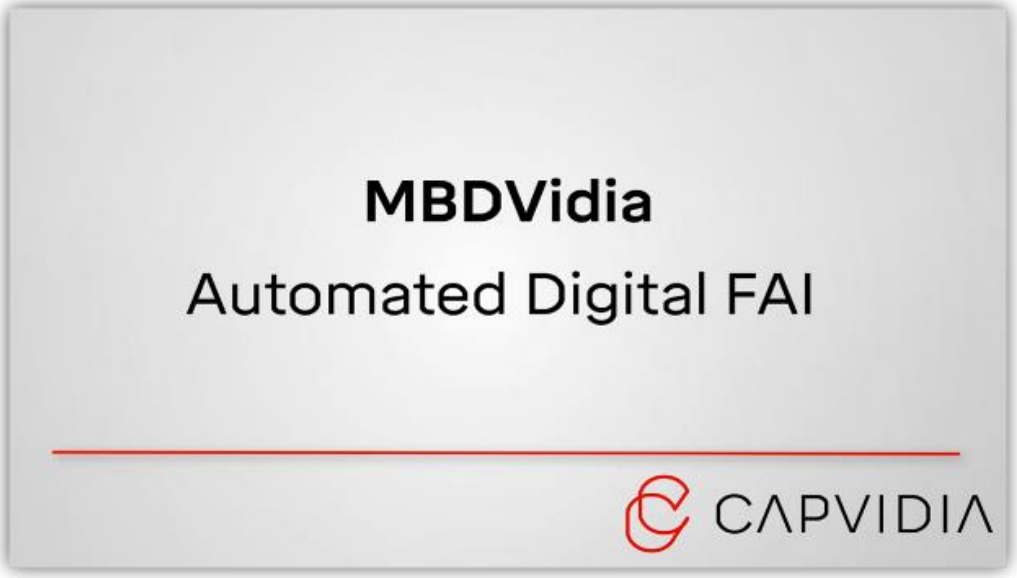
Getting Started with MBD: FAI

Publish MBD → Bill of Characteristics → Publish AS9102 FAI Report → Harvest Digital As-Built Data



Click here to see the digital FAI video

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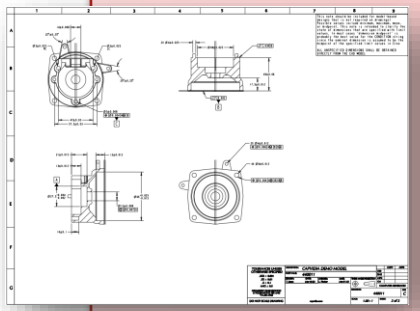
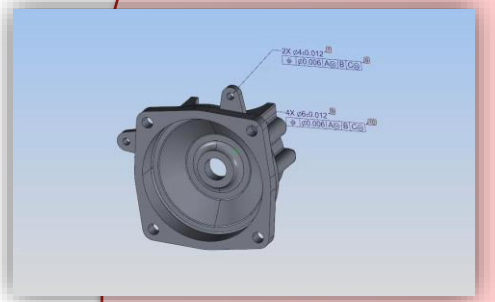
Unified 3D/2D Workflow

3D MBD and 2D PDF:

- Same software platform
- QIF-based BoC
- QIF-based results analytics

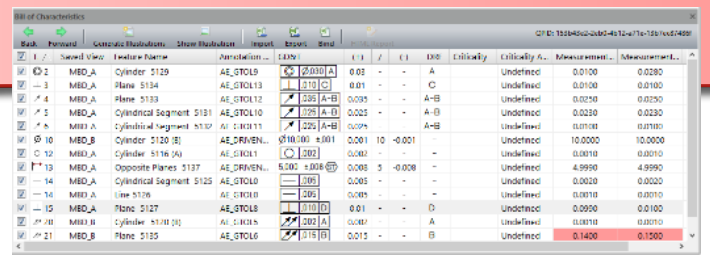


2D PDF Drawings

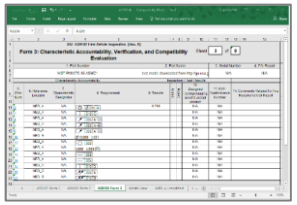


3D MBD

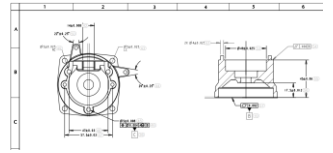
Machine-readable, QIF-based BoC



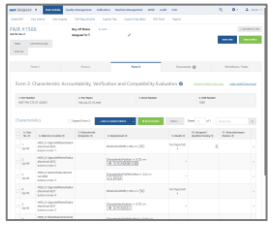
Excel Report



Ballooned Drawing



Net-Inspect FAIR



net-inspect

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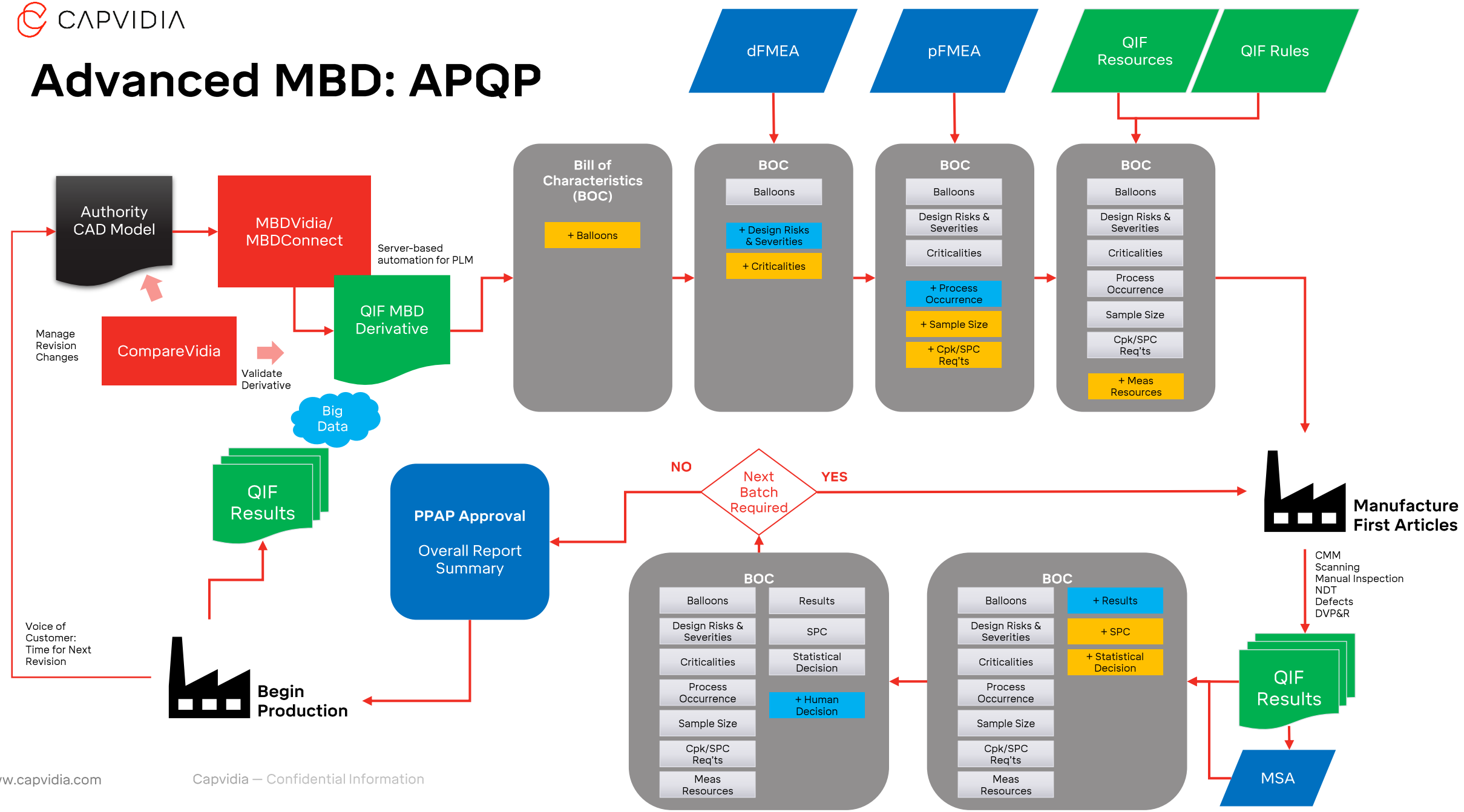
Advanced MBD: APQP



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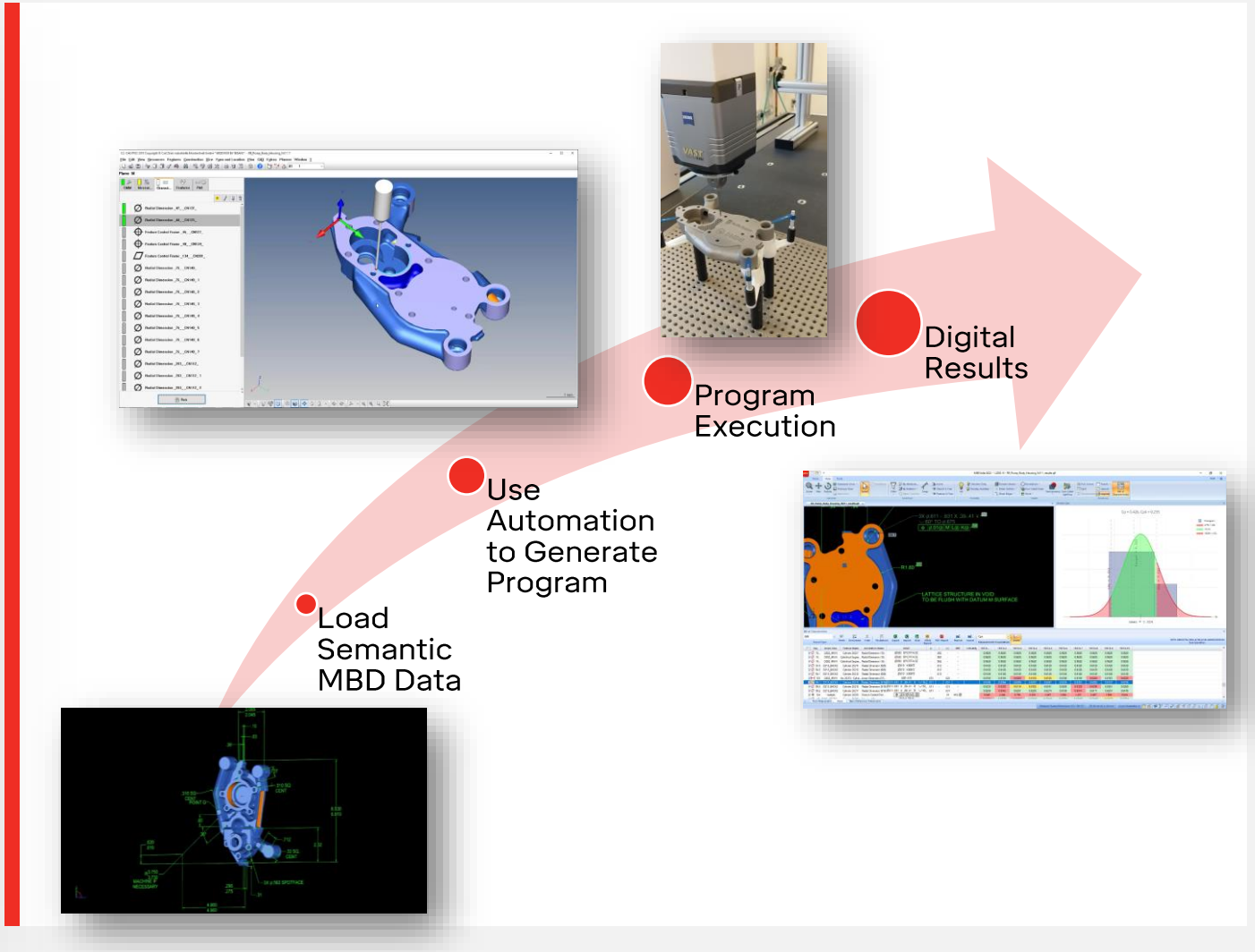
CMM and Scanning

- Use MBD to automate coordinate metrology.
- MBD-based CMM and Scanning extends the digital thread to your metrology department.

Webinar: Reducing Measurement Planning Time by 75%, Digital Thread Technique Series



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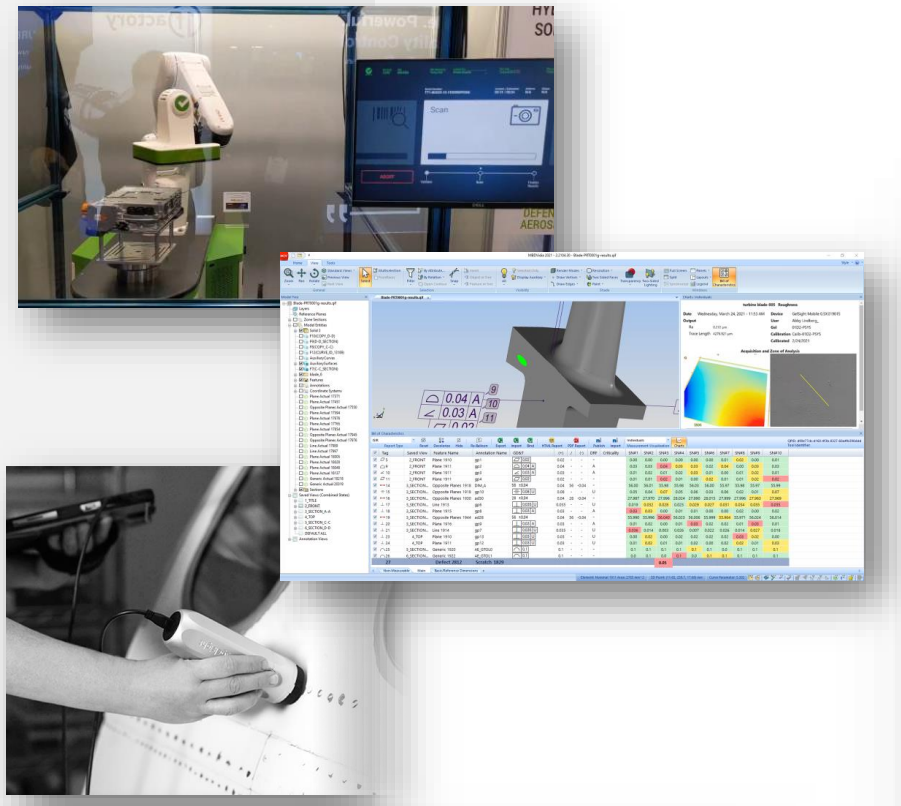
Non-Dimensional Quality



Visual Inspection tied to the Digital Thread

- Non-Dimensional has a big role to play too — and can be powered by MBD.
- Visual Inspection from MBD makes visual inspection better, faster, and lower cost.
- Gather non-dimensional quality data as part of your digital thread.

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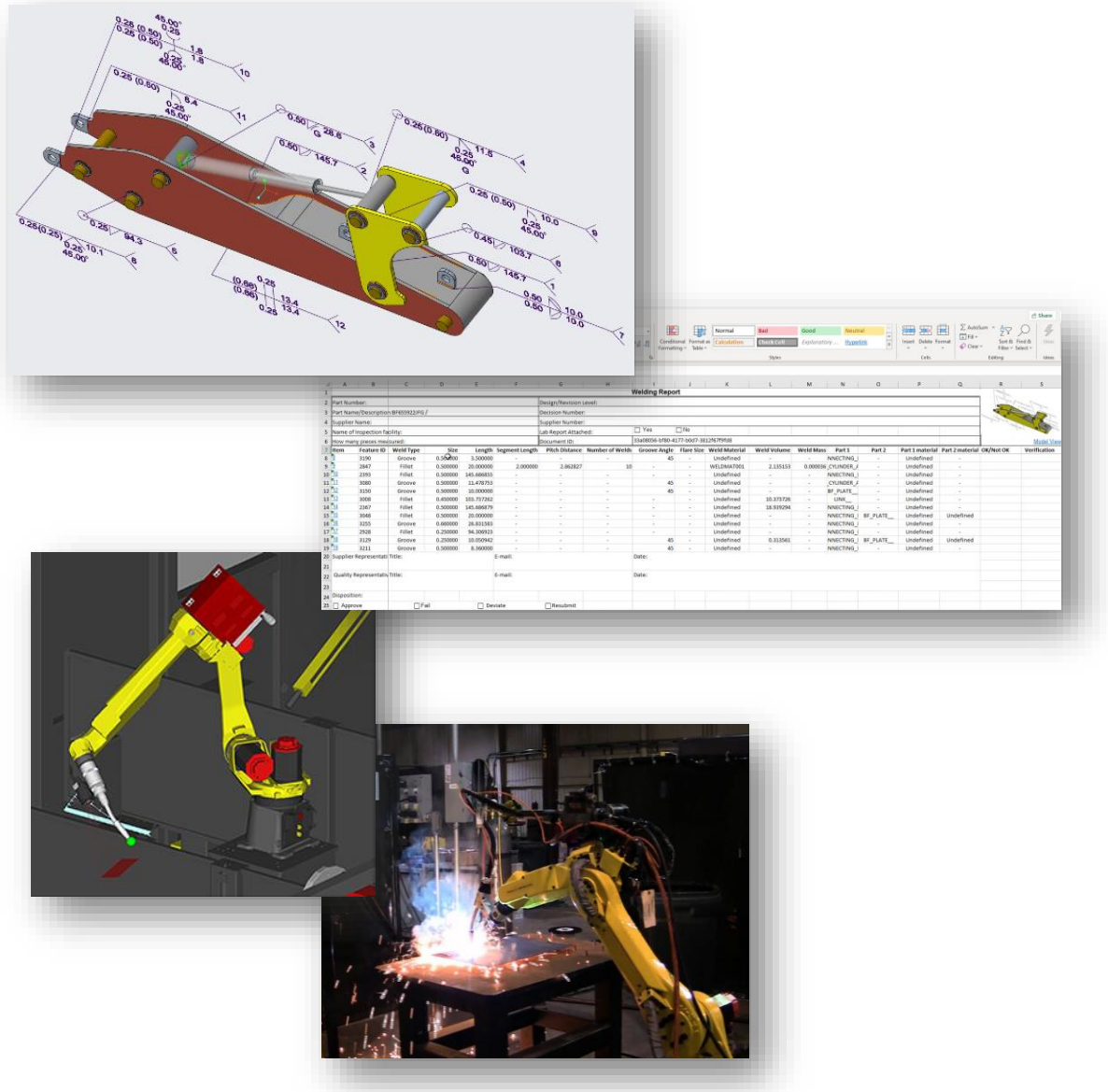
Welding

- Use Weld MBD for downstream automation.
- Generate weld work reports directly from MBD.
- Automate weld robot programming.
- Cost estimation.
- Weld QA becomes easy with MBD.



See it in action here

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MBD Workflow

IMTS2022
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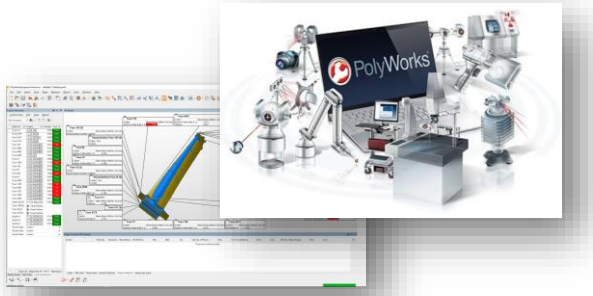
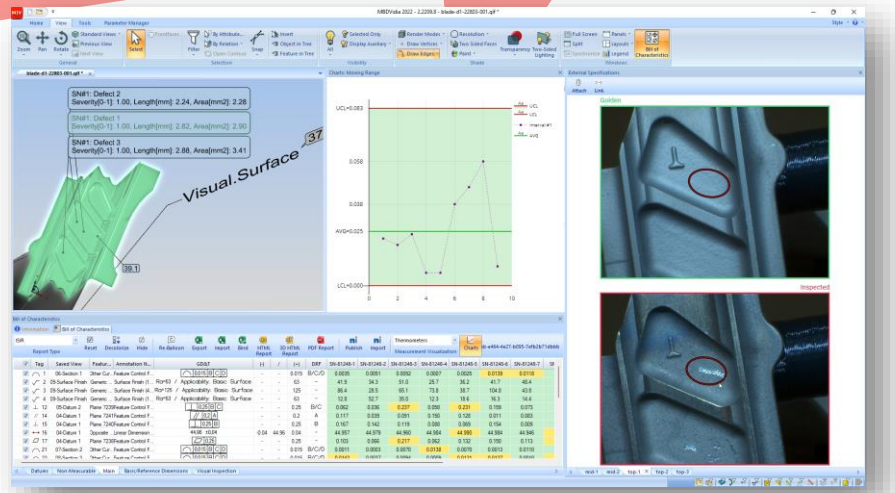


Measure with PolyWorks

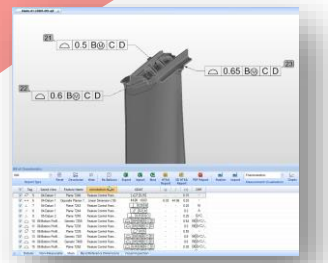
General Inspection

Gather As-Built Data in QIF with **MBDVidia**



Visual Inspection with Kitov

Balloon in MBDVidia



Publish QIF MBD from Native CAD

www.capvidia.com

Watch IMTS 2022 Workflow Video Here

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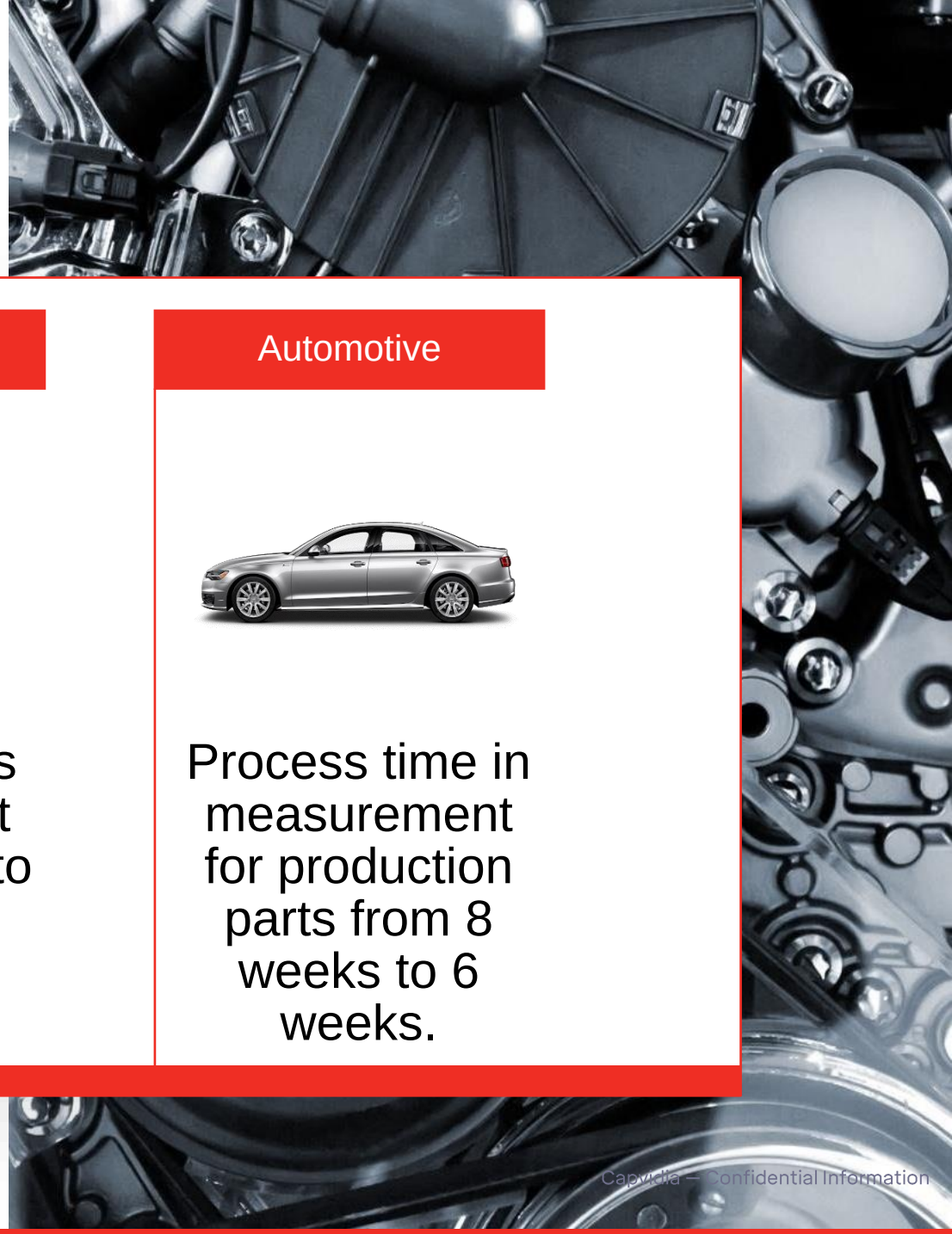
MBD Workflows: Some Industry Anecdotes



Aerospace & Defense

FAIR creation from approx. 15-20 hours manual to 2 hours MBD.

Consumer Goods

60%+ savings on time spent for PPAP. Up to 2,400 parts processed every year.

Automotive

Process time in measurement for production parts from 8 weeks to 6 weeks.

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True MBD: Human & Machine Readable CAD + PMI

Contact Us

Download the presentation

https://www.capvidia.com/rd/2022-ptc-user

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VP Model-Based Definition

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True MBD: Human & Machine
Readable CAD + PMI
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