Component Management Shortens Design Time

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DESIGN AUTOMATION & EMBEDDED SYSTEMS

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Agenda

1. Introduction
2. Component Management
3. Summary
4. Cooperation between disciplines
5. Design & Manufacturing

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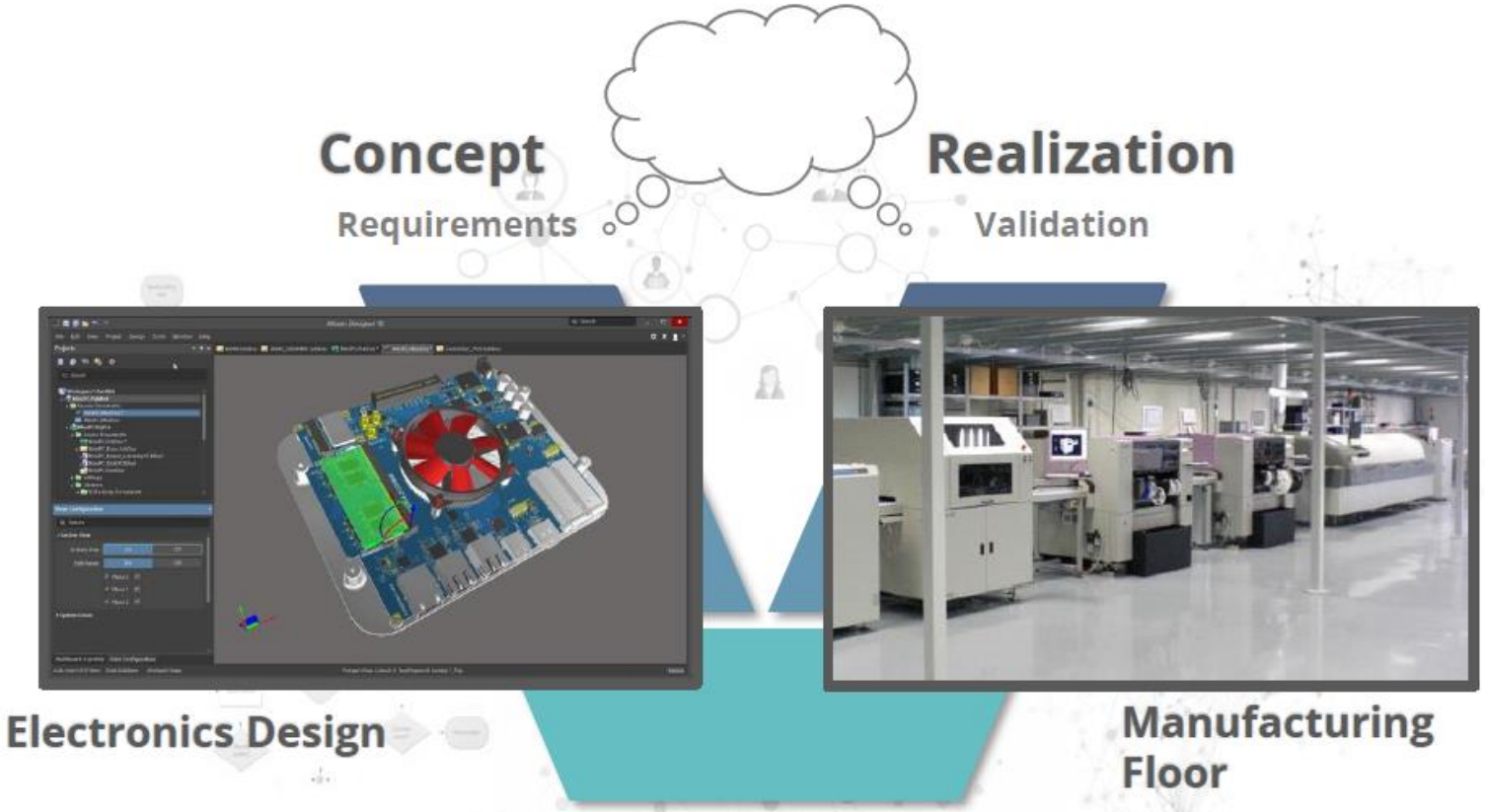
Design Collaboration



Connecting electronics design to the manufacturing floor with bi-directional digital continuity is at the heart of transformation

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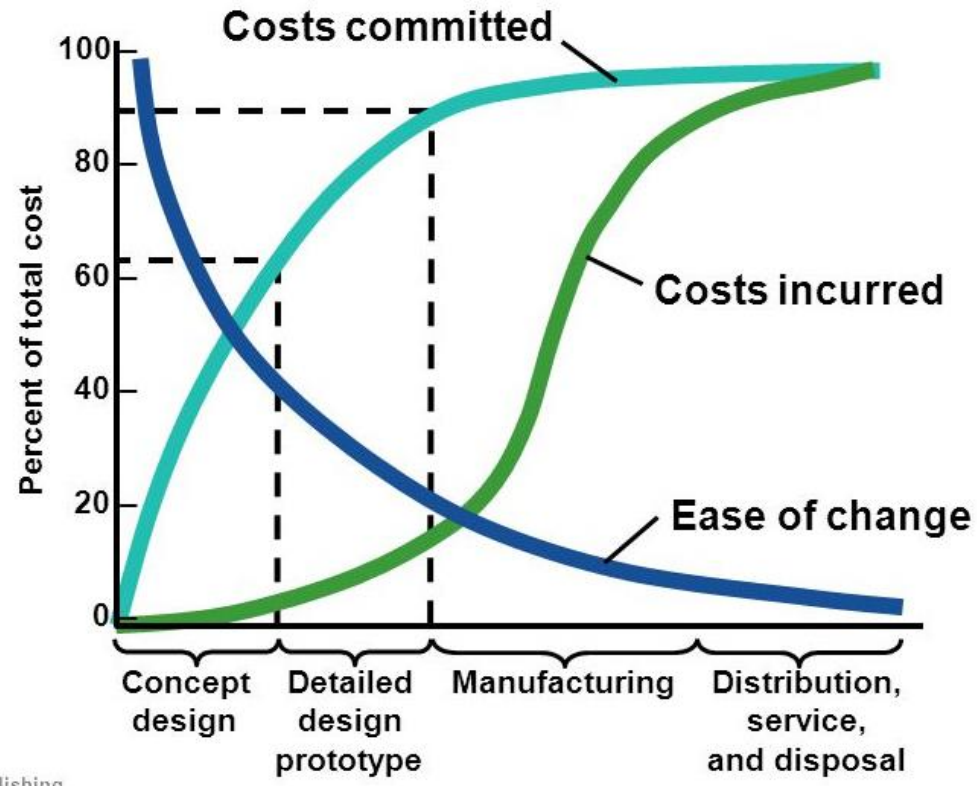
Cost of Change

Product Life Cycle Costs



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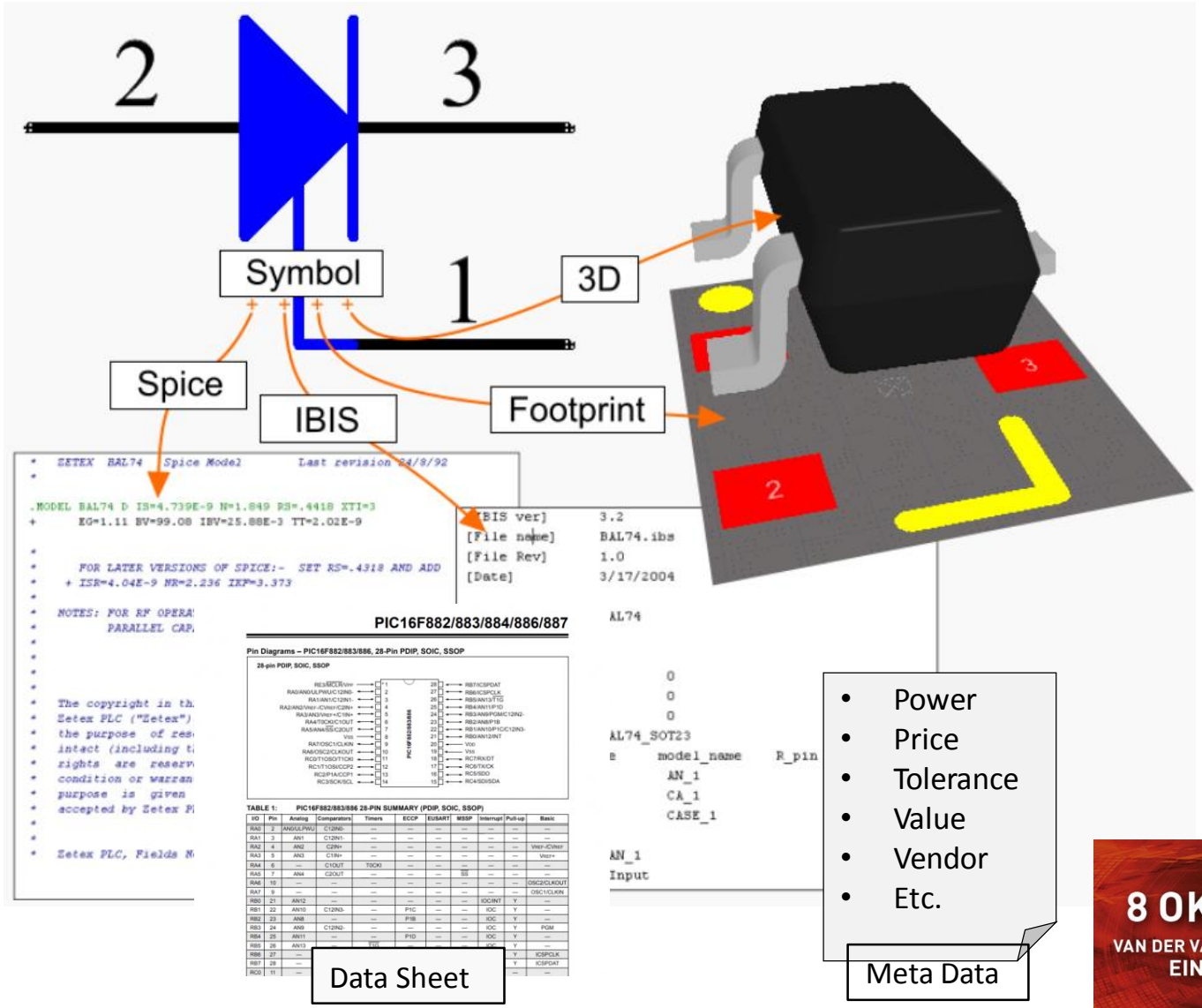
Component Elements

- The Part
  - Schematic Symbol
  - PCB Footprint
  - PCB 3D Model
  - Meta Data
- Simulation Models
  - Functional
  - Signal Integrity
- Data Sheets



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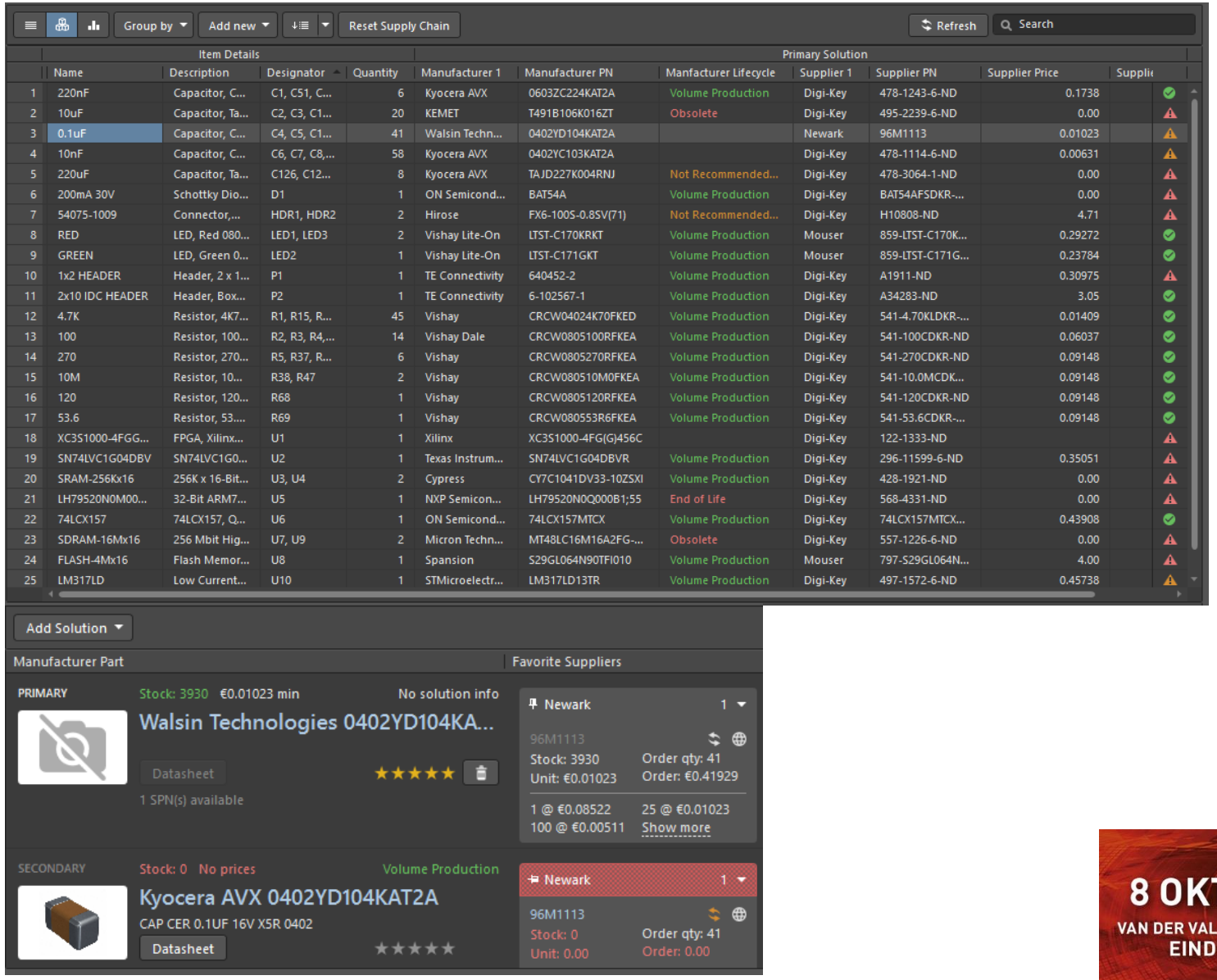
Supply Chain Info

- Manufacturer info
- Supplier info

- 2nd sources



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Component Management

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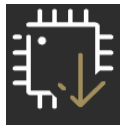
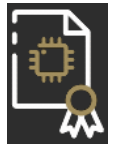
5 Pillars in Component Management

Security

Find


Apply


Release

Correct

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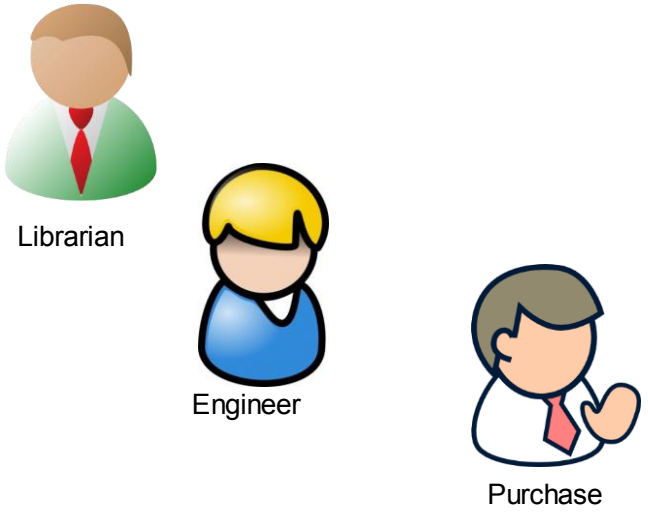
Security

Who is allowed to do What? Roles

- Read /Write
- Initiate new Components
- Control Revisions
- Control Lifecycle



Checklist before releasing

- Components Available in Numbers
- Cost Frame Met

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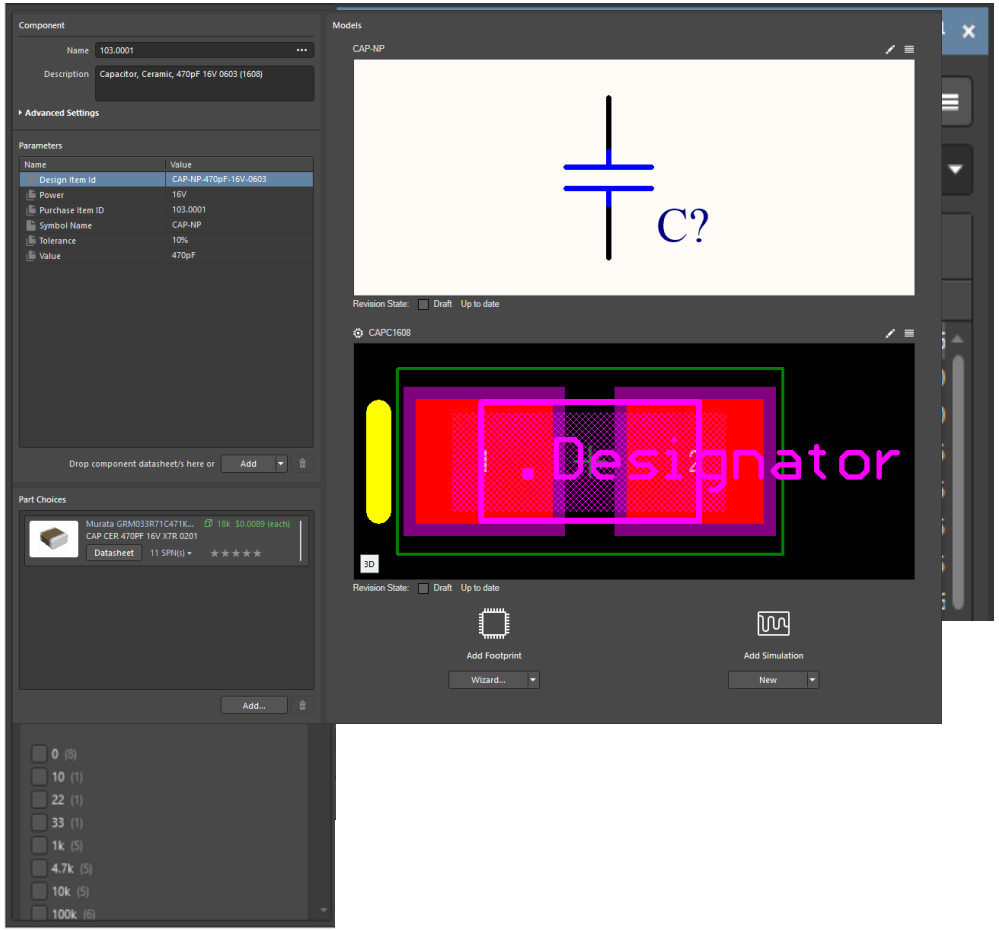
Find

- Single source of information
- Parametric Search
- Predefined Searches
  - Global
  - Individual
- Unified Component appearance
  - Class Dependent Parameter Set
- Ease of reusing Symbols & Footprints



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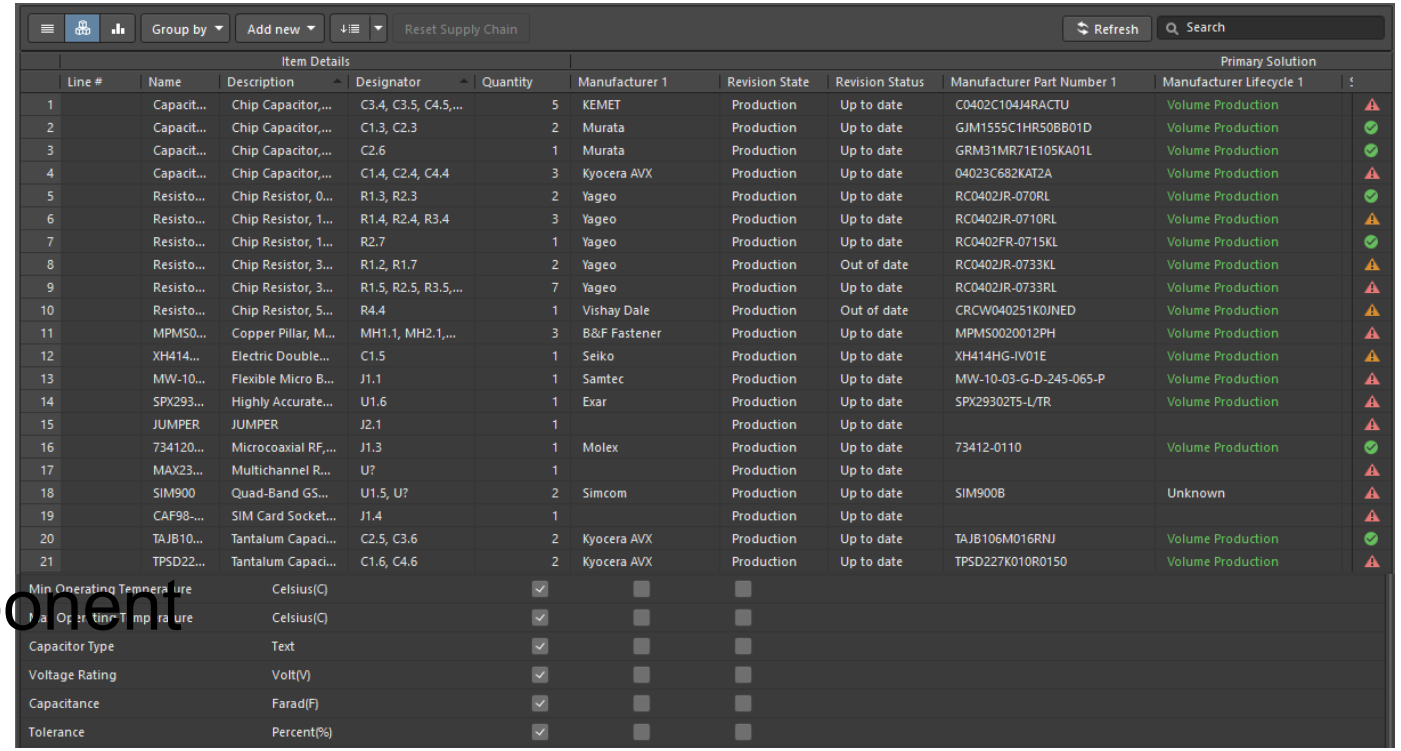
Apply

- Component Creation
  - Templates



- Component Usage
  Info Non-Adequate Component
  - Obsolescence
  - Not Up-To-Date

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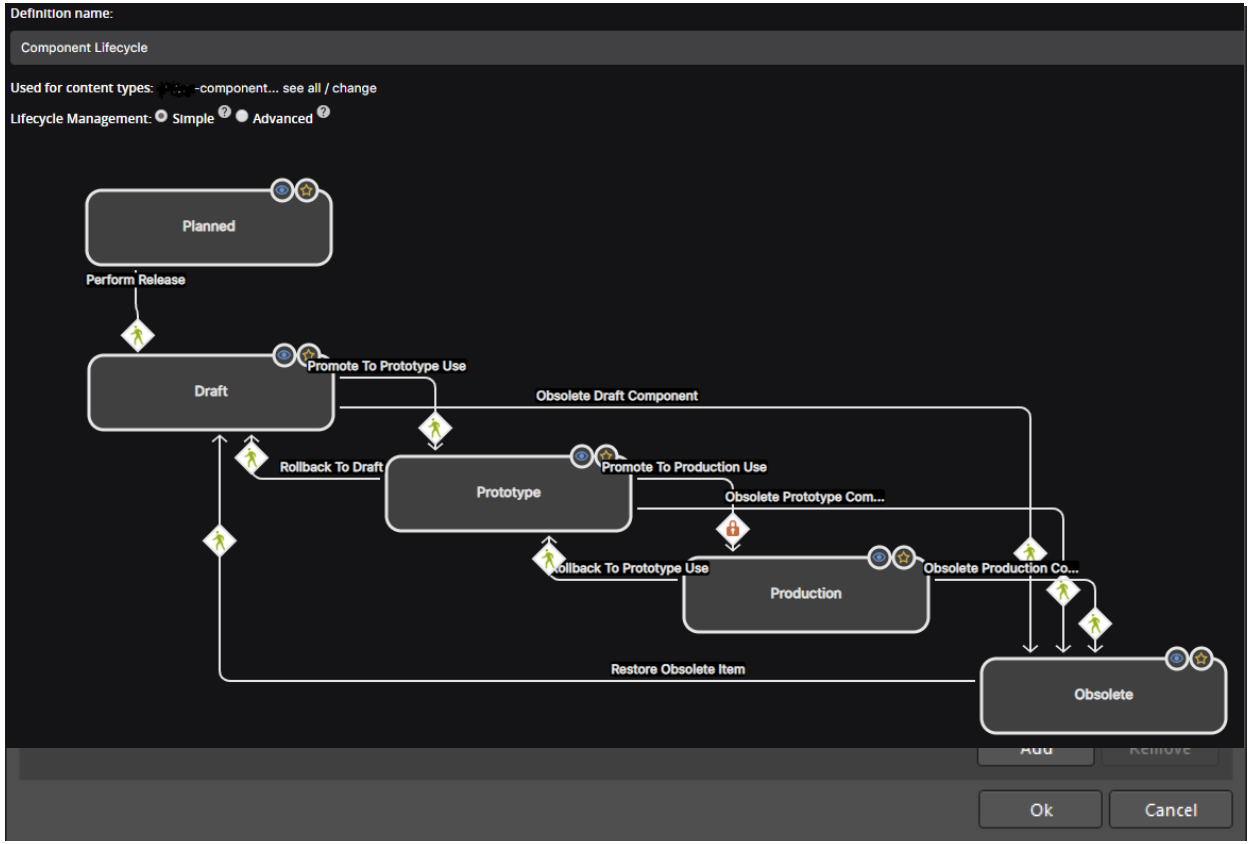
Release

New Component

- Request
- Gathering
  - Parameters
  - Datasheets
  - Supplier Information
- Process
- Component Change
  - Edit Children/Parents
  - Edit Multiple Parts



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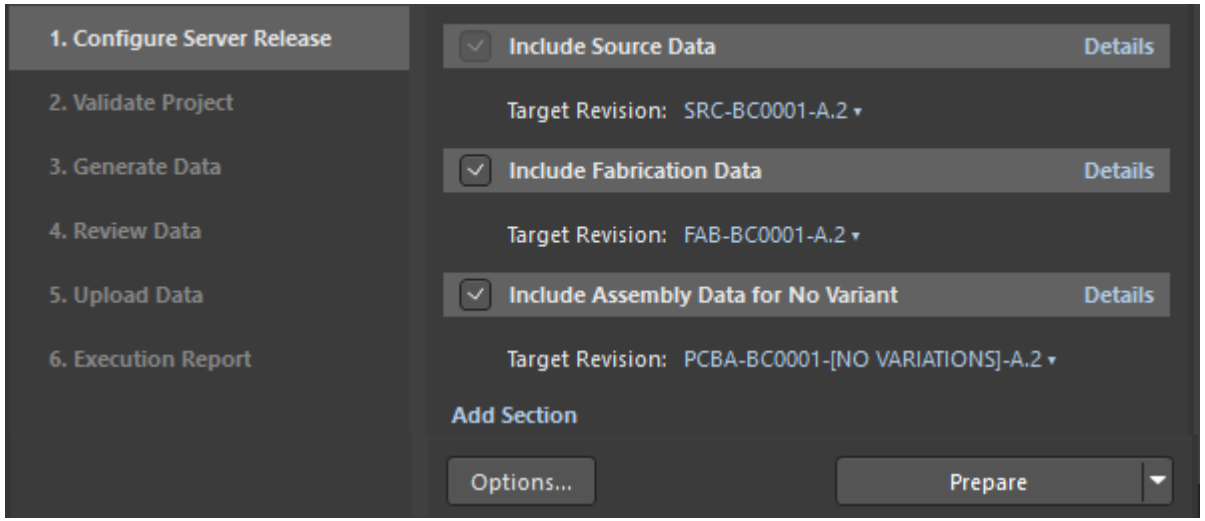
Correct

- Up-To-Date
  - In Design Process
  - In Documentation

- Still Useable - Lifecycle
  - In Design Process
  - In Documentation



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Summary

- One consistent Library for all Engineers
  - Search for Replacement Parts
  - Part Version Compare
  - Enables Team Design
  - Enables Design Reuse
  - Unapproved Part Validation
- Optimized Library Creation Effort
- Parts qualified for downstream Processes
  - MFG & Documentation
- PLM Meta Data Integration

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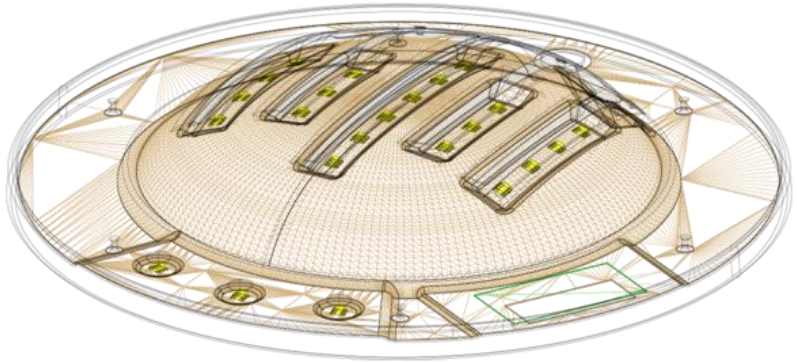
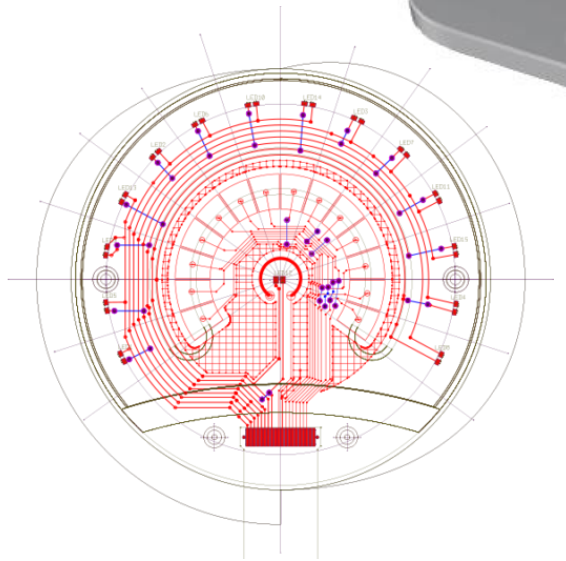
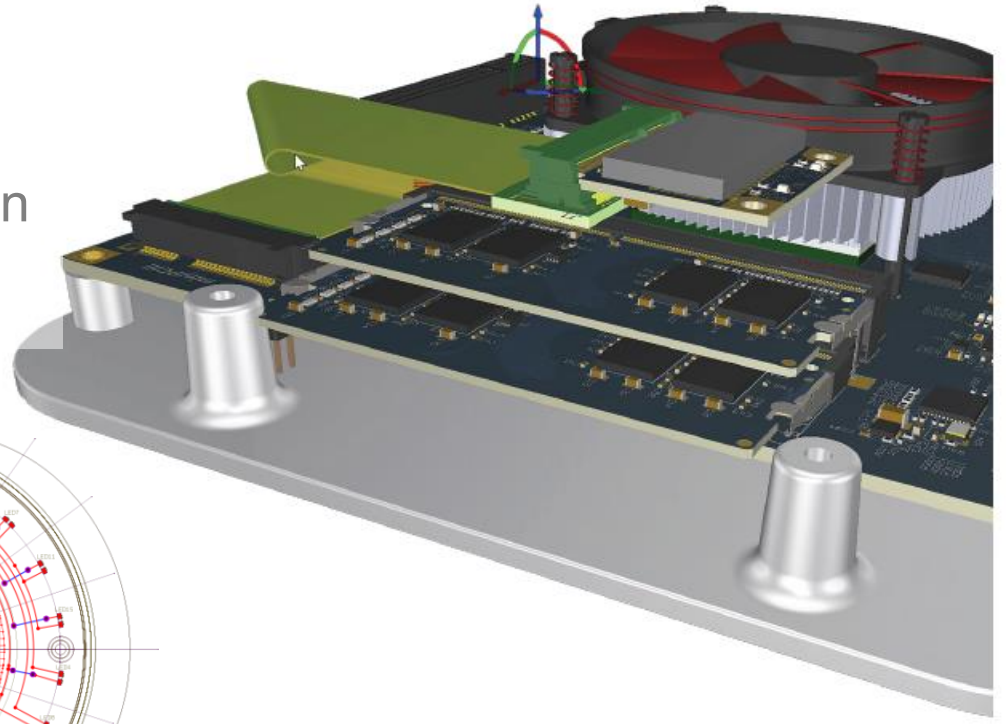
ECAD – MCAD Collaboration

Current High-Tech Designs

- Complex Multi-Board Designs
- Flex PCB
- 3D-printing
- Injection Molded Structural Electronics and Designing in a 3D Space







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3D Multi-Board Modelling & Collaboration

Object mating with MCAD-like editing functionality

- True links between objects
- Full import and export of STEP and Parasolid models
- Support of Flex and Rigid-Flex boards in Multi-Board Assemblies and Any-Angle Section Views.

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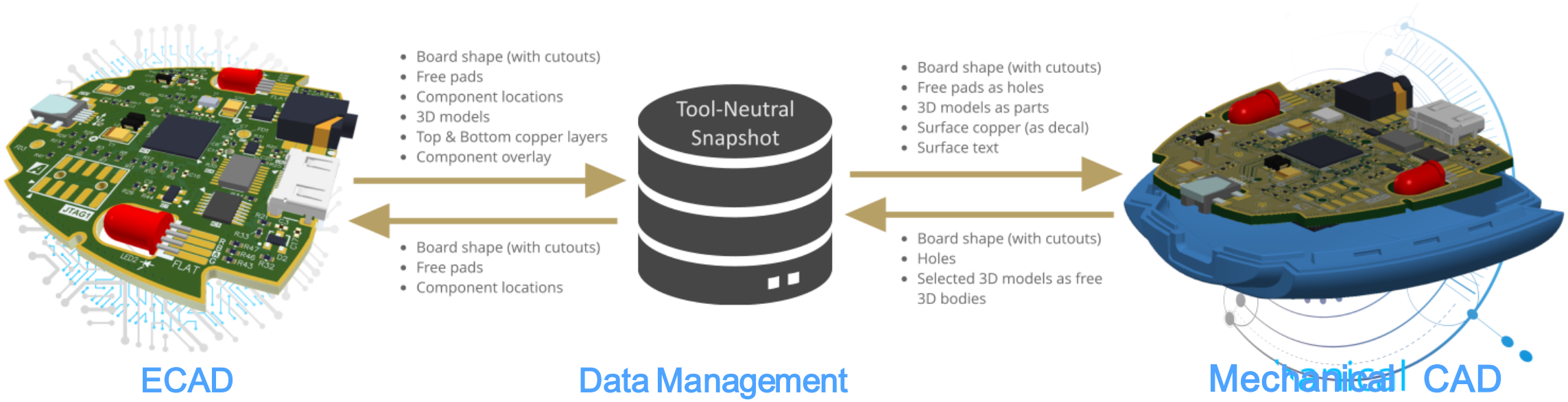
ECAD – MCAD Collaboration

Streamlined design collaboration with your MCAD



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Design with Manufacturing

Design **WITH** Manufacturing **vs.** Design **FOR** Manufacturing (DFM)

Traditional “DFM” provides a set of design guidelines to help ensure manufacturability.

Need for a bidirectional communication and exchange of information.

Ultimately connecting the engineering desktop directly to the manufacturing floor

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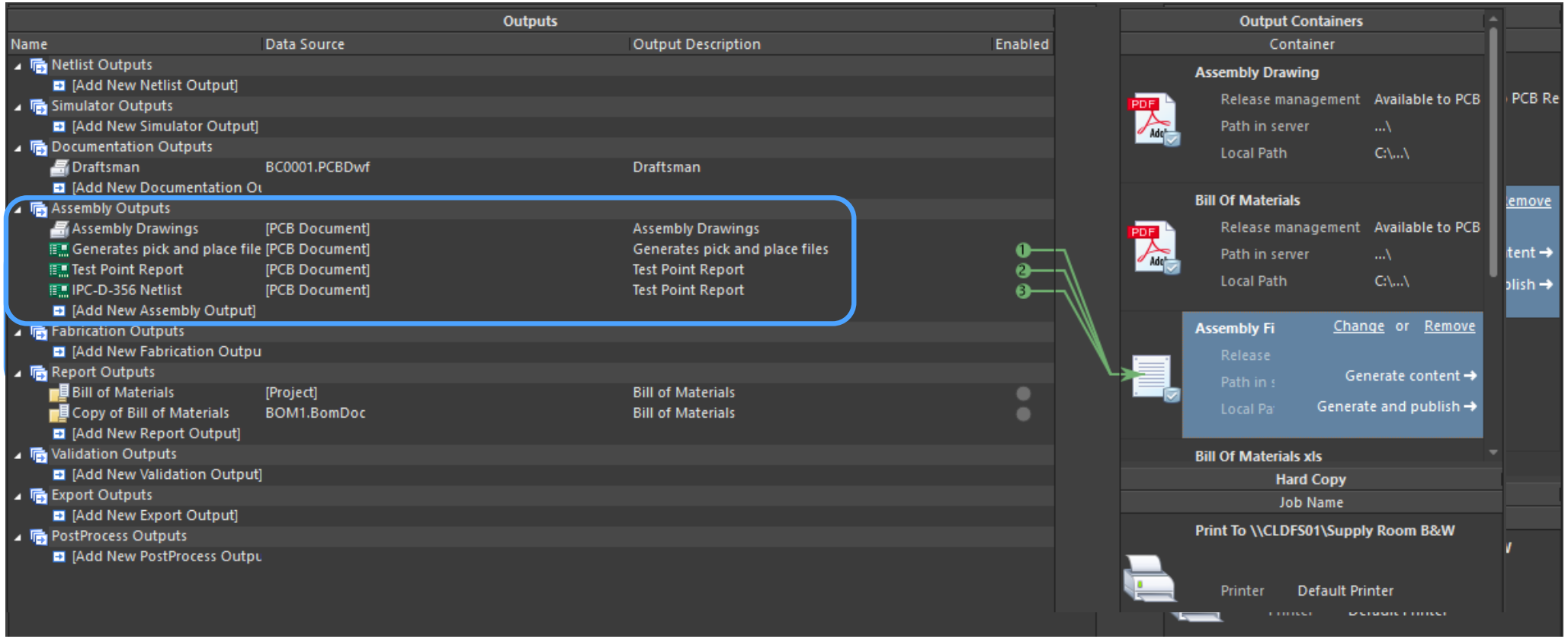
Output Generation

Assembly Documents



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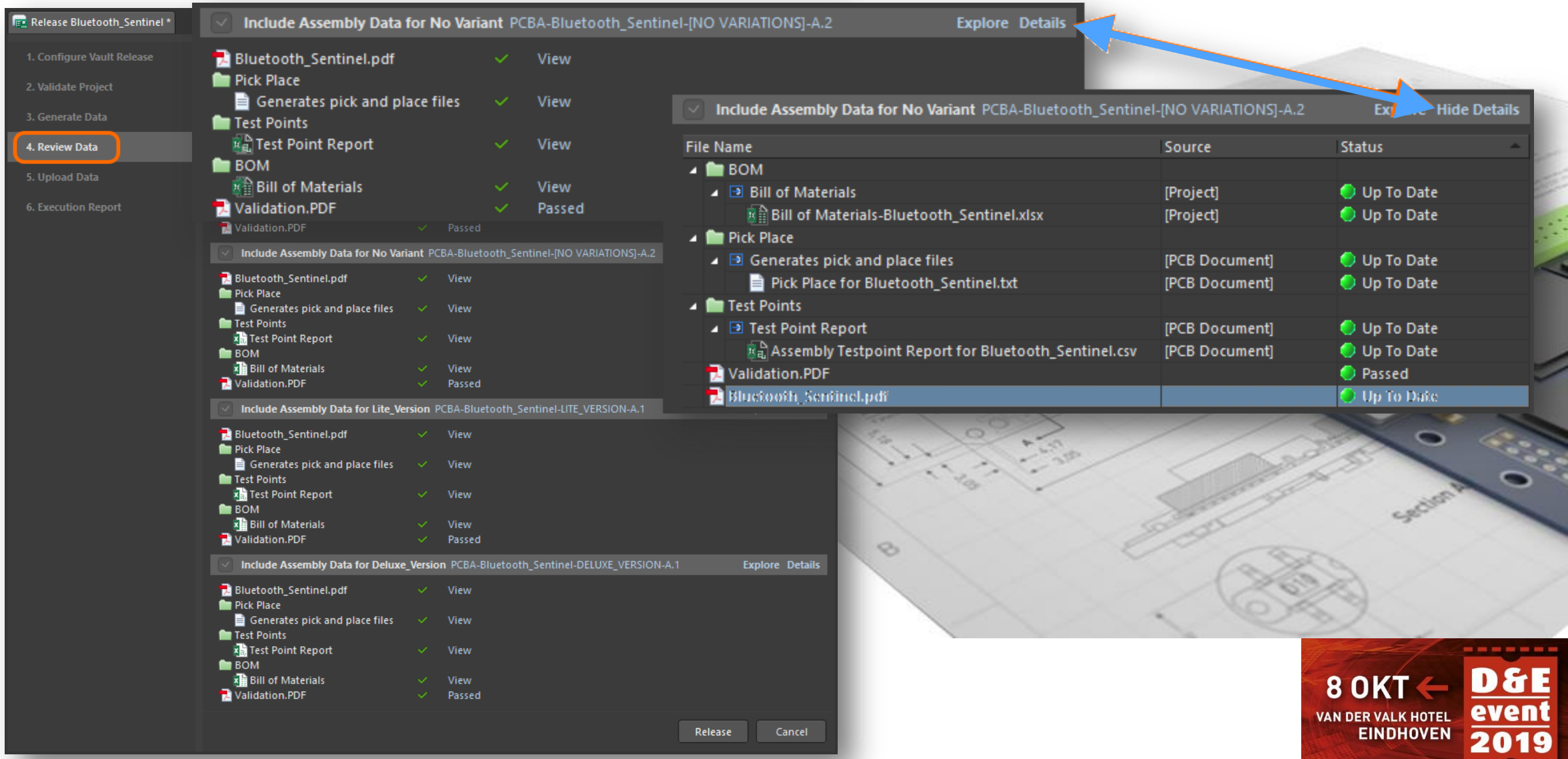
Product Documentation



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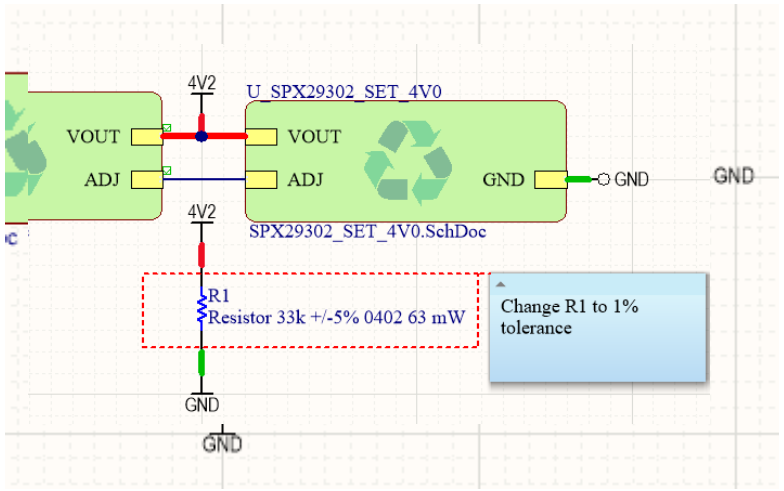
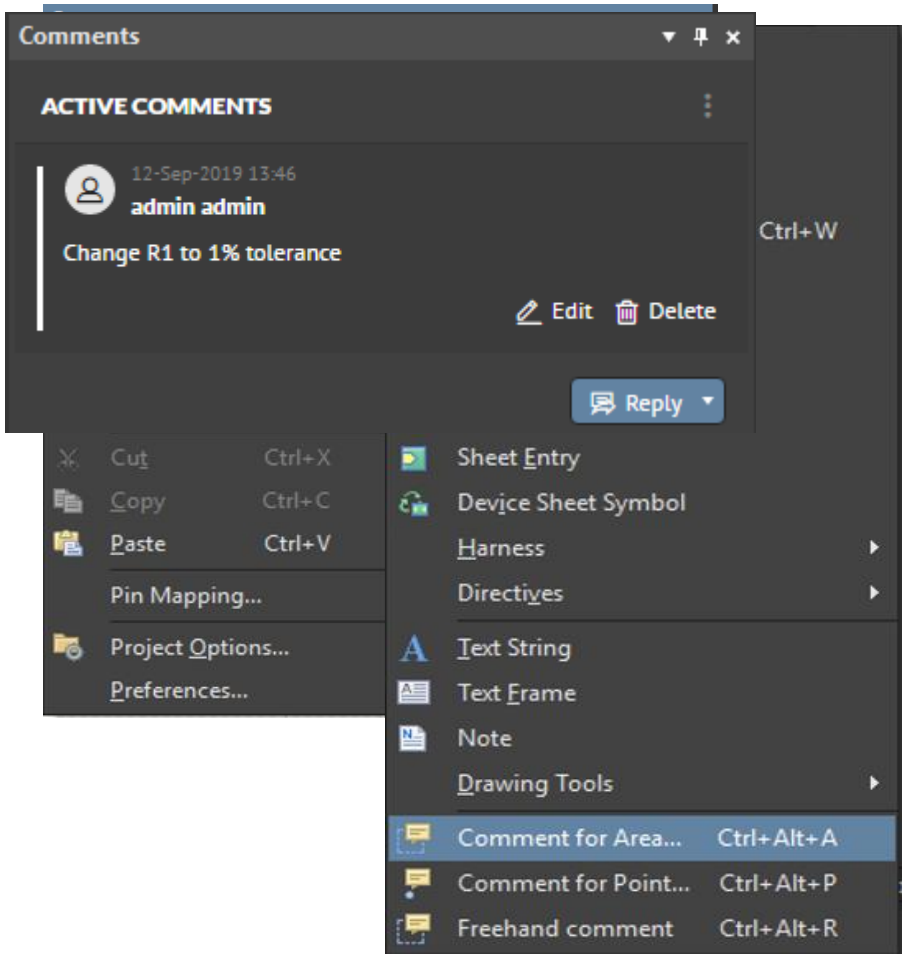
Reviewing





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Connected Platforms

- Dynamic conditions
  - difficult to keep everyone and everything in sync.

- Cloud-based platform
  - seamless access from all over the world
  - environment for effortless, multi-domain collaboration
  - real-time information sharing to ensure
    - synchronization,
    - accuracy and
    - reliable manufacturability.

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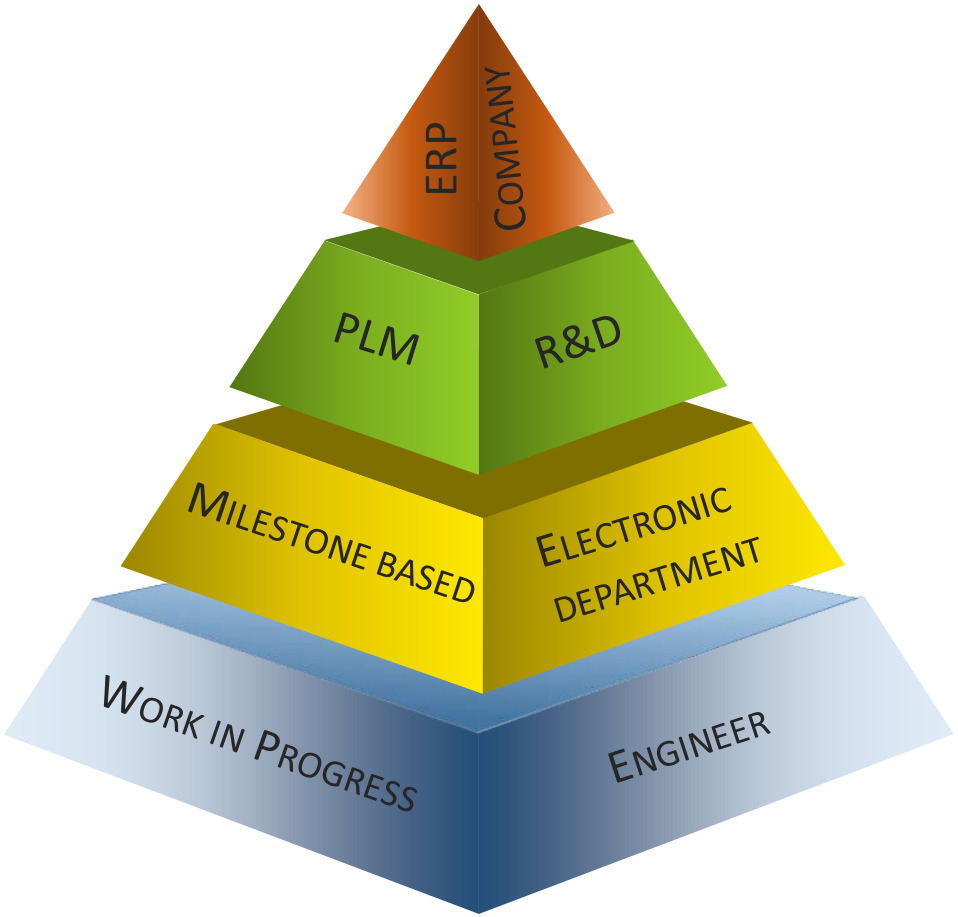
Data Management



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4 Reasons for Data Management

- Right & Ready for Production
- Accelerated- or on Time Product Release
- Increased Design Quality
- Easy to find the right Parts

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