

Integriertes Fabrik Modell Fakten & Nächste Generation

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Factory Designer



Integrated Factory Modelling

Robert Ostermann

Facts & Next Generation

10/7/2021



Topics

- My Mission
- Towards a Shared Understanding and Challenges
- Facts Building- & Building Infrastructure
- Facts Production Facilities
- Facts Integrated Factory Models
- Integrated Factory Models Next Generation



Author: Robert Ostermann



My Mission

- Better Workflows with Modern Systems
- Disrupting Common Thinking of Established Systems
- Changing Communication in Terms of Factory Integration

"If you always do what you've always done, you'll always get what you've always got" – Henry Ford

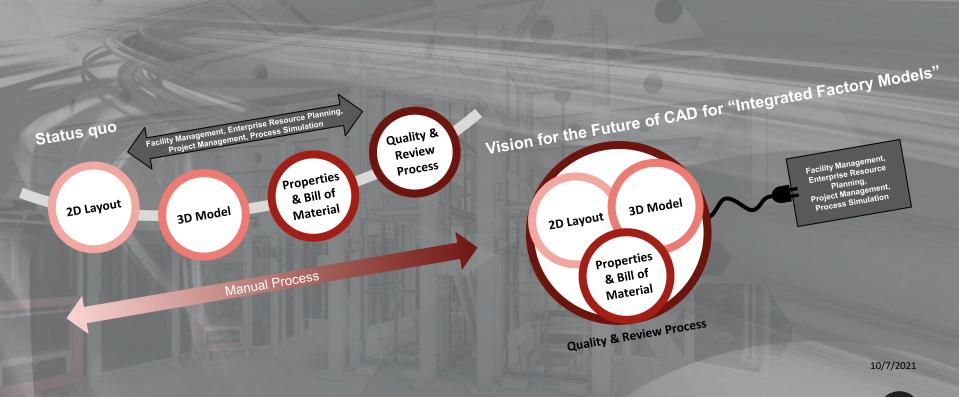
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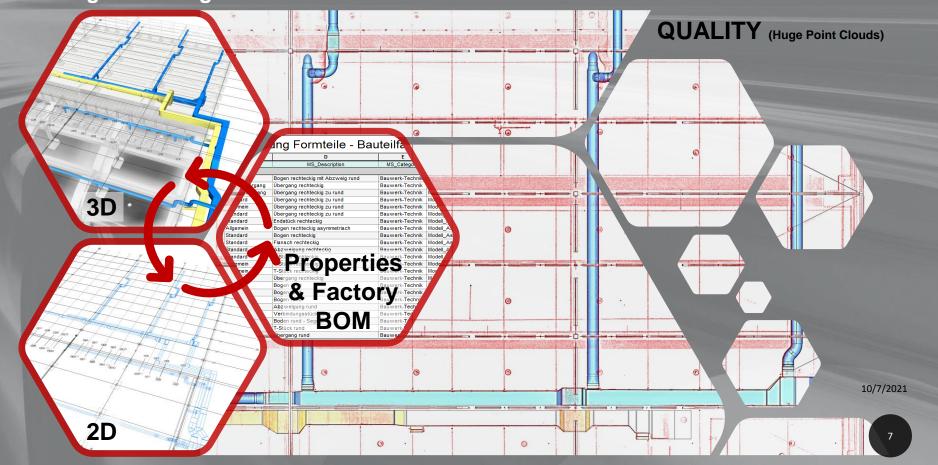
Integrated Factory Model – Towards a shared understanding A MAGNA





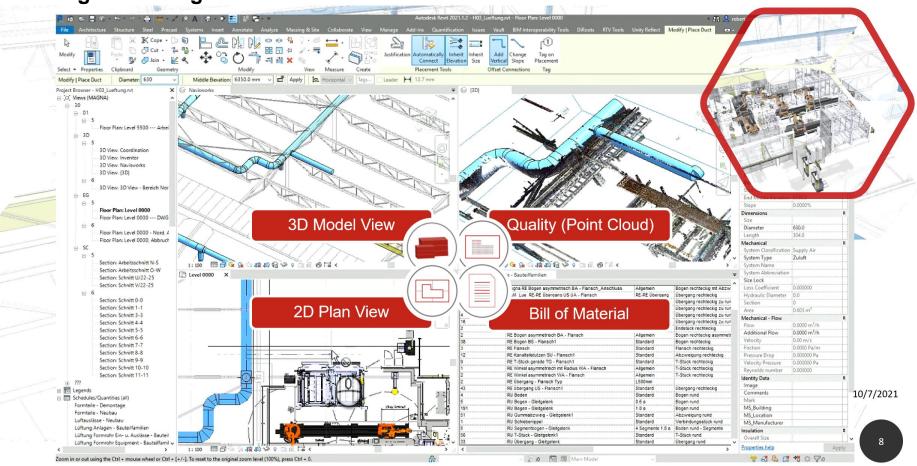
Integrated Factory Model – Fact or Fake? Building & Building Infrastructure





Integrated Factory Model – Facts Building & Building Infrastructure

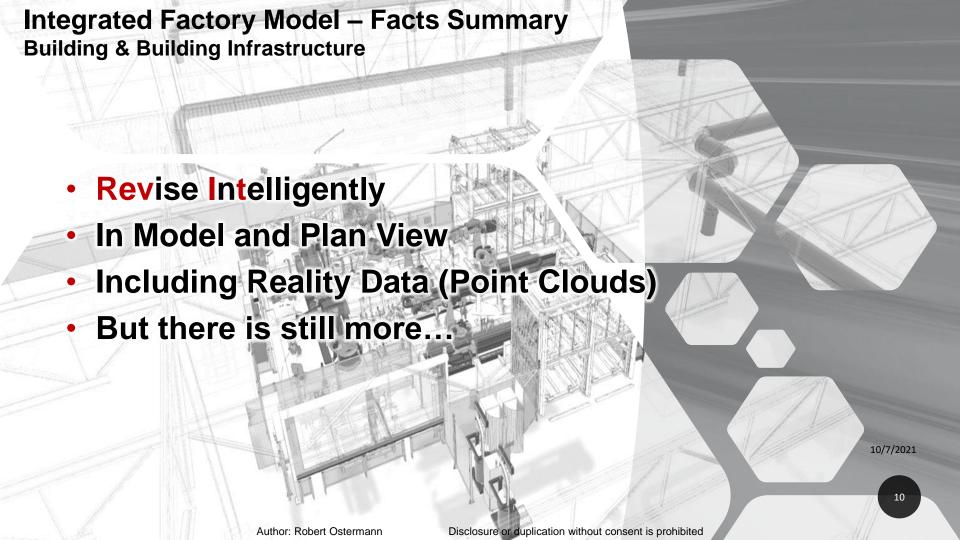




Integrated Factory Model – Facts Building & Building Infrastructure

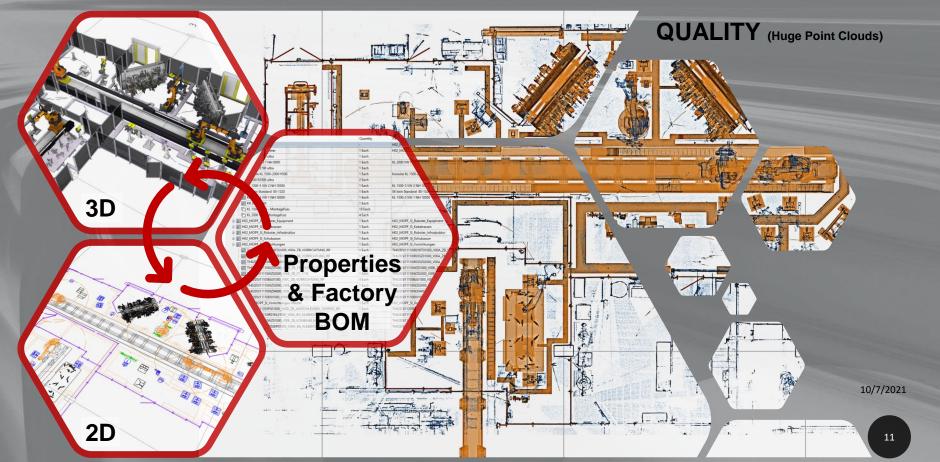






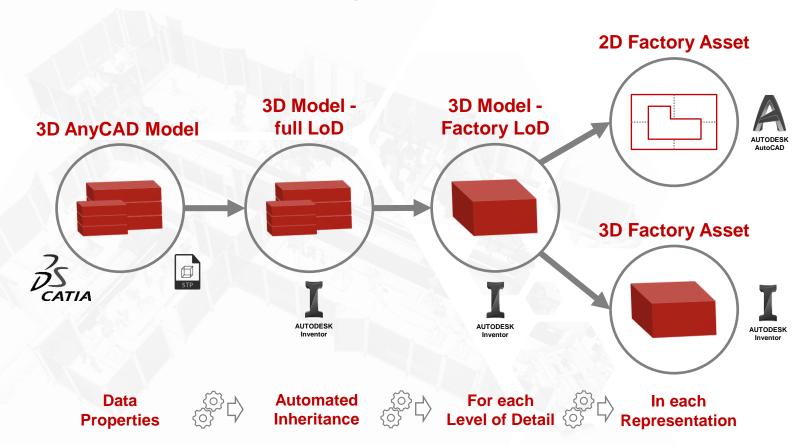
Integrated Factory Model – Fact or Fake? Production Facilities





Integrated Factory Model – Facts Production Facilities – Unique Design Data



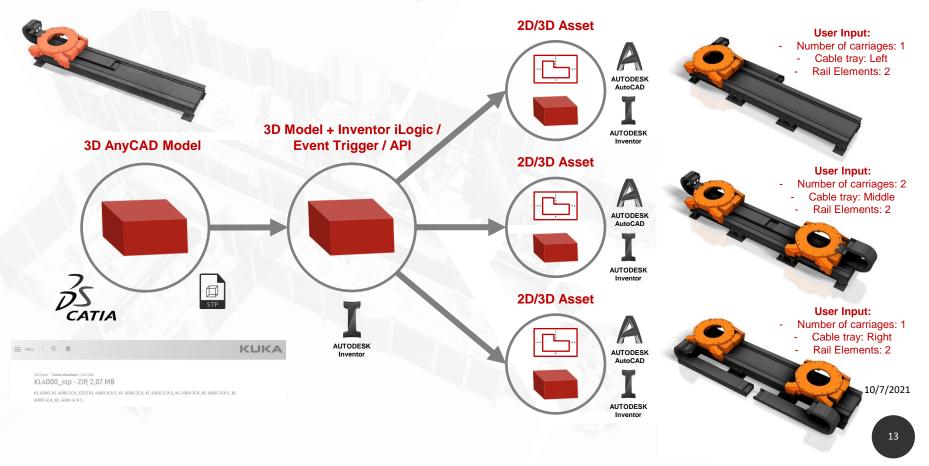


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12

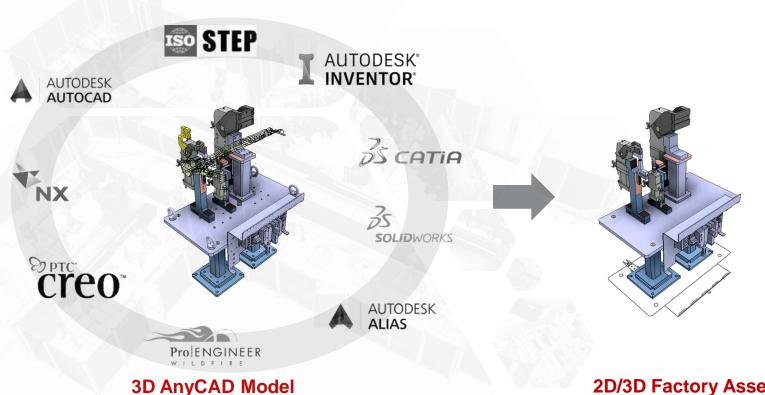
Integrated Factory Model – Facts Production Facilities – Parametric Design Data





Integrated Factory Model – Facts Production Facilities - AnyCAD





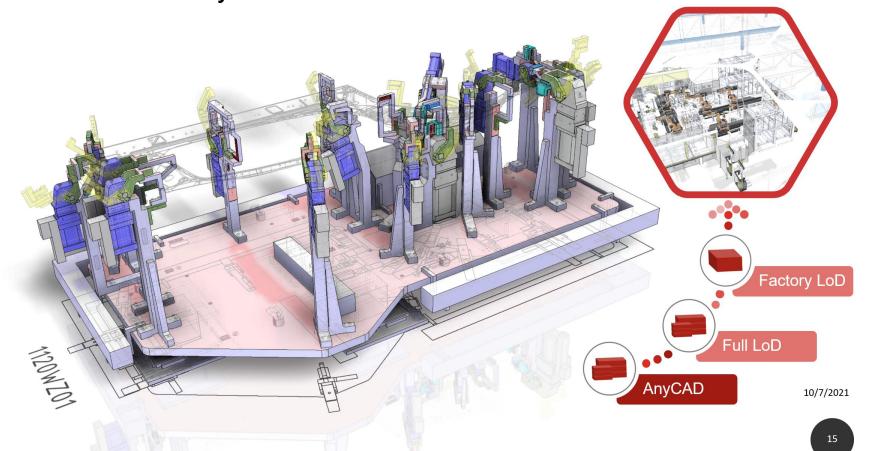
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2D/3D Factory Asset



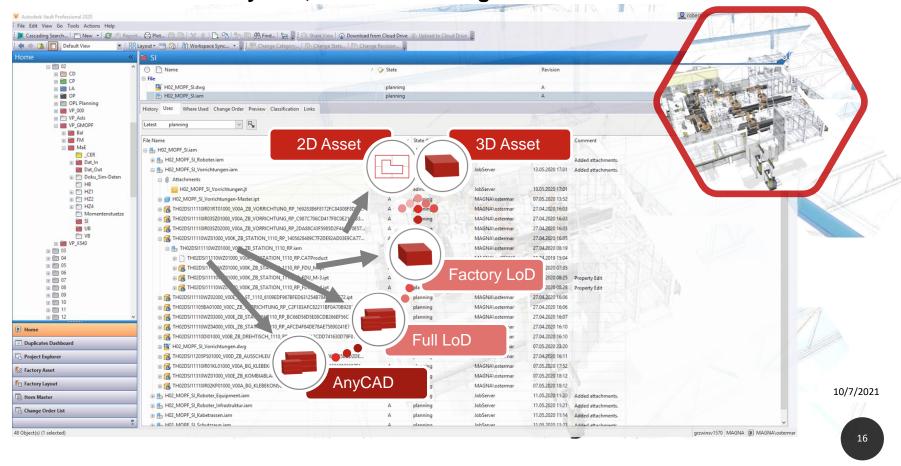
Integrated Factory Model – Facts Production Facilities – AnyCAD & LoD Automation





Integrated Factory Model – Facts Production Facilities – AnyCAD, LoD & PDM Integration





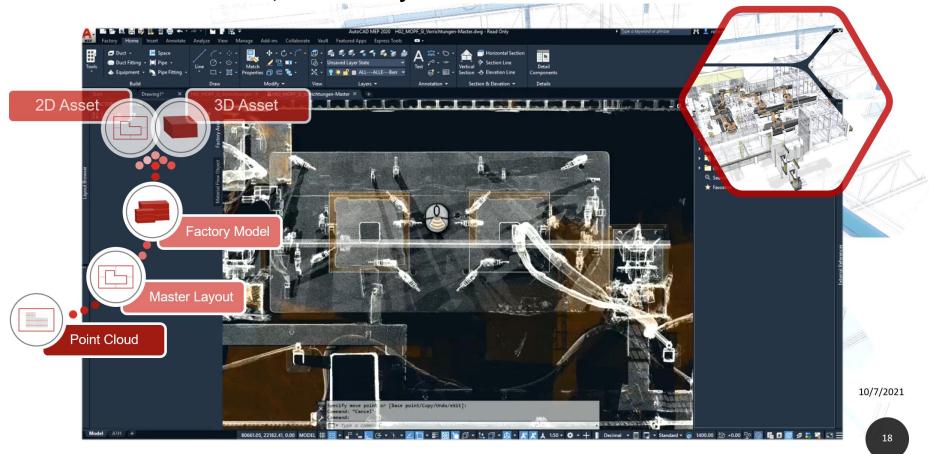
Integrated Factory Model — Facts
Production Facilities — AnyCAD, LoD & PDM





Integrated Factory Model – Facts Production Facilities – 2D, 3D & Quality





Integrated Factory Model – Facts Production Facilities with Autodesk Factory Design Utilities

Author: Robert Ostermann





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Integrated Factory Model – Facts Summary Production Facilities with Autodesk Factory Design Utilities

- Production Facilities Intelligently Revised
- In Model and Plan View
- Including Reality Data (Point Clouds)
- But there is still more...

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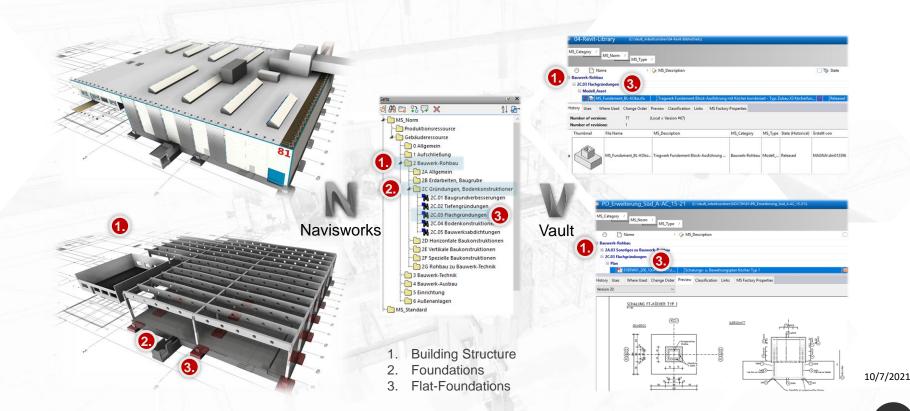
Integrated Factory Model – Fact or Fake?





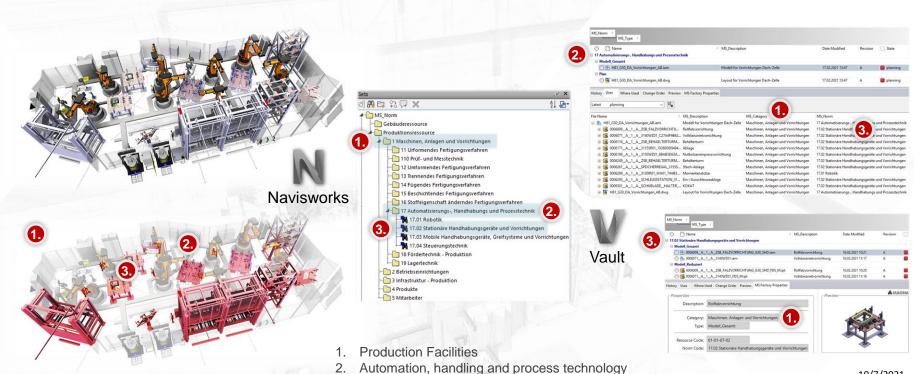
Integrated Factory Model – Fact Common Data Structure in PDM, CAD, Factory Model and Documents





Integrated Factory Model – Fact Common Data Structure in PDM, CAD, Factory Model and Documents



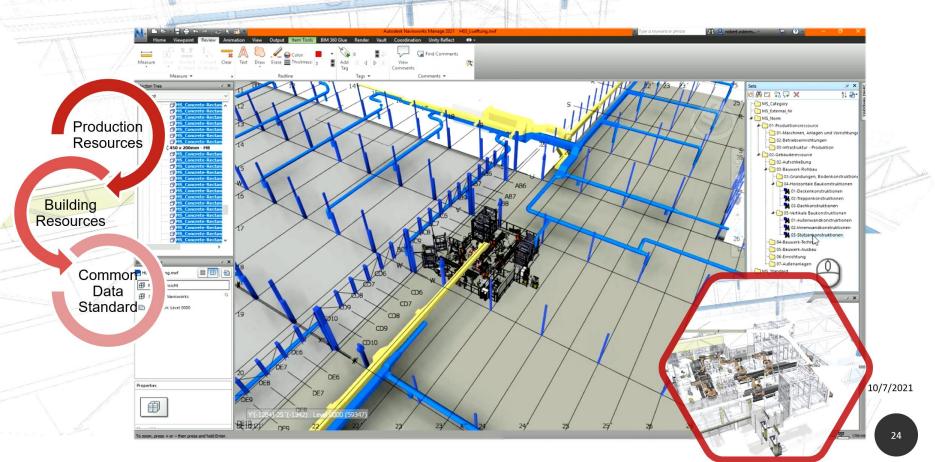


Fixed handling equipment and fixtures

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Integrated Factory Model – FactCommon Data Standard in Factory Model

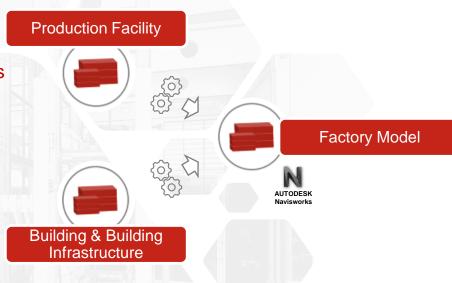




Integrated Factory Model – Fact Model Coordination with native Data-Management



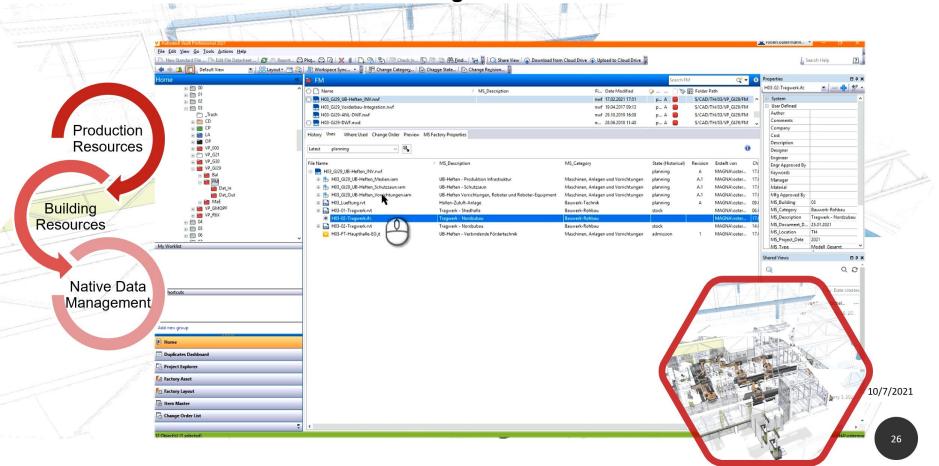
- Level 1 (Low Level Coordination):
 - Manual or PDM/PLM triggered file conversion (JT, STEP, IFC, DWFx...)
- Level 2 (Basic Coordination):
 - Automatic cache file with update trigger
 - No constraints between objects in file references
 - No native data-management
- Level 3 (Advanced Coordination):
 - Direct file-reference with update trigger
 - Constrains between objects in file references
 - Native data-management
- Level 4 (Real-Time Digital Coordination):
 - Live-linked and mobile models
 - Live communication in model environment



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Integrated Factory Model – Fact Model Coordination with native Data-Management



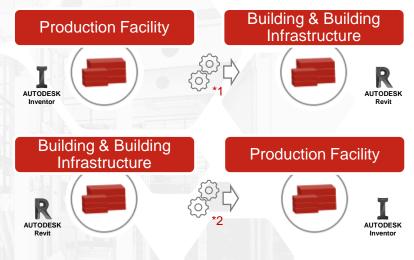


Integrated Factory Model – Fact Model Coordination between Different Model Disciplines



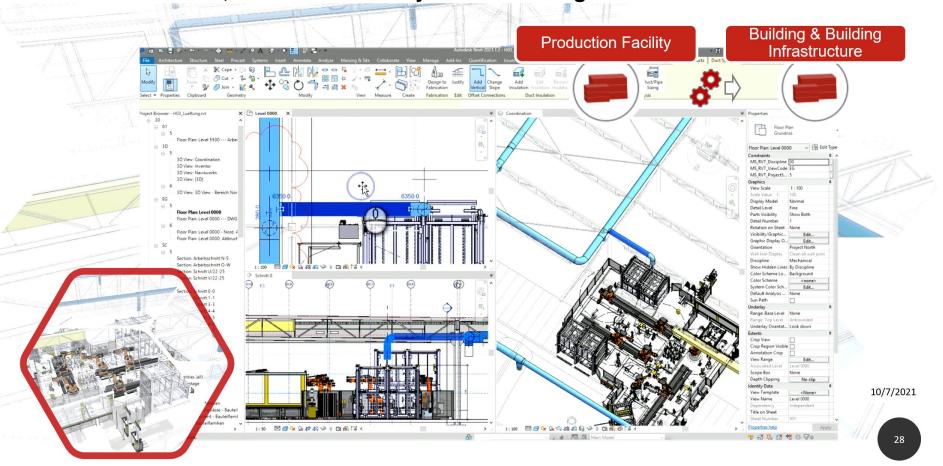
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- Level 1 (Low Level Coordination):
 - Manual or PDM/PLM triggered file conversion (JT, STEP, IFC, DWFx...)
- Level 2 (Basic Coordination):
 - Automatic cache file with update trigger *1
 - No constraints between objects in file references *1
 - No native data-management *1
- Level 3 (Advanced Coordination):
 - Direct file-reference with update trigger *2
 - Constrains between objects in file references *2
 - Native data-management *2
- Level 4 (Real-Time Digital Coordination):
 - Live-linked and mobile models
 - Live communication in model environment



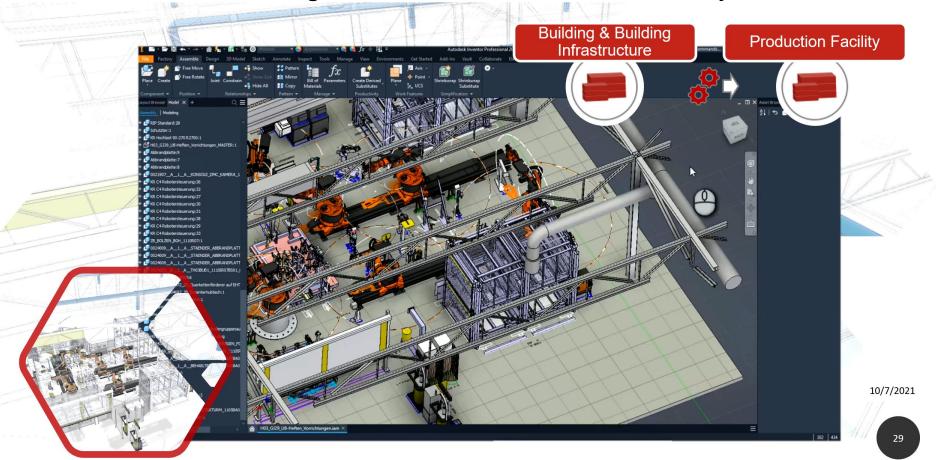
Integrated Factory Model – Fact Model Coordination, Production Facility within Building Infrastructure





Integrated Factory Model – Fact Model Coordination, Building Infrastructure within Production Facility





Integrated Factory Model – Facts Summary

- Seamless Collaboration between Toolsets
- Including Reality Data (Point Clouds)
- But there is still innovation to do things better...

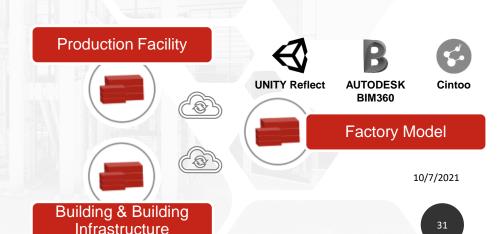
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30

Integrated Factory Model – Future Model Coordination



- Level 1 (Low Level Coordination):
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- Level 3 (Advanced Coordination):
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 - Native data-management
- Level 4 (Real-Time Digital Coordination):
 - Live-linked and mobile models
 - Live communication in model environment



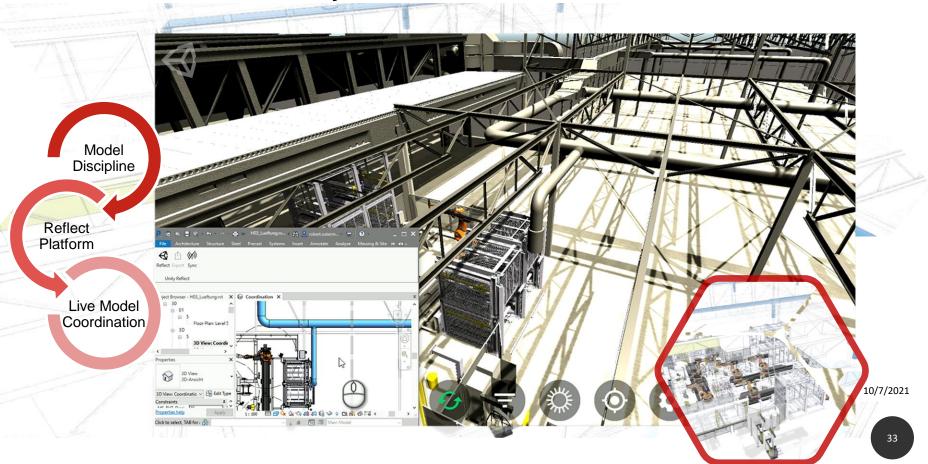
Integrated Factory Model – Future Model Coordination within BIM360





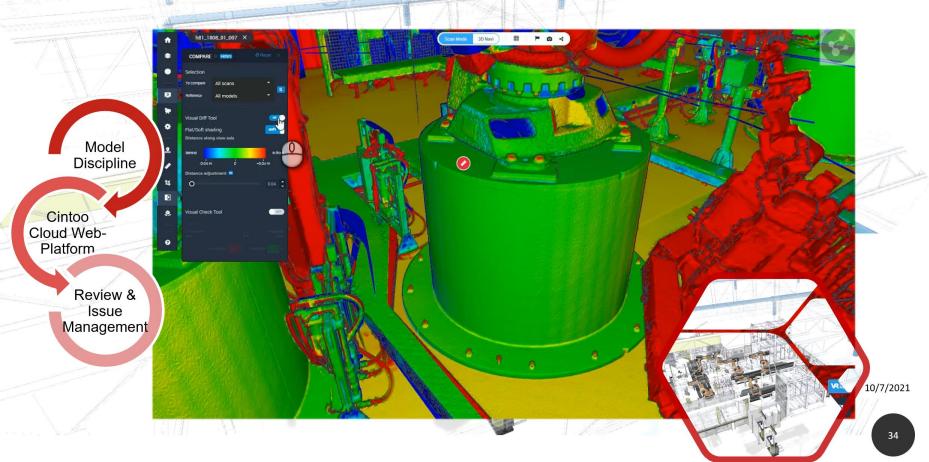
Integrated Factory Model – Future Model Coordination within Unity Reflect





Integrated Factory Model – Future Model Quality & Reality Data within Cintoo







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