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JT based assembly planning 4.0 | 05.11.2018
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Gilles Gonzalez
Senior Manager Business Development
Digital Platforms – PLM / IT Solutions
Heidelberger Druckmaschinen AG

Dr. Peter Milde
Senior Manager PLM
Digital Platforms – PLM / IT Solutions
Heidelberger Druckmaschinen AG

Seit 1999 bei der Heidelberger Druckmaschinen AG.
Ab 2015: Senior Manager Business Development – Heidelberg Digital Platforms
Davor Product Manager mit Schwerpunkt Automation, Farbmesssysteme und Workflow-
Integration. Projektleiter für die Bereitstellung und Einführung der Cloud-basierte

Ausbildung:
1987 Dipl.-Ing. - ECOLE FRANÇAISE DE PAPETERIE ET DES INDUSTRIES
GRAPHIQUES (damals EFG, heute PAGORA) beim INPG – Institut National
Polytechnique de Grenoble, Frankreich.
2003 MBA - EUROPEAN SCHOOL OF BUSINESS in Reutlingen, Deutschland.

Seit 2001 bei der Heidelberger Druckmaschinen AG.
Ab 2007: Senior Manager PLM – Heidelberg Digital Platforms
Ab 2014: Verantwortlich für die View2Connect Entwicklung
Davor Projektleiter für die Einführung der Direktschnittstelle NX-SAP/PLM (ECTR)

Ausbildung:
1982 Dipl.-Ing. Maschinenbau in Karlsruhe
1987 Dr.-Ing. am Forschungszentrum Informatik in Karlsruhe
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JT based assembly planning 4.0

➔ JT process @ Heidelberg

➔ JT based assembly planning 4.0 @ Heidelberg

➔ further JT based business support
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JT process @ Heidelberg

General PLM rules:

- CAD is the tool for the designers
- All other application should use a reliable lightweight format

➔ JT V9.5 (ISO 14306) based process
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JT process @ Heidelberg

Heidelberg uses a two step approach to create lightweight models

1. **Creation of JTs**
   - single parts
   - standard assemblies (fully shattered, only one level)
   - assemblies that change the geometry of components in their context

   Heidelberg Quality Manager adapts / enriches / reduces the JTs (e.g. additional meta data)

2. **Creation of PLMXMLs (or AP242XMLs) as „snapshots“ of assemblies**
   Process is based on
   - document structures and/or
   - material structures
   - equipment structures
   and generates XML files according to validity, variants, etc.

   All created data is managed within the PLM system and is accessible via PLM GUI
   Data is created by an conversion server process (status change, manual assignment)
JT process @ Heidelberg

Heidelberg CAX Quality Manager:
Detection of constellations influencing the geometry of components in assemblies

Some constellations in NX where just using JTs of single parts would lead to wrong representations of assemblies.
JT process @ Heidelberg

SAP-PLM (ECTR): Creation of „snapshots“ for assemblies

- Snapshots are managed as Document Info Records within the PLM-System
- They are permanently stored as an exact representation of NX-Assemblies
- NX load options are considered

Based on document structure (BOD)

Based on material structure (BOM)
JT process @ Heidelberg
SAP-PLM (ECTR): Integration of View2Connect
View2Connect SAP-PLM (ECTR) Integration
SAP-PLM (ECTR) Integration
JT process @ Heidelberg

Summary

"zero error"  "smart"  "safe"  "lightweight"  "simple"  "efficient"  "for all"

Ensure CAx data quality
Enrich CAx data (PLM/ERP)
Ensure know-how protection
Create neutral format
Visualize product data
Analyze / modify / process product data
Use product data

Design
Production
Procurement
Service
Customers

Heidelberg CAx Quality Manager (Siemens NX Add-on)
DMU-Process (SAP-PLM)
View2Connect (multi-PLM / multi-ERP)
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View2Connect Assembly

View2Connect Assembly Player

Repository ➔ Creation ➔ Publication ➔ Assembly
Practical example
Multilingual markups with labels out of metadata.
Markups - multilingual stamps - from customizable enterprise knowledge database.
M3.028.133 /01 Federlager

M3.028.119 /01 Hülsen - POM

42.431.128 / Scheibe

M3.028.112 / Druckfeder - VDSiCr

M3.028.112 / Druckfeder - VDSiCr

02 Schrauben und Stopfen montieren.

2 Elemente ausgewählt: Geom. 83/91 Fertig DE
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View2Connect Assembly: Authoring

Repository → Creation → Publication → Assembly
Practical example
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View2Connect Assembly: Change management assistant
Practical example
Change notification, load new assemblies from ERP/PLM (e.g. using SAP-PLM connector)
Split view: old/new or is/should for fast capture of changes

Structure comparison after selection of the desired comparison strategy
Other available views: Overlapping or ghost mode
Rescue work status of the planner via pre-flight wizzard
Export of the new work plan to ERP (e.g. to SAP)
Updated work plan in ERP (e.g. in SAP using the View2Connect SAP connector)
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Summary

View2Connect (Authoring)

Creation / maintenance of mBOM, sequence of operations, work and service documentation as well as time management, ergonomics, logistics and calculation grounds in one tool.

Repository
(CAD, PLM, ERP, ...)

Creation / Care
(Virtualization, change management)

Publication / Interfaces
(Provision as ... / Derivation as ...)

Business Objects & Interfaces

Export
xml, xls, doc, png, jpg.

Multi-CAD

2D

Assembly Player

3D

Multi-ERP

Multi-PLM

SAP PLM/ERP*, Teamcenter*, Keytech*, proALPHA*, abas*, ...

(*) Projektlösungen

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Web Viewer
HTML 5.0, stl, json, obj, jt.

Assembly Player
AR, MR

Multi-CAD

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(CAD, PLM, ERP, ...)

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**Further JT based business support**

**View2Connect (Authoring)**

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(CAD, PLM, ERP, ...)

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(Virtualization, change management)

**Publication / Interfaces**
(Provision as ... / Derivation as ...)

- **Export**
  - xml, xls, doc, png, jpg.
- **Web Viewer**
  - HTML 5.0, stl, json, obj, jt.
- **Assembly Player**
- **AR, MR**
- **Multi-CAD**
  - JT 9.5
  - Siemens, Dassault, PTC
- **Multi-ERP**
  - SAP PLM/ERP*, Teamcenter*, Keytech*, proALPHA*, abas*, ...
- **Multi-PLM**
  - (* Projektlösungen
- **Repository**
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View2Connect Base available as a free Win 10 App
Many thanks for your attention.