Fabrica Digital – Volkswagen Autoeuropa

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Volkswagen Autoeuropa

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Agenda

1. Introduction

2. Digital Factory Goals

3. Project Scope

4. Tools Implemented at Autoeuropa

5. Digital Factory Development Steps

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Digital Factory - Introduction

Vídeo

Digital Factory Goals

- Fulfill Volkswagen requirement for standardized processes and supporting systems in manufacturing planning and engineering areas.

- Use simulation and digital mockup tools to minimize planning errors and avoid corrective actions after implementation.

- Enable close collaboration between all teams involved in development, planning and construction.

- Reuse acquired knowledge and best practices from other projects throughout the Volkswagen group.

Process Planning

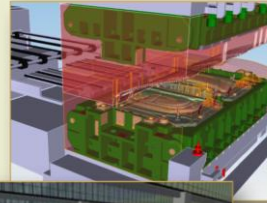Product Design

Process Simulation

Production

2

Digital Factory Project Scope

Stamping and Tooling
- CAM integration (Tebis) with Catia 3D Modeling & Design
- Feasibility and springback analysis with Autoform
- Press lines in CATIA 3D and press simulation

Body Planning
- Process Designer (DiKab)
- Plant Simulation

Logistics Planning
- Process Designer Logistics (ViLog)
- Plant Simulation
- Container planning and simulation tools

Infrastructure
- New HLS structure for integration with D. Factory tools
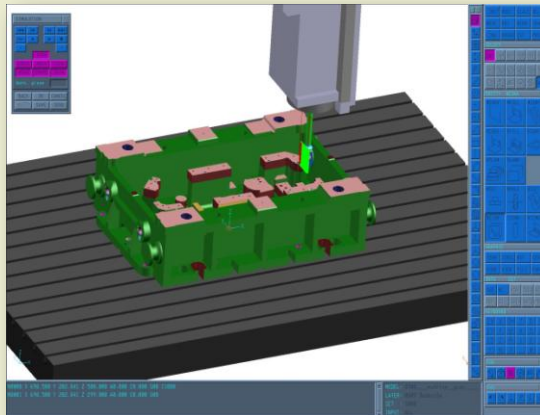
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TEBIS CAM Simulation

Use the machining and simulation software to visualize the entire process in advance, so that the critical areas can be identified, examined and adjusted if necessary.

Machining simulation increases safety and prevent damages to tools and workpieces.
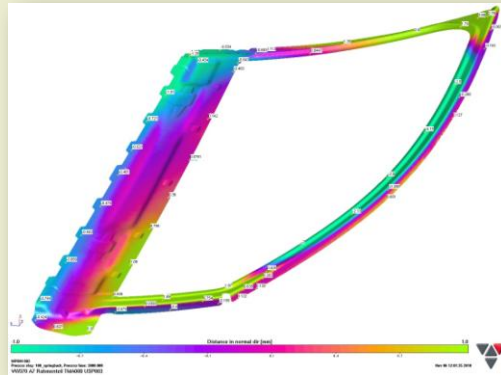
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Autoform: Feasibility and Springback Analysis

Perform the preliminary and final studies to determine a project's viability.

Early forming simulation checks helps ensure the manufacturability of stamped parts.

Use the finite element analysis to find the optimum forming process and parameters to reduce the springback.

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Press Lines in 3D and Press Simulation

Simulation of the stamping and transfer operations helps to detect process deficiencies.

Bottlenecks can be identified and eliminated.

Process timing and resources can be optimized before physical implementation.
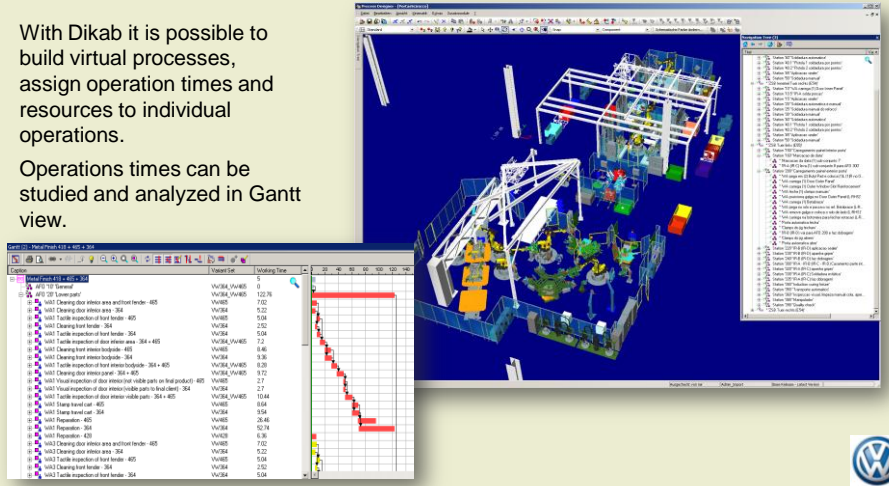

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Process Designer Body (Dikab)

With Dikab it is possible to build virtual processes, assign operation times and resources to individual operations.

Operations times can be studied and analyzed in Gantt view.
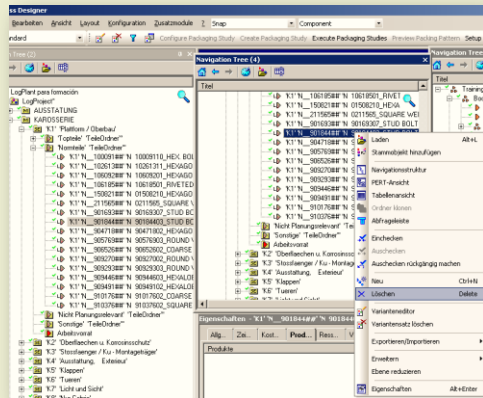

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Process Designer Logistics (Vilog)

Vilog allows Autoeuropa to map its material flows with custom levels of detail inside the system. This flexibility can be allied to the modularity supply chain design to minimize process design work and obtain faster results.

The impact in global cost, time and other key business factors will be immediately visible when the virtual process is modified.

Interfaces with VW logistics systems are being finalized for automated data update.
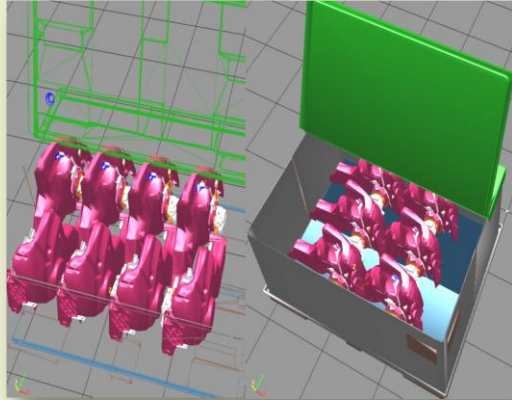

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Container Packing Simulation

Packing simulation tools such as PDL - Container Packing (Siemens) and Packassistant (MVI Solve-IT) can be used to choose or develop the most effective and practical containers for the complete supply chain.

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Thank You.

Questions.

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WERKZEUGBAU MARKE VOLKSWAGEN