

DESIGNING THE FACTORIES OF THE FUTURE WITH 3D MANUFACTURING SIMULATION

 VISUAL
COMPONENTS



THE COMPETITIVE LANDSCAPE IS CHANGING FOR MANUFACTURERS

There's a shift happening in manufacturing. In almost every industry segment, manufacturers are struggling to understand their changing customer and competitive landscapes, and how to evolve their product development and production strategies in order to remain responsive to market needs.

Digitalization is a leading cause of this change and has been a driving force in redefining the global manufacturing landscape. It's reshaped industries, transformed supply chains, and made an already competitive business even more brutal.

Today, if you want to succeed as a manufacturer, you need to embrace the fact that your industry is undergoing a massive transformation, and re-commit your organization to compete in this more complex, more challenging, and more digital environment.

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Digital transformation doesn't just mean implementing enterprise software in your organization to do things better, faster, and cheaper; it refers to a transformation of your business with technology.

What are some of the greatest challenges facing manufacturers and how are they using 3D manufacturing simulation to address them?

SHORTER DEVELOPMENT CYCLES

Product development cycles for everything from consumer electronics and consumer packaged goods to pharmaceuticals and automobiles are getting shorter, putting enormous strain on product development teams, production centers, and supply chains. Reducing product development timelines is challenging, especially for large manufacturers with global operations and supply chains. New Product Introduction teams use 3D manufacturing simulation software to design, test, and simulate new production centers and their impact on supply chains.

STRONGER DEMAND FOR CUSTOMIZATION

Advances in manufacturing technology are making it possible for companies to make custom products in record time, and at competitive prices. More companies are adopting build-to-order production strategies for a variety of product categories, including many lower-cost products that were once considered immune to this change. Leading manufacturers are using 3D manufacturing simulation software to design, test, and simulate flexible and responsive production solutions.

PRESSURE FOR BETTER COST MANAGEMENT

Whether you're trying to control production costs from skyrocketing on a new product, or looking for opportunities to minimize waste in your overhead, strong cost management is essential for manufacturers. 3D manufacturing simulation software allows you to visualize and simulate your production centers and supply chain, avoiding issues before they become issues, and preventing downtime and waste.

HOW DOES 3D SIMULATION DELIVER VALUE FOR MANUFACTURERS?

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It was only through simulation and its realistic modeling of dynamic interactions that we discovered the weak points of the system at an early stage and ultimately meet the requirements to the complete satisfaction of all concerned.

- Alois Wiesinger, M.Sc. (Tech),
Product Developer at Fill GmbH



DESIGN SMARTER SOLUTIONS

Design smarter production solutions with technology that's purpose-built for manufacturing design. Design, test and simulate new production solutions in a risk-free, virtual environment.



GET PREDICTABLE PERFORMANCE

Plan new projects with confidence. Discrete event simulation software allows you to simulate complex processes and workflows, so you get accurate performance calculations to make informed decisions.



STREAMLINE CONCEPT DESIGN

Reduce the time it takes to design and validate production layouts. Develop manufacturing concepts faster; with a large library of ready-to-use components, the ability to import most CAD file types, and simple workflows for creating your layout.



ACCELERATE STAKEHOLDER BUY-IN

Present your solutions in a format everyone can understand, such as video, 3D PDFs, 2D drawings, and even virtual reality models. Eliminate knowledge gaps and communication barriers that keep projects from moving forward.



VALIDATE CHANGES VIRTUALLY

Design, test, and simulate changes to production configurations in the virtual world first. Minimize downtime and avoid costly pauses, rework, and design changes downstream.



IMPROVE ROI ON NEW MANUFACTURING PROJECTS

Use 3D manufacturing simulation software to get the most out of your project budget; maximize performance, avoid expensive mistakes, and visualize opportunities for improvement and cost savings.

VISUAL COMPONENTS

4.3

The next generation of 3D manufacturing simulation technology

Visual Components 4.3 is the next generation of manufacturing simulation technology. Designed for manufacturing professionals and built on a powerful, flexible, and scalable platform.



PROCESS MODELING WITH VISUAL ASSEMBLY MANAGEMENT

Process Modeling is a fast, easy, and visual way to define and manage product & assemblies, processes, and production flow.



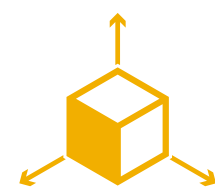
ENHANCED VIRTUAL COMMISSIONING

Use the new connectivity plugins for WinMOD and SIMIT system to validate your simulations by connecting with several vendor-specific physical and virtual controllers. In addition, the connectivity and post-processor for the Stäubli CS9 controller supports more virtual commissioning.



MORE STREAMLINED

Modify & manage your process simulations with simple to use process modeling helper tools. Simulations more authentic with improved functionality of resources & other improvements.



SIMPLIFIED MODELING TASKS

Convert your geometries to simulation ready components faster with new modeling improvements. Import the CAD data with assembly structures and use wizards to quickly scale up your designs.

EXPLORE THE POWER OF SIMULATION WITH VISUAL COMPONENTS PRODUCT FAMILY

ESSENTIALS

Visual Components Essentials is our core manufacturing simulation product. Design, build and simulate your factory of the future using ready-made components.

Layout Configuration: Configure layouts using our simple, component based system. Use your own custom components and CAD models, or our free eCatalog, which includes 2,500+ pre-built simulation ready components.

Process Modeling: Define and manage the products, processes and process flows in your layouts with simple, easy and visual workflows.

CAD Compatibility: Import CAD models directly into the Visual Components 3D world. Most major file formats and extensions are supported.

Project Ready Deliverables: Export presentation-ready content with 1-click: 4K videos, 3D PDFs, 2D drawings, pictures and experience your simulation in VR and mobile.

Simple Robotics: Define, model, and simulate robotic behavior and actions. Perform analyses such as reachability and collision detection.

PLC Connectivity: Connect simulations with your control system using OPC UA or supported vendor specific interfaces.

Statistics and Reporting: Create custom charts, graphs, and dashboards to visualize simulation statistics. Export data in supported formats.

PROFESSIONAL

Visual Components Professional is our component creation solution. Define and create your own components to simulate in our 3D world. It includes everything in Essentials and gives you the tools to model and create your own components.

Component Modeling: Bring your CAD files to life and customize them with behaviors and properties to build your own personalized library of components.

Wizards: Activate CAD files for the 3D world faster with wizards that automate configuration for many component types.

Basic CAD: Create simple 3D geometries and modify imported CAD files with this basic CAD modeling toolkit.

Geometry Simplification: Reduce file sizes and improve simulation performance with the automated geometry simplification tool.

PREMIUM

Virtualize your factory of the future with our complete manufacturing simulation solution. It includes everything in Essentials and Professional, plus more features for advanced robotics applications.

VRC Connectivity for UR and Stäubli: Supports connectivity to Universal Robots & Stäubli CS8, CS9 controllers.

WinMOD and SIMIT Connection Plugins: Simulate, connect, verify your PLC programs & robot kinematics with several vendor-specific controllers for virtual commissioning. SIMIT enables to connect with complete range of Siemens automation systems.

Curve Teaching Tool: Automates robot path planning by analyzing object geometries, making paths predictions, and suggesting robot paths.

Interactive VR: It's possible to create a streaming connection to Visual Components Experience, allowing users to interact with the VR environment.

SUCCESS STORIES

Learn more about how leading manufacturers and integrators use Visual Components in the sales, design, and implementation of new production solutions.



Visual Components is helping us to start the manufacturing development process much earlier than before, and reduce critical time to market.

Miikka Ahola, Manufacturing Solutions Manager for KSU Manufacturing Solutions - KONE



The Visual Components solutions are simple, good looking and easy to use, and the fact that a product this effective is also affordable really sealed the deal for us.

Mika Laitinen, Sales Manager Robotics - Fastems



We were not just looking for a powerful tool to simulate robot activities, but something that could simulate the entire production chain. For this, Visual Components was the best tool.

Tero Kujamäki, Project Manager for Marine Solutions - Wärtsilä's Delivery Centre Development



We chose Visual Components platform due to its flexibility, which gives us endless possibilities to develop the FlexLink Design tool. The Visual Components team shows a great openness and willingness to take their products to the next level and every release brings added value to our day to day work.

Johan Wester, Software Manager - FlexLink



Using Visual Components to create layouts and simulate our designs, we were able to fully showcase the creativity and capabilities of our team to the customer.

Kyle Weise, Marketing Director for IAS Inc.



As a comprehensive and professional simulation tool, Visual Components played a very important role in this project. With Visual Components, we can easily design, simulate, and verify all kinds of solutions in a virtual environment.

Kong Fanshi, Ph.D, - Simulation Engineer on the Digital Center team, Midea Group

DISCOVER THE POSSIBILITIES OF 3D SIMULATION FOR MANUFACTURING



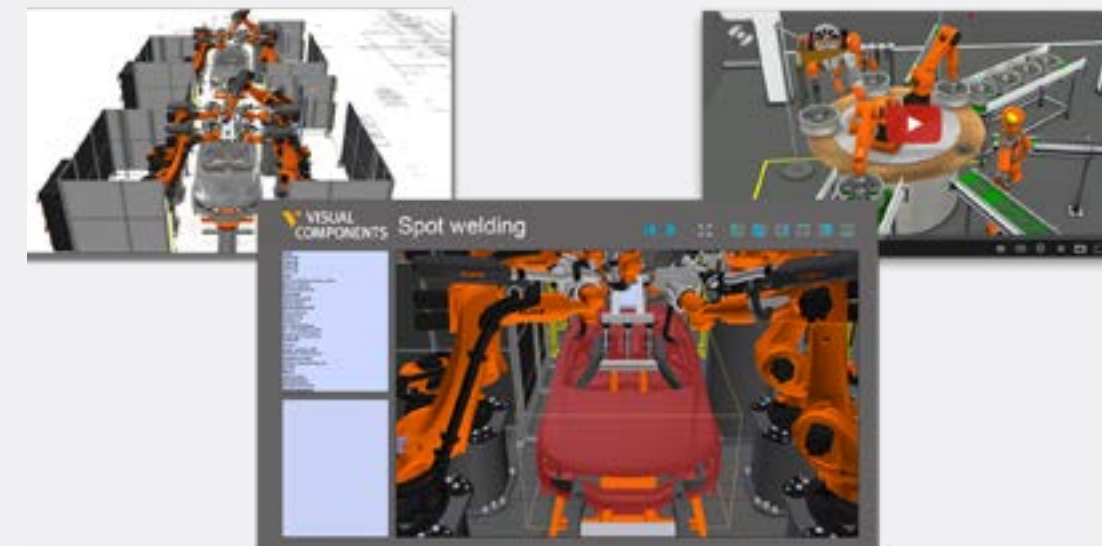
SIMULATION VS. VISUALIZATION - WHAT'S THE DIFFERENCE?

Not sure what the difference is between simulation and visualization? [Here's a short primer](#) that explains what they are and how they're different.



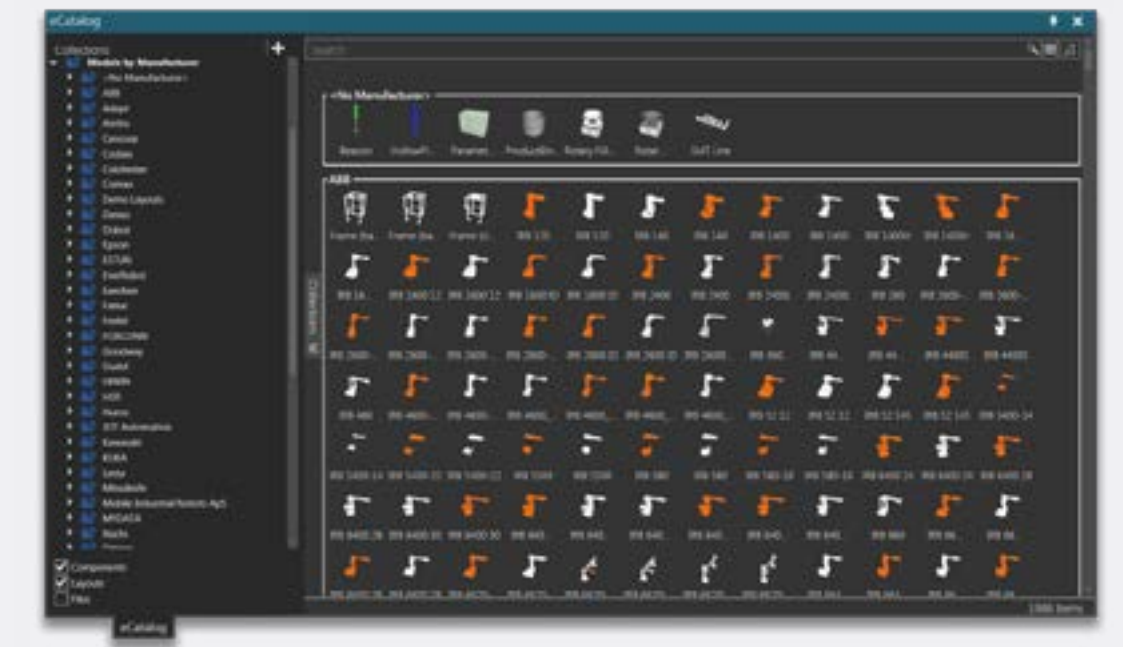
PLC CONNECTIVITY AND VIRTUAL COMMISSIONING

Interested in learning about virtual commissioning and PLC validation? [Here's an article](#) that explains some of the benefits of virtual commissioning, and [this guide](#) shows you how to connect a remote OPC UA server and PLC with a Visual Components simulation.



CREATE PROJECT READY CONTENT WITH VISUAL COMPONENTS

Want to see some examples of project ready deliverables you can create with Visual Components? [Checkout this article](#) and download some free examples, and take a look at [this short video](#) to see how fast it really is to design a layout and create marketing grade content with Visual Components.



DISCOVER WHAT YOU CAN DO WITH THE ECATALOG

Interested in learning more about our massive component library and all the models of robots, machines, and equipment you'll get access to as a user? [Take a tour of our e-catalog.](#)

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If you're interested in learning more about how **Visual Components** can help you design better production solutions, contact us to schedule a free product demonstration!

GET A DEMO

Visit our online communities to learn more about what you can do with Visual Components:



ACADEMY



FORUM