Accelerate Your Smart Factory with 3D Visuals

Today's product customizations, variations, and configurations are more complex than ever. And most manufacturers have initiatives towards cutting costs and accelerating time-to-market. In order to succeed, manufacturers are looking to the factory floor to make better, more innovative products faster with less waste. Smart factories provide companies a view into the factory floor in real-time to understand the state of their operations and make better decisions. In fact, Deloitte says that adopting smart factories may result in threefold productivity improvements over the next decade, with companies currently reporting as much as 10-12 percent gains in output, factory utilization, and labor productivity.
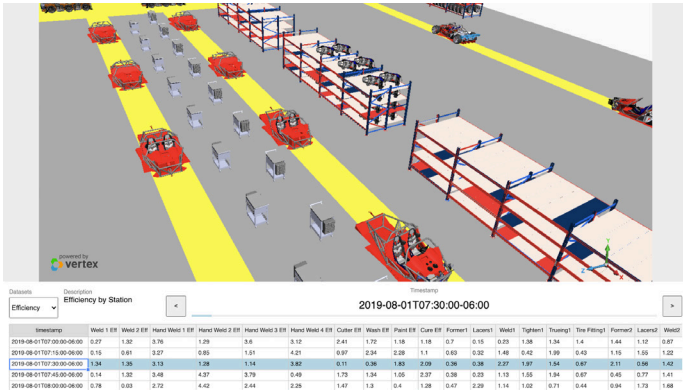
Today's Limitations to Smart Factory

A true smart factory occurs when an organization can collect, track, and analyze data to gain insights and make radical improvements in their processes. The most valuable way to do this is to visualize all aspects of your smart factory in 3D, giving you insights into making better decisions quickly. Unfortunately, many companies struggle to realize a true smart factory due to common limitations in today's workflows:

1) **PDF 2D work instructions** on the line are difficult to understand and update. With complex products, shop floor personnel have to be flexible and agile. Instead of true digital transformation, most workstations provide static, 2D work instruction to workstation tablets that are disconnected from the product data, which can lead to waste and missed opportunities for feedback.

2) **Impossible to view digital representations of your product**. It's often difficult for a shop floor operator to see their assembly in a 3D context, which could significantly extend takt time and impact quality. Without visualization, companies can't understand the logistics flow in context or meet the demand placed on the line.

3) **Difficult to visualize sensor data in 3D**. Most sensor data is delivered and consumed through numbers, charts, and other 2D representations, making it difficult to draw insights about the components and machines along your factory floor. The existing toolsets common in most companies simply can't handle the massive amounts of data coming in from IoT sensors and workstations along the factory floor. Without a clear way to quickly understand factory logistics and flow in a visual context, factories aren't synchronized across operations.

4) **Expensive hardware & software required for scale**. Companies are unwilling to invest the countless dollars needed in the hardware, infrastructure, software, and support needed to embed performant visualization. As a result, companies don't have a way to fully understand 3D data in the context of the manufacturing BOM.

5) **Inability to provide feedback** from the shop floor to engineering impacts product quality, manufacturability, and other improvements.
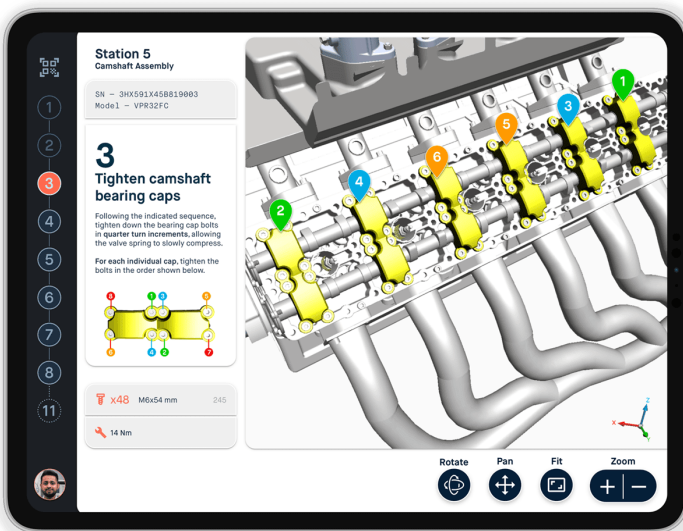
Boost Understanding, Efficiency & Quality

Vertex enables companies to build and deploy custom 3D applications (from components to your entire factory) and deliver the 3D product representation to any user and to any device. We connect with your different systems of record (including PLM, ERP, MES, and IoT) to deliver scalable, interactive views into your workflows and sensor data quickly and easily. Uncover insights to quality and defect data, show efficiencies by workstation, gain a greater understanding of your factory assets, and customize your work orders.

Enabling 3D visualization of your shop floor and assembly processes

Connect 3D visuals to your MES, ERP, and IoT data to understand your factory floor in context:

- Walk through massive factories in 3D with ease from any device
- Improve overall equipment efficiency by identifying bottlenecks or workflow gaps
- Visualize efficiencies at the workstation level to improve logistics

Deliver up-to-date, accurate, 3D work instructions

Access meaningful work instructions with full-model context at scale from any device:

- Build and deliver interactive, 3D work instructions
- Track defects on the factory line
- Gain greater understanding to increase quality, reduce defects, and eliminate operator error

About Vertex Software

Vertex Software's cloud-based, digital twin platform fuels team collaboration by unlocking 3D data and providing aligned visuals across engineering, procurement, manufacturing, sales, marketing, service, and the supply chain. Vertex helps teams accelerate review processes, make better decisions, incorporate innovations from their supply chain, and protect their IP. We eliminate the need for specialized hardware and software so everyone in your extended enterprise can access the information they need wherever and whenever they need.

If you're ready to improve factory floor visualization with a scalable, secure platform, visit vertexvis.com

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vertexvis.com | info@vertexvis.com