

Flo Healthcare Uses Autodesk Inventor as a lead design solution for State of the Art Clinical Workstations

Digital Prototyping Allows Company to Reduce Time Required to Create Customized Product Lines

Flo Healthcare

Customer Success Story

Autodesk® Inventor™

AutoCAD® Mechanical

Autodesk® Vault

Autodesk® Productstream

“Autodesk Inventor helps us check the product quality of a new design before it ever hits the manufacturing floor. As a result, we’re able to bring products to market much faster than our competitors can.”

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Director of Product Development
Flo Healthcare

Project Summary

Flo Healthcare designs comprehensive wireless and mobile clinical workstation solutions specifically for the healthcare industry. In recent years, demand for Flo Healthcare’s mobile workstation solutions has surged – but since no two hospitals have the same requirements, nearly 70% of Flo Healthcare’s customer orders require custom designs.

Using Autodesk Inventor to create digital prototypes, Flo Healthcare can test each individual component of the integrated workstation – from monitors and wheels, to cables and power supplies – and make sure that the customizations are viable before any time and money is spent on costly physical prototypes. Additionally, since every copy of Inventor includes a copy of AutoCAD Mechanical for 2D drawing and detailing, Flo Healthcare has been able to bring the power of 3D to its operations without compromising existing investments in 2D processes.

To further leverage its design data and drive design re-use, the company uses Autodesk Vault to store all Inventor and AutoCAD files—which also helps eliminate version control problems. Flo Healthcare will also be implementing Autodesk Productstream to automate its release management process, ensuring that Autodesk manufacturing solutions are able to add value at every stage of the manufacturing process.



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The Challenge: Innovation and Customization

Headquartered in Norcross, Georgia, Flo Healthcare designs comprehensive wireless and mobile clinical workstation solutions specifically for the healthcare industry. Flo Healthcare is part of Emerson Storage Solutions' InterMetro (Metro) division. Like Emerson, which is focused on making people's lives better through its products, systems and solutions, Flo Healthcare's top priority is improving patient care and safety.

For example, Flo Healthcare's mobile computer carts allow clinicians to easily access a patient's electronic medical record right from the patient's bedside, while vital signs workstations capture patient data such as pulse, temperature, and ECG in real-time at the point of care. By delivering a better connection to information, clinicians stay better connected with patients.

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The Solution: 20/20 Foresight with Digital Prototyping

With Inventor, Flo Healthcare is able to successfully meet these design and manufacturing challenges and rapidly produce highly customized versions of its product line that match the specific needs of its customers.

Inventor allows Flo Healthcare to create digital prototypes, which lets the company create, validate and simulate their models before moving into manufacturing. Specifically, Flo Healthcare can test each individual component of the integrated workstation – from monitors and wheels, to cables and power supplies – and make sure that the customizations are viable before any time and money is spent on costly physical prototypes.

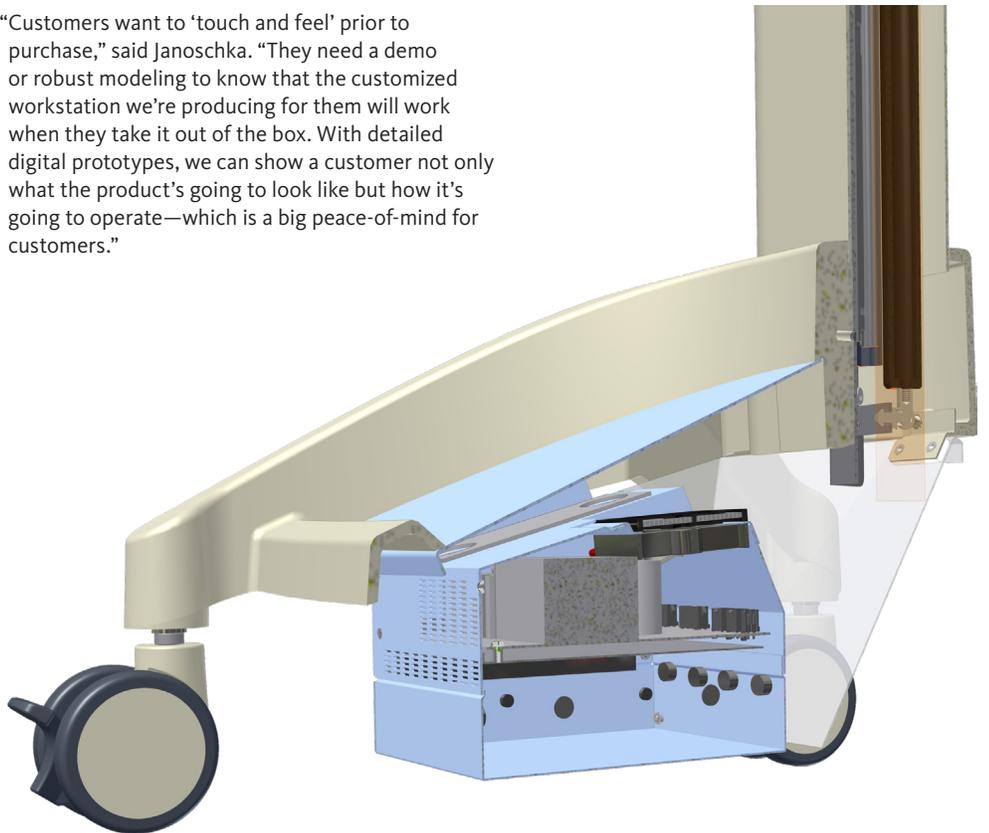
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Digital prototyping does more than streamline Flo Healthcare's design and manufacturing operations—it helps ensure that there are no surprises for the customer when a new, customized product is being developed.

"Customers want to 'touch and feel' prior to purchase," said Janoschka. "They need a demo or robust modeling to know that the customized workstation we're producing for them will work when they take it out of the box. With detailed digital prototypes, we can show a customer not only what the product's going to look like but how it's going to operate—which is a big peace-of-mind for customers."

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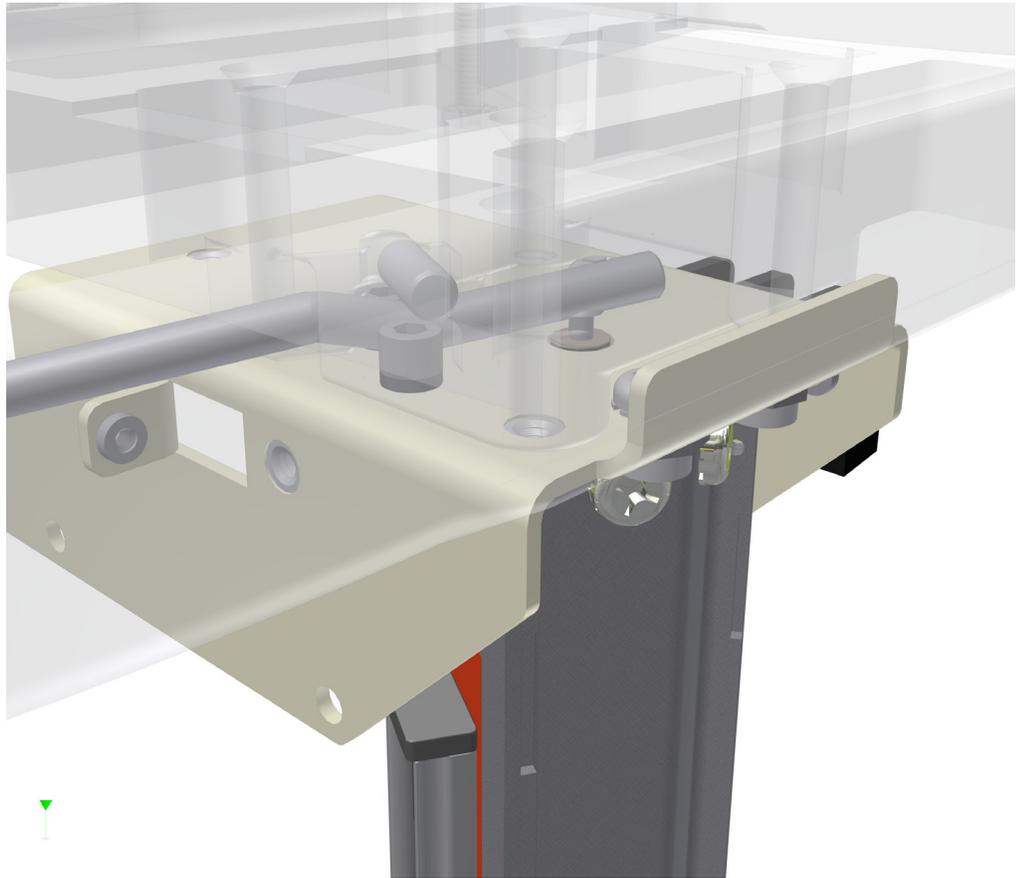


2D and 3D

“Autodesk was pretty savvy to bundle AutoCAD Mechanical and Inventor together,” said Janoschka. “There are some very real differences between the people who think in 2D versus 3D. Electrical engineers tend to think in terms of layouts first, whereas mechanical people tend to think in terms of solid objects first. So, by having both 2D and 3D, we can let our mechanical people think like mechanical engineers and our electrical engineers think like electrical engineers.”

Furthermore, switching between 2D and 3D is seamless. Through the DWG® TrueConnect feature, Inventor gives designers the ability to easily share both AutoCAD DWG™ files and 3D design data with other Autodesk manufacturing applications and their users.

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Data Management with Vault

Flo Healthcare further leverages its design data by driving design re-use with Autodesk Vault software. A data management tool that helps manage and securely store design data, Autodesk Vault allows users to organize all engineering data in a centralized location and reduces the time needed to find, reference, and re-use design data.

Flo Healthcare’s Vault implementation has its own dedicated server to store all Inventor and AutoCAD files. It also stores and provides ready access to PDF paper versions for Procurement and Assembly, artwork for labels in Adobe and Corel formats,

office type data such as revision control proposals, and other electronic data like firmware code and schematics.

“When dealing with large amounts of design data, version control is essential,” said Janoschka. “The question is not whether to do it, but how best to do it. Most large companies will have a dedicated person whose sole purpose is to handle version control. Inventor goes one better: changes or revisions are loaded into Vault, which serves as an automatic version control. On top of that, it reduces costs, because we do not have to pay to have a dedicated staff member managing the different versions.”



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The Result: Doing More with Less

With digital prototypes and enhanced data management, Flo Healthcare has been able to nimbly respond to marketplace demands for customized workstations. This speed and adaptability is reflected in the company's sales numbers, where nearly three quarters of their revenue comes from custom design work.

"To give the customer what they want, we need the ability to rapidly to explore multiple iterations of a product," said Janoschka. "That's precisely what Inventor allows us to do. And because we have such an efficient design loop, we can bring in the same amount of revenue on a yearly basis as a company with four or five times as many employees as we have—because of our streamlined processes."

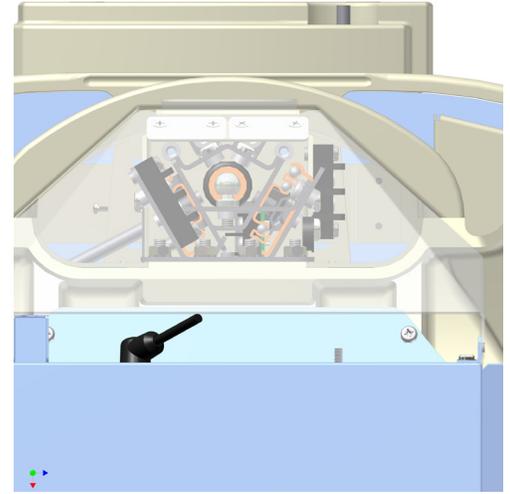
The Next Step

Moving forward, Flo Healthcare is looking forward to taking its design and manufacturing operations to the next level with Autodesk Productstream. The Productstream family of products automates the release management process by managing engineering changes and bills of materials, while enabling the engineering department to maintain control over the design data throughout the manufacturing process.

Flo Healthcare's implementation of Productstream will integrate with their ERP system, allowing them to push and pull smart data to aid checking and manufacturing processes. Additionally, access to online Engineering Change Order requests will help eliminate manual add, change, and delete processes.

"With Productstream, we'll have a full spectrum of Autodesk manufacturing solutions adding value to our organization, from design to ERP," said Janoschka. "The more we can take advantage of our data throughout the organization, the more successful we'll be—and Autodesk continues to deliver value in that regard to multiple disciplines within our company."

To learn more about Autodesk® Inventor™, AutoCAD® Mechanical, Autodesk® Vault, and Autodesk® Productstream, visit, www.autodesk.com/manufacturing.



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