

Sales Engineering Automation Using Forge, Fusion Lifecycle, and Vault

Ryan Small

Software Development Manager | SolidCAD

Mark Gartner

National Director, Manufacturing | SolidCAD



About the Speaker

Ryan Small

Ryan has been with SolidCAD, an Autodesk Platinum Partner, for 20 years. In his current role, Ryan leads the software development team which develops customization solutions for the Autodesk product portfolio. Ryan is one of the leading experts with Autodesk Vault, having worked with the product since its inception and having performed numerous, complex implementations. He has also used Inventor since the R3 release, training hundreds of users, and is an Inventor Certified Expert.

Prior to working with SolidCAD, he was employed as a full-time LISP and VBA programmer for a structural steel company where he developed steel detailing automation in AutoCAD.

Ryan has a Business Administration diploma from Mohawk College as well as a Private Pilot License.



About the Speaker

Mark Gartner

Mark Gartner has been deeply involved with manufacturing for his entire 30-year career. After graduating from CAD/CAM Engineering Technologies, Mark was employed by a heavy equipment manufacturer. Here he was involved in the entire manufacturing process, learning everything from plasma cutting, design, automation, ERP and production. With this knowledge, he moved into the software and services side of the industry. Starting out by instructing people, completing onsite process assessments and implementations. A number of years later, Mark began working with customers in a sales consulting role, helping many manufactures realize improvements in their manufacturing processes.

Today, Mark is the National Director for the Manufacturing division at SolidCAD, where he continues helping customers improve processes. This position has Mark driving company direction in manufacturing and striving to be at the leading edge of the manufacturing industry.



For 25 years SolidCAD has operated as the one of the leading Autodesk Platinum Partners in North America and the largest in Canada.

With a Fusion Lifecycle Specialization, SolidCAD can provide clients with industry leading product lifecycle management (PLM) tools, training and support. The team offers consulting and training services to help manufacturing clients automate processes, manage Bills of Materials (BOM), implement a collaborative environment for product changes and generate the ability track product data throughout all revisions and stages.

SolidCAD is also an Autodesk Forge Certified Systems Integrator and have completed rigorous training with Autodesk experts, demonstrated a proven track record of helping multiple businesses build software integrations within existing systems and deployed custom, Forge-powered, cloud-based solutions.

As customers move to the cloud, SolidCAD is well-positioned to help them achieve their automation objectives and improve their overall workflow.



A female scientist with blonde hair in a ponytail, wearing safety glasses and a white lab coat, is focused on a complex industrial machine. The machine features various metallic components, pipes, and a large cylindrical tank. The background is slightly blurred, showing more of the industrial setting.

Many businesses struggle with manual processes and disconnects between teams and systems.

This can lead to:

- Slow quotation lead times
- Outdated ordering processes
- Disconnect between sales, engineering, and manufacturing

Class Objective

Understand
the **systems, processes**
and **integrations**
that
enable manufacturers
to **increase sales**
and **design throughput**
by
leveraging cloud access
and **configurable**
designs.



Learning Objectives

- Understand how a solution based on Forge improves efficiency
- Provide mass customization solutions to your customers
- Improve your company's workflow from sales through to engineering and manufacturing
- Integration of cloud-based configurator to FLC and Vault



A person with short blonde hair, wearing a red sweater, is seen from behind, looking out a large window. The window offers a view of a city with buildings and a body of water. The scene is brightly lit, suggesting daytime. A semi-transparent white box is overlaid on the upper half of the image, containing the main text. A solid blue horizontal bar is positioned below the main text, containing the attribution. The background image is slightly blurred, focusing attention on the text and the person's silhouette.

Innovation: Imagine the future and fill in the gaps.

Brian Halligan, CEO and co-founder of HubSpot

Workflow & Data Integration

CONFIGURATION

VARIANT

This is the sales tool that allows sales reps or customers to instantly customize and review a product. Orders are sent to FLC.

PROCESS WORKFLOW

AUTODESK FLC

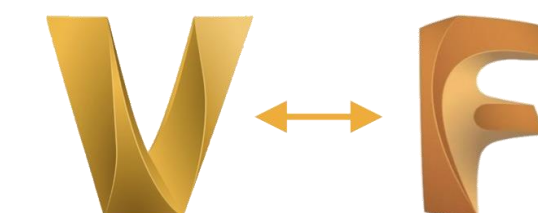
When an order is received, a project is created in FLC. The state of the project is dictated by whether any additional work is needed. The coolOrange connector automatically creates a folder in Vault.

DOCUMENT MANAGEMENT

AUTODESK VAULT

When a new Variant order folder is detected, a job processor job runs to download the assets from the cloud. Vault also connects the BOM to the order in FLC and changes the project state as needed.

INTEGRATION TOOLS





Variant is a web-based configurator that is built on the Autodesk Forge platform and was developed for manufacturing customers that want to streamline their quotation and design-to-manufacturing processes.

WEB-BASED, NO INSTALL

Variant is accessible on the web, with no install, allowing easy access for all your staff and/or customers at anytime or anywhere.

IMPROVE SALE CYCLE TIMES

Variant allows you to increase sales and reduce engineering cycle times by streamlining the quotation and design-to-manufacturing processes.

PROFESSIONAL QUOTATIONS

Variant produces professional quotations and other controllable outputs such as “an as-configured” model quickly.

USES INVENTOR ILOGIC

Variant uses rule-based Inventor data (iLogic) so there is no need to rebuild design intelligence.





Fusion Lifecycle

- Accelerate product development processes across all departments and locations by automating workflows, key tasks and delivering timely information.
- Access through the cloud allowing everyone to have access to their data anytime, anywhere.
- Modern change management that tracks and records changes to product designs as they happen.
- Real-time access to product data.
- Graphical dashboards for quick interpretation.



Vault Professional

- The single repository for storing and managing engineering data for the entire organization.
- Includes multisite tools to connect workgroups across discrete locations.
- Track bill of material (BOM) and engineering change order (ECO) information while integrating with enterprise applications.
- Support for multi-CAD environments means that non-Autodesk design data can be managed.



Demonstration



Dataset Courtesy of Horst Welding – www.hlaattachments.com - (866) 567-4162



Objectives Review

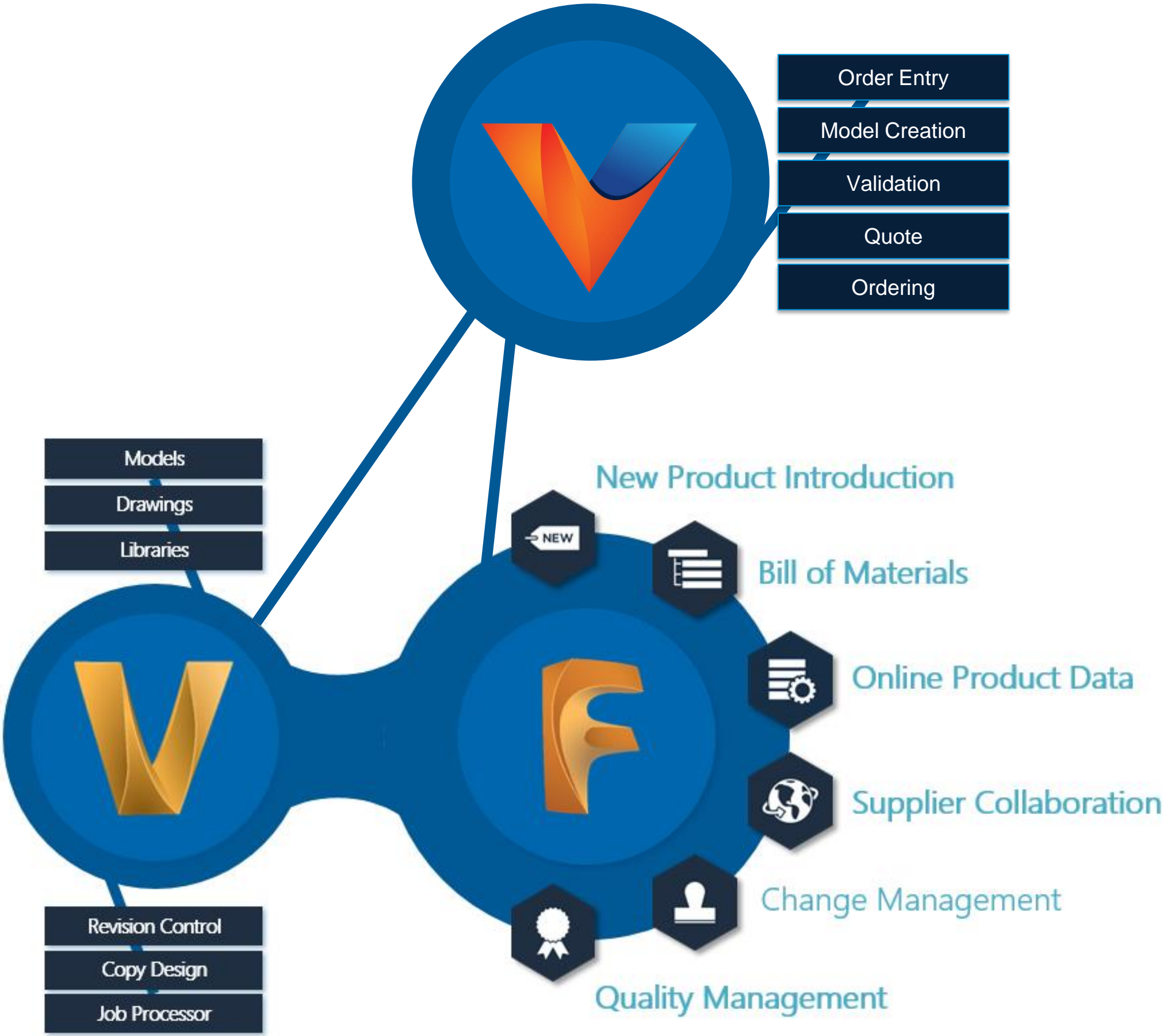
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Photo by Aaron Barnaby on Unsplash

System Diagram





Findings

- Autodesk Forge provides the ability to effortlessly connect engineering solutions to sales and customers.
- Accessible mass customization solutions are not the future – they're a current necessity for many businesses.
- Disconnects in a company's workflow and communications are entirely preventable.
- Variant, FLC and Vault provide the foundation needed for seamless integration of manufacturing processes.



VARIANT

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SolidCAD

A  Cansel Company



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