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Data Management: Vault Implementation for Start-Ups

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Learning Objectives

- Discover workflow and process improvements for data at small-scale manufacturers
- Learn how to utilize bill of materials to understand production requirements
- Discover how Content Center can save you time during new product design
- Learn how to plan for future and change management during Vault implementation

Description

Data is the nucleus of your business; it's the most important asset you have, which means you should take the utmost precaution with its integrity and security. Implementing data management processes early on can help manufacturers with speed and reliability in the design process. Evaluating the workflows for your design data is especially crucial to the success of startups in today's fast-paced environment. This class will review a case study of how innovative startup companies can implement data management using Vault software and plan for the future with change management processes. We'll also discuss how Content Center can help companies rapidly redesign to keep up with the pace of new product design.

Speakers

Andrew Pisula

As Director of Technical Services at KETIV, Andrew is focused on empowering today's innovators though Autodesk's Production & Design Manufacturing collection by concentrating on what makes our customers successful today and capturing what can be improved moving forward.

He has 18 years experience in engineering and manufacturing process optimization, data management, CAD/CAM/Simulation automation, and mentoring.

Alex Yang

As Rebound's Senior Product Engineer, Alex brings seven years of product development experience, with an emphasis on rigorous technical design and extensive analysis with computational and probabilistic methods. His systems integration experience and hardware verification and validation expertise puts him in a prime position for clean sheet design on the IcePoint system at Rebound Technologies.

Alex holds a Master's in Applied Systems Engineering at the Georgia Institute of Technology, and a Bachelor of Science in Mechanical Engineering at Cornell University.

1. What is Autodesk Foundation and who is Rebound Technologies?

The Autodesk Foundation supports the design and creation of innovative solutions to the world's most pressing social and environmental challenges. The Autodesk Foundation invests in a diverse group of organizations from around the world that:

- Leverage innovative design and engineering
- Maintain a commitment to measuring impact
- Develop a scalable model
- Collaborate with diverse stakeholders
- Demonstrate qualified, visionary leadership, and a skilled team

Rebound Technologies is a start-up revolutionizing the food storage and food processing industry. Rebound Technologies produces IcePoint®, a novel supply chain solution that empowers food and beverage manufacturers to optimize production through safer, greener and leaner operations. The globally patented cooling technology easily integrates into existing freezer infrastructure at industrial facilities and provides bursts of on-demand, high capacity cooling, all at 35% greater efficiency than legacy systems. This unprecedented control accelerates frozen food production, which boosts revenues while ensuring a safe, high quality product output.

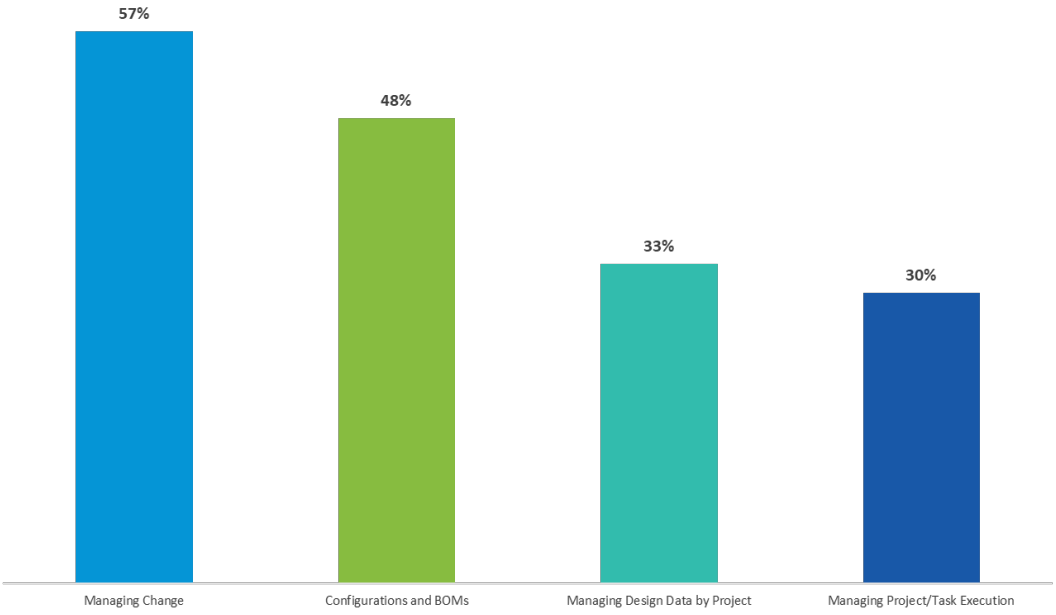
2. Discover workflow and process improvements for data at small-scale manufacturers

PDM is about more than managing your CAD files and helping people collaborate and work efficiently. The second phase is looking at the engineering workflows and processes that are centered around that data, such as managing change, design reviews, project management, and bills of materials.

What questions should you ask to determine your biggest workflow challenges?

- How do you handle change and release today?
- Are these processes efficient? Do they include all necessary parties?
- Can managers and executives easily see current project status?
- What benefits do you think you would realize from better managing these processes?
- Do you still have paper processes for approvals etc.?
- How do you provide design data for reviews? Printed drawings? 3D CAD files?

- Can people outside engineering participate easily?
- How do you denote files are released or WIP? How do downstream stakeholders get notified when it's available?
- Does manufacturing request clarification from design after changes?
- Do you have to migrate data manually into other formats?
- What kind of information do managers get in progress reports? How cumbersome is it to collect that information?



% of Companies Reporting Workflow Challenges

3. Learn how to utilize bill of materials to understand production requirements

One common cause of workflow challenges is in managing the bill of materials (BOM). BOMs are often managed manually in a spreadsheet and are disconnected from design data. Manual BOMs result in "as-needed" ordering which can lead to incorrect orders and difficult lead times. Within an Inventor assembly file, you can assign a BOM status for each component within the file.

By utilizing Autodesk Inventor, Rebound was able to take advantage of automatic BOM capabilities avoiding common mishaps associated with manual spreadsheet BOMs.

Because Rebound was building the physical assemblies within Inventor the BOM was inherently populated.

4. Discover how Content Center can save you time during new product design

Content center provides a set of libraries that include over 750,000 standard components right inside of Inventor. Standard libraries include ANSI, ISO, DIN, Sheet Metal and many others. In addition, you can expand the standard database by creating user libraries with your custom content. User libraries include customized content copied from a standard library, or new user-published parts or features.

You can work with Content Center as a stand-alone user or as a member of a workgroup. To work as a standalone user, select the Desktop Content option in the installation. Content Center libraries are installed to a local Desktop Content folder specified in the installation.

To eliminate the need for each workgroup member to install and synchronize their own Content Center libraries, Content Center libraries can be installed on a Vault server.

Rebound decided to use a Vault server as the place to host their Content Center libraries. When you use the Vault server, the server administrator uses the server console to set up libraries on the server as the first step. Then members of the workgroups configure their local settings. The server administrator can set up the Content Center configuration in a common project and share the project file with the other team members. Each team member can create a personal project using the shared project as a template or include a common project that is configured with the shared libraries. This enables each team member to have the same configuration.

What is Rebound Technology's Value from Content Center?

Rebound is reliant on Content Center and commercial off-the-shelf parts to help them achieve code compliance. For a recent design at Rebound, approximately 42% of parts came from within Content Center, 27% of parts are commercial off-the-shelf and 31% custom parts.

5. Learn how to plan for future and change management during Vault implementation

The four stages of Product Data Management (PDM) Implementation are:

1. Use Case Identification - Identify key use cases to perform a pilot on
2. Need-Based Approach - Outline the “what’ and “how” for the implementation
3. Process Improvement - Determine process improvement and ROI
4. Steady State Flow - Continue success with incremental updates per best practices

Change management within Vault has set up Rebound to be better prepared for future prototypes and designs. Change management has streamlined the means by which designs can be reused and how custom configurations can be managed. In addition, change management has prepared Rebound for implementing a digital twin in the next phases of work.

Additional Resources:

Learn about the Autodesk Foundation:
http://www.autodesk.org/

Learn about the Rebound Technologies:
https://www.rebound-tech.com/

Learn about KETIV:
https://ketiv.com/