

The logo for Tech-Clarity, featuring the word "Tech-Clarity" in a bold, sans-serif font. "Tech-" is in white and "Clarity" is in yellow, both set against a dark blue rounded rectangular background.

Tech-Clarity

Tech-Clarity Insight: The Basics of Managing CAD

***When Brute Force Fails and
PDM is too Much***



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***This summary is an abbreviated version of the report and does not contain the full content. A link to download the full report is available on the Tech-Clarity website, www.tech-clarity.com.**

If you have difficulty obtaining a copy of the report, please contact the author at jim.brown@tech-clarity.com.



Executive Overview

Engineering, by its nature, is a logical and structured discipline. It's no surprise, then, to see the level of organization that engineers apply to managing their CAD files. Unfortunately, many engineers manage files using meaningful file names on their hard drive. As the number of engineers on a project increases, managing files in a directory structure gets increasingly risky. Simply transforming the directory structure to a shared drive is not enough to manage multiple design iterations and have confidence that you can always find the current version. Or make sure that another designer doesn't overwrite your hard work. Or really ever expect to find what you are looking for.

Some recognize the shortcomings and risks of a manual CAD management approach, while others are one mistake away from learning the hard way.

Some recognize the shortcomings and risks of a manual CAD management approach, while others are one mistake away from learning the hard way. *“An unmanaged approach works OK for one person, but when you ask for something they spend a half a day scrambling to get data together,”* cautions Jake Myre, owner of Hippo Engineering. *“Then, they end up having a part made for a prototype and find out it's three versions old. That's not good.”*

Beyond managing their own work, few engineers work in a vacuum. They must coordinate with other designers, contractors, suppliers, prototype shops, contract manufacturers, and others that need CAD data to do their jobs. PDM and PLM are formal, traditional systems designed to help manufacturers control, access, and share their CAD data. But as Tech-Clarity's [Managing Design Data with SharePoint](#) concludes, *“Unfortunately, data management solutions have been out of reach ... due to cost and lack of IT resources.”*

A simplified, cloud-based CAD data management approach can provide important benefits with significantly reduced investment.

But engineers have to do something. Living in an unmanaged, manual environment is highly inefficient and prone to errors. For companies that have outgrown chaos and are tired of crossing their fingers and hoping they don't order or produce the wrong part, it's time for a practical solution. Fortunately, there are more options available today than ever before, including new cloud-based tools. It's time for a rational discussion to explore the basic requirements for CAD data management and discuss whether they can be achieved without the cost and complexity that make traditional solutions impractical for many smaller manufacturers. This report concludes that a simplified, cloud-based CAD data management approach can provide important benefits with significantly reduced investment of time, money, and IT expertise.

Conclusion

Engineers and their companies can't afford the continued risk of unmanaged (or manually managed) CAD data. The potential for lost work, poor productivity, and errors is too high. Data management is a crucial capability according to "Best Practices for Managing Design Data, which states that, "*Effective design data management fundamentals enable better product development performance.*" At the same time, traditional solutions have been too much for many companies due to cost, complexity, and a lack of IT resources.

The market is ready for a new class of cloud solutions that are easier to implement, less costly, and require no IT resources. While they may not provide the full value and capabilities that traditional systems offer, they come with reduced barriers to entry and lower TCO and make CAD data management practical for a much wider array of companies. They are certainly better than wishful thinking and are much more practical and achievable for simpler businesses.

Recommendations

Based on industry experience and research for this report, Tech-Clarity offers the following recommendations:

- Understand the basics required to control, access, and share CAD data
- Evaluate solution options to choose what is right for your business, based on your company's level of process maturity and available IT support
- Look for ease of sharing as a differentiating factor because many solutions were built with a strong control paradigm and added sharing as an afterthought
- Consider cloud-based solutions that combine the ease of use, reduced risk, low cost, and reduced need for resources but are designed with CAD data management in mind
- Get started. As Jake Myre of Hippo Engineering says, "*It's not that intimidating, it will probably be easier than most people think.*"
- Recognize when you might need more traditional solutions, but also recognize that putting in place structure is a step in the right direction

About the Author

Jim Brown is the President of Tech-Clarity, an independent research and consulting firm that specializes in analyzing the business value of software technology and services. Jim has over 20 years of experience in software for the manufacturing industries. He has a broad background including roles in industry, management consulting, the software industry, and research. His experience spans enterprise applications including PLM, ERP, quality management, service lifecycle management, manufacturing, supply chain management, and more. Jim is passionate about improving product innovation, product development, and engineering performance through the use of software technology.

Jim is an experienced researcher, author, and public speaker and enjoys the opportunity to speak at conferences or anywhere he can engage with people with a passion to improve business performance through software technology.

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