

Tech-Clarity

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Tech-Clarity Insight: The Business of 3D Technical Communications

***Evolving Strategies to
Document Products***



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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.**

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Executive Overview

Communicating technical product information is a fundamental requirement to profitably sell and support today's products. Documentation is a basic necessity, and in today's cost-sensitive manufacturing firms it has to be efficient. But there is more at stake in improving communication processes than simply optimizing the documentation workload. Streamlining communication development can help improve time to market by taking technical documentation off of the critical path. Gordon Benson describes this from the perspective of NACCO Material Handling Group, a division of NACCO Industries that designs, engineers, and manufactures material handling equipment. *"Given the product complexity and effort required to document today's electromechanical systems, documentation cannot afford to be done sequentially or it becomes a huge encumbrance on new product introduction schedules,"* explains Mr. Gordon, a Senior Visualization Specialist.

Although few companies will turn down an opportunity to reduce cost, there is more value to be achieved than lean product documentation processes. Technical communications are evolving to convey the critical details of products to a broader array of people in a wider variety of ways. People need to know the way the product works and how it is produced, assembled, maintained, and more. Manufacturing, suppliers, partners, customers, service technicians, and a host of others rely on this information to play their role in delivering product value.

3D product communication goes beyond flat, static documents to incorporate richer, interactive, more realistic representation of products.

To meet this need, companies are changing their views on technical documentation to a more strategic approach. 3D product communication goes beyond flat, static documents to incorporate richer, interactive, more realistic representation of products. Better communications leads to enhanced productivity of engineering, manufacturing, sales, and service. It also provides the opportunity to improve product quality (both actual and perceived) through better up-front design collaboration and clearer downstream communication. *"3D product communications are very good for quality,"* says Grant Ward, Project Engineer for S&C Electric Company, a global provider of equipment and services for electric power systems. *"It helps lean manufacturing initiatives."*

The good news is that with the right 3D technology, companies can increase the efficiency of their technical documentation team, improve product documentation quality, and set the stage for even greater business benefits. Many products have followed a pattern of becoming better-faster-cheaper – offering more value for less cost. Technical documentation is now poised to follow the same path as it evolves to 3D product communications.

Conclusion

Technical product communications provide both strategic and operational benefits. The first and most obvious of these is that it improves the efficiency of technical documentation, both in initial development and when designs change. It also improves efficiency of engineers because others can more readily access the engineering information they rely on to do their jobs. *“We have already paid it off, the ROI was pretty quick,”* says AS&E’s Bill Abely. *“Mostly in Tech Pubs, mainly in efficiency.”* This efficiency, coupled with the ability for downstream departments and technical publications helps improve time to market, perhaps one of the biggest product development concerns among manufacturers today. *“All downstream organizations have moved their document creation efforts much earlier in the product development process,”* recounts NACCO’s Gordo Benson. *“Without 3D product communications enabling this, our product development schedules would not be half of those just 5-10 years ago.”*

We have already paid it off, the ROI was pretty quick.

Bill Abely, CAD Manager, AS&E

Clearer communication also drives enhanced product quality through improved collaboration. As NACCO’s Gordon Benson says, *“Communication is a value added activity, and in the world of product design, 3D product communications speaks our language.”* Clearer communication also reduces the potential for errors. *“We have so many product configurations it is often a challenge to keep them straight. A mistake on a critical assembly creates costly scrap,”* explains S&C Electric’s Grant Ward. *“Improving product communications reduces errors and saves money. The payoff is substantial.”*

Improving product communications reduces errors and saves money.

The payoff is substantial.

Grant Ward, Project Engineer, S&C Electric

The benefits of 3D technical communications are compelling, as the companies interviewed for this paper clearly articulated. *“The solution is exceptionally beneficial,”* says AS&E’s Bill Abely, *“I have no concrete numbers but it has really saved us a lot, especially when we are growing so fast.”* The value can come quickly and then grow over time as usage matures. In the end, 3D product communications become a strategic tool with significant benefits. *“I think it’s difficult for many to see the larger role this technology plays in the product development process,”* explains Gordon Benson of NACCO, *“I liken this technology to e-mail or the telephone, you don’t know its value unless you take it away.”* 3D product communications have significant potential to add value to today’s manufacturer with short-term payback and even greater long-term benefits.

Recommendations

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

- Expand the view of product documentation to a more strategic view of 3D product communications
- Leverage existing 3D assets (CAD models) to improve technical documentation efficiency
- Explore interactive, 3D communications to improve the effectiveness of product communication
- Leverage 3D product communications to improve product quality through better collaboration and communication
- Pick a problem area and introduce automation to address it
- Start small, prove the value, and grow from there
- Add automation over time to streamline processes and better manage change
- Integrate to PLM as usage matures to better manage technical communications in the full context of the product

About the Author

Jim Brown is the President of Tech-Clarity, an independent research and consulting firm that specializes in analyzing the true business value of software technology and services. Jim has over 20 years of experience in software for the manufacturing industries, with 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, manufacturing, and others. Jim is passionate about improving product innovation, product development, and engineering performance through the use of software technology and social computing techniques.

Jim is an experienced researcher, author, and public speaker and enjoys the opportunity to speak at conferences or anywhere that he can engage with people that are passionate about improving business performance through software technology.

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