

ECCO

Automating emergency warning product design with SolidWorks Enterprise PDM



SolidWorks Enterprise PDM has helped warning products manufacturer ECCO implement an automated, paperless design and approval process, eliminating delays and associated costs.

The world's largest manufacturer of emergency warning products, ECCO (Electronic Controls Company) focuses on innovation as an essential strategy for maintaining its leadership position. The company is not content just to produce backup alarms and amber warning lights for commercial vehicles, and has expanded into new markets, such as rearview closed-circuit television systems for industrial vehicles and red/blue warning lights for emergency services.

The Idaho-based company realized dramatic productivity gains when it moved from AutoCAD® 2D design tools to SolidWorks® Professional 3D software in 2001. Management believed that an integrated product data management (PDM) system could provide additional benefits. ECCO had a vision for a paperless design and approval process driven by formalized workflows and integrated with its other business systems, according to Engineering Team Leader Todd Mansfield.

"We had used SolidWorks Workgroup PDM for 10 years and had reached an efficiency plateau," Mansfield explains. "To take the next step forward, we wanted to leverage PDM technology and SolidWorks software's open Application Programming Interface (API) to ramp up automation and integration. One of our goals was to eliminate paper. The manual routing of paper design packets, which we had used for years, slowed us down. We believed that a PDM system would enable us to further reap the benefits of automation."

An important part of ECCO's PDM evaluation was understanding the potential for customizing the application and integrating it in-house. Software Engineer Norm Nguyen had already tapped the SolidWorks API to create a robust, knowledge-based design automation application. The company sought a PDM system that would give Nguyen the flexibility to push PDM to its limits.

Challenge:

Automate development cycles to improve efficiency, formalize workflow processes, and eliminate paper documents.

Solution:

Implement the SolidWorks Enterprise PDM system and leverage SolidWorks software's open Application Programming Interface (API) to integrate PDM with critical design configuration, MRP, and cloud-based project management systems.

Results:

- Realized a 25 to 30 percent reduction in design review and approval time
- Cut configuration time from four hours to 30 minutes
- Automated paperless review and approval process
- Integrated PDM with critical business systems

ECCO chose SolidWorks Enterprise PDM software, acquiring 25 licenses, because it is easy to use, is fully integrated with SolidWorks design software, and provides open API development tools. "Because we have a software engineer on staff, we have the ability to fully exploit the SolidWorks API," Mansfield notes. "SolidWorks Enterprise PDM gave us the greatest potential for adapting the solution to meet our needs. It gives us better control through workflow automation, improved search speed and reporting via our SQL database, and greater integration with our core business systems."

Custom designs in a fraction of the time

After working with reseller GoEngineer to migrate data and completing custom development to integrate systems, ECCO implemented SolidWorks Enterprise PDM in late 2010. By formalizing its workflows and tying in its own design automation application, the warning products manufacturer was able to achieve substantial productivity improvements. Using SolidWorks Professional software, ECCO had already reduced its design cycles by 40 percent. Following the SolidWorks Enterprise PDM implementation, the company is realizing an additional 25 to 30 percent reduction in the time it takes to complete design reviews and approvals.

"These time savings mean more to our business than you might think," Mansfield explains. "In addition to the internal benefits, these efficiency improvements allow us to better respond to our customers. By automating configurations instead of doing them manually, we have cut configuration time from four hours to 30 minutes, allowing us to respond quickly to specific requests and enhance customer satisfaction."

A completely paperless system

The SolidWorks Enterprise PDM implementation has eliminated paper from ECCO's development processes. Using PDF files as the driving review and approval file format—as well as formalized workflows and automated approval processes—the manufacturer is developing products from start to finish without using a single sheet of paper.

"Through the combination of Norm Nguyen's wizardry, [CAD Manager] Joe Torres' hard work, and SolidWorks Enterprise PDM, we've gone paperless," Mansfield stresses. "The impact is much more than the cost of paper and ink. Whenever you rely on paper, processes slow down. A routing packet might be sitting on someone's desk, get misplaced, or go missing. With an electronic, paperless system, the process is more reliable and efficient."

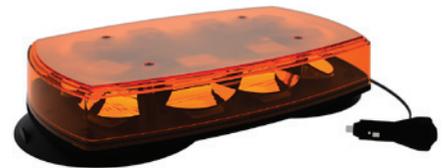
Integration with critical business systems

Connecting ECCO's PDM system to its existing business systems, as well as to sister companies in the ECCO Group, was an important requirement of the PDM implementation. Nguyen used the SolidWorks API to integrate SolidWorks Enterprise PDM with ECCO's cloud-based Intuit QuickBase™ project management software and Expandable MRP system. When ECCO opens a project, custom fields in the SolidWorks Enterprise PDM data card are populated from the cloud to assign project responsibilities. PDM design data then feeds into ECCO's MRP system.

"We are constantly challenged to do more with less," Mansfield emphasizes. "SolidWorks Enterprise PDM is helping us leverage automation to get our work done faster and more cost-effectively."

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Todd Mansfield
Engineering Team Leader



In addition to eliminating paper, ECCO has integrated the SolidWorks Enterprise PDM system with its cloud-based document management and MRP systems, realizing additional productivity gains.

Images courtesy of Custom Design Resources



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