

Advisory Board Directions



Engineering collaboration across continents requires data coordination

By Mirek Tokarz

Close collaboration between businesses that have evolved in different geographical locations presents challenges on many levels. Besides basic compatibility issues around software platforms and IT infrastructures, differences in internal manufacturing processes need to be addressed.

For the Langen Packaging Group, changing our approach to managing resources was a clear opportunity. Instead of running two separate engineering departments in each location, one engineering resource pool was established.

Initially an overload in one location was handled by temporarily relocating engineers from the other location. This was reasonably effective, but also costly.

To improve on this solution meant leveraging more than 20 years of experience in software automation in the design and manufacturing processes. The objective was to establish an infrastructure that is indifferent to where the design is executed. An engineer can sit in Holland and work on a Canadian project from his desk; a design completed in Holland can be released for manufacture in Canada.

Change is messy and hard work. An open mind is essential along with a willingness to see the merits in the other guy's approach or, where appropriate, a completely new approach. A clearly articulated, challenging objective keeps everybody focused.

We considered two approaches:

1. Create the best model for both companies, and then change both businesses to be the same. While the outcome of this approach forms a uniform infrastructure across the enterprise, implementation would require dramatic changes in processes and culture, resulting in long adaptation curves and measurable losses in production. Going forward there would always be challenges in maintaining one-to-one data relationships in every aspect of business.
2. Agree to be different, and find a way to cooperate with minimal disturbance to the existing culture of design and production cycles in each company. Adopt best practices to support essential basic common processes, and implement automated and on demand systems for exchanging data between the companies.

While it is a viable option that other companies could reasonably adopt, we considered the business risk associated with the first option was too great. In favoring the second approach, our decision was made much easier by the identification of the OpenPDM Internet gateway software created by ProStep.

OpenPDM facilitates Internet based communication of metadata between independent database platforms (e.g. Oracle and SQL); it can also be configured to synchronize database managed electronic files. Today OpenPDM assists Langen Americas and Langen Europe with sharing

designated PDM-managed data, as well as engineering designs and CAD libraries.

After agreeing on what should become common to make both businesses work as one, a number of automated triggers were built into the Enovia-SmarTeam PDM systems used by both companies. With the OpenPDM system sitting as the bridge linking the Enovia-SmarTeam databases, finalized documents and designated target data updates flow between the locations, ensuring the data remains synchronized.

For example: when a new bearing is added to the (common) CAD library in

Canada, the file is immediately available to design teams in both companies, or when a machine design is finalized and released in Holland, just minutes later Canadian operations can create related BOMs and start the manufacturing process.

With the rapid evolution of remote access software, the six-hour time difference now actually presents opportunities. Costly design hardware can be used more effectively (using remote CAD workstations in the other location during off hours) and database maintenance tasks can be performed remotely after hours

with all users logged off.

The evolution of Cloud computing will bring the next challenge to collaborative engineering. The evolution of Cloud-based systems to the point of effectively hosting CAD, MS Office, and other software applications, will require a reassessment of the model of separate IT infrastructures and gateway programs. Our next opportunity is fast approaching.

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