

March 2010

Document **J97** 

# **GUIDEBOOK** SIEMENS PLM SOFTWARE FOR APPAREL, FOOTWEAR, AND ACCESSORIES



Corporate Headquarters Nucleus Research Inc. 100 State Street Boston, MA 02109 Phone: +1 617.720.2000 Nucleus Research Inc. Nucleus Research.com TOPICS

Enterprise Applications

# THE BOTTOM LINE

Siemens product lifecycle management (PLM) software for apparel, footwear, and accessories enable brand and private label manufacturers to streamline and integrate their global product design and delivery process, increasing innovation while reducing costs.

Siemens PLM for apparel, footwear, and accessories provides an enterprise architecture as well as the design, visualization, workflow, and collaborative tools to support the entire product lifecycle from concept to final delivery. This platform can support development across multiple product lines, be they apparel or other softlines, footwear, accessories, or hardlines. Key components include:

- Teamcenter for softlines, hardlines, and footwear, the Siemens platform for collaborative PLM, provides multi-dimensional costing, sourcing, global multicalendar rollup, nested line plans, and supplier relationship management. It is integrated with Microsoft Office for ease of use and adoption.
- Integrated specification development provides a centralized workspace for management of all specification development components across the product lifecycle.
- Collaborative line planning and calendar management provides a centralized collaborative line planning and calendaring application to support efficient product development based on changing forecasts and component costs.
- Global sourcing and collaboration enables communication between vendors, partners, and outsourced designers, and helps manage the development process that includes Rfx, lab dips, and performance testing. When sourcing is connecting to product development, manufacturers have greater visibility at the beginning of each season of what material commitments they have and what vendors are both available and able to support their go-to-market assortment.
- NX for hardlines and footwear is an integrated CAD, CAM, and CAE solution that supports store and product design for brand and private label retailers that have a set of products from softlines to hardlines to footwear to consumer packaged goods (CPG).

# THE SITUATION

Apparel, footwear, and accessories manufacturers around the world are driven by increased global pricing competition and the need to deliver attractive and innovative goods in the face of shortening trend order-to-production cycles. They must maintain margins despite fluctuating cost of materials, manage both product and packaging design to appeal to global consumers, and avoid design errors that impact the overall cost and schedule of a product. They must also optimize assortments to accelerate time to market and time to value.

Manufacturers in this industry are increasingly looking to end-to-end PLM platforms to support a single source of accurate information and drive precise collaboration and workflows through the entire product design, development, and delivery process. However, their PLM needs are somewhat different from most other industries deploying PLM, in that their product lifecycles are very short across

<sup>© 2010</sup> Nucleus Research, Inc. Reproduction in whole or part without written permission is prohibited. Nucleus Research is the leading provider of bottom line-focused technology research and advice. NucleusResearch.com

multiple seasons, so their PLM workflows must be flexible enough to accommodate design, demand, and market changes throughout the year. They also need to balance flexibility with structure so timelines for deliverables can be met.

Key returns from Siemens PLM for manufacturers in these industries include:

- Increased visibility for better decision making
- Reduced manual issue and exception tracking
- Increased reuse of information
- Improved calendar management
- Improved line planning
- Increased collaboration and increased productivity
- Accelerated or managed time to market
- Lower cost of compliance with product safety regulations
- Reduced shipping and freight costs

This Guidebook explores the best practices, fine-tuning tips, and missteps to avoid for companies to maximize returns from their investment in Siemens PLM software in the apparel, footwear, and accessories industries.

# **BEST PRACTICES**

Nucleus found apparel, footwear, and accessories manufacturers successfully deploying Siemens PLM planned and executed their projects following a number of common best practices.

#### Establish global calendars and libraries, and use them

Speed to market is critical in fashion, but so is fine tuning products during the development process based on new and historical performance data on people, processes, and products. Teamcenter provides a line planning and calendaring application for managing the product development process that enables manufacturers to link global line plans and multiple calendars at the style, color, fabric, and role level for better visibility into projects and better resource allocation. A Web-based centralized calendar enables team members to have access to project schedules and details from any location so global design teams can work more efficiently:

- One footwear manufacturer, for example, moved from distributed Excel spreadsheets and Microsoft Office calendars to manage its projects. The design manager found that having a single view of project schedule information, and the ability for all collaborators to access it and provide input, drove greater productivity for users and greater visibility for decision making for managers.
- Another apparel manufacturer found calendaring helped focus team priorities, saying "The out-of-the-box calendaring is a Microsoft project-like environment in a PLM system. We can assign due dates to various activities in the system and reports help us tell if we're on time, and with what percentage of products. We can figure out our priorities and quickly tell if there are things that will be late. If we have control over what's about to be late we can manage to it."

The line planning process enables manufacturers to drive development schedules and focus resources on the most important or profitable styles. Companies that align their business calendar with Siemens calendaring functionality will be able to quickly view where delays may happen and prioritize work to meet deadlines, reducing the need for more costly rush jobs or rush shipments. Similarly, manufacturers that leverage product material libraries for reuse can significantly reduce design time by taking advantage of existing fabrics or design elements instead of creating a new element.

## Drive collaboration across the value chain

Effective design and development requires companies to manage an extended supply chain and ensure all their partners work together collaboratively and efficiently, but such orchestration requires more than just PLM technology and a centralized collaboration platform such as Teamcenter. Successful companies will ensure that:

- an appropriate investment in infrastructure makes their PLM data fast and easy to access
- the right training efforts bring global partners on board to use the system effectively
- ongoing face-to-face as well as virtual collaboration reinforce open communication and an environment that supports idea sharing and innovation.

Manufacturers using Siemens PLM find that the relatively low learning curve required to begin using Teamcenter, the ability to break up models within NX (for hardlines development) so more than one person or team can work on components of the design at the same time, and the tight integration between the NX conceptual design and product design environments enable more streamlined collaboration and product development.

#### Train for adoption

User adoption is key to the success of any technology deployment, particularly with projects that drive users to collaborate in ways they may not have experienced before. Companies investing in Siemens PLM should plan for both technical and business value training to show users not just how to use the solution, but how individuals can personally benefit from it.

Pretraining those that will be most impacted will also help ease barriers to adoption. Before the application is deployed, training that shows users how their work will change and how they can get support on the new application, and training lab time where they can actually work with the application will help to iron out any wrinkles before go live. Depending on how comfortable users are with PLM applications, some may be comfortable with at least eight hours in a test system; those who have been working in Microsoft Excel or Outlook will likely need more time and more positive reinforcement.

Trainers will also need to do their homework so they can be prepared when they get pushback on the time it takes to run a report or the number of clicks required to reach a certain screen. A little research into how long the equivalent piece of work required in the pre-PLM environment will likely show a favorable comparison for PLM.

Make a single source of information easily accessible to the global team

Designers and product developers often work in isolated digital environments that include multiple CAD applications and versions and multiple document authoring and management systems. Siemens Teamcenter provides a single environment for sharing and managing information, and the Siemens JT format enables hardlines designers across the supply chain to share and view information regardless of the initial authoring application or environment. Apparel, footwear, and accessories manufacturers that invest in robust product lifecycle management solutions can then scale them as needed to support a collaborative global supply chain. Immediate, secure access and high performance will help reduce bottlenecks and adoption issues.

The biggest benefit from an integrated end-to-end PLM platform like Teamcenter for softlines, hardlines, and footwear is that it supports all stages of the product lifecycle — and all users can leverage knowledge from the system to continue to drive innovation and increase efficiencies. Making sure all the design, calendar, and line information "lives" in Teamcenter and users know where to find it will drive increased and improved collaboration and innovation. An integrated environment can drive greater productivity, reduce the cost of errors, reduce rework, and accelerate time to market.

#### Ensure executive level engagement

Consultants and vendors always advise customers to have high-level executive engagement, but it's often easier said than done, particularly in large or highly political organizations. Given the scale of a full PLM deployment, like any enterprise software deployment, both high-level IT and line-of-business champions should be involved. Other successful strategies for engagement include:

- Make sure the executive is not just a champion in name, but an enforcer that drives PLM efforts. If the PLM team is driving change, there will be greater resistance.
- Don't be afraid to pick an atypical champion. If there's a particular region, project, or manager that looks like a better initial adoption target, start there. As long as the strategic vision is in place, a better pilot will drive better overall execution.
- Give mid-level managers opportunities for visibility and leadership so they can "own" the project —both inside and outside the organization — while ensuring they have the ear of their high-level sponsor should challenges arise.
- Encourage pilot users to be whistle-blowers as much as champions. If managers encourage negative feedback at early stages, they will encounter fewer challenges in deployment and adoption down the road.

As one customer said, "There's a difference between working with an executive and having a sponsor. The executive really needs to know the role that goes beyond approving the budget. They also need to understand that the whole business process is going to be evaluated, and it's very likely in apparel that the whole process has never been completely documented."

#### Balance strategic vision and manageable phases

Carefully aligning pilot projects and users with the overall strategic plan for optimizing PLM will ensure your marketing and adoption efforts last beyond the

pilot phase. Often a pilot group will select and deploy a point solution without significant thought for how it can be integrated with other phases of the design process, or a strategic plan will be put in place without the tactics to execute upon it. Both approaches result in user frustration and, ultimately, greater challenges to adoption of any further initiative. Clarifying the collaborative PLM vision, effectively marketing it to users, and using that vision to drive which users will adopt first helps managers monitor adoption, scope creep, and areas for extra attention.

One area where this is critical is in reporting strategies. One manufacturer noted that while it chose to use basic reporting tools for its initial deployment, it plans to further enhance reporting in the future with a business intelligence (BI) tool like IBM Cognos. As part of the initial deployment, it considered how data could be extracted to be leveraged with BI and configured the application to support data delivery in that format.

## Take advantage of Microsoft Office integration

The easiest way to ensure user adoption and reduce initial and ongoing training costs is to provide users with intuitive tools that they're already comfortable using. Support for Microsoft Office and other common authoring tools within the Teamcenter platform can help provide casual users with rapid access to the information or input they need with limited training and drive greater adoption across the supply chain. Users also found that the intuitive nature of Teamcenter and its Microsoft Project- like calendaring and scheduling templates made it relatively easy to learn to use. One designer, for example, said, "Maybe an hour of training with someone that knows Teamcenter is enough; beyond that most people who know basic applications can figure it out."

Companies should particularly consider how they can leverage the Microsoft Live integration, which enables real-time updating of data in Teamcenter whether the user is a system seat holder or not. Integration with Microsoft Outlook enables a user to sign off on a task or a style during the product development process via PDA, driving further remote collaboration opportunities.

## FINE TUNING TIPS

Beyond the initial deployment, companies should continue to evaluate their investment and progress with Siemens PLM to maximize its value over time.

#### Leverage service-oriented architecture (SOA) for integration

Teamcenter's SOA and Web services enable organizations to integrate Teamcenter capabilities into existing business processes, embed Teamcenter-managed information into other applications, portals, and dashboards, and integrate Teamcenter itself with other applications such as CAD tools, manufacturing planning solutions, and other business applications.

Once the PLM architecture has been established as the core source of global information, Teamcenter can be integrated with other applications relevant to the design process to deliver additional benefits:

Supply chain planning integration can reduce manual data entry as well as streamlining inventory and just-in-time materials planning.

© 2010 Nucleus Research, Inc. Reproduction in whole or part without written permission is prohibited. Nucleus Research is the leading provider of bottom line-focused technology research and advice. NucleusResearch.com

- Business intelligence and predictive analytics integration can leverage existing data to identify potential areas for cost savings, evaluate and predict the performance of partners and suppliers, and negotiate based on greater visibility into supply chain performance.
- Integration with sales and operations planning applications can help further streamline product forecasting, delivery, and sales.

Standards-based integration can reduce the number of manual data entry points and time to enter, review, and correct data errors, reduce maintenance costs, and increase visibility.

## Extend designs and plans to production and manufacturing

Providing input early and often in the product lifecycle will reduce rework, errors, and, ultimately, overall cost of goods sold while encouraging collaboration and innovation. Providing production with early access to designs and plans in development can help identify potential problems and solutions that can reduce product rework, and ultimately, overall product cost.

For example, one outdoor equipment manufacturer found it could integrate information gleaned from testing prototypes in the field into the product design environment and through to the engineering and molded part design while ensuring the geometric integrity of the changes.

## Invest in adoption across the supply chain

PLM is not simply a data management tool, rather a solution an entire team, internal and external constituents, needs to leverage. It enables and encourages collaboration across the supply chain and provides a structured way for vendors and partners to share their input. The end result is a more nimble development process where Rfx, lab dip, performance testing, and related communication flows. Extending PLM across the value chain broadens the breadth of institutional knowledge captured in the PLM application, which leads to greater analysis, reporting, and benchmarking for improving the quality of future products and suppliers.

## Look for more opportunities for automation

Once an initial PLM platform is deployed, organizations can further leverage returns from their investment by leveraging Teamcenter's workflow capabilities to automate and streamline additional product development, testing, delivery, manufacturing, and delivery processes across the supply chain.

Greater automation will streamline and further reduce the cost of processes. It will also enable more standardized collection of data from across the product lifecycle that can be leveraged to make better decisions about seasonal product assortments and potential innovations. When style, specification, calendar, and planning information is more accessible to the global team, companies get to market more rapidly with the right styles. They can also reduce costs by ensuring they are not just on trend and on time but have taken the most cost-effective route to get there. One apparel manufacturer, for example, found access to information enabled it to reduce rush air shipments of collections over time and move to a less costly delivery method because automated data reports made them better able to view impacts of delays along the entire process.

## **MISSTEPS TO AVOID**

Avoiding the following missteps can help companies to drive adoption and maximize value from their PLM implementation.

## Don't limit your training strategy

The best way to ensure ongoing and effective use of any software application is to provide both initial and ongoing training as well as online resources or application information expert users can access when they have specific questions. It's likely you'll identify users during the training process that come up to speed more quickly than others; you may want to designate these users as power users and draw tips from them that can be shared with other users. Occasional users, in particular, will benefit from ongoing one-off training, usage tips, and support.

## Don't go it alone

Siemens PLM's Teamcenter for softlines, hardlines, and footwear has been optimized out of the box to support the needs of brand and private label manufacturers, leveraging and reinforcing the best practices and process workflows of existing users.

Manufacturers moving from disparate legacy systems to a collaborative environment such as Teamcenter can take advantage of Siemens's investment in configuring the solution to support industry demands to drive faster time to deployment, faster product time to market, and reduced compliance costs. Additionally, manufacturers can take advantage of the embedded industry workflows and best practices guidance from Siemens to further optimize their PLM efforts.

## Avoid unnecessary customization

Often product teams jump into the customization process without a clear knowledge of the capabilities of the PLM application. Instead, teams should spend considerable time learning the core capabilities of the application so they understand how it works and what it's capable of accomplishing. Keep in mind that any customization could reduce the speed and stability of the application and require ongoing support and maintenance, particularly at upgrade time.

Apparel manufacturers in particular find that the relative flexibility of the Siemens PLM environment enables them to configure it to support their needs without constraining the creative and often iterative process of fashion line development. As one user said, "In apparel there are a lot of changes and a lot of variability that exists in the business processes. You need simpler workflows. You don't need to track everything that happens but you do need to account for all the potential variability in the process."

## Don't overlook human factors

Particularly in an environment where collaboration must span multiple companies, geographies, projects, and job types, human factors have a direct impact on the returns companies achieve from PLM. Encouraging feedback (both positive and

<sup>© 2010</sup> Nucleus Research, Inc. Reproduction in whole or part without written permission is prohibited. Nucleus Research is the leading provider of bottom line-focused technology research and advice. NucleusResearch.com

negative) on the technology, promoting power users' achievements, letting select users pilot and provide feedback on new functionality before it is launched, and ensuring a scalable and accessible platform are all key human factor checklist items to ensure maximum effective adoption and, ultimately, maximized ROI.

From a practical perspective, one user said, "PLM can change behavior a lot. People get really upset by that. You have to put out fires early: as soon as the chatter starts about something being to slow, you have to call a meeting and solve it. As you get closer, you need management to say, 'You're not to do it in PLM and Excel too.' Don't have the rules come from the PLM team." One advantage of Teamcenter's integration with Microsoft Office is that that transition can be smoothed by having work done in Microsoft Excel or Microsoft Outlook populated into Teamcenter automatically so users can move at their own pace.

## CONCLUSION

Apparel, footwear, and accessories manufacturers face some unique product lifecycle management challenges. They must balance fashion and margins with changing tastes, changing seasons, and an increasingly mobile and international customer. Successfully scaling such a business requires both structured planning to meet deadlines and flexibility to make changes as needed at almost any step in the design and development process.

Teamcenter for softlines, hardlines, and footwear enables manufacturers to improve collaborative line planning, calendar management, specification development, costing, and global sourcing and collaboration to support greater innovation. Companies moving from a preponderance of paper-based or e-mail collaboration to Siemens PLM will likely achieve the greatest initial returns. However, deployed properly, Siemens can deliver positive returns even for companies that may have initiated some siloed PLM efforts by providing a single source of information and streamlining collaboration and design and development processes across the globe.