



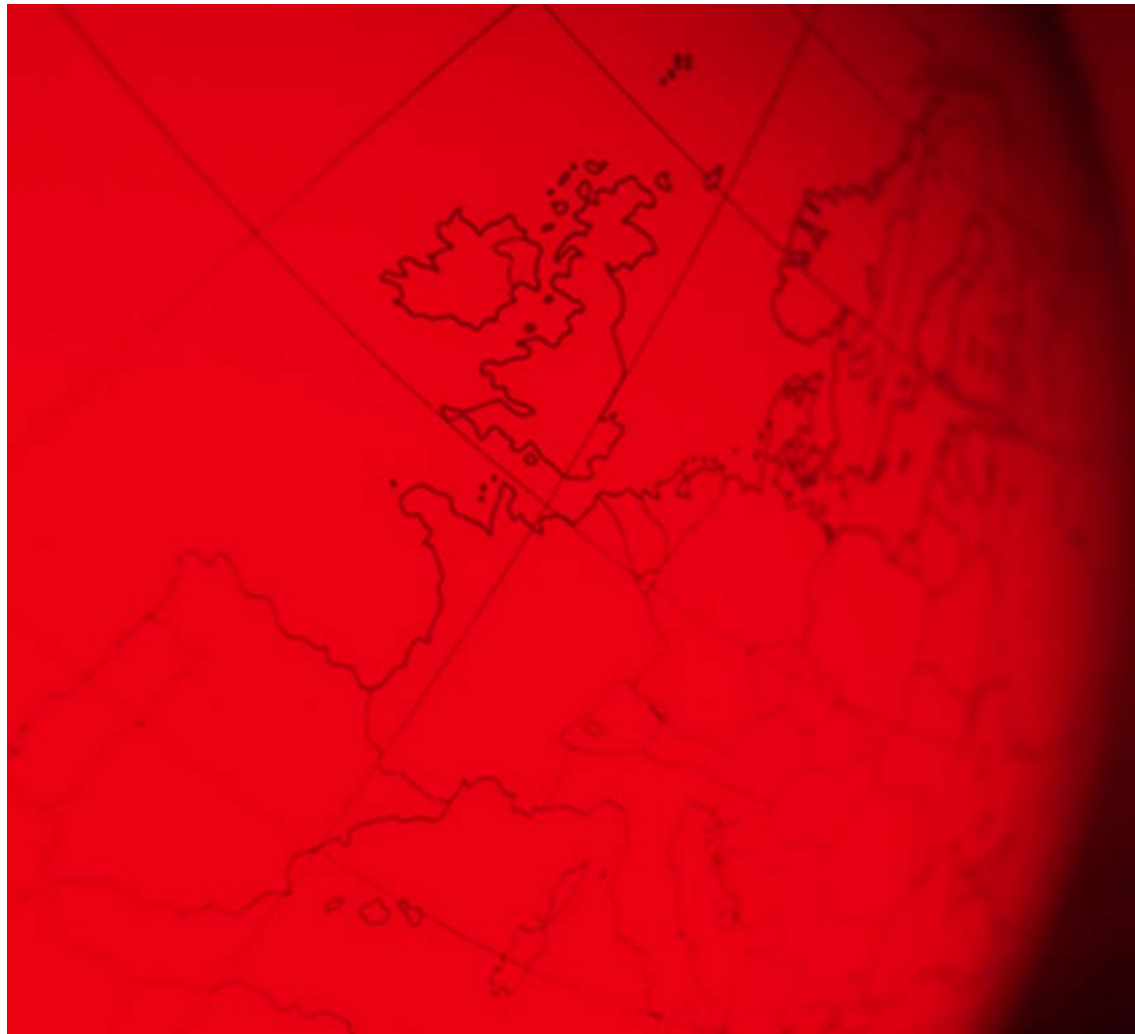
NUCLEUS
RESEARCH

October 2009

Document **J17**

GUIDEBOOK

SIEMENS PLM SOFTWARE FOR CONSUMER PACKAGED GOODS



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TOPICS

Enterprise Applications

THE BOTTOM LINE

Siemens product lifecycle management (PLM) software for the consumer packaged goods and food and beverage industries enables companies to optimize package design and accelerate innovation while reducing costs.

Siemens PLM software includes two key products:

- NX for Package Design is a complete integrated CAD, CAM, and CAE solution that supports iterative development of packaging components. Key features of NX include flexible shape creation and 3D rendering; an embedded rules-based for knowledge capture and reuse; product test applications such as finite element analysis, computational fluid dynamics, and center of gravity; and simulation to support evaluation of fill rate, stacking capability, and other parts of the manufacturing and delivery process.
- The Teamcenter platform supports end-to-end product lifecycle management with the following components:
 - > Systems engineering and requirements management
 - > Portfolio, program, and project management
 - > Engineering process management
 - > Bill of materials management
 - > Compliance management
 - > Content and document management
 - > Formula, package, and brand management
 - > Supplier relationship management
 - > Mechatronics process management
 - > Manufacturing process management
 - > Simulation process management
 - > Maintenance, repair, and overhaul
 - > Reporting and analytics
 - > Community collaboration

Out-of-the-box integration of Teamcenter and NX provide a complete packaging and artwork solution for CPG and FB companies.

THE SITUATION

Like other manufacturers, consumer packaged goods and food and beverage companies face the challenges of globalization, process optimization, speed, and sustainability. However, they also face some unique challenges in the package design process. To compete, they must constantly innovate while addressing a number of contradictory requirements:

- Packages must be strong, but light
- Packages need to be easy to open, but resist leakage
- Packages must comply with multiple diverse market requirements and environment regulations
- Packages must be cost effective to produce
- Packages must be visually appealing.

As companies look to drive innovation and manage costs, design teams are often geographically distributed, using third parties for some elements of the design process, and using a variety of different tools in the design process. Without a common platform to share and reuse information, design teams are challenged to cost-effectively deliver innovative packaging as the market demands it.

Successful manufacturers recognize that package design is both a technical problem and a collaboration problem, and invest in solutions that support both design needs and support for distributed collaboration and knowledge reuse.

In package design, collaboration and knowledge reuse drive innovation and faster time to market.

Investing in an end-to-end PLM solution like Siemens NX for Package Design and Siemens Teamcenter can deliver significant benefits including:

- Improved cycle times
- Reduced design time
- Accelerated time to market
- Reduced cost of rework
- Process optimization

Returns will be maximized only if users successfully adopt the application. This Guidebook explores best practices, fine-tuning tips, and missteps to avoid for companies to maximize returns from their investment in Siemens NX for Package Design and Siemens Teamcenter.

BEST PRACTICES

Nucleus found companies that most successfully deployed Siemens NX for Package Design and Teamcenter planned and executed their deployments following a number of common best practices.

Balance pilots with strategic vision

Carefully aligning pilot projects with the overall strategic plan will ensure initial wins that can build momentum for further adoption. Clarifying the collaborative PLM vision, effectively marketing it to end users, and identifying pilots that can show rapid returns are key to success. One consumer packaged goods manufacturer, for example, started with an initial pilot deployment of Teamcenter in its baby care and family care division, where designers quickly recognized the benefits of the ability to share a variety of design files in global virtual collaboration. Managers communicated their results to other groups, which drove greater momentum for adoption in other divisions.

Keep high-level management engaged

Every analyst will tell you that high-level management engagement is critical to the success of technology projects, particularly when they involve collaboration and change in work habits. The real question is how to do it. Successful companies follow a number of different strategies based on their cultural requirements and business realities:

- Ensure the IT lead has excellent project management and communication skills.
- Designate one or more high-level executives as project champions and let them pick their team of mid-level managers to drive the project.
- Give mid-level managers opportunities for visibility and leadership so they can “own” the project, both inside and outside the organization.
- Encourage pilot users to be whistle-blowers as much as champions. If managers encourage negative feedback in the early stages, it can be addressed before a broad population accesses the application. This in turn will drive fewer adoption challenges.
- Don't be afraid to pick an atypical pilot. If there's a particular manager that's “bought in” to the solution, has identified potential benefits, and can be a good evangelist, start there. As long as the pilot is aligned with the strategic vision, a better pilot will drive better overall ROI.

Take advantage of the integrated solution

The biggest benefit from an integrated end-to-end PLM platform like Teamcenter is that it can be used all along the packaging development lifecycle — and users can then leverage existing knowledge from the system to continue to drive innovation and reduce design costs. Making sure that all the design information resides in Teamcenter and that users know where to find it will drive further collaboration and innovation.

Invest in training

Companies investing in Siemens NX for Package Design and Teamcenter should plan for both technical and motivational training to show users not just how to use the applications but what's in it for them. Companies should start early with both informal training such as “lunch and learns” to drive change and seminars that walk through the specific features and uses of the applications. Companies should expect an investment of at least three to five days for power users and a full day of training for end users. IT support team training is likely a two to three-week effort.

Before getting started, the project training team should assess the user community's skills and knowledge, ensure training is appropriate based on varying user profiles and geographies, and ensure all users are trained shortly before they start using the system.

FINE TUNING TIPS

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

Increase and expand support and education

Although users may come up to speed quickly on the basics of the applications, user (and in particular, occasional users) will benefit from ongoing documentation, training, cheat sheets (such as quick tips on key areas of functionality used for their job), and support. In the early stages, identifying key projects where some users have been successful with the application and highlighting their dos, don'ts, and tips, can help personalize and drive greater effective adoption and use.

Monitor and market end user adoption

Beyond initial adoption, understanding where users and why are leveraging the solution will help you focus your adoption efforts, understand where additional management effort will be needed, and identify opportunities to enhance or improve the application to meet tactical user needs. Regular polls of end users on a quarterly or biannual basis about how effective they feel the application is, what challenges they see, and what workarounds they've put in place can help you to identify incremental opportunities for improvement that will deliver additional value. Identifying power users and promoting their success to their peers will help drive greater adoption and collaboration as well.

Extend the environment to collaborative partners

One of the greatest advantages that the Teamcenter environment can provide is the support for a broader third-party partner network. Using JT, partners can share critical details of their product design requirements and materials without being concerned about compromising or protecting proprietary intellectual property. Once internal teams have adopted the technology, integrating key outside third-party partners can extend the value Siemens PLM delivers while improving partner relationship efforts and streamlining operational processes and costs.

MISSTEPS TO AVOID

Given the scale and scope of PLM implementations, it's easy to overlook tactical details that can constrain the value Siemens PLM software can deliver. Avoiding the following missteps can help companies to drive adoption and ultimately maximized value from the solution.

Don't start without a strategic vision

Design tools are often adopted as tactical solutions to individual problems, leaving companies with diverse sets of tools and significant barriers to collaboration across groups who have different preferred toolsets and skills. Although a phased approach is likely the best strategy for adoption of Siemens PLM, it should be accompanied by a strategic vision with clear goals for improving business practices. Focusing on a couple of key high-level benefits you expect to achieve, such as reducing development cycle times or reducing rework costs, can help drive all users toward the same goal.

Don't rush the implementation

Careful, thoughtful planning and a phased approach to implementation will deliver the most success from Siemens PLM software. For Teamcenter, companies should realistically expect six to 12 months for planning, assigning roles, properly configuring the software, defining specific work processes, and testing and deploying the software. The NX planning and deployment process averages slightly less — about four months. After the initial deployment and training, continued experience with the system will lead to a greater knowledge of its capabilities and a greater ability to gain value from the depth of functionality.

Don't expect one-size-fits-all or one-off training

A successful PLM deployment will require both initial and ongoing training and support for users to be successful. Depending on the skill levels and motivations of

different users, different types and levels of training will be needed. Companies are most successful when they have a tiered strategy for power users and then more casual users, when they blend in-person and self-paced or manual-based training, and when they have staff with expertise that can provide support on an ongoing basis.

Don't assume other solutions deliver the same benefit

Although many ERP vendors such as SAP have developed some functionality to support PLM efforts, successful deployment often requires a significant customization and development effort that can increase costs, limit future flexibility for changes and upgrades, and hinder effective adoption. Considering the complexity of the consumer packaged goods and food and beverage industries, companies should carefully explore any vendor's ability to support the complexity of the design process as well as the unique characteristics of the design process, including waste factors, localization, and labeling requirements.

CONCLUSION

Siemens product lifecycle management (PLM) software for the consumer packaged goods and food and beverage industries supports both individual authoring and collaboration across the design lifecycle, helping companies to optimize package design while reducing costs. However, optimizing design is not accomplished by technology alone. Successful companies have a strategic vision and clear business objectives in mind and then use them as the roadmap for guiding the training, deployment, and adoption process. CPG companies can maximize value from Siemens PLM by leveraging both the technical design and collaboration components of the solution — and by ensuring that end users take advantage of both in order to drive optimized design practices.

Nucleus Research is a global provider of investigative technology research and advisory services. Building on its unique ROI case study approach, for nearly a decade Nucleus Research has delivered insight and analysis on the true value of technology and strategies for maximizing current investments and exploiting new technology opportunities. For more information or a list of services, visit NucleusResearch.com, call +1-617-720-2000, or e-mail info@NucleusResearch.com.