

# PLM IN THE ERI

## Product lifecycle management helps get products out faster

**A** staggering 85% of revenue for golf-club manufacturer PING comes from product introduced within the last two years. That makes the timely, efficient launch of new products mission-critical for the privately held Phoenix-based company.

With its implementation of Needham, Mass.-based PTC's PDM link product lifecycle management solution, PING has increased its product launches from two to 15 per year—literally making the difference between languishing and thriving.

Developing and introducing new products is core to the consumer goods, apparel, food and beverage, and retail industries. But only recently have companies in these markets begun to set aside the IR spreadsheets and embrace product lifecycle management (PLM) tools, which have been more closely associated with engineering-driven verticals such as automotive, aerospace and electronics.

A precise definition for PLM, has not been coined, but most agree the term encompasses all processes associated with a product—from the initial concept through design, development, distribution and ultimately, end-use or disposition. Common elements of PLM suites include an enterprise product record, workflows, collaborative capabilities and compliance tools. Computer-aided design is also included by some, and the range of functionality continues to expand.

According to AMR Research's "Product Lifecycle Management Applications Report, 2005 to 2010," total revenue for the PLM market will grow from \$11.3 billion this year to \$16 billion by 2010. Members of the extended retail industry (ERI) currently represent a small portion of the current market, said Michael Burkett, VP at AMR. Apparel, for example, accounts for just 5% to 10% of sales, but is growing at about a 10% rate.

**PLM in ERI:** PLM couldn't come at a better time for many players in the consumer goods to retail supply chain. It's never been more critical to quickly and efficiently introduce products that people will actually buy. At the same time, production is becoming more global, upping the need to collaborate with suppliers on specifications and development.

"They're dealing with very rapid product lifecycles. Fur-

ther, customers keep changing their needs and purchasing habits, and manufacturers need better marketing segmentation for products," said Joe Barkai, program director, product lifecycle strategies and PLM for IDC's Manufacturing Insights.

In apparel specifically, "Product variability is up, the number of SKUs is increased, and while lifecycles have always been short, today they are more so," said AMR's Burkett. "They need to execute on cycle times faster."

Boiled down, there are few differences in PLM challenges across industries, these analysts reported. Commonalities in-



clude complex workflows, large bills of material and the need to manage product "cookbooks" as well as a stable of suppliers.

But adopters tend to want solutions customized to suit the business processes, terminology and sensitivities of their own markets, and developers are rushing to fill the void with packages tailored to extended retail industry (ERI) members. "It's more user-facing than fundamental transactions" that distinguish consumer packaged goods (CPG) or retail-oriented PLM suites, said IDC's Barkai.

But the emphasis can differ. In retail, for example, "one of the most important benefits and opportunities with PLM is the ability to develop multiple parts of a product in parallel, he

Casual Male XL, an apparel retailer catering to a big-and-tall clientele, is using a product lifecycle management solution.

noted. When a product, its packaging and accessories are all developed simultaneously, time to market is shortened significantly, providing competitive advantage, he explained. That may be less important in, say, aerospace, where developing promotional packaging for a jet engine is not an issue.

The ability to manage the massive iterations of a garment is one apparel-specific PLM requirement. “Most other industries design around a machine rather than a person,” said Roger Mayerson, VP of product development and global sourcing for Casual Male XL, Canton, Mass., which uses New Generation Computing’s e-PLM SQL Series. “It’s like herding cats.”

Big and tall retailers such as Casual Male face even more unique sizing challenges. “The next big opportunity in this industry is to harness the creative process to move into the analytical part of the business” via apparel-oriented CAD-type tools,

Developers offering this converged vision come at it from two camps. Many PLM specialists are rooted in computer-aided design and all aspects of the design and manufacturing process but are migrating toward open platforms and ERP connectivity. ERP developers are in turn moving into the PLM realm, approaching the task from a more whole-enterprise perspective.

“ERP [solutions] focus more on order management, demand management, the supply chain side,” said IDC’s Barkai. “ERP [solutions] look more holistically end-to-end, but there are gaps in handoffs.”

Improvements to collaboration tools are another significant trend, essential for the increasingly global nature of manufacturing and sourcing. Cincinnati-based Procter & Gamble (P&G), for example, uses UGS Teamcenter to provide visual product data—product and package models, label artwork, equipment, analysis and layout diagrams, process schematics

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he predicted.

Other PLM selection criteria for Casual Male included roots in the apparel business, ease of use (an essential ingredient when working with non-English-speaking overseas suppliers), as well as low technical overhead and image capabilities.

“It’s critical that it be a very visual system,” Mayerson added. “Others were very verbiage-oriented.”

**Cross-industry innovation:** While they enhance their offerings for CPG and retail, PLM application developers continue to push out new functionality. One major focus is the convergence of design and engineering functions with the supply chain and customer ends of the process. This is enabled by greater interoperability among PLM, ERP (enterprise resource planning) and other enterprise applications, through Web services and service-oriented architecture (SOA).

While no single vendor yet offers it all, these enhancements aim to help users take a more holistic view of the entire product lifecycle and build products that meet customer demand and can move efficiently through production and logistics—and then be easy to support. According to AMR’s PLM report, the adage holds true that roughly 75% of product cost is locked in during new-product design.

and so on—to every desktop, as well as capabilities specifically tailored to product-related team collaboration, including robust visualization capabilities for visual collaboration in a CAD-neutral format. It also brought P&G real-time collaboration services, including calendars, schedules, workflow, virtual meeting sites, instant messaging and virtual conferencing.

Other areas of innovation apply analysis, such as enhancing the ability to manage costs by analyzing pricing and supplier performance. Additional depth is also arriving in areas including quotation management, sample management, use of calendars and management of line plans, said AMR’s Burkett.

In food and beverage, health and beauty, and life sciences, demand for formulation and specification management is emerging. H.J. Heinz, for example, uses Prodika, recently acquired by Agile Software, to develop and track its product specifications, leading to sharp cuts in its new product introduction cycles.

Incorporating more demand data, via customer needs management, is among the priorities on both sides, to better shape product development with current trends. But it’s still early, Burkett said.

One flat-screen monitor maker is making strides toward

# PLM IN THE ERI CONTINUED

that goal by replacing its pull-based supply chain to one that senses market characteristics at the retail and distribution level. In the past, product development would create and commit to certain specifications that would turn out to be out of sync with customer preferences at the end of the development cycle.

IBM helped the manufacturer use PLM tools to synchronize activities and determine variations in product preferences by market, filtering demand data back to designers. That helps not only shape initial design, but distribution as well. For example, if subsequent data suggests a certain monitor size is more popular in a particular market, allocation can be shifted.

**ERI expectations:** But most adopters in the ERI have a lot of ground to plow before concerning themselves with cutting-edge PLM.

"The core requirement is getting all of the data in one place: one version of the truth," said AMR's Burkett. That

data includes product specifications and configurations and bills of material. Next typically come workflows, often followed by changes in engineering processes.

Those three were enough to deliver PING's admirable results. While the company's new-product introductions were rising from two to 15 annually in five years, PING increased its engineering staff from 65 to just 67 and cut its time to market from 24 months to nine. The company had two priorities, said Dan Shoenhair, director, engineering business manager, for PING: making processes leaner, and building a knowledge library for engineers to share information from project to project.

"We wanted one location for information—CAD with product-development data," he said. "We were able to put it all together into one, which was a big deal for us."

Cost has been one barrier. PLM projects can run upward of \$1 million for Tier One companies, though developers have

## PLM Contacts

For more information on product-lifestyle-management (PLM) solutions, use these retailers and vendors as resources:

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been unveiling solutions for the mid-market at lower price points. The lion's share of that tab—as much as three times the cost of the software—comes from services, which points up the biggest challenge in implementation: managing change.

“There is a lot of business process definition, data migration, and change management,” said AMR’s Burkett. Doing these well can be the difference between success and failure, he said. Projects derail when users fail to anticipate their required level of involvement in implementation. Leadership by a cross-functional team is also key, since PLM touches many facets of the enterprise. Defining a project owner is a challenge because it crosses so many departmental lines and doesn’t fall squarely into any one, according to the AMR report.

Casual Male and PING both skirted those issues—Casual Male by first defining best processes, then finding a solution to fit, and PING by embracing processes in the solution, since it didn’t have formal processes that required change.

Because of the cost, scope and potential complexity, projects tend to be phased, with early modules helping to fund later enhancements.

Return on investment (ROI) in PLM often comes from the efficiency it imposes on processes—eliminating the labor hours required to locate, record, share or record information.

For Casual Male, for example, replacing the often-inefficient e-mail process with a collaborative environment was a major productivity booster as the company shifted its business from 30% to 70% private label.

“We’re able to collaborate across the supply chain with suppliers and vendors,” said Mayerson. “When you’re working on a specification you’re able to contact anyone in the supply chain and collaborate. They see the same data, and it’s real time and time-stamped.” Other benefits include reduced lead time, fewer errors, better supply chain visibility and improved performance. That’s helped the company maintain its edge in the men’s big and tall apparel space, especially as that marketplace undergoes its own transition. “As the customer has become more aware of trend-right

clothing, our business has moved a lot quicker. This allows us to do that,” says Mayerson.

Another source of ROI is enabling reuse of design elements. “Some companies have five versions of the color black,” said AMR’s Burkett. PLM enables a user to institutionalize the process by standardizing on one. “That gives buying power to the purchasing organization” by increasing the volume, thereby decreasing pricing. Less variability in the number of shades of black also decreases variability, reduces inventory and enables more effective planning of materials, he noted.

Jones Apparel Group, based in Bristol, Pa., is able to reuse design elements

Jones Apparel Group creates merchandise across more than 12 different labels. Its use of product lifecycle management facilitates this.



for similar garments across its 12-plus different labels, thanks to its implementation of the core capabilities of UGS’ enterprise product lifecycle management, said IDC’s Barkai.

Product development scientists at H.J. Heinz take a similar tack, accessing raw material, supplier and product data from other parts of the diverse global enterprise instead of reinventing the wheel via its PLM from Prodika, subsequently acquired by Agile Software. Among the myriad benefits of the implementation was another specific to the extended retail industry: Heinz tapped the Prodika database to synchronize product catalog data with exchanges at the behest of retailers.

Creating the products that customers will want to buy and getting them to market before the competition has become a critical capability in today’s marketplace—and a more challenging one, given the globalization of manufacturing. According to AMR, late to market and missed demand top the list of reasons why product launches fail. Many are hoping PLM solutions will provide the visibility, coordination and insights to boost the odds of product-development success. **RTQ**

—Lisa Terry