

Knowledge is power

Sharing data is an immense task for multinational corporations, but a new system promises to allow companies to consolidate information across the globe.

The manufacturing industry has a new watchdog. In an age where accountability, traceability, quality, cost-cutting and manufacturing efficiency are becoming more and more important, a new concept has entered the arena – product lifecycle management (PLM). PLM is a system that allows collaboration between suppliers, and manages information such as technical specifications of products, raw materials and manufacturing processes. It also collates all the decisions leading up to the launch of new products (packaging and promotions), which are monitored by an integrated system of software.

PLM is a system that can evolve and grow with any company implementing it. According to Geoff Turner, director of global alliances and business development at MatrixOne, a specialist in collaborative PLM solutions, 'It provides a holistic view of the stages of new product development, brand launches or modification processes. PLM complements enterprise resource planning, supply chain and customer relationship management.'

The potential of PLM has been recognised by company analysts, who have seen the value of the concept. The majority of the final cost of a product – around 70–80 per cent – is accounted for during the design and development phase. Analysts see a lot of potential for introducing efficiencies into the value chain at this stage. PLM is able to promote these efficiencies by bringing suppliers and customers into the development process earlier, thus expanding the knowledge pool, helping to identify potential problems and alleviating them earlier in the process. It also builds on collaborative technology to bring together geographically dispersed design teams, marketing teams and post-release product information. In this way, a product can benefit from concentrated attention from all points of view.

Global efficiency

A recent study by the Aberdeen Group entitled *Product Development in Consumer Industries* suggests that, 'Many consumer companies lack the sufficient infrastructure to communicate efficiently and manage the engineering change orders (ECOs), design or bill of materials changes (BOMs) that are crucial to the product development process.' It also claims that, 'Many companies have problems integrating

the design and manufacturing process.'

The Aberdeen Group suggests prioritising technology investments such as, 'Product data management, product costing, project and program management and visualisation'. All of these recommendations are important elements of a PLM system. 'PLM is now more highly prioritised than ever,' says Geoff Turner, director of global alliances and business development at MatrixOne. 'This is due to the efficiencies of collaborative technologies – largely thanks to the internet. Products can be deployed more quickly with PLM, which proves that the technology works.'

Collaborative technology has become an increasingly important aspect of modern business as markets expand globally and businesses outsource more and more elements of product development and manufacturing. PLM allows companies to manage all of their product processes globally as they outsource to cheaper locations. It also allows them to build up a more consistent view of their product portfolio and the services that support each product release. 'PLM improves responsiveness,' says Turner. 'It collates all the product information into one place. A company can then build the right processes on top of this, and can standardise processes and product information to enable research, development and activation.'

Marketing potential

The PLM concept is designed to include customers and suppliers in the product development stage. The accumulation of product information throughout the development stage can be as important as marketing collateral for branding purposes, enabling companies to share their product specifications with retailers in a more efficient manner. In the food industry, this could influence the range of products, the packaging and the retail display methods adopted.

For example, with better information on target markets and packaging design, retailers and manufacturers can work together to find the most effective method of product placement. Additionally, feedback from retailers and customers can be integrated into the product lifecycle to facilitate future development. Customer loyalty is crucial and encouraging, so taking note of comments on the product can improve product innovation and strengthen existing brands. 'We need to showcase the benefits of PLM to potential customers in the food industry. Our work with Procter & Gamble has been crucial to this development,' adds Turner.

Automatic development

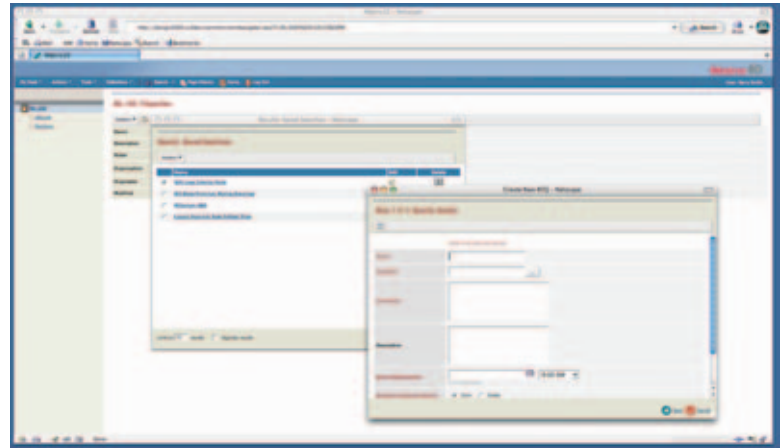
The Aberdeen Group identified automation as, 'one of the most effective ways to bring about product development improvements'. Companies implementing product development automation are more likely to have standardised procedures, and to have involved interested parties earlier in the design process. The introduction of integrated product data, project management and analysis across the product development cycle leads to significant advantages. These include an increase in new product revenues, 12 times' fewer product defects per million units and 14 times' fewer recalls than similar companies with no automation. Other potential improvements identified were a 17 per cent decrease in product development costs and a reduction of up to 35 per cent in design cycle time.

MatrixOne was asked by Procter & Gamble (P&G) to help with a quality-driven project that involved reassessing product development processes across the industries in which the company was involved. One key driver behind the project was the level of recalls that P&G was facing. Due to the many activities that the company was involved in, there was an excess of specifications for packaging, ingredients, supplements and raw materials. Collating all the data, and streamlining it, helped the company to address the issue of inconsistent specifications across global markets, and to rectify the lack of internal visibility across product lines. Specifications were standardised to simplify processes and also to save costs, since raw materials could be sourced more cheaply from a single specification.

Data security

The problem that P&G faced is best illustrated by the following example. Prior to adopting PLM principles, P&G had to recall its Pringles product in Japan. As many as 800,000 packs of potato snacks were recalled because they contained GM potatoes, which were not permitted under Japanese law. The affected packs contained potatoes grown in the USA, which did not meet the requirements laid down as part of Japan's zero tolerance stance against GM foods. According to MatrixOne, the implementation of PLM can significantly help to prevent similar incidents by consolidating product data and increasing the visibility of that data throughout the organisation.

Despite the advantages of PLM, some companies still have concerns about its implications. Security is a major issue, as companies fear a loss of control over their product data if they share it with suppliers and customers in the development phase. Solution providers are keenly aware of this. 'There is a lot of concern surrounding the issue of data security,' says Turner. 'At MatrixOne we are approaching PLM from the perspective of the aerospace and defence industries, where



MatrixOne's simple interface makes it easy to track components

security is a high priority. Security concerns over the development processes for military aircraft are huge – much greater than those for consumer product companies. The experience we have gained in those markets is now benefiting our customers in the food industry.'

Gradual implementation

A major concern for most companies is that the implementation of PLM will be a huge project that will disrupt business and require a huge up-front investment. Solution providers are keen to show that this is not the case. 'We develop solutions for specific business challenges. We think big, start small and scale fast,' says Turner. 'We start in one area, and expand the implementation to join the dots. Depending on the industry and the product, the development cycle can be anything from two weeks to ten years long. With longer product life cycles, the task of identifying efficiencies in the development process must be bitten off in small chunks. This way, a firm can see the results quickly.'

It is important for companies to take the plunge and implement PLM, as the benefits far outweigh the initial inconvenience. The potential benefits are clear for the food industry. By taking a gradual approach to implementation, companies will be able to achieve significant improvements to their data transfer methods in a relatively short time. ●

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