

ARE YOU EXPERIENCED? HERE'S THE EXPERTS' VIEW

Four executives share their experience of introducing product lifecycle management into their company. **John Lamb** leads the discussion

ROUNDTABLE



ROGER DUCKWORTH is engineering director of Integral Powertrain, a consultancy that designs and develops engines for automotive companies



SUNDAR KAMATH is senior vice president of corporate technology for Fortune 500 electronics manufacturing company Sanmina, which supplies original equipment manufacturers worldwide



PHIL McVAN, who has 30 years' experience of product lifecycle management at Inenco in the energy sector, is now managing director of renewable energy company Urban Wind



BARB SAMARDZICH is the recently appointed vice president and chief operating officer at Ford of Europe, where she is responsible for manufacturing and engineering operations

Companies employ product lifecycle management (PLM) faced with a wide range of often difficult challenges. Implemented correctly, PLM can help achieve strategic business objectives, and increase revenue and profits.

But what was the panel's experience and what processes did their companies most need to change by adopting PLM?

Roger Duckworth says Integral Powertrain uses many leading engineering software tools. "We like to push them to their limits," he says. "This can lead to a web of complex inter-file relationships which need careful control."

"Another problem is securing the dataset and controlling change. For single files this is easy, but when there are dependencies and files at different stages of maturity with different owners it gets very tricky."

Barb Samardzich says Ford of Europe's priority is to bring cars to market faster. "These products also needed to satisfy regional customer requirements while, at the same time, leverage the power of scale represented by global platforms and technologies," she says.

"Integrating technologies that allow us to simulate our product proposals ahead of having traditional prototypes available was key. These technologies became the focus of our advanced research teams."

Phil McVan, who has experience of PLM in the energy sector, says his company had to change processes continually. "Real-life experiences will help you hone the accuracy of your assumptions," he says. "I spent ten years in the military and the reality is that no plan survives contact with the enemy; you create a plan and then you have to be prepared to change it."

Sanmina's Sundar Kamath adds: "We work with our OEM customers [original equipment manufacturers] on a collaborative basis, so the most significant change is that we have had to evolve a joint PLM approach where both teams work together to ensure a successful product launch."

"Success in PLM implementation requires a few basic steps – clear definition of the PLM process which everyone understands, selection of the right PLM tool to meet an organisation's business needs, training of those involved in product development, and monitoring to ensure PLM is carried out consistently."

Did their company adapt to the technology or did the technology adapt to them?

"Any changes required to a PLM system, beyond basic configuration, will cost money, so it makes sense to understand how the system works before deciding where changes should be made," says Mr Duckworth.

"We use the 3D Experience Platform from Dassault Systèmes which, although relatively new, has opened up significant opportunities for improved working methods and gives a degree of future-proofing."

Mr Kamath says no single PLM methodology fitted his company's exact needs. "We had to adapt PLM to our design-manufacturing environment," he says. "Likewise, we had to modify our design process to incorporate PLM."

"Before project execution, and usually as part of the kick-off process, both teams need to fully understand each other's PLM approach, terminology and implementation practices as well as defining a common way of working; this helps prevent delays and execution issues later on."

Mr McVan says he is curious about what people are trying to achieve with software. "There are

a lot of variables that are behavioural and cultural that effect PLM," he says. "To my mind, PLM is a bit of an art rather than a science. Culturally a lot of functions don't get what PLM is all about."

"The creativity involved in developing a new product opportunity is entrepreneurial rather than following rules and being efficient. I remember some of the battles we had in boardrooms over these issues."

Was this a collaborative commitment from all affected business units?

"Herding cats springs to mind," says Mr McVan. "The principals who run businesses, which may be cash cows, dogs, rising stars and so on, have to start feeding new products in every time. If the head of the unit doesn't believe in that, then the techie guys aren't going to give you the time of day. All the software in the world isn't going to change that."

Mr Kamath agrees: "Absolutely, the key to success in PLM is cross-functional collaboration across all the main functions and business units: sales and marketing, product development, manufacturing, supply chain, operations and finance. Once the objectives and motivation are clearly understood by the various functions, getting them to collaborate is not a major issue."

Integral Powertrain's projects usually involve several functions – electrical, mechanical and software design – then procurement, manufacture, assembly, test and in-service maintenance, says Mr Duckworth.

"Most data originates in the design departments, but passes through other business units," he says.

"It would be missing the point of PLM to restrict the scope to just the design office. Again, we benefitted from the advice of our deployment partner, Intrinsic, who have a wealth of experience from previous deployments."

Ms Samardzich says Ford of Europe uses a global product development system, a cross-functional process, to develop and deliver new products. "This disci-

and correct. "Previously, there was an invisible wall around the design function, created by the need for expensive software to view engineering data, as well as a degree of uncertainty surrounding version control," he says.

"The most disappointing outcomes post deployment have arisen because of heightened expectation among our more enthusiastic users, who could

around the globe to continue to fully understand and meet the requirements and expectations of our global customers, and to deliver desirable products that exceed their expectations," says Ms Samardzich. "Diverse global regulatory requirements and development of sustainable and affordable mobility solutions for all customers provides the challenge."



In our branch of engineering, we believe a PLM approach will be mandatory in the very near future

plined milestone process ensures alignment of all regions and functions throughout the execution of the product design to deliver world-class products," she says.

"Our One Ford plan allows us to take advantage of global shared technologies and vehicle platforms. By leveraging the power of One Ford, we are able to respond quickly to changes in the marketplace. An example is the new EcoSport which has already seen success in Asia and South America, and is now launched in Europe."

What have been the most positive and negative outcomes of adopting PLM?

"Outcomes have been mixed and vary depending on the product," says Mr Kamath. "The positive outcome is that PLM brings discipline to the development team and makes them think about issues or areas they may not rank high on the list of priorities, such as market readiness, competitive analysis and supply chain development."

"The negative outcome is that decision-making can get slowed down pending availability of data for phase exits. As a result, the overall development cycle time may sometimes seem slower."

According to Mr Duckworth, product information is now instantly available to everyone in the business, and there is confidence that it's secure, traceable

see ways of using the new system beyond the original scope. They wanted to continue with more customisation work which the PLM team decided against until the system had been in operation for a few months."

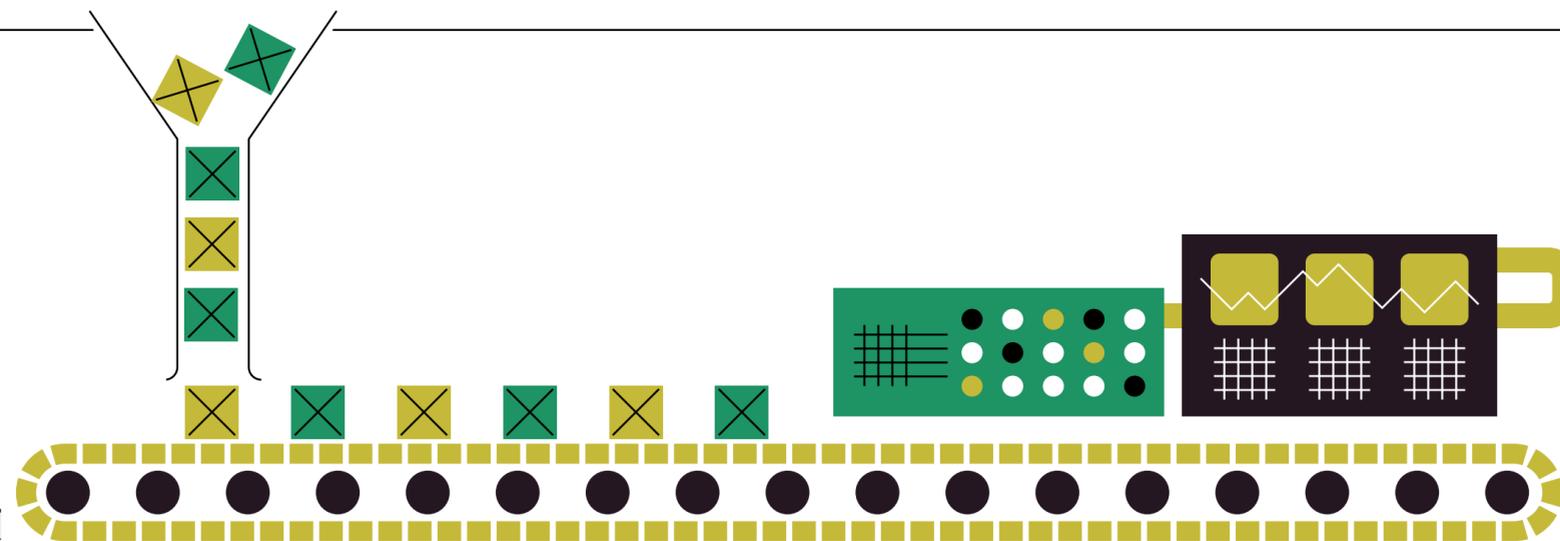
Ms Samardzich says: "The most positive outcome has been our ability to accelerate our new vehicle introductions; for example, in Europe alone we will introduce at least 25 new vehicles within five years, benefitting from our One Ford approach."

"I can't really point to any specific negatives. Like all changes in business practices, there is a learning curve for the teams associated with the integration of new processes and technologies into the fabric of the corporate culture, which takes time."

Mr McVan adds: "I spent a lot of days with one foot in the entrepreneurial world and the other in the corporate world. So far as PLM is concerned, the textbook is the guide and experience is the teacher. Many people misunderstand it – it is all about behaviour and is very much a people skill."

What challenges do they foresee in continuing to support a PLM strategy for the future?

"Rather than a challenge, I would call it a mission for our engineering teams operating



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