# QA: The Evolution of PLM, Part 1

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Enterprise software can be a major point of complexity for manufacturers, particularly in the way it seems to change at an incredible speed. In order to help work through some of those changes in product lifecycle management (PLM) software packages, Chem.Info's sister publication, Manufacturing.net, spoke with Richard Mizuno, a partner at Kalypso. He has over 25 years of consulting and business experience, serving the oil and gas, oilfield services, chemicals, manufacturing, and engineering and construction industries.

**Q: Let's start with a basic history of PLM. Where did they start, and how has that changed in more recent years?**

**A:** I think PLM really took off and probably became most popular originally in the sectors of manufacturing where there were complex systems involved, such as airplanes and cars. A lot of the bigger PLM vendors came out of the CAD or engineering space — because companies that are building these complex pieces of equipment are heavy CAD users, they had an environment where they had to manage all this data.

If you look at the different manufacturing sectors, aerospace, defense and automotive were probably on the early end, and they started making major investments in PLM as early as the '80s, for example. A number of things were

driving it — one is the complexity of the product and the need to collaborate across their ecosystems and the need to manage CAD and all the other information related to the product.

They had complex products that got iterated upon and configured differently for various purposes, and as their ecosystems for manufacturing expanded, there was this need to collaborate with suppliers. All of that led to a need for PLM to help manage not only the core product data, but also to enable collaboration with their ecosystem partners and suppliers.

The next wave was in high-tech, like semiconductor manufacturers or PC manufacturers, and industrial machinery. Similarly, these are highly-configurable products with a fair amount of complexity. In these sectors you have the same business requirements, which is being able to manage the complexity and configuration of the variants, but the specific risk factors may not have been as high as with the complex systems-type products.

**Q: Clearly, the industries that utilize PLM, and the use cases, have changed over time. What about the way companies implement and deploy these systems?**

**A:** The nuts and bolts of it aren't materially different now versus 10 or 15 years ago. Because of the big ERP wave in the '90s and early 2000s, I think there's a lot more knowledge and comfort in implementing local systems. What's happened that is different is that PLM is really moving beyond the engineering function. As PLM has helped companies control and manage their product-related data over the lifecycle of their products, I think companies have realized that the data has value beyond engineering. Therefore the implementations of PLM have become larger, a little more complex and require the engagement of multiple functions, like quality, finance and supply chain, not just engineering and manufacturing.

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