

Collaborative product development

with higher electronic content are also expected to rise.

So what does all this bode for product development?

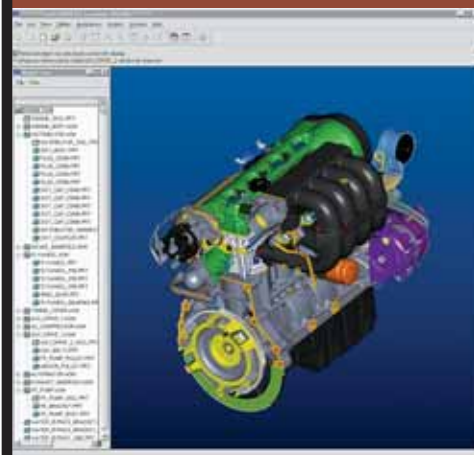
Given the previously mentioned challenges, product development for the automotive industry will be expected to change as well. Toward this end, PTC has conducted a joint study with the **Center for Automotive Research** that defines the future of product development in the automotive industry. The final study will be available in early 2005, although preliminary conclusions indicate that:

- Japanese OEMs shall remain the fastest developers at 22 months for a new product launch, followed by European OEMs at 24 months and U.S. OEMs at 26 months
- Innovation, as mentioned earlier, will be increasingly done by suppliers
- Math-based design and digital development will become even more important in the future
- DFMA (design for manufacture and assembly) will remain the most important design criteria.

Relative to electronics, success in product development focuses on implementing cross-discipline processes, specifically:

- Integrated product data management, which enables engineers to have access to the right data at the right time and is enabled by implementing a single source of product data that supports multiple design tools and implements traceability
- Cross-discipline collaboration and issue identification, which enable engineers to identify and resolve issues across both electrical and mechanical CAD domains.
- Process management, which enables implementation of consistent, repeatable product-development processes such as change management and new product introduction, which are implemented across mechanical, electrical, and software development domains

In conclusion, both product and process complexity associated with an increasing amount of electronic content in vehicles necessitates the development of a newer generation of product-development processes. These processes can be readily implemented using an out-of-the-box solution, like PTC's Windchill, which provides a comprehensive suite of collaboration and control solutions to support today's distributed product-development processes within the mobility electronics industry. **OHE**



Parametric design



Software supports collaborative design