Automotive supplier innovation through model-driven program execution

Capitalizing on innovation while improving overall program control and risk management

Benefits
- Reducing auto suppliers’ program risks to quality, product timing, performance and costs
- Enabling robust development and validation of system performance earlier in the development process
- Supporting rapid and efficient design through flexible modeling technology, knowledge re-use and integrated design environment

Challenging trends in the automotive industry – including fuel economy and emission standards, increasing product complexity and global growth – have put greater pressure on automotive suppliers for rapid innovation while maintaining profitability and meeting delivery expectations. Suppliers must capitalize on innovation while improving overall program control and risk management. Siemens PLM Software provides a complete, integrated automotive supplier solution for executing program innovation, from planning and design through manufacturing and support.

Model-driven simulation and validation
Siemens PLM Software’s industry-leading integrated CAD/CAE/Test environment helps decision-making early in the development process by enabling earlier assessments of designs and a closed-loop view of system performance relative to requirements across multiple attributes through:

- 1D and 3D simulation models supported with industry-proven model libraries that help integrate design and simulation and enable rapid evolution of concepts and system design
- Closed-loop process from requirements to simulation to test, balancing simulation and physical test as required for greater confidence
- An integrated environment tying together multiple disciplines while enabling better trade-off decisions

Fast and efficient design creation
Siemens PLM Software’s solution helps increase the speed and efficiency of automotive supplier engineers in creating designs that meet market, brand and regulatory requirements through:

- Comprehensive high-performance modeling that enables the seamless use of most productive approaches in a single efficient user environment
Standards-compliant drafting and 3D annotation that streamline fast and easy product documentation

Comprehensive knowledge support that enables the capture of design best practices for easy re-use

Visualization of product data in 2D and 3D from diverse authoring software systems throughout the lifecycle

Integrated manufacturing validation
Siemens PLM Software offers a comprehensive manufacturing solution for automotive mold design, tooling and fixtures that supports:
- Part preparation to assist in machining and process definition to verify manufacturability
- Mold design and verification including mold flow/fill analysis and tool design validation for a more rapid tool design process
- Tool and casting machining to support high speed machining, automated feature-based machining and advanced 5-axis machining
- A new approach to CMM inspection programming based on PMI and data points on the 3D models

Predictable program performance and profitability
Siemens PLM Software’s solution helps suppliers manage and execute programs in a timely and profitable manner through:
- Program timing management in which workflow and information management capabilities enable the entire value chain to collaborate throughout the lifecycle
- Part, assembly and tooling cost management with the same PLM system enabling you to manage product development as well as predict and control product and tooling costs

Benefits continued
- Improving product quality and speed of tooling design through integrated manufacturing validation, early involvement in OEM design and quality management
- Promoting program execution excellence to meet customer expectations with predictable program profitability, timing and rapid response to changes

Fast and efficient design creation.

Predictable program performance and profitability.

Model-driven simulation and validation.
• Responding to change so changes can be effectively evaluated for product, tooling, manufacturing and serviceability impacts
• Weight management tracking program monitors targets and progress on weight attributes

Summary
Siemens PLM Software’s solution for automotive suppliers enables model-driven program execution, allowing suppliers to deliver more profitable innovation to their customers while increasing their own business success. Companies realize key business benefits from faster time-to-market and reduced costs to optimized lifecycle efficiency, as well as improved quality and flexibility.

The solution supports better decision-making as suppliers manage the speed and complexity of innovation to execute new product programs globally and profitably. Model-driven program execution also helps suppliers manage the integration complexities of new technologies and control system interactions with vehicle systems to meet their customers’ demands.

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