

Teamcenter for Simulation

Managing simulation tools, data, process and workflow in a common, open PLM environment

fact sheet

Siemens PLM Software

www.siemens.com/plm

► Summary

Teamcenter® for Simulation software provides flexible, “out of the box” simulation process and data management capabilities that enable companies to cost effectively implement a complete digital product development environment. Extending the core data model and integrating specialist simulation capabilities means that you can efficiently leverage Teamcenter – the world’s leading digital lifecycle management solution and de facto standard for deploying product lifecycle management (PLM) initiatives – to automate simulation processes in the broader context of new product development, thereby saving time and releasing resources for other revenue opportunities.

Benefits

Automate simulation processes in context of a wider development process to save time or release resources for other revenue opportunities. Provide remote visibility to the simulation process for program management, and downstream operations that can benefit

Support increasing volumes and complexity of simulation work by eliminating bottlenecks in the engineering process. Handle an increasing variety of product data while investigating more physics and more options

Build and exploit a corporate simulation knowledge base. Capturing performance data to re-use across brands and new product revisions enables faster and better decisions; increases part and subsystem re-use; supports compliance and regulatory reporting requirements. Thus making simulation a more cost effective and predictable element of product development

Start small and scale to deliver a complete set of supporting applications and enable a long term, production-proven and scalable engineering vision. Leverage the proven Teamcenter portfolio as your proven long term infrastructure solution

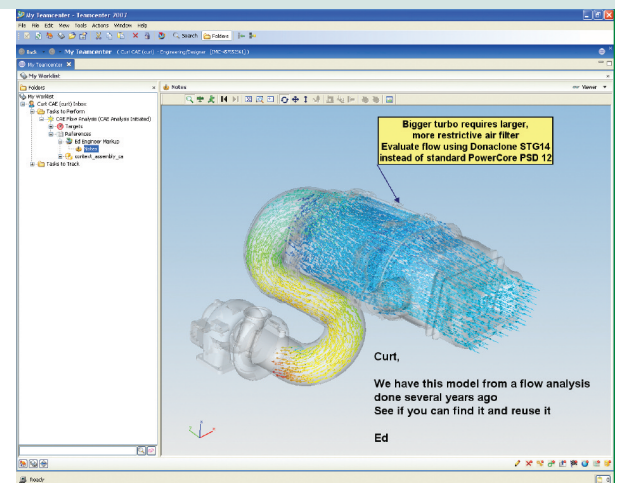
Digital Simulation is increasingly seen as the key to product development efficiency and increased profitability but it has also become a process bottleneck for many companies.

Teamcenter for Simulation is a natural extension to the world’s most popular design and manufacturing data management system. As an integrated source of product information for design and engineering analysis, it enables:

- Standardization and repeatable processes for simulation that can be leveraged by program managers and CAE specialists as well as design engineers
- Access to simulation data by an increasingly diverse population of users across the virtual enterprise including a globally distributed supply chain
- Access to specific Simulation (physical test) items, in context of the application area
- Robust and persistent integration with the corporate Product Structure, including management of configurations and variants

Teamcenter for Simulation provides unique simulation process and data management capabilities that enable companies to cost effectively implement a complete digital product development environment – beginning upfront with conceptual design and continuing through detailing. Key capabilities include:

- A common enterprise and workgroup infrastructure allows CAE engineers to leverage existing information technology resources (hardware, software, training, support personnel)
- Tight integration with digital lifecycle management and digital product development enables “always current” access to configured design data, product structures, requirements, specifications, change orders and other relevant information in a visual 3D context
- Full configuration management and product structure management to coordinate CAD geometry and CAE models and processes so that “as analyzed” represents “as designed” and “as built”



Markup of CAE data used as reference for pending analysis

Features

Teamcenter for Simulation introduces a fully extensible simulation data model. Core to the product data structure, the data model enables engineers to work in “analysis context” inside Teamcenter, developing simulation product structure ahead, behind or in parallel with the design team

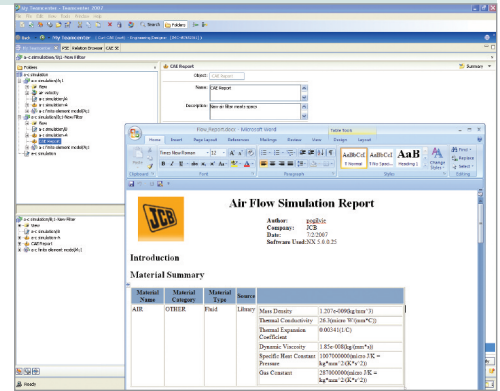
Live design data for components, subsystems and full systems can be leveraged from inside the CAE structure editor, a patented mapping capability that simplifies the creation of simulation product structure for large complex assemblies. Variants and configurations are easily handled using standard capabilities

Teamcenter for Simulation manages and improves CAE processes by:

- Generating a CAE structure from a product structure including the complexity arising from multiple configurations / variants and multi-disciplinary solutions or directly defining components and subsystems to be analyzed
- Searching your existing knowledge base, enabling data re-use
- Combining support for process workflows and program execution
- Verifying the use of approved analysis procedures
- Increasing access to performance information
- Managing the complex meta data associated with Simulation including solution parameters and results
- Visualizing simulation results in a unique lifecycle simulation environment
- Efficiently handling the huge amounts of data associated with simulation

Teamcenter for Simulation gives both management and CAE engineers confidence that they can trust the data is right and enables immediate feedback on project progress

- Change management and workflow management enables standard and repeatable processes for simulation that can be leveraged by specialists and occasional users
- Ensures geometry changes trigger timely re-analysis and results are fed back to product development, and acted on
- Provides “in-context” access to simulation data by an increasingly diverse “cross enterprise” population of users
- *Structure Mapping* automates the delivery of the correct geometry for each specific analysis project and CAE discipline (in-context)
 - Complete integration with the corporate BOM, including management of configurations and variants
- *Batch Meshing Support* to enable automation of key simulation process steps
- Teamcenter’s inherent CAD system independence allows distributed teams to use their design authoring system of choice. 60 percent of Siemens’ installed PLM seats manage multi-CAD data, meaning that Siemens manages more of its competitors’ CAD data than its own
- Scalability. Because it is based on Teamcenter, Teamcenter for Simulation can be deployed in process-oriented service levels to meet the needs of engineering analysis workgroups as well as the enterprise process management requirements of the largest global manufacturers



Teamcenter document management enables increases the leverage of reports from multiple sources

“Many decisions during product development phases are based, or should be based, on simulation and analysis results rather than assumptions and guesses. Any design engineer should be able to provide those results in short order.”

Michel Vrinat, Research Director, Collaborative Product Development Associates

Managing CAE data, process and workflows as part of a wider product development environment speeds design, increases quality and frees resources to focus on new revenue opportunities. Extending Teamcenter’s data model and integrating specialist simulation capabilities, means that you can efficiently leverage the complete suite of Teamcenter capabilities, including:

- Requirements management to help ensure that system-level performance targets adhere to program requirements and that adherence is maintained as system-level targets are “cascaded” down to component-level performance targets
- Project and program management to control data sharing as determined by partner trust levels and ITAR compliance
- Document management to associate simulation data with, or incorporate it into, documents such as those mandated by regulatory agencies
- Management “dashboard” reporting
- Powered by JT™, the world’s 3D standard. JT is the de facto standard lightweight data format for sharing vital product information – including detailed 3D product geometry – to facilitate effective enterprise-wide collaboration throughout a product’s lifecycle

Teamcenter for Simulation connects simulation resources, people and processes; creating, capturing and sharing performance knowledge, to power innovation and productivity through an integrated portfolio of proven solutions built on Teamcenter’s open PLM foundation.

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