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Siemens PLM Software

TEAMCENTER: Simplifying PLM

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Manage complexity with simplified PLM

It can take thousands – perhaps millions – of decisions to create a great product. Not just the big milestone decisions, but all the small decisions that lead up to them. Anyone in your extended enterprise can make a decision at any time that makes a difference in a product's success or failure.

Add to this the complexity of your products. As technology becomes more sophisticated, electronic and software components are just as essential as mechanical parts. Yet, the interfaces between components are all too often overlooked until late in the development process.

You may need to factor in best practices and formulas, and no matter what business you're in, you must also consider regulatory requirements, environmental impact, cost and quality as you take a new product to market.

Product lifecycle management (PLM) can bring together all the product information and processes you need in one centralized system. You can take a systems-driven approach to product development to unify your product lifecycle. With PLM, you can weave a digital thread through ideation, realization and utilization.

Teamcenter® software from Siemens PLM Software is all about PLM, simplified.

Deliver increasingly complex products while maximizing productivity and streamlining operations.

Grow your PLM maturity with Teamcenter

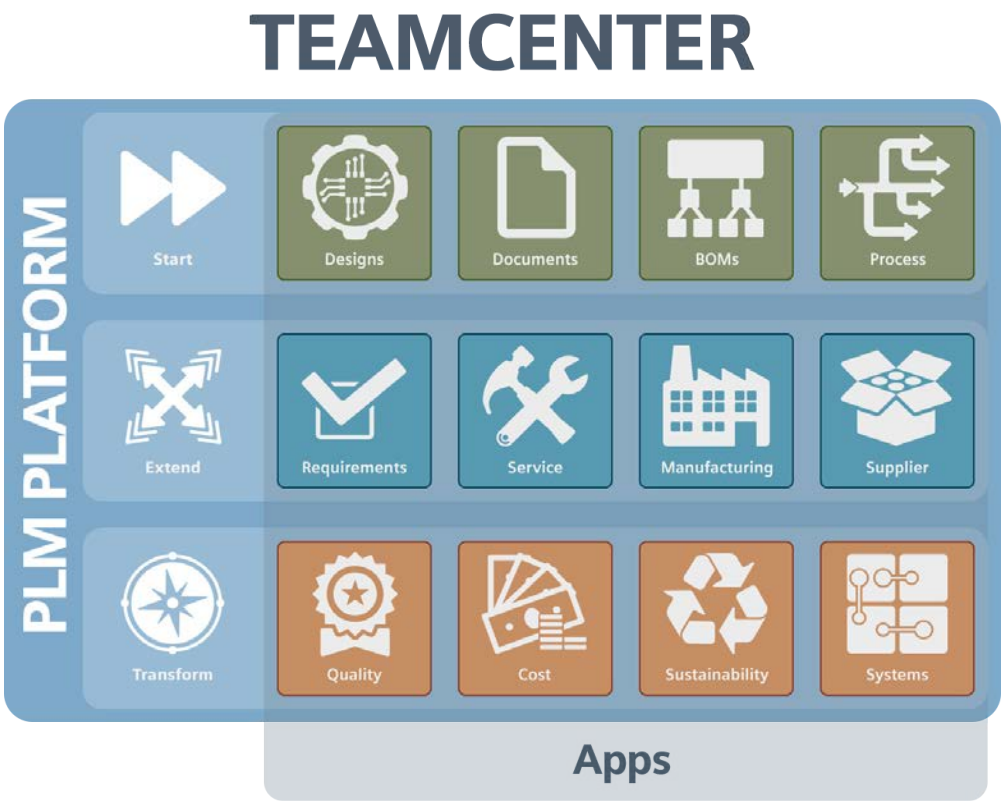
Teamcenter simplifies PLM by taking the guesswork out of the deployment process. We deliver a flexible portfolio of focused applications organized to allow you to strategically grow your PLM maturity in a way that makes sense for you.

Start with PLM. For most of our customers, the first step on the PLM path is to take control of your product data and processes. Manage and share mechanical, electronics, software and simulation data, as well as documents and bills of materials (BOMs) in a single environment. Use standardized workflows and change processes to streamline your organization.

Extend the value. Next, take a look at related domains and processes. Manage requirements. Include suppliers, both those that use Teamcenter and those that do not. Connect engineering with manufacturing and service. Extend the value of PLM across the product lifecycle.

Transform your business. PLM can help you take your business to the next level. Apply transformational solutions to your product lifecycle for a profound business impact. Drive your product cost, quality and sustainability initiatives. Establish a systems-driven approach to product development.

Build on a solid PLM platform. The Teamcenter platform is a solid foundation for every Teamcenter application, with powerful core capabilities. You can choose from flexible deployment options (on-premise, cloud, and Teamcenter Rapid Start), and leverage an intuitive PLM user experience with Active Workspace.



Start with PLM

Manage mechanical, electronics, software and simulation data in a single environment

Do these challenges sound familiar?

- Keep global design teams in synch
- Understand how mechanical, electrical and software designs work together
- Find the right design information
- Duplicate designs with too little re-use
- Enable design collaboration, managing dependencies and relationships
- Validate products and analysis quickly and accurately

Teamcenter can help you take control of your multi-CAD and multi-domain design processes, including mechanical, electronics, software and simulation data and manage that data from a single secure source. You can access, assemble and re-use your company's valuable intellectual property and validate the quality and completeness of design data before release to manufacturing.

Manage product documents and technical publications

Teamcenter provides easy-to-use document management and technical authoring and publishing tools to optimize documentation. Using the familiar Microsoft Office suite, you can create and manage documents in accordance with product development processes and your data control protocols. This helps you establish a single source of product development knowledge for creating and managing documents.

Document management includes version/revision control, workflow, data links to product data, printing controls for watermarks and stamping, and change management. Advanced authoring and publishing with XML simplifies the creation of structured documents, such as parts catalogs and service manuals, within the product development environment.

You can manage text, illustrations and translations, to support multi-media/ channel publication and document variants with product development change management.

Manage the BOM and its configuration

Teamcenter provides a single, accurate product definition for all who interact with the BOM. With a complete, up-to-date source of information, you eliminate the need for standalone spreadsheets and systems. This flexible BOM definition helps you manage configurations and quickly refresh product lines to meet customer demands.

In many enterprise BOM approaches, you waste time digging through out-of-scope information. With Teamcenter, each user has secure access to a tailored BOM view that's relevant to their role and tasks.

Today, you might be relying on costly prototypes, or virtual tests of only a few valid product configurations. Teamcenter ties your virtual and physical product definitions together to digitally validate your products, ensuring that what has been designed can actually be built.

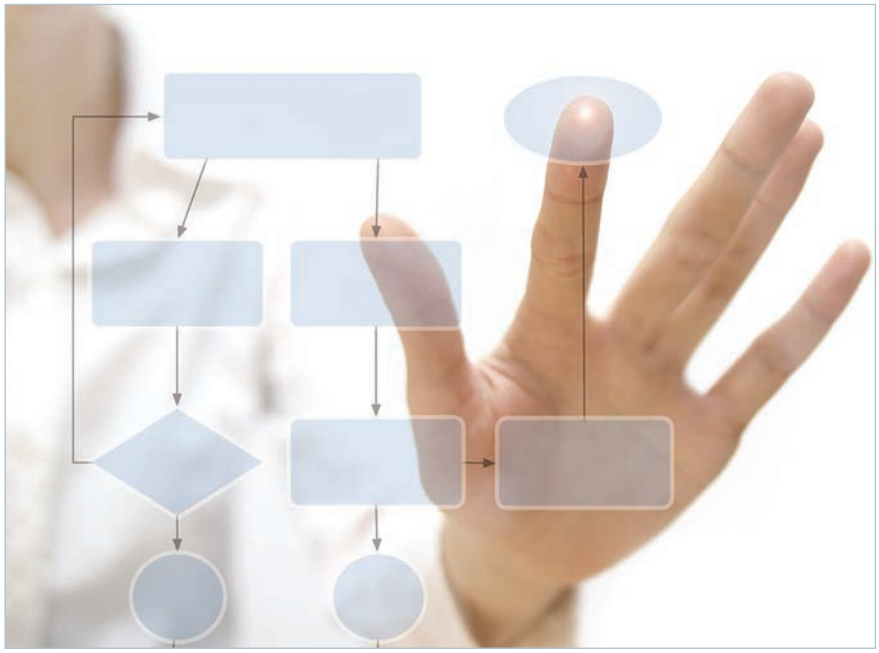
With Teamcenter, you can extend BOM management across the lifecycle. Support up-front planning and master product definition, through product configuration, design, manufacturing, service and more. You can integrate BOM information across other enterprise systems to eliminate costly errors associated with standalone BOM sources.

Manage PLM processes

With Teamcenter, you can reduce the manual effort and cost of managing any PLM process, regardless of how simple or complex it is. Build in your business logic and use standard templates to give everyone exactly what they need to complete their task at the right time.

Teamcenter includes project and program management solutions that connect planning to the actual execution of tasks. Timelines are automatically updated, deliverables are linked and tracked, and project status is clearly understood. Connect projects to integrated portfolio planning to ensure you have the time, people, and money to meet your targets.

Leverage project management and workflow capabilities to effectively manage change. You can synchronize and integrate change processes across all product domains to implement change quickly, accurately and comprehensively.



Take control of your product data and processes.

Connect engineering, requirements, manufacturing, service and suppliers.

Extend the value of PLM

Incorporate the voice of the customer into your products

Giving your customers what they want is a requirement for success, yet it can be a challenge if customer requirements are captured only in standalone documents that are hard to find and out of date. Customer/contractual compliance may not be fully implemented in the products you bring to market.

With the aid of Teamcenter, you can:

- *Reduce time and effort* with a single source for generating and managing requirement documents
- *Improve quality* by linking requirements to functional, logical and physical implementation so you can verify and validate requirements are met
- *Ensure compliance* by defining, managing and tracing customer requirements across the entire product lifecycle

Improve service operations

The lack of a common, accurate asset/product knowledge base inhibits efficient service lifecycle management. This can lead to ordering the wrong parts due to lack of asset configuration, status and history; lowering first-time fix rates and repeat service events.

Using Teamcenter, you can establish a single knowledge base to support service and product engineering while improving service operations.

This capability includes meticulous product and asset service planning that enables you to create and manage detailed, accurate service plans and documentation. It also enables lean service operations, which help you define and schedule service work, deliver service tasks with all necessary information at the point of service and capture event results. Teamcenter also makes it easy for you to generate documentation such as service manuals and parts catalogs.

Connect engineering with manufacturing

Shifting market demand, increasing competitive pressures and resource constraints require you to continuously improve manufacturing processes. You need new strategies to help you streamline operations, boost productivity and maintain quality.

With Teamcenter, you can manage business processes, from the early stages of design to the actual production launch and beyond. Teamcenter enables a truly concurrent engineering environment that allows you to leverage product designs while simultaneously optimizing and synchronizing manufacturing deliverables. This helps you better manage lifecycle costs, be more productive across multiple domains and maintain product quality targets.

Collaborate with suppliers around the world

Corporate mergers and acquisitions often leave in their wake disconnected global teams of partners and suppliers. Yet, great products are increasingly designed and validated digitally with the aid of a globally distributed supply chain. While suppliers can play different roles in your product lifecycles, they often must deal with multi-CAD environments and multiple processes that vary from customer to customer.

Suppliers need an easy-to-use collaboration solution to participate in PLM processes that spans multiple use cases, while OEMs need a platform to extend their PLM processes and data to the right suppliers in a secure and efficient manner. Teamcenter enables suppliers and OEMs to work collaboratively using accurate, up-to-date information. This brings more visibility to supplier performance while reducing administrative labor costs spent dealing with data exchange issues.

Transform your business

Improve product quality
PLM can help you take your business to the next level. When you successfully apply transformational solutions to your product lifecycle, quality, safety and reliability improve dramatically. PLM helps you meet requirements from customers as well as regulators.

Quality products require smarter decisions, including trade-offs between cost, time-to-market and meeting design intent. Many of the quality solutions today are segregated applications which require additional expense. This can impact quality while increasing the risk of repeat issues.

Teamcenter helps you increase quality by collecting issues from sales and marketing through design engineering to production. This enables smarter decisions across the global enterprise.

Align cost management with product development
Profit margins suffer if you don't have visibility into what drives costs. Teamcenter provides you with a complete set of tools for managing costing throughout the development and manufacturing processes.

These holistic cost modeling tools enable parametric, predictive and detailed cost calculation on a program-by-program basis. Accurate, detailed cost calculations

are based on common information, such as cost of materials, labor and manufacturing processes, providing clear visibility into how decisions impact cost.

Teamcenter helps support your cost model across all corporate functions. Engineering can anticipate the cost impact of change. Purchasing and sales can have open and clear fact-based negotiations and should-cost analysis. Finance can estimate the profitability of a program.

Create sustainable products and comply with regulations

"Going green" is no longer a choice for manufacturers. Environmental compliance is required by law and the volume and complexity of regulations continues to grow. Manufacturers must report on the quantity and concentration levels of every material and substance used in their products. Failure to comply with regulations is costly. You can be fined and banned from markets. The damage to your brand can be devastating.

Teamcenter enables you to implement forward-looking strategies such as Design for the Environment to pro-actively assess the impact material choices will have on downstream processes. You can minimize errors and re-work by automating the supplier material and substance declaration request process and reduce the risk of noncompliance by enabling compliance grading and reporting.

Ensure product performance with systems engineering

Teamcenter can help you mitigate unforeseen costs and manufactur-ing issues, system failures due to subsystems integration issues, interface discrepancies, lack of product data re-use, the inability to assess the impact of design or requirement changes and being forced to make substantial compromises late in the process. Using the Teamcenter architecture modeler, you can construct a systems-level behavioral, functional and logical definition to help ensure products perform as intended. You can capture, model, simulate and analyze system performance targets, as well as subsystem interactions before generating physical prototypes. You can also combine systems engineering with integrated product definition, cross-domain design management, manufacturing processes, assembly plants and service planning.

Drive product cost, quality, sustainability and systems engineering.

Build on a powerful PLM platform

Streamlined and intuitive PLM user experience

Teamcenter provides a streamlined and intuitive PLM user experience to accommodate a wide range of users.

For power users, such as engineers and designers who need access to advanced PLM capabilities, Teamcenter provides a high performance client that makes it easy to complete complex and demanding tasks.

For extended enterprise users, such as your executives or sales and marketing team members who need easy access to Teamcenter anytime, anywhere, Active Workspace provides browser-based access to Teamcenter on any modern computing device without the need to install any clients or plugins. Active Workspace increases your productivity by allowing you to find what you need faster, enabling you to see the big picture so you can make smarter decisions and providing you with seamless access to PLM when and where you need it.

Proven platform capabilities you can rely on

The Teamcenter proven platform capabilities provide you with a strong PLM foundation. Powerful visualization capabilities enable you to communicate clearly in 3D using the JT™ data format.

Best-in-class security, including support for rigorous export control initiatives such as International Traffic in Arms Regulations (ITAR), ensures that your intellectual property is always protected. Other critical capabilities such as integrated material management, classification, collaboration, reporting and analytics, complete a robust and future-proof PLM foundation.

Flexible deployment options

Teamcenter can be deployed in a single location or on a global scale with suppliers and partners. The Teamcenter open and extensible platform will grow with you as your needs change over time.

Deploy PDM quickly with a growth path to PLM

If you want to get up and running with basic product data management (PDM) quickly, Teamcenter Rapid Start includes preconfigured capabilities that take the guesswork out of your deployment process. Once you're up and running with PDM, you can add on any PLM capabilities as your needs grow.

Teamcenter Rapid Start's multi-CAD data management capabilities enable you to manage, control and share CAD data across your entire design and supply chain. Regardless of the MCAD or ECAD tools you use, your cross-functional teams can quickly find, share and re-use product data. You can also manage everyday tasks with preconfigured workflows for engineering change and product release.

Take Teamcenter to the cloud

Teamcenter supports cloud deployment so you can deploy some or all of your PLM computing infrastructure on a third-party cloud service provider. This approach enables fast and flexible Teamcenter deployment without heavy upfront hardware investments. Then you can dynamically scale your cloud infrastructure as needed.

Industry solutions

Teamcenter delivers solutions across industries

Every company feels the pressure to develop the right products, closely manage costs and improve time-to-market. Yet, there are differences in the challenges facing your company because of the industry you are in. Teamcenter addresses the needs of companies across industries, including yours.

Aerospace and defense

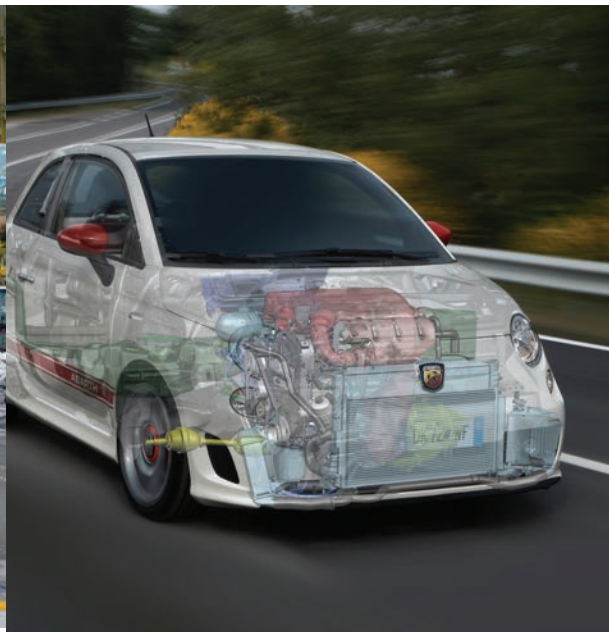
The aerospace and defense industry faces difficult challenges. Aircraft production and orders for new aircraft are near record highs. Private companies are launching vehicles into space. Yet, declining defense expenditures mean fiercer competition for fewer programs.

Teamcenter enables aerospace and defense manufacturers to dramatically improve technical performance, costs and schedules. You can execute to the plan; virtually verify technical, production and in-service performance; and seamlessly and securely share knowledge and best practices.

Automotive and transportation

Automakers and their suppliers are answering consumer demands for improved performance, infotainment, comfort, connectivity and safety, as well as responding to government regulations for fuel economy and sustainability. Operating on a global scale requires automakers to build cars that delight consumers throughout the world, while also taking into account local market conditions. Balancing all of these often-conflicting factors is a staggering challenge.

Using Teamcenter, you can manage vehicle and product complexity with a PLM process that combines systems engineering with an integrated product definition. You can define, develop and deliver the right products for the right market opportunities.



Consumer products and retail
Increasing regulatory control economic uncertainty, and global expansion has challenged consumer products manufacturers and retailers. Your company must maintain and develop brand value while meeting demand, growing profitably, and ensuring environmental compliance.

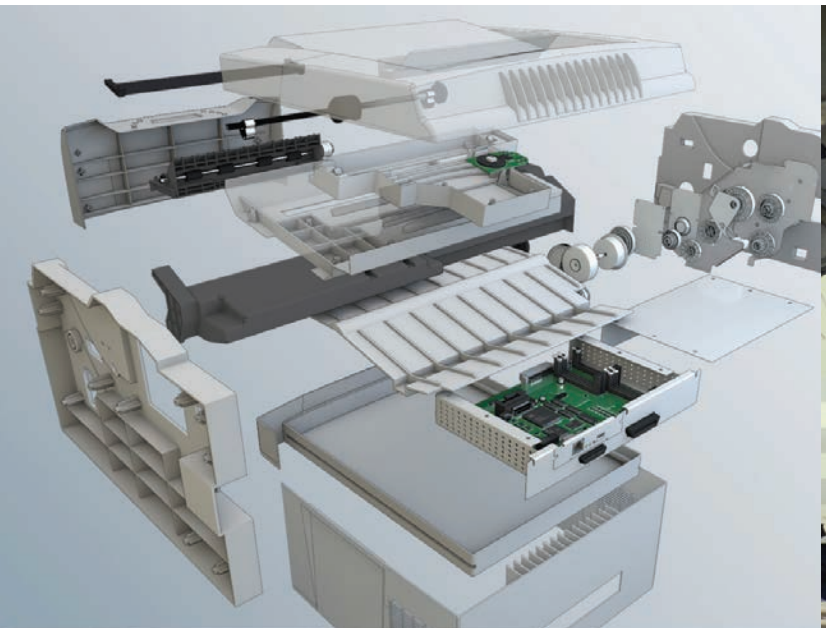
Teamcenter helps you capture and control product requirements and information in a centralized, trusted record. You have the right information you need to make the right decisions and build brand value.

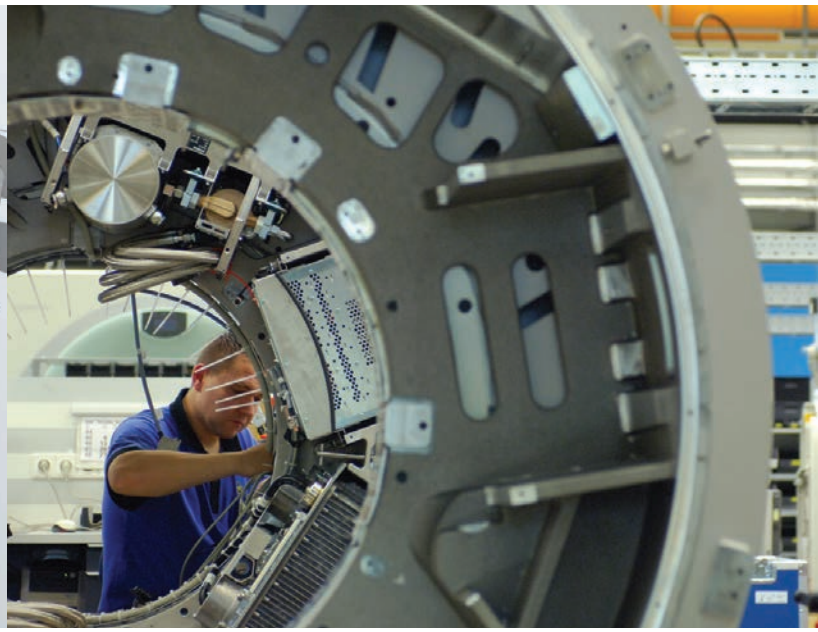
Energy and utilities
Sustaining the per capita level of energy consumption and supporting emerging markets requires new ways of generating power more safely and economically, while reducing waste and building a more reliable electric grid.

Teamcenter helps establish a long term information management platform that can be used to optimize new plant initiatives and upgrades; design equipment and manage supply chains; ensure compliance with regulatory, contracting and licensing requirements; commission and maintain assets in operation; and provide support for decommissioning at end of life.

Oil, gas and refineries
The oil and gas industry is tapping energy from deep water, tar sands, shale gas fields and other sources. The industry faces a tough regulatory environment and must reduce pollution and produce cleaner energy.

Teamcenter helps you manage asset lifecycle information with solutions for project execution including the management of design models and test documents; engineering and project change histories with digital signatures and keep a lifetime's worth of specifications, requirements, equipment maintenance and procurement records.





Electronics and semiconductor

Ever-shortening product lifecycles and razor-thin margins are among the challenges facing the electronics and semiconductor industry. Electronics companies must continuously deliver new products to meet the challenges of rapid obsolescence, increasing competition and growing product complexity. Semiconductor device manufacturers are developing system-on-a-chip (SoC) and integrated circuit (IC) devices in an environment of increased feature content and reduced prices.

Teamcenter helps you optimize innovation throughout the product lifecycle; maximize the re-use of proven intellectual property for device and product designs; and build a secure and scalable collaboration platform.

Medical devices and pharmaceuticals

Medical device and pharmaceutical manufacturers are continuously innovating to bring new and better products to the healthcare market, and to improve the length and quality of life for aging and growing populations. Manufacturers are challenged by increased regulation, limited resources, rising costs and global competition – which all hurt profitability and time-to-market. Managing the product lifecycle processes is not enough. Control and predictability are necessary to be successful.

Teamcenter helps you control your product lifecycle processes, with better visibility for program execution, assessing requirements, and managing risk so you can increase the utilization of resources, enable more collaboration, and reduce the time and cost for regulatory submissions and production ramp up.

Industrial machinery
Reduced capital spending has led companies to postpone purchases of new equipment. Instead they have chosen to refurbish and service current machinery. To meet demand, industrial machinery manufacturers must manage design complexity; integrate product design, development, and production processes and enable complete product information visibility while providing rapid, closed loop, service lifecycle management.

Teamcenter enables greater certainty in the development of new machinery, improving productivity and shortening commissioning times. You can solve current problems while building an innovation platform that reduces cost and creates value. With constant visibility into product and production information, you can make smarter decisions across machine design, manufacturing process planning, and commissioning.

Marine
Modern commercial and naval ships as well as offshore platforms and deep-water drilling rigs must operate reliability over decades of service in some of the most demanding environments. Shipbuilders have become designers, developers and large scale integrators that use intricate supply chains to produce components for their products.

Teamcenter helps shipbuilders speed up new program launches with embedded PLM templates that accelerate ship delivery, boost team productivity and facilitate the use of best practices to eliminate program delays. Shipyards can seamlessly track the “DNA” of a ship from concept development through production and across the entire operating lifecycle.

About Siemens PLM Software
Siemens PLM Software, a business unit of the Siemens Digital Factory Division, is a leading global provider of product lifecycle management (PLM) and manufacturing operations management (MOM) software, systems and services with over nine million licensed seats and more than 77,000 customers worldwide. Headquartered in Plano, Texas, Siemens PLM Software works collaboratively with its customers to provide industry software solutions that help companies everywhere achieve a sustainable competitive advantage by making real the innovations that matter. For more information on Siemens PLM Software products and services, visit www.siemens.com/plm.

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