



## Unifying your product lifecycle to accelerate time to market and reduce costs

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### Teamcenter Overview

- The most effective way to improve your company's bottom line is to unify your entire product lifecycle and all of the processes that influence its effectiveness.





It is no longer enough for your company to outperform its competitors by embracing narrowly focused business initiatives.

Today's most ambitious companies understand the importance of improving all of the line items that influence corporate profitability. They want to grow revenues, slash costs, increase productivity, and shrink inventory.

Leading product makers understand that the best way to realize these objectives is to view their product lifecycle in its entirety. They want to treat the product lifecycle as a tangible asset that can be unified, monitored, managed, and improved on a rigorous and systematic basis. They want to eliminate the barriers that arise as geographic, organizational, and technical issues interrupt the flow of the product lifecycle.

To address these objectives, EDS offers Teamcenter – the world's most comprehensive portfolio of Web-native collaborative applications, industry-specific solutions, and standards-based tools for optimizing the entire product lifecycle.

## Introducing Teamcenter

Teamcenter enables your company to identify, capture, and share diverse types of product knowledge and leverage these information assets in automated processes that streamline crucial stages of your product lifecycle.

Distinguished by its unsurpassed breadth of product lifecycle management (PLM) capabilities, Teamcenter enables your company to:

- Establish a web-enabled extended enterprise that allows all of the participants in your product lifecycle – including your suppliers, allied partners, and trusted customers – to capture, control, evaluate, and leverage your diverse product knowledge.

Users can access Teamcenter environments at anytime from anywhere, using virtually any Web-accessible device – including mobile laptops, personal data assistants, and wireless phones.

- Maintain a smooth flow of product information throughout your enterprise and across your entire product lifecycle. Teamcenter eliminates product lifecycle barriers by unlocking product information that is trapped in your enterprise's isolated application systems and by unifying these assets into a common, product-centric framework.

Teamcenter enables you to connect diverse types of information – including product requirements, project data, process data, design geometry, supplier data, product documents, and other forms of product data drawn from your enterprise's dissimilar commercial and legacy application systems.

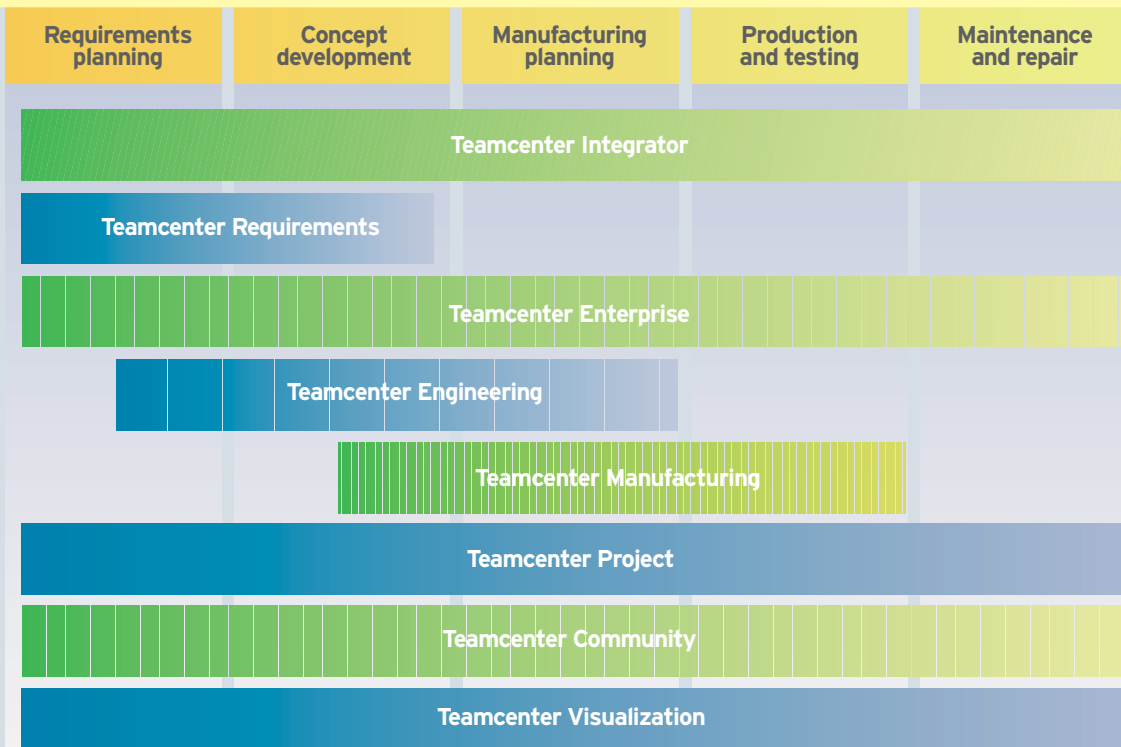
- Transcend geographic, organizational, and technology boundaries through completely open, standards-based, future-proof, web-native technologies. Teamcenter fully embraces Internet and Web technology to manage your entire product lifecycle. Teamcenter applications/solutions leverage Java 2 Enterprise Edition (J2EE), Microsoft .NET Framework, UDDI, XML, SOAP, JSP, .JT and Web Services technology.

Leveraging all of these capabilities together, Teamcenter allows cross-discipline teams and their individual members to brainstorm, turn product ideas into tangible concepts, and bring works-in-progress into stable product definitions that can be managed, shared, verified, and validated on an enterprise basis.

Two key attributes distinguish Teamcenter as a state-of-the-market suite of applications/solutions for collaborating across the product lifecycle.

- Ability to unify your entire product lifecycle
- Out-of-the-box industry-specific solutions





The Teamcenter portfolio provides applications and solutions that span your product lifecycle from the earliest stage of requirements planning to the latest stage of maintenance and repair.

## Unifying the product lifecycle

Teamcenter provides the broadest portfolio of product lifecycle management (PLM) software in the world.

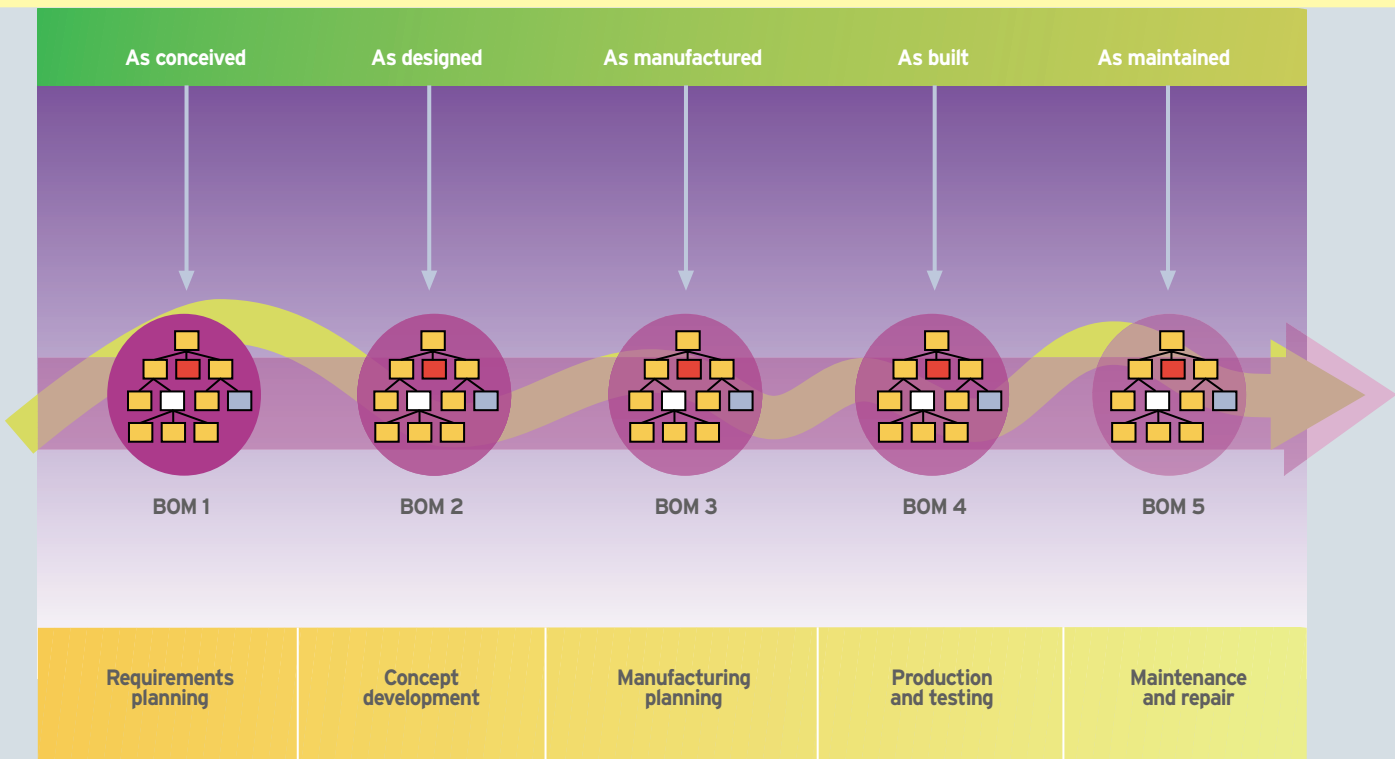
Teamcenter's synergistic applications/solutions enable your extended enterprise to improve the effectiveness of an entire product lifecycle end-to-end. The lifecycle that Teamcenter facilitates starts with planning a product's requirements and culminates in the ability to service a globally dispersed customer base.

This unsurpassed lifecycle breadth comes into play in several ways. During the *early* stages of the product lifecycle, many leading product makers want to optimize their

requirements definition, concept design, and design validation processes with the intention of minimizing their costs and accelerating their lifecycle throughput.

During *middle* lifecycle stages, companies want to rapidly leverage their intellectual capital to create new product variants, derivatives, and enhancements that extend the life spans of their products.

During the *later* stages in the product lifecycle (e.g., when the product is marketed/sold or when services are provided to support the customer base), leading companies often concentrate on maximizing their revenues.



Teamcenter unifies the product lifecycle by enabling you to exchange related bills-of-material from one lifecycle stage to another. This seamless exchange of diverse product information allows you to break down the geographic, organizational, and technical barriers that otherwise inhibit lifecycle efficiency.

Companies implement different technology initiatives to realize these different objectives. Some of these initiatives are fully digitized; some are not.

Teamcenter enables you to eliminate barriers that materialize when product information has to be exchanged:

- Between you and your suppliers, allied partners, and customers
- Between your enterprise's diverse mission-critical applications
- Between different stages in the product lifecycle
- Between geographically dispersed lifecycle participants

To eliminate these barriers and unify your product lifecycle, Teamcenter lets everyone in your extended enterprise work in digital, Web-native environments that:

- Allow all of the participants in your product lifecycle to share their diverse product knowledge
- Enable lifecycle participants to collaborate with one another in real-time communities
- Allow you to connect your enterprise's dissimilar application systems and synchronize their product data
- Enable you to establish continuous processes across your entire product lifecycle

## Out-of-the-box industry-specific solutions

Out-of-the-box capabilities address the needs of aerospace and defense companies, automotive suppliers, and companies that provide high tech electronics.



The Teamcenter portfolio includes the world's most robust set of industry-specific PLM solutions. At the core of these solutions, Teamcenter leverages best practices that EDS' Experteam<sup>SM</sup> has learned while servicing the world's largest base of PLM customers and users.

Experteam uses a repeatable delivery process and checkpoint methodology to deliver Teamcenter applications/solutions to EDS' PLM customer base. As part of this process, Experteam consultants work with every customer to determine what business results the customer expects from Teamcenter and what fine-tuning has to be performed to satisfy the customer's business needs. This methodology enables EDS to accumulate best practices, process rules, and role definitions that have proven themselves successful in real-world settings.

Once the expectations and best practices are defined for a given industry, EDS is able to offer pre-configured Teamcenter solutions that are closely aligned to the industry's special needs. These solutions also incorporate standard industry conventions, widely accepted nomenclature, and documents/reports that are familiar to everyday user communities.

With this framework in place, Teamcenter's industry-specific solutions enable you to:

- Rapidly deploy your Teamcenter solution
- Reduce your need to customize Teamcenter and its underlying capabilities
- Gain a quick return on your Teamcenter investment
- Minimize your cost of ownership
- Implement pre-configured processes aligned with your product lifecycle
- Secure the cooperation of your user communities

Teamcenter provides the following industry-specific solutions.

**Teamcenter Aerospace and Defense.** Allows aerospace and defense companies to rapidly meet their industry's special needs for enabling integrated project teams to perform integrated product development.

**Teamcenter Automotive Supplier.** Allows automotive suppliers to meet the needs of multiple OEMs that require parts, components, black boxes, and gray boxes for system-level automotive products.

**Teamcenter High Tech Electronics.** Allows OEMs that offer high tech electronics products to collaborate with their suppliers and meet their industry's special needs for accelerated clockspeeds and cost competitiveness.



## Presenting the Teamcenter portfolio

Users can access Teamcenter solutions at anytime from anywhere, using virtually any Web-accessible device – including mobile laptops, personal data assistants, and wireless phones.



**Teamcenter's portfolio includes the following product offerings:**

- Teamcenter Enterprise
- Teamcenter Engineering
- Teamcenter Manufacturing
- Teamcenter Project
- Teamcenter Requirements
- Teamcenter Visualization
- Teamcenter Community
- Teamcenter Integrator

Teamcenter protects your company's investments over time by providing applications/solutions that transcend geographic, organizational, and technology boundaries through completely open, standards-based, Web-enabled architectures.

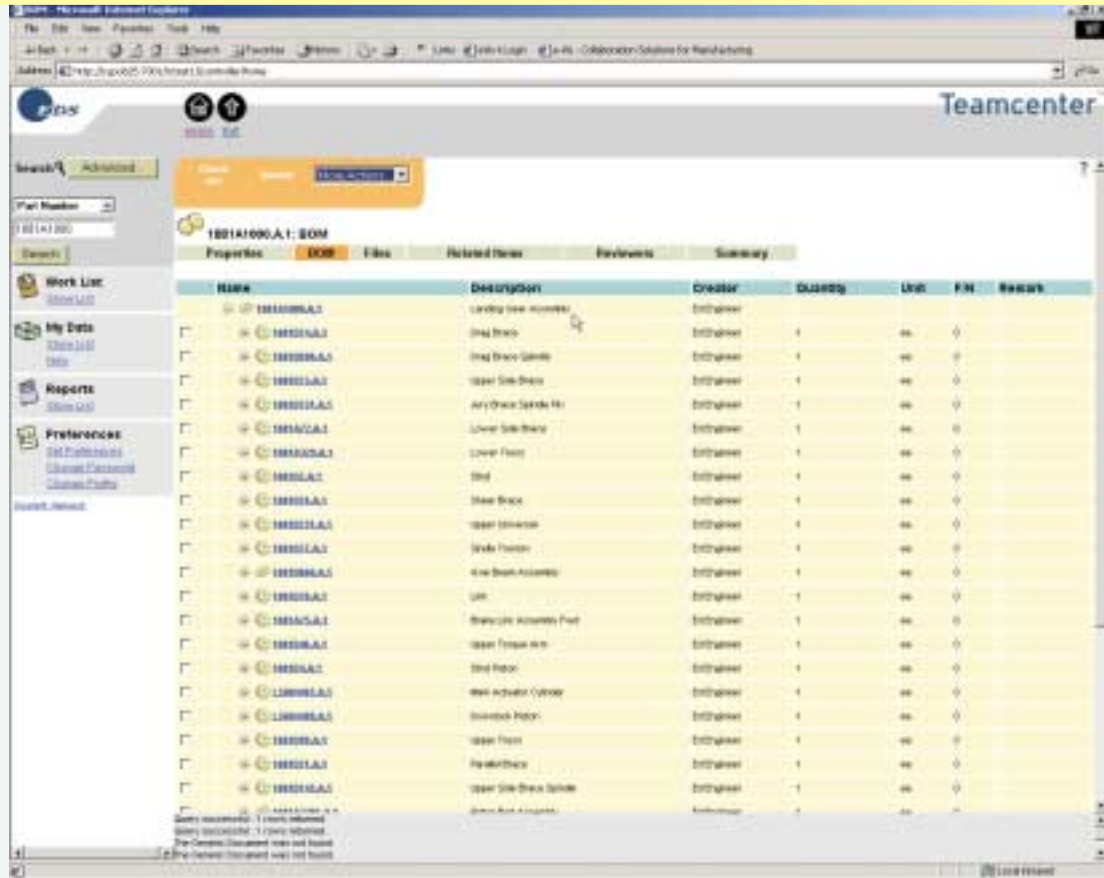
The Teamcenter portfolio fully embraces Internet and Web technology to manage your product life-cycle. Teamcenter applications/solutions leverage Java 2 Enterprise Edition (J2EE), Microsoft .NET Framework, UDDI, XML, SOAP, JSP, .JT and Web Services technology.



## Teamcenter Enterprise

### Business value:

Accelerates your time-to-market processes and reduces your product cost by enabling your extended enterprise to manage, share, and leverage all of the product information and product configurations they need to support your entire product lifecycle.



**Basic function:** Enables you to capture your extended enterprise's dispersed information assets – including its product requirements, project data, engineering data, supplier data, process data, product documents, and other types of product knowledge – in a loosely coupled Web-native, enterprise-scalable infrastructure that can manage these information assets as product configurations that vary from one stage of your product lifecycle to another.

Teamcenter Enterprise provides a variety of cross-industry applications that pertain to crucial lifecycle activities. Parts and Document Management captures your enterprise's dispersed product information as parts and documents that are defined within a hier-

archical product structure. Rapid Change Management lets you establish single-stage change processes that you can use to initiate, administer, review/approve, and execute product change on an expedited basis.

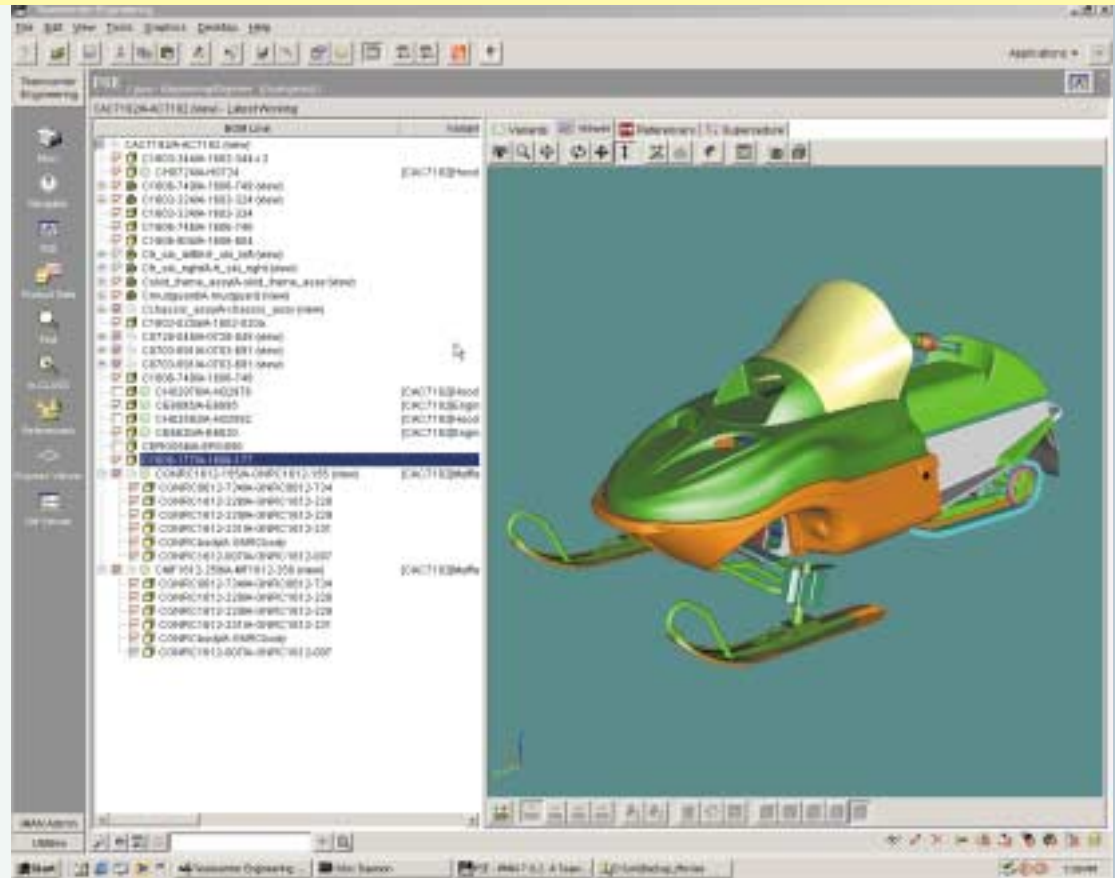
Teamcenter Enterprise's scalable infrastructure also supports Teamcenter's suite of industry-specific solutions by providing enterprise vaulting, object management, relationship management, product structure management, configuration management, parts classification, release management, workflow management, notification services, view/markup services, federated database management, system/data security, and user, team, and network administration services.



## Teamcenter Engineering

### Business value:

Accelerates the development of new products by enabling take-to-market teams to streamline their engineering processes.



**Basic function:** Provides a collaborative environment that combines the capabilities of product data management with the world's leading 3D visualization and digital mockup solutions. Engineering teams can tightly integrate and seamlessly access design data created under multiple, dissimilar CAD systems, including Unigraphics, Solid Edge, CATIA, Pro/Engineer, and AutoCAD.

Teamcenter Engineering allows you to combine this multi-CAD data with other types of product and process data (such as your engineering specifications, documents, and requirements) and relate these diverse information assets to a common product structure that applies to the earliest stages of the product lifecycle.

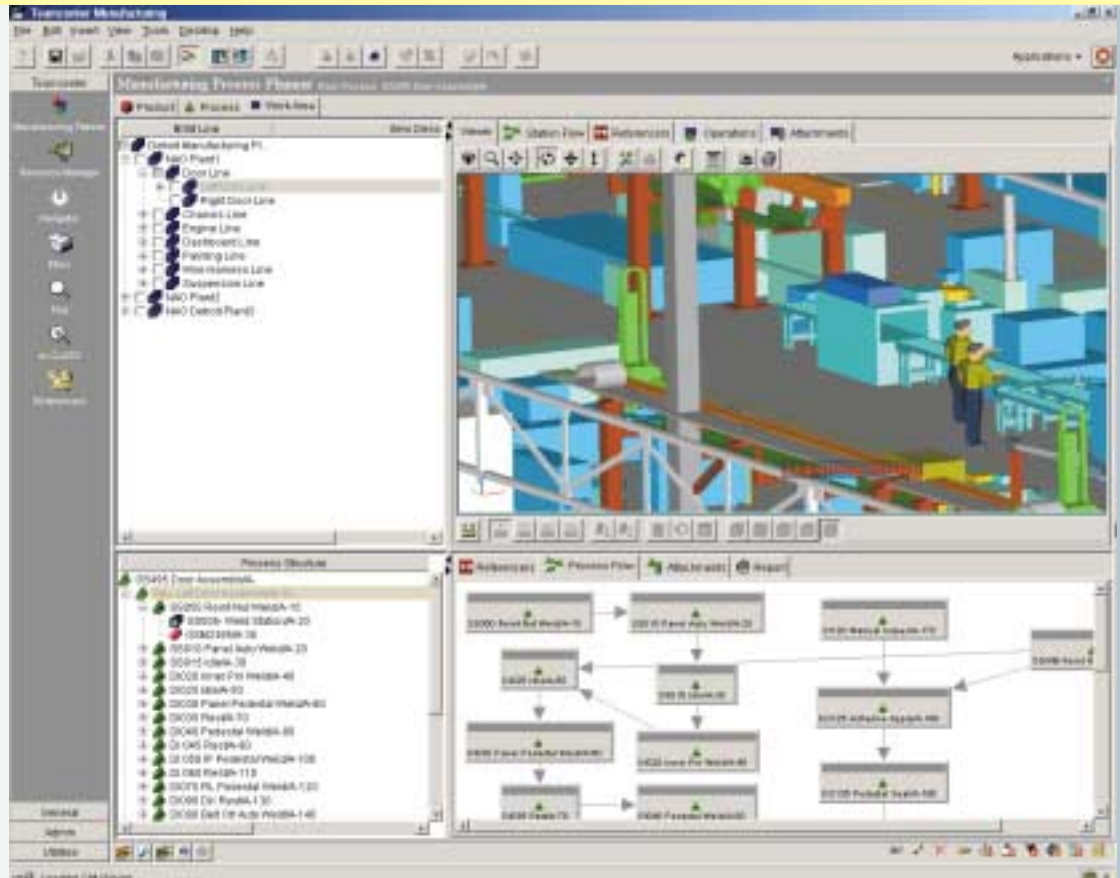
Teamcenter Engineering's process management capabilities define workflows that enforce company-specific business rules and user roles that can be leveraged in automated engineering processes.

As the world's first solution to provide truly effective configuration-driven design, Teamcenter Engineering allows your engineering teams to design and modify new product components/assemblies by working in an integrated multi-CAD environment that supports digital mockup. Advanced variant and option management capabilities make it easy for teams to develop new product versions/configurations for different markets.

## Teamcenter Manufacturing

### Business value:

Optimizes your manufacturing operations by enabling your extended enterprise to use a single environment to perform multiple pre-production manufacturing activities.



**Basic function:** Provides all of the participants in your extended enterprise – including your suppliers, allied partners, and trusted customers – with access to a single, integrated environment that they can use to:

- Define, validate, and share pre-production manufacturing information
- Associate their product, process, plant, and resource definitions through integral process planning
- Execute a wide range of digital manufacturing applications

Teamcenter Manufacturing provides an integrated environment for creating and managing product, process, plant, and resource information. Teamcenter Manufacturing leverages product/process configurations, change control and effectivity, work

flow, and process management capabilities to manage change and communicate its impact across your entire product lifecycle.

These capabilities enable you to manage change in the context of evolving product configurations, with direct relationships maintained to process plans, work instructions, and other reports.

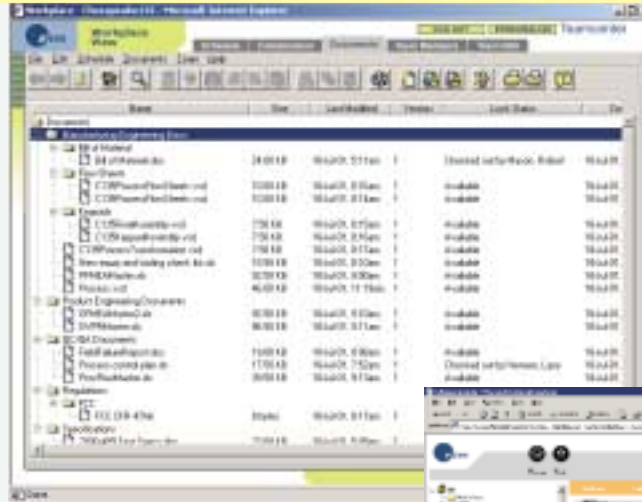
Teamcenter Manufacturing's seamless integration with Teamcenter Engineering enables the frictionless flow of design and manufacturing information early in the product lifecycle. Teamcenter Manufacturing's ability to synchronize engineering and manufacturing BOMs across your product lifecycle reduces process inefficiencies, enabling you to accelerate the introduction of new products.

## Teamcenter Project and Teamcenter Requirements

### Business value:

Teamcenter Project reduces product development costs by enabling project teams to synchronize assigned take-to-market tasks and work schedules on an enterprise basis, while optimizing resource allocations by managing a team's skill mix.

Teamcenter Requirements significantly improves your ability to deliver successful product offerings – by ensuring that your products' market, customer, and regulatory requirements align with their related design content.



Teamcenter Project



Teamcenter Requirements

### Basic function of Teamcenter Project:

Establishes a real-time “workplace” that allows dispersed team members to create, share, and manage project information. Teams can leverage this project information to perform real-time project scheduling, organizational breakdown and resource management, timecard reporting, and management tracking/reporting.

Teamcenter Project enables teams to organize project information in collaborative documents that can be shared and simultaneously viewed by multiple team members. Collaborative notebooks and threaded discussions allow project teams to capture and exchange product ideas, notes, comments, Web links, and documents on a real-time basis.

### Basic function of Teamcenter Requirements:

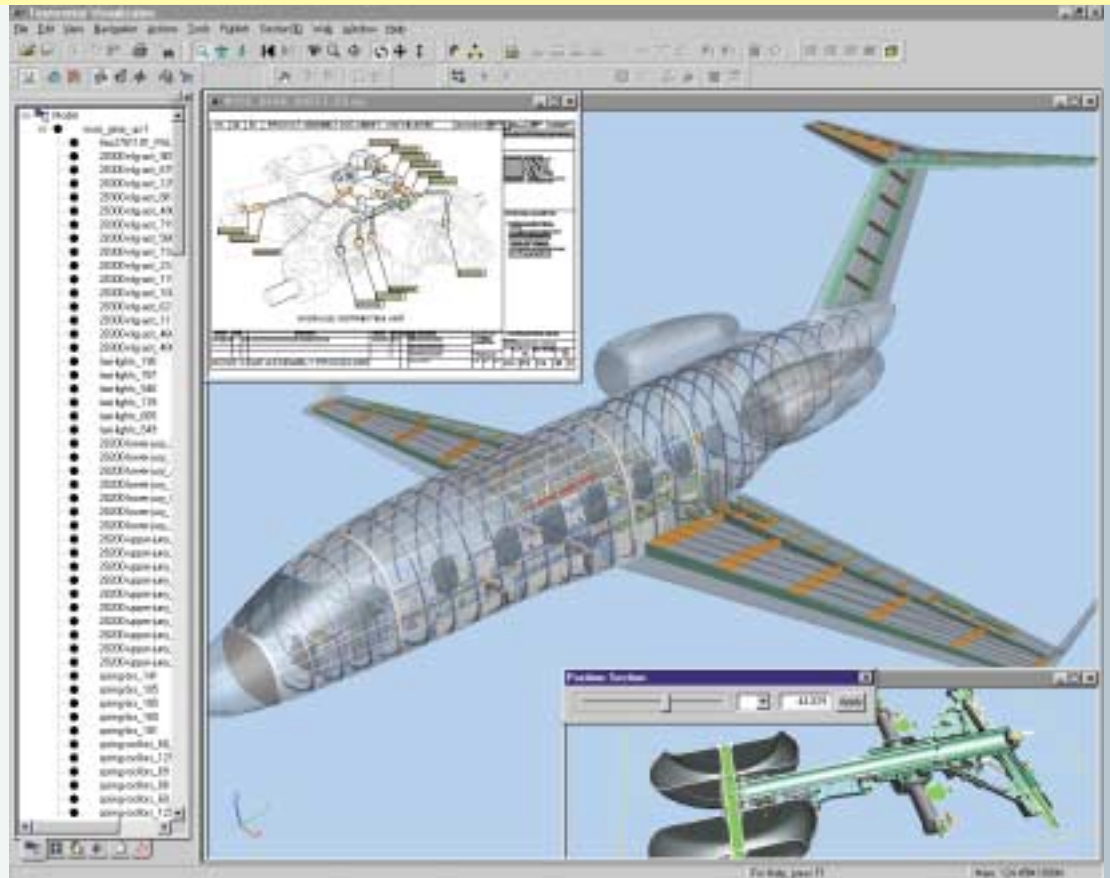
Enables entitled value-chain participants to create, capture, share, and manage product requirements. Once you collect a product's requirements, Teamcenter Requirements can allocate these requirements to specific design elements and establish quantifiable targets for each fine-grain element (e.g., by defining cost, performance, weight, power, reliability, and/or throughput targets for given parts).

Teamcenter Requirements can assess the impact that individual requirement changes will have on the product definition. Similarly, Teamcenter Requirements can determine the impact that design changes will have on your active product requirements. You can leverage Teamcenter Requirements to perform proposal generation, configuration management, budget analysis, report/document generation, validation testing, and decision support.

## Teamcenter Visualization

### Business value:

Slashes development costs, streamlines cycle times, and fosters product innovation by providing a CAD-neutral collaborative environment that enterprise teams can use to configure, digitally mock up, virtually publish, and ergonomically study new product ideas.



**Basic function:** Delivers high-end visualization and virtual prototyping capabilities that extended enterprises can use to visually configure and virtually test product innovations comprised of design components created under multiple CAD systems. Teamcenter Visualization combines today's leading edge visualization and mockup capabilities with the ability to leverage product structure browsing to locate/view individual components.

Users create, share, and manage virtual 3D prototypes that dispersed team members can examine interactively to detect early design concerns. Teamcenter Visualization provides 1:1-scale immersive capabilities to enable users to view high-resolution, photo-realistic 3D and 2D designs on desktop systems, as well as in immersive environments (such as CAVEs, Power Walls, and Desks) that feature large screens up to eight feet in height.

Teamcenter Visualization's integration with other Teamcenter applications/solutions enables team members to directly access all of the requirements, specifications, and change orders that pertain to the innovation in question. Users can modify component designs on native CAD systems and push these modifications back to Teamcenter Visualization for further review by other team members. Users can simulate a proposed product's functional aspects, including visualizing its shop-floor assembly and service/maintenance procedures.

## Teamcenter Community and Teamcenter Integrator

### Business value:

Teamcenter Community improves product innovation, cost efficiency, time to market, and product quality by enabling individual participants in your extended enterprise to collaborate in a rich real-time environment.

Teamcenter Integrator reduces costs, increases productivity, and accelerates time to market by allowing the participants in your extended enterprise to access all of the diverse information they need to function efficiently across the product lifecycle.



Teamcenter Community



Teamcenter Integrator

### Basic function of Teamcenter Community:

Provides your extended enterprise with a secure Web-enabled real-time workspace that includes a robust series of collaboration services that allow users to access Teamcenter data repositories and visual vaults. In a matter of minutes, you can set up a virtual team room, invite team members to join, and select the collaborative services that are appropriate for a specific project or activity.

Teamcenter Community enables team members to access team calendars, contact lists, discussion threads, instant messaging, and online conferencing services. Team members can access product information created under Teamcenter Engineering and Teamcenter Enterprise.

Team members view, section, measure, and mark up data – taken from leading MCAD systems – in a Web browser that uses industry-standard .JT technology. Team members can modify product designs in a collaborative session by using Teamcenter Community in conjunction with Unigraphics Collaborate.

Teams can conduct design reviews on an enterprise basis, with team members viewing and interacting with the same 2D and 3D data simultaneously.

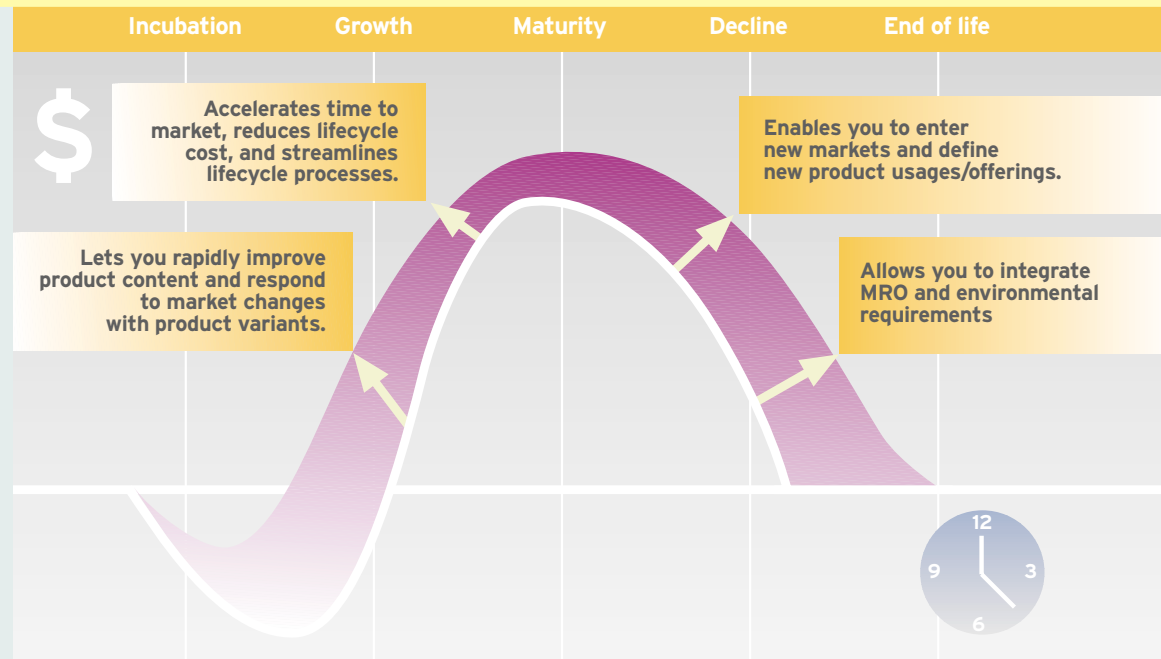
### Basic function of Teamcenter Integrator:

Brings together product information dispersed across your diverse extended enterprise. Teamcenter Integrator enables users to seamlessly access integrated product information drawn from multiple commer-

cial and legacy systems. Teamcenter Integrator synchronizes product information that physically resides in your environment's connected application systems in response to product-related events. Teamcenter Integrator allows you to integrate this product information without having to tightly couple your environment's applications software and data models.

Out-of-the-box capabilities let you tie today's most popular product-related applications systems into your environment, including PDM systems, ERP systems, CSM systems, MRO systems, mainframe applications, and legacy databases. Teamcenter Integrator leverages information mapping, event messaging, and security services to facilitate these integrations.

## Bottom-line business impact



Teamcenter's unifying lifecycle coverage delivers significant bottom-line advantages across your entire product lifecycle.

Teamcenter delivers advantages that can significantly influence your company's bottom line.

Teamcenter enables you to accelerate your time to market. Accelerated time to market allows you to establish first-to-market price premiums, capture larger market share, and secure market-leading credentials that are difficult/costly for lagging competitors to surpass.

Teamcenter enables you to improve your design re-use. Design re-use allows you to cut your product development cost, reduce the investment you need to generate cash flow, accelerate your time to market, and focus your creative energies on strategically important product innovations.

Teamcenter enables you to improve engineering productivity. Highly productive engineering processes allow you to increase the number of products you release to market in a single year and generate additional revenue from your product portfolio. It also enables you to cut the operational costs that can constitute up to 80 percent of your product development expenses and reduce your need for working capital.

Don't let the opportunity to unify your product lifecycle pass you by. Call your EDS sales representative now for more information about our Teamcenter solutions – the key to delivering bottom-line impact in today's digital economy.



## Summarizing Teamcenter's bottom-line benefits



Optimizes the early stages of product development that can determine up to 80 percent of your product cost.

Enables you to realize numerous first-to-market premiums.

Maximizes the re-use of your intellectual capital.

Injects new customer, supplier, and partner voices into your product lifecycle.

Enables you to rapidly build, modify, and rebuild your value chain as market opportunities arise.

Draws new forms of product knowledge into your extended enterprise.

Streamlines your repeatable take-to-market processes.

Enables you to develop products and support your customer base on a follow-the-sun basis.

Catches costly design mistakes up front in your product lifecycle.

Ensures that your product requirements remain paramount across the entire product lifecycle.

Makes certain that all value-chain participants are working from the same product assumptions.

Evaluates the resource, cost, and scheduling impacts of proposed product changes.

## About EDS

EDS, the leading global services company, provides strategy, implementation and hosting for clients managing the business and technology complexities of the digital economy. EDS brings together the world's best technologies to address critical client business imperatives. It helps clients eliminate boundaries, collaborate in new ways, establish their customers' trust and continuously seek improvement. EDS, with its management consulting subsidiary, A.T. Kearney, serves the world's leading companies and governments in 60 countries. EDS reported revenues of \$21.5 billion in 2001. The company's stock is traded on the New York Stock Exchange (NYSE: EDS) and the London Stock Exchange. Learn more at [eds.com](http://eds.com).

## About product lifecycle management solutions

EDS is the market leader in product lifecycle management (PLM), providing solutions to the global 1000. Product lifecycle management enables all the people who participate in a manufacturer's product lifecycle to work in concert to develop, deliver, and support best-in-class products. As the only single-source provider of PLM software and services, EDS can transform the product lifecycle process into true competitive advantage, delivering leadership improvements in product innovation, quality, time to market and end-customer value.

### Corporate Headquarters

**United States**  
5400 Legacy Drive  
Plano, Texas 75024  
1 972 605 6000

### Regions

**Americas**  
13690 Riverport Drive  
Maryland Heights, MO 63043  
USA  
800 498 5351  
Fax 314 264 8900

**Europe**  
Norwich House Knoll Road  
Camberley, Surrey  
GU15 3SY  
United Kingdom  
44 1276 705170  
Fax 44 1276 705150

**Asia-Pacific**  
Suite 1701, Cheung Kong Center  
2 Queen's Road Central  
Hong Kong  
852 2230 3333  
Fax 852 2230 3200



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