Windchill®: Managing the complete product lifecycle – from concept to service
Streamline product development and service information processes

ENGAGE YOUR ENTERPRISE THROUGHOUT THE PRODUCT’S LIFECYCLE WITH WINDCHILL, PTC’S PRODUCT LIFECYCLE MANAGEMENT (PLM) SOFTWARE
As a manufacturer, your pressures are not only continual – they’re mounting. Your industry is changing. Your customers’ requirements are evolving. And your supply chain is constantly adjusting to compete in today’s environment. In the middle of all this, more is being demanded of you and your entire organization.

At PTC we hear how manufacturers are struggling with their current systems and processes to answer questions such as:

- How can I help my company execute against its business initiatives?
- How do I sustain our delivery of high-quality products, but at a lower cost?
- How can I effectively consider new ideas and optimize my product portfolio for competitive advantage?
- How do I generate greater productivity, innovation and teamwork from my product and service teams?
- How should I best coordinate and collaborate with teams that are scattered around the world?
- How do I ensure compliance with corporate and government standards, given an ever-changing environment?
- How can I safeguard my company by ensuring timely compliance with regulatory bodies?


As an integral component of PTC’s Product Development System, Windchill manages all product content and business processes throughout the product and service lifecycle. And it has a robust, high-performing architecture to help you today – and to prepare you for tomorrow’s uncertainties.

Windchill can help.

Key capabilities

Central repository for all product and process information
Reduce rework and improve time-to-market by effectively capturing, configuring and managing all product information during every step of the product lifecycle.

Optimizing product performance across multiple dimensions
Bringing better-performing, more profitable products to market faster by analyzing performance in the earliest phases of product development, where decisions have the most impact and are least disruptive.

Tracking and managing quality throughout the product development lifecycle
Ensuring that product quality, reliability and safety are aligned with the requirements set for them over the course of a product’s development and use.

Optimize processes
Streamline key product development and service information processes to help you achieve your company’s business initiatives.

Powerful and scalable
Coordinating groups around the world and easily expanding to accommodate additional sites, organizations, functions or processes.

“In order to support our ambitious growth plans, we have prioritized the need for a faster and more efficient environment to facilitate global concurrent product development and support the rapidly changing requirements for our vehicle programs.”

Dr. H. S. Lee,
Vice Chairman of HKMC’s R&D center

“PLM is a key component of our IT strategy, which aims to standardize and harmonize the IT landscape at Continental Automotive.”

Dr. Ralf Brunken,
CIO at Continental Automotive Group
your central repository for all product and service information

Windchill provides a rich systematic approach for creating, configuring, managing and reusing product structures and associated content, such as CAD files, documentation, requirements, manufacturing information, service information, part/supplier data, calculations and illustrations. Windchill can also play an important role in increasing a company’s competitiveness by allowing continuous improvements and automation of business processes and procedures.

Windchill uniquely has the capabilities you need to effectively manage product related teams across the extended enterprise. Flexible and powerful capabilities enable you to define new configurations, as well as create variations of existing products. Tasks can be easily defined and automatically distributed to both internal and external participants. And managers can visually monitor and manage all work in real-time to make sure any issues can be quickly addressed.

Capabilities and Value

- Enable global access to current, accurate information
- Seamlessly connect to multiple mechanical/electrical CAD applications, embedded software tools, desktop applications and Enterprise Resource Planning systems
- Prevent costly design errors by controlling and automating product development and service information processes
- Improve product quality by eliminating mistakes associated with duplicate or incomplete data

WINDCHILL MANAGES THE COMPLETE DIGITAL PRODUCT DEFINITION:

- Requirements
- Documents
- ECAD
- MCAD
- Software
- Calculations
- Manufacturing Information
- Service Information

1,000,000+ active Windchill seats are being used by companies of all sizes around the world

“Windchill provides the flexibility and broad capabilities we need to manage heterogeneous CAD data, improve concurrent engineering worldwide and streamline data delivery to our manufacturing sites in a global development environment.”

Tom Saxe, Vice President of worldwide engineering, Otis Elevator Company
Optimizing product performance across multiple dimensions

To compete in today’s rapidly evolving global environment, manufacturers must contend with an ever-increasing number of product performance requirements, such as cost, weight, reliability and environmental impact, as well as new government regulations and shrinking delivery timeframes. Keeping up with frequent changes in product designs, regulations, suppliers and costs, while ensuring that targets are met, is an enormous data management challenge. Even the smallest change can affect your product in a major way. Not keeping up means missed targets, rework, recalls and blocked sales, which can quickly impact your bottom line.

Windchill Product Analytics – formerly InSight – is a suite of component and bill-of-material analysis solutions that empower businesses to assess product compliance, performance and risk, beginning early in the innovation process and continuing throughout the product lifecycle. These solutions make product performance analytics an integral part of your product development process.

Capabilities and Value

- Acquire data to fully characterize components
- Reduce risk by specifying disclosure/confidence levels and clear visibility to missing data
- Synchronize BOMs, parts and suppliers from multiple business systems (including ERP and PLM)
- Analyze BOMs throughout their lifecycle – focus on “early risk detection”
- Make better decisions by understanding the impact of product changes across multiple dimensions
- Share analysis results with stakeholders throughout the enterprise

80% reduction in APC’s overall compliance program costs. Allows APC to confirm product compliance and stay in markets they could not otherwise.

*Windchill Product Analytics Case Study on APC by Schneider Electric
www.ptc.com/view?im_dbkey=101813

5-20% of revenue: the predicted cost of poor quality (COPQ) for businesses experiencing repeat quality issues.

*Warranty Week

For those companies that employ multiple, disparate “point solutions” to manage product quality, reliability, and risk can leave themselves open to inefficient redundancies, quality errors, and gaping holes in an overall picture of product quality. Enterprise-wide quality management closes the quality loop between fielded product issues and early product design, communicates critical quality information throughout the organization, and ensures high-level management visibility into product and process quality at any stage in the lifecycle.

Ensuring product quality is an enterprise-wide effort. Windchill Quality Solutions uniquely combine quality planning, execution, improvement and governance in a single, fully integrated software suite – ensuring that every level of the organization is equipped to manage and improve product quality.

Capabilities and Value:

- Quality planning: Ensuring requirements are validated during design, test, manufacture, service and use
- Quality execution: Analyzing product reliability and risk early during product design, testing as-designed products to validate performance, and controlling critical characteristics during manufacture and service
- Quality improvement: Leveraging results from design, testing, manufacture and fielded use to identify quality issues
- Quality governance: Establishing enterprise-wide quality guidelines and policies to monitor quality improvement efforts and meet government or industry standards

Track and manage quality throughout the product development lifecycle

Capabilities and Value:

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Optimize key product related processes

Process improvement is pivotal to supporting product development and services, and ultimately to helping drive business success. PTC has a comprehensive point of view on the product lifecycle and it is represented here, in our process landscape. We recognize that a set of highly cross-functional and distributed processes span the life of any product, from planning through support.

Windchill can help optimize many of these processes, including:
• Program Management
• Regulatory Compliance
• Quality & Reliability Management
• Change and Configuration Management
• Requirements Capture and Management
• System Design
• Detailed Design
• Verification & Validation
• Variant Design & Generation
• Design Outsourcing
• Early Sourcing
• Component & Supplier Management
• Manufacturing Process Management
• Manufacturing Outsourcing
• Technical Information Creation & Delivery

Reduce risk and drive value with Windchill

Windchill is the only PLM solution that was designed from the ground up to work in an Internet-based, distributed design environment. Whether you need core product data management capabilities, optimization of processes to meet industry-specific requirements or support for global product development, Windchill uniquely has the capabilities you need to effectively manage global product teams.

Value
• Decrease product development time through efficient collaboration
• Reduce errors by automating processes and driving conformity to corporate standards
• Reduce scrap and rework by automatically sharing product data with downstream manufacturing systems and engineers
• Improve product design decisions by providing product performance analytics early in the innovation process
• Leverage results from design, testing, manufacture and fielded use to identify quality issues and to help ensure their correction in next-generation products and processes
• Increase efficiency by enabling engineers to quickly find and manage multiple forms of digital product content
• Improve customer support and service organization efficiency by providing them with exactly the information they need to fix it right - the first time
• Eliminate mistakes associated with duplicate data, incomplete data or manual data transfers via a single, secure repository for all product content
• Lower your total cost-of-ownership (TCO) and technology risk by reducing the number of systems and databases to maintain and administer

“After any acquisition, consolidation becomes a major challenge to overcome. For us, though, the answer was simple: continue to standardize on Windchill.”
Teddy Bekele,
Global IT Director for Engineering at Ingersoll Rand
PTC’S TOTAL VALUE MODEL

PTC solutions provide business value to customers in four essential ways.

Strategic value:
Enabling new business strategies that directly create or strengthen competitive advantage

Extended process value:
Improving efficiency by leveraging process change in other organizations

Direct process value:
Supporting process improvements to increase efficiencies within the organization

Infrastructure value:
Reducing risk or cost and increasing agility with systems and process improvement

Delivering on the Promise of PLM

The promise of deploying an integrated platform to help manage the full product lifecycle is a compelling one: Greater design collaboration, improved product quality, faster time to market, and more efficient operations.

But getting from here to there is not simple. Organizations investing in PLM platforms like Windchill need to overcome a number of critical operational challenges, including developing the right implementation roadmap, maximizing process improvement, minimizing technology customization, and ensuring organizational adoption of new processes and tools.

PTC Global Services, the world’s largest dedicated PLM services organization, is uniquely suited to ensure implementation success in even the most complex organizational environment.

• Our Value Centric Engagement Model ensures cross-organizational alignment on key business objectives, with fully approved definitions of value, a detailed roadmap that connects business need with technical feasibility, and clear accountability for program governance and decision making

• Process-based solution design aligns our technology with strategic business requirements, best practice processes, organizational constraints, and PTC’s technology roadmap

• Off-the-shelf configuration adapts PTC technology to process priorities while minimizing deployment risks, accelerating time to value, and increasing flexibility for future organizational needs

• Role-based adoption programs accelerate team learning and business impact with a comprehensive, customized approach tied directly to the deployment roadmap and to individual and work group needs for process improvement

Beyond implementation – PTC’s comprehensive Maintenance Support program delivers additional productivity benefits through strategic support planning, integrated product support resources, pro-active issue avoidance, and fast issue resolution. Maintenance Support entitlements include:

• Software and maintenance releases that can include new features, integrations and security updates, as well as architecture, performance, and infrastructure enhancements

• Access to 240+ ISO-certified technical experts in our worldwide call centers who are all connected to a single database, available 24 hours every business day, with multiple language support

• Award-winning, pro-active, online, self-service web tools that allow you to troubleshoot issues, locate technical documents, log support requests, and manage your PTC software assets
A key component of PTC’s product development system

As the industry’s most comprehensive PLM solution, Windchill offers:
- Comprehensive Product Data Management
  - Versions/Iterations
  - Embedded 2D/3D Viewer for All Content
  - Multi-level BOM Configurations
  - Compare Product Structures
  - Workflow/Lifecycle Management
  - Collaboration Tools
  - Project Execution
  - Reporting
  - Archiving

Extensive PLM Capabilities
- Integral Compliance
- Integral Costing
- Comprehensive Quality and Reliability
- Integral Services Information

Powerful and Scalable
- Coordinated Program and Portfolio Management
- Comprehensive Requirements Management
- System Administration
- Out-of-the-Box Integration with Leading ERP Systems
- SOA (Service-Oriented Architecture)
- Cloud ready

Variability Mgt. & Digital Mockup
eBOM
e
mBOM
m
Enterprise Interoperability
sBOM
s
Workflow Change & Config. Mgt.
Business Reporting
Collaboration
Document Management
Hardware Management
Software Management
Visualization
Warranty Management
Program Management
Portfolio Mgt.
Requirements Management
System Modeling
Engineering Calculations
Quality, Risk, & Reliability Mgt.
ECAD Software Development
Component Management
Supplier Management
Service Parts Planning
Manufacturing Process Management
Test Management
Cost Management
Compliance Management
Technical Information Authoring
ERP & Enterprise Systems
CAD CAM CAE

Windchill tightly works with other PTC offerings to meet the needs of any size business.

The Windchill Family

Windchill is an integral suite of products that addresses the needs of product development:

PDM and Process Management
From core product data management capabilities to process optimization to meet industry-specific requirements, Windchill uniquely meets the needs of both small companies and extended enterprises.

Collaboration
Windchill offers effective collaboration tools that create the virtual equivalent of having all participants in the same room, at the same time, looking at the same data.

Service Information
Leverage original product data and structures from engineering to architect and improve the delivery of service information throughout the product life span.

Integrations
Windchill offers a broad selection of integration tools and modules.

Product Analytics
Windchill Product Analytics empowers users to assess product compliance, performance and risk, beginning early in the innovation process and continuing throughout the product lifecycle.

Quality
Windchill Quality Solutions ensure that every level of the organization is equipped to manage and improve product quality.

Windchill tightly works with other PTC offerings to meet the needs of any size business.
The power of PTC

PTC PROVIDES LEADING PRODUCT DEVELOPMENT SOLUTIONS TO MORE THAN 27,000 CUSTOMERS WORLDWIDE.

Software products

• Broadest integral suite of solutions that enable companies to:
  - Create product information
  - Collaborate in a globally distributed environment
  - Control product development processes
  - Configure product content
  - Communicate product information to multiple systems and audiences

• Rigorous testing to ensure that products work together – and work for you

• Designed for incremental deployment to ensure successful adoption

Product development processes and initiatives

• Unique process-oriented approach to product development to deliver maximum value

• Technology-enabled process optimization to advance defined customer business initiatives

• Product Development System supports end-to-end processes to accelerate deployment time and reduce cost

Industry solutions

• Extensive expertise across a broad range of industries

• Demonstrated customer success in providing tailored solutions for specific industry needs

• Solutions support industry-specific business processes both within the enterprise and across the supply chain

Services & support

• Product development consulting to define and develop best-in-class processes

• Assessments and implementation services to deploy technology with minimum disruption

• Education curricula to accelerate adoption and boost productivity

• Global maintenance support that delivers the right team, tools and technology – available anytime, anywhere you need them for product development success

To learn more, please visit our website at: ptc.com/products/windchill

Complete Product Development System

PTC’s integral Product Development System delivers the key capabilities manufacturers need to realize more value from product development. And our proven, incremental implementation approach can help companies of any size accelerate adoption, minimize risk, and speed time-to-value.

Creo®
Design Software

Windchill®
Product Lifecycle Management (PLM) Software

Arbortext®
Dynamic Publishing Software

Mathcad®
Engineering Calculation Software

Integrity™
Software Systems Lifecycle Management

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