Pro|ENGINEER®
W I L D F I R E ™

NEVER Compromise.

PTC®
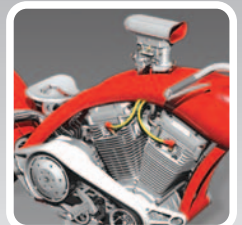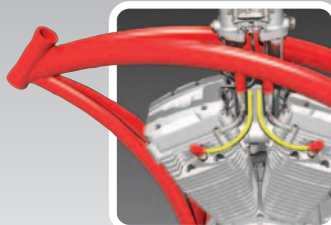
Where Breakthrough Products Begin

Though most discrete manufacturers invest in computer-aided design and other technologies for product development, their investments do not always generate the returns they expect. Lack of interoperability, capability shortcomings, poor usability, and discontinuities across the concept-design-manufacturing continuum often hamper engineering teams in their search to develop high quality digital product models more efficiently.

Pro/ENGINEER® Wildfire ™

The most effective way to develop and define digital product models.

The power to quickly deliver the highest quality, most accurate digital models – that's what Pro/ENGINEER Wildfire is all about. As the core design offering within PTC's Product Development System, Pro/ENGINEER Wildfire details the form, fit, and function of products. Seamless Web connectivity ensures that product teams have access to the resources, information, and capabilities they need – from conceptual design to tooling development and machining. And with Pro/ENGINEER Wildfire, high-fidelity digital models have full associativity, so that product changes made anywhere update deliverables everywhere. That's what it takes to achieve the digital product confidence needed before investing significant capital in sourcing, manufacturing capacity, and volume production.

Pro/ENGINEER Wildfire can help you optimize:

> **Conceptual and industrial design**

> **Detailed part and assembly design**

> **Structural, thermal, and motion simulation/analysis**

> **Routed systems design**

> **Production planning and execution**

> **Design collaboration**

Create
Without
Compromise

Engineering departments face countless challenges as they strive to create breakthrough products. They must manage exacting technical processes, as well as the rapid flow of information across diverse development teams. In the past, companies seeking CAD benefits could opt for tools that focused on ease-of-use, but lacked depth and process breadth. Or they could choose broader solutions that fell short in terms of usability.
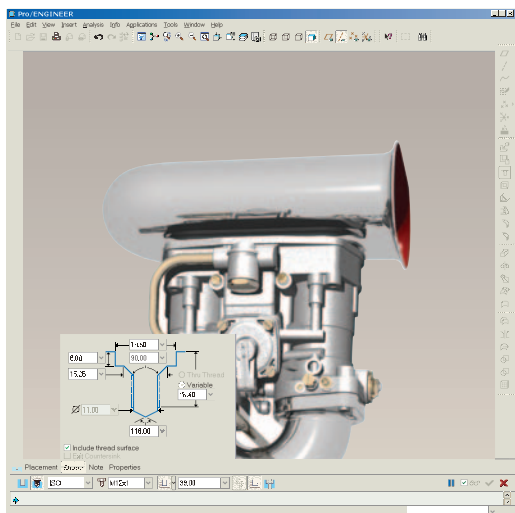
Pro/ENGINEER Wildfire is packed with the most advanced features and functionality available, yet it's remarkably easy to learn and use.

Simple. Powerful. Connected.™

Simple

Easy-to-learn and easy-to-use makes Pro/ENGINEER Wildfire the superior choice for speed-to-value.

Through its flexible workflow and sleek user interface, Pro/ENGINEER Wildfire drives personal engineering productivity like no other 3D CAD software. The Wildfire User Model enables direct modeling, provides feature handles and intelligent snapping, and uses geometry previews so users can see the effects of changes before committing to them. Plus, Pro/ENGINEER Wildfire is based on familiar Windows® standards – providing immediate user accessibility and extending those standards to the unique challenges of 3D product design.

Powerful

Deep and broad capabilities let engineers design to customer needs, not to the limitations of software.

As the two-time recipient of *IndustryWeek's* Technology of the Year Award, Pro/ENGINEER remains the most powerful MCAD solution on the market. Pro/ENGINEER Wildfire ensures the seamless flow of digital product information throughout all engineering processes with associative CAD, CAM, and CAE applications spanning conceptual design to NC tool path generation. And since it's built on Granite® – PTC's modeling and interoperability kernel – Pro/ENGINEER excels in multi-CAD environments, and guarantees upward compatibility of data from earlier Pro/ENGINEER releases.

Connected

Fast, secure collaboration means more productivity and less risk.

Pro/ENGINEER Wildfire offers online peer-to-peer design collaboration tools, and supports both synchronous and asynchronous collaboration. As part of PTC's integral Product Development System (PDS), Pro/ENGINEER Wildfire provides a seamless user experience with Windchill PDMLink™ and Windchill ProjectLink.™

Conceptual and Industrial Design

Capture Ideas and Forms that Meet Any Aesthetic Requirement.

Pro/ENGINEER Wildfire is unmatched for developing and communicating stunning product concepts. It's a truly open solution you can use to share ideas – or refine concepts using freeform surfacing and reverse engineering tools. Designs can be sent directly to a rapid prototyping machine, or transferred to downstream Pro/ENGINEER applications.

- Easy-to-use tools, blending 2D or 3D, curves and surfaces, and imported sketches for concept exploration and industrial design
- Advanced photo-rendering to create photorealistic images
- Interoperable with other CAD systems

Realizable Benefits

- Increase the number of product ideas conceptualized and evaluated
- Improve the richness of product collateral
- Bring higher quality products to market faster

Detailed Design

Refine and Fully Document Any Product, Regardless of Complexity.

Some manufacturers struggle to develop product definitions because of incompatibility across multiple CAD systems or functional shortcomings. With Pro/ENGINEER Wildfire, design engineers can handle tasks of any complexity, easily connecting to other users and accessing information over the Web – directly from the design environment. Pro/ENGINEER Wildfire is the scalable choice for small and large companies alike.

- Full geometry capabilities include solid, sheet metal, and assembly modeling, technical and freeform surfacing, weldments, frameworks, and mechanisms
- Product documentation capabilities include production drawings, 3D drawings per ASME 14.41, process plans, photo-renderings, and animations
- Model quality checking, validation, and data reuse
- Interoperability with industry-standard file exchange formats, including STEP, IGES, DXF, DWG, Parasolid®, ASIC, I-DEAS® import
- Patented technology for associative data exchange with CADDS®, CATIA® V4, CATIA® V5, Unigraphics®

Realizable Benefits

- Improve productivity and resource allocation by extending software usage
- Standardize design infrastructure
- Improve collaboration across multiple CAD systems
- Reuse of legacy 2D/3D data
- Reduce product and development cost with less reliance on engineering drawings and early resolution of design conflicts
- Ability to validate products with full digital product mock-up

Simulation/Analysis

Validate Product Performance and Optimize Product Design.

To ensure that products meet customer expectations, you must be able to predict and accommodate real-world conditions, optimize your design accordingly, and share the results. Pro/ENGINEER Simulation solutions allow engineers to virtually test product performance, drive optimized designs based on customer and engineering requirements, and make results available to the immediate and extended team.

- Explore structural, vibration, durability, heat, and motion performance
- Track model and geometric information against specifications
- Run full tolerance stack-ups to determine fit
- Generate sensitivity reports to show how changes will impact product performance
- Automatically find the best overall design through optimization

Realizable Benefits

- Lower product, warranty, and development costs
- Enhance engineering creativity – explore more product designs faster
- Optimize product designs to achieve desired real-world performance

Routed Systems

Design and Document Any Electrical or Fluid System.

Designs for complex fluid and electrical systems can be fraught with inaccuracies and miscommunication. Pro/ENGINEER Routed Systems solutions offer comprehensive and associative capabilities for electrical, cabling, and piping design – as well as manufacturing. Designers, packaging engineers, and manufacturing engineers can quickly design, route, document, and produce complex harness and piping systems.

- Full support for a wide range of 2D diagrams, including block, electrical, fluid, and pneumatic schematics
- Create complex 3D electrical harnesses
- Drive 3D harness and 3D pipelines from 2D schematics to ensure accuracy and verify before manufacturing
- Create associative manufacturing data from 3D harnesses
- Instantly generate annotated isometric pipeline drawings and output FIF data for CNC pipe bending machines

Realizable Benefits

- Reduce rework and improve quality by verifying the accuracy of 3D harness and piping systems before manufacturing
- Eliminate or reduce prototyping expense
- Lower development cost by eliminating manual transfer of data between 2D schematics and 3D routing

Breakthrough Performance for PTC Customers

Manufacturers report significant improvements in product development performance with Pro/ENGINEER.

REDUCED FABRICATION TIME — **50**% — Reduced Fabrication Time by 50%
NASA Goddard Space Flight Center

ACCELERATED DEVELOPMENT TIME — **23**% — Accelerated Development Time by 23%
Samsung

REDUCED TIME-TO-PROTOTYPE — **78**% — Reduced Time-to-Prototype by 78%
PING

REDUCED DESIGN TIME — **40**% — Reduced Design Time by 40%
**BAE Systems**

Production

Leverage Digital Models for Production.

Tooling development and NC machining often trail product design significantly, resulting in lost time and money. Pro/ENGINEER Production solutions enable manufacturers to create tooling, NC tool paths, and inspection programs in parallel with product design work. By sharing and directly referencing Pro/ENGINEER designs, production and tooling engineers are brought into the process early and are able to influence designs prior to release.

- Tooling design, development, and analysis, including automatic core/cavity splitting, mold base, integral mold filling analysis, and progressive die development
- Automatic tool path generation, including 2-5 axis milling, 2-4 axis turning and live tooling, 2-4 axis wire EDM, laser, and punch press
- NC simulation, verification, optimization, and post-processing
- CMM programming and first article inspection

Realizable Benefits
- Reduce scrap and scrapped tools
- Improve manufacturing productivity
- Improve product quality
- Reduce time-to-market
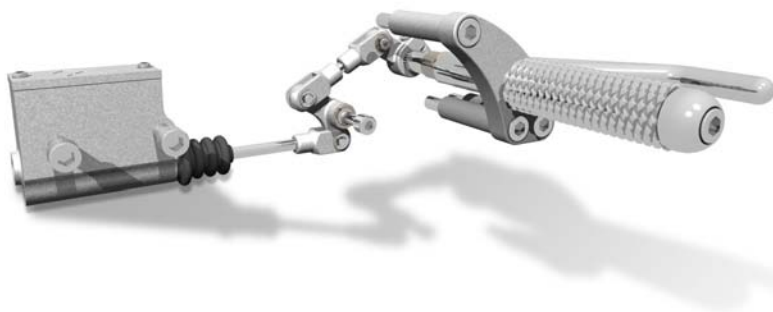
Design Collaboration

Extend Digital Models to the Entire Team.

Efficient collaboration among product teams is key for achieving product development business goals. Yet software tools have not generally lived up to the challenge. Superior collaboration must support both synchronous and asynchronous information exchange to match the way team members naturally engage. Pro/ENGINEER Wildfire delivers both of these capabilities from a single interface.

With Pro/ENGINEER Wildfire, remote users can share digital product definitions, regardless of their location, for conducting real-time design reviews, collaborative design sessions, or frequent information sharing. Design data can be communicated from the desktop to multiple, global team members, who can then review designs in real-time with other design locations, outsourced design partners, and tooling suppliers. These capabilities even extend to team members who may not have or use Pro/ENGINEER.

- Real-time, synchronized design conferencing between any number of users anywhere on the Internet
- Cross-enterprise communication for design collaboration, supplier collaboration, design reviews, remote training, and technical support
- Secure Groove®-enabled file sharing, conferencing, and chat
- Connects seamlessly to PTC's Product Development System

Realizable Benefits
- Reduce travel expense through virtual, multi-party design reviews
- Increase information exchange through ability to advance designs and resolve design conflicts in real-time
- Decrease time-to-market while ensuring compliance to requirements by immediately making current information available to all
- Reduce development cost through remote system administration, training, and diagnostic support

Realize The Full Potential of Pro/ENGINEER Wildfire Through Services Delivered by PTC and Our Partners

Assess, Deploy, Optimize

To accelerate your return on investment, PTC applies an incremental implementation approach, which includes a comprehensive portfolio of Assess, Deploy, and Optimize offerings. Whether you're refining a process to eliminate design bottlenecks, or working to engage customers and suppliers, this approach provides real benefits that can help fuel growth and drive profitability.
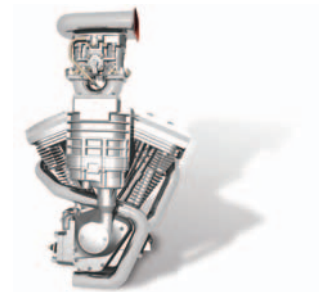
Through our **Assess** offerings, PTC consultants and partners can identify opportunities for optimizing your product development environment and demonstrate exactly how to realize value with Pro/ENGINEER Wildfire. With **Deploy**, we help you implement the solution quickly and accelerate the return on your investment. Representative Deploy offerings include Pro/ENGINEER Install & Set-up and Pro/ENGINEER Wildfire Update Training. With PTC's extensive role-based curriculum, customers will accelerate the adoption of Pro/ENGINEER Wildfire, which can lead to significant productivity gains. And with **Optimize**, we work together to extend value by streamlining your design processes in ways that keep users' skills current with our latest release – maximizing personal and organizational productivity. PTC's Optimize offerings for Pro/ENGINEER, such as those related to Modular Product Architecture, detail specific best practices and recommended methods for effective digital model definition.

With nearly 20 years of product development experience – and thousands of successful deployments – PTC enables rapid implementations that deliver both immediate and lasting business value.

PTC offers a comprehensive Maintenance Support Plan that delivers additional productivity benefits:

- Ongoing investment protection and enhancement of PTC solutions.
- New software releases which may include feature, architecture, performance, and infrastructure enhancements.
- Direct access to PTC's ISO 9001-accredited technical support organization.
- Award-winning, online, self-service support tools with access to more than 18,000 online documents, updated weekly with the most current technical information.

PTC's Product Development System

Leading Technology that Assures Success

PTC's Product Development System has the footprint of capabilities discrete manufacturers need to **Create** digital master models, **Collaborate** across the entire Digital Product Value Chain, and **Control** product information and product development processes efficiently over the entire product lifecycle. The pure **Internet** architecture of our PDS enables world-wide access. Its **Integral** design delivers a seamless user experience. Plus, PTC's PDS is **Interoperable** with other enterprise technologies.

Industry Expertise that Optimizes Product Development Processes

Our Product Development System helps companies manage, enhance, and optimize their end-to-end product development processes with confidence. With unprecedented five-level testing, every element of the PDS has been validated and proven to support the critical product development improvements customers want. What's more, PTC has the broad process expertise necessary to ensure the PDS supports your company's unique product development needs.

Proven Deployment Approaches that Accelerate Adoption

PTC offers a wide range of standardized solutions for installation, configuration, migration, and optimization, including pre-packaged Quick Starts. PTC's proven methods encourage adoption of new processes to accelerate productivity gains. Our extensive role-based curriculum includes Web-based training, instructor-led programs, and interactive distance learning – all offered worldwide.

To learn how Pro/ENGINEER Wildfire helps create value
for some of the world's most innovative manufacturers, please visit our website at:
www.PTC.com/go/proewildfire

**Complete
Product Development
System**

PTC's integral Product Development System delivers the key capabilities manufacturers need – Create. Collaborate. Control.™– 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.
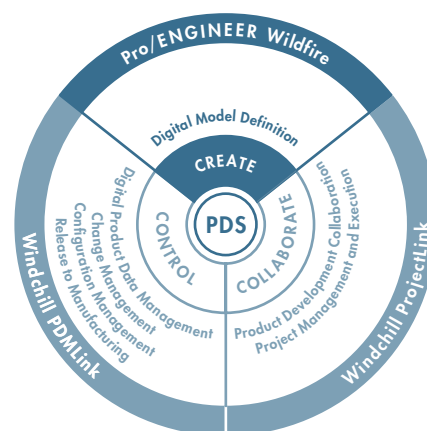
Pro/ENGINEER® Wildfire™
Unparalleled technology to create winning products.

Windchill ProjectLink™
Improving product development through collaboration.

Windchill PDMLink™
Controlling the data that drives product success.

PTC®
The Product Development Company™

367-PRO/EWILDFIRE-BRO-0204

PTC Worldwide Headquarters | 140 Kendrick Street | Needham Massachusetts 02494 | +1 781.370.5000 **PTC.com**