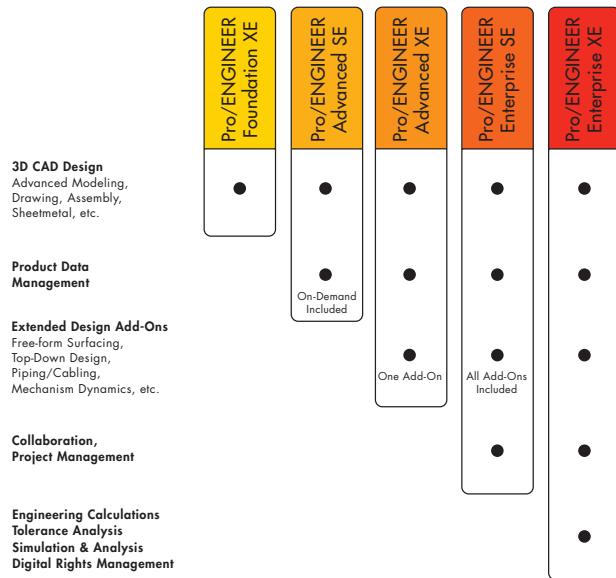# Pro/ENGINEER® Package Overview
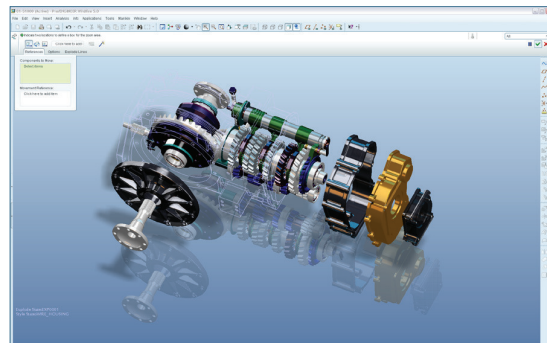
ONE PLATFORM. MAXIMUM POWER. ANY SIZE COMPANY.

PTC delivers the broadest range of powerful product development packages on the market today. No matter which package you choose, you'll get the industry's fastest, most comprehensive tools – easy to use, competitively priced and always upgradeable – to seamlessly meet the varied demands of your business.

The Complete Set of CAD Solutions – On a Single, Integrated Platform

Product design firms and manufacturing companies are under constant pressure to develop more products in less time, without sacrificing innovation or quality. Pro/ENGINEER integrated CAD/CAM/CAE solutions are the world standard – providing everything you need to achieve the highest quality design in the fastest possible time. The unlimited scalability of Pro/ENGINEER also allows you to add new users and expand capabilities with new modules as your needs grow. And, since Pro/ENGINEER is an integral part of PTC's Product Development System, your 3D CAD solution will seamlessly connect to PTC's industry leading solutions, including Windchill® for content and process management; ProductView for advanced mock-up and interactive visualization; Mathcad® for engineering calculations; Arbortext® for dynamic information delivery; InSight™ for product analytics; and Relex® for quality, risk and reliability management.

	Pro/ENGINEER Foundation XE	Pro/ENGINEER Advanced SE	Pro/ENGINEER Advanced XE	Pro/ENGINEER Enterprise SE	Pro/ENGINEER Enterprise XE
3D CAD Design Advanced Modeling, Drawing, Assembly, Sheetmetal, etc.	●	●	●	●	●
Product Data Management		On-Demand Included	●	●	●
Extended Design Add-Ons Free-form Surfacing, Top-Down Design, Piping/Cabling, Mechanism Dynamics, etc.			One Add-On	All Add-Ons Included	●
Collaboration, Project Management				●	●
Engineering Calculations Tolerance Analysis Simulation & Analysis Digital Rights Management					●

Each Pro/ENGINEER package provides a powerful, yet easily scalable set of capabilities.
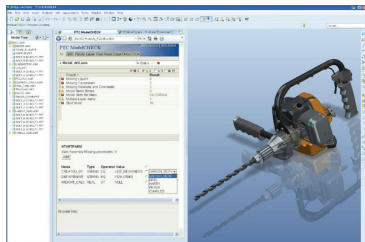

Pro/ENGINEER provides power and scalability to meet the complex design needs of discrete manufacturers.

Pro/ENGINEER Packages

Pro/ENGINEER Foundation XE (Extended Edition)

The essential 3D CAD value package is powerful, easy to use, and fully scalable. This package features the industry's broadest range of core modeling and design capabilities for creating high quality designs in less time. Capabilities of the package include:

- Comprehensive 3D Solid Modeling
- Detailed Documentation: 2D and 3D Drawings
- Technical Surfacing
- Assembly Modeling
- Weld Modeling and Documentation
- Mechanism Design and Design Animation
- ModelCHECK™–Design Validation Tool
  - Advanced capabilities including CAE lite, CAM lite, Manikin lite, framework design and electrical clearance and creepage analysis
- Data Interoperability and Import Data Repair
- Integrated Web Capabilities
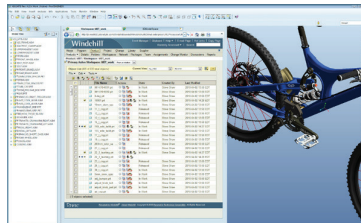- Complete Library of Parts, Features, Tools and More

The Pro/ENGINEER design validation capabilities in ModelCHECK address your quality challenges by monitoring, enforcing, and deploying company standards and best practices.

Pro/ENGINEER Advanced SE (Standard Edition)

The best 3D CAD design tools combined with an easy-to-deploy, hosted data management solution. Specifically tailored to meet the needs of companies that need to speed development cycles, Pro/ENGINEER Advanced SE helps you respond faster to changing requirements, share product information, and lower costs. The package includes:

- Pro/ENGINEER Foundation XE, giving you powerful 3D CAD capabilities to create the highest quality designs
- Your choice of product data management option:
  - Pro/INTRALINK® for Pro/ENGINEER data management
  - Windchill PDMLink® for broader engineering content and process management
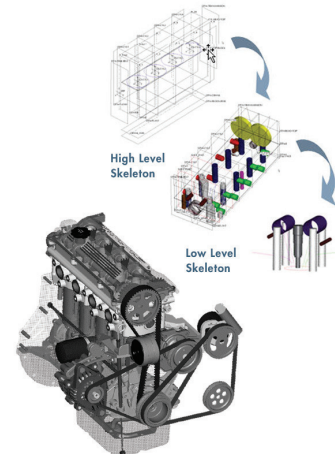 - Windchill ProductPoint® for product data management

Access Windchill PDMLink data management capabilities directly from the Pro/ENGINEER user interface.

Pro/ENGINEER Advanced XE

Designed for engineers who need more design power and more efficient design processes. The package includes:

- Pro/ENGINEER Foundation XE package 3D CAD capabilities
- Choice of data management option:
  - Pro/INTRALINK for Pro/ENGINEER data management, Windchill PDMLink for broader engineering content and process management, or Windchill ProductPoint for product data management
- Choice of one high-performance design module:
  - Pro/ENGINEER Advanced Assembly
  - Pro/ENGINEER Behavioral Modeling®
  - Pro/ENGINEER Interactive Surface Design
  - Pro/ENGINEER Mechanism Dynamics
  - Pro/ENGINEER Piping and Cabling

High Level Skeleton

Low Level Skeleton

Pro/ENGINEER Advanced Assembly Extension offers capabilities, such as skeleton models, to support top-down design.

The Pro/ENGINEER Advantage

The Pro/ENGINEER family of integrated 3D CAD/CAM/CAE solutions delivers a distinct advantage for engineers and designers because Pro/ENGINEER is fully associative. That means any change made to the design is automatically reflected in all downstream deliverables—without any data translation required. So you not only save time, but you also avoid the possibility of translation errors in your design. Pro/ENGINEER is also an integral part of PTC's Product Development System (PDS). You can seamlessly expand your PDS solution by adding Mathcad, Windchill, ProductView, or Arbortext solutions, and gain easy access to information and people through the Web user interface. No other product development package offers more power and speed in a single, fully scalable platform.

A Solution for Your Role in Product Design

In addition to the products contained in these Pro/ENGINEER packages, PTC offers additional precision tools that extend the power of Pro/ENGINEER, including:
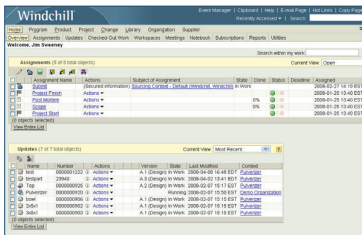
- Pro/ENGINEER Manufacturing Solutions offer powerful tools for machining, prismatic and multi-surface milling, tool design, moldbase design, NC sheetmetal, computer-aided verification of machined parts, plastic-filling process simulations, and more
- Pro/ENGINEER Advanced Mechanica® for extended simulation and analysis, such as advanced material and non-linear behaviors

Powerful Product Development Solutions For Any Size Company

Pro/ENGINEER Enterprise SE

A complete product development solution that's optimized to solve the complex needs of today's globally dispersed development teams. Pro/ENGINEER Enterprise SE enables teams to work concurrently, share information efficiently, promote design reuse, and leverage an automated change process that ensures integrity and traceability of designs. The package includes:

- All solutions in the Pro/ENGINEER Advanced XE package
- All five high-performance modules offered as options in the Pro/ENGINEER Advanced XE package:
    - Pro/ENGINEER Advanced Assembly
    - Pro/ENGINEER Behavioral Modeling
    - Pro/ENGINEER Interactive Surface Design
    - Pro/ENGINEER Mechanism Dynamics
    - Pro/ENGINEER Piping and Cabling
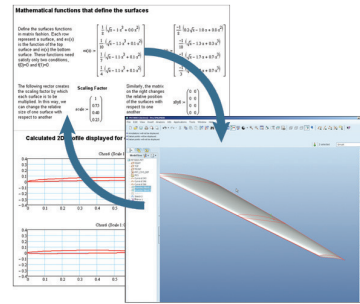- Windchill ProjectLink™—web-based collaboration and project management capabilities
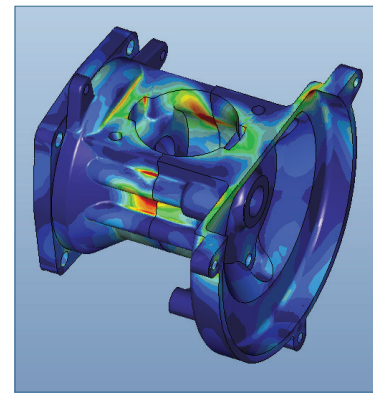
Pro/ENGINEER Enterprise XE

The industry's most comprehensive product development package, designed to broaden and drive engineering process optimization both upstream and downstream. Improve technical publishing, as well as engineering processes such as concept development, system design, detailed design, variant design and generation, verification and validation, and design outsourcing. The package includes:

- All solutions in the Pro/ENGINEER Enterprise SE package
- Mathcad – solves and documents engineering calculations
- Pro/ENGINEER Mechanica – performs key simulation and analysis tasks
- Pro/ENGINEER Tolerance Analysis Extension powered by CETOL™ Technology – adds powerful tolerance analysis capabilities such as 1-D stack-up, contribution and sensitivity analyses within the design environment
- Pro/ENGINEER Rights Management Extension – protects your design IP dynamically and persistently. Leverages Adobe® Livecycle® Rights Management server to create, manage and monitor access policies

Leverage the bi-directional integration between Mathcad and Pro/ENGINEER to enable predictive engineering and reduce inefficient design iterations.

Pro/ENGINEER Mechanica enables validation of designs, such as this model of a bolted housing, and reduces the number of physical prototypes needed.

Windchill ProjectLink gives you collaboration and project management capabilities.

- Pro/ENGINEER Expert Framework for fast, easy creation of structural frameworks
- Pro/ENGINEER Routed Systems Designer for 2D schematic layout of cables and pipes
- Arbortext IsoDraw® for directly converting 3D CAD model data into high-quality technical illustrations and animations
- ProductView ECAD electronic design collaboration solutions for ECAD design data visualization, comparison, collaboration and validation

The Right Solution – Without Compromise

Pro/ENGINEER is simple to learn and use, and is available in a variety of packages designed to meet your company's specific needs. Whether you need a cost-effective 3D CAD system that contains all the basic design capabilities (Pro/ENGINEER Foundation XE); or 3D CAD, data management and extended capabilities such as advanced assembly or piping and cabling design (Pro/ENGINEER Advanced XE); or the most comprehensive engineering design optimization package (Pro/ENGINEER Enterprise XE) that gives you more analysis horsepower and protects your valuable design IP, you'll find exactly what you need in one of the packages in the chart on the following page.

Pro/ENGINEER Packages

		Pro/ENGINEER Foundation XE	Pro/ENGINEER Advanced SE	Pro/ENGINEER Advanced XE	Pro/ENGINEER Enterprise SE	Pro/ENGINEER Enterprise XE
3D Detail Design/ Part Modeling	Solid, sheetmetal, weld, framework and digital human modeling	●	●	●	●	●
	Support for 3D drawings and annotations per new ASME Y14.41 standard	●	●	●	●	●
	Design validation with PTC's ModelCHECK™	●	●	●	●	●
	3D cabling and piping design			○	●	●
Surfacing	Advanced parametric surfacing	●	●	●	●	●
	Global modeling and warp surface modification	●	●	●	●	●
	Interactive surface design for creating complex surfaces, G2 continuity			○	●	●
Assembly Modeling	Embed form, fit and function knowledge with AssemblySense™	●	●	●	●	●
	Flexible models; single BOM entry for multiple geometry states	●	●	●	●	●
	Simplified representations and Shrinkwrap™ which protects intellectual property and reduces file size	●	●	●	●	●
	Advanced assembly with top-down design, process planning, design for manufacturability, and 2D associative process sheets			○	●	●
Interoperability and Data Exchange	Incorporation of Web Services for native Web connectivity	●	●	●	●	●
	Imported data repair	●	●	●	●	●
	Multi-platform support including Windows/Solaris/HP-UX	●	●	●	●	●
	Support for all major standards such as STEP/IGES/DXF/STL/VRML, AutoCAD DWG, DXF (import of 3D with associated 2D), ACIS import/export, Parasolid import/export*	●	●	●	●	●
Rendering and Simulation	Real-time photorendering	●	●	●	●	●
	Design animation with movies, motion envelopes, and interference checking	●	●	●	●	●
	Mechanism kinematics design with click-and-drag animation	●	●	●	●	●
	Mechanism dynamics simulation of force, velocity, acceleration, torque			○	●	●
	Advanced behavioral modeling for product design and optimization			○	●	●
	Structural and thermal simulation	◐	◐	◐	◐	●
	Engineering calculations (Mathcad)					●
	Tolerance Analysis (Pro/ENGINEER Tolerance Analysis Extension powered by CETOL Technology)					●
NC and Tooling	2.5-axis milling	●	●	●	●	●
Collaboration and Project Management	A secure project workspace for collaboration with global team members				●	●
	Project management and execution that controls action items, milestones and deliverables				●	●
Digital Product Data Management and Process Control	Pro/ENGINEER CAD data management		●	●	●	●
	Broad enterprise product data management **		●	●	●	●
	Automated change management process**		●	●	●	●
	Configuration management **		●	●	●	●
	Digital Rights Management (Pro/ENGINEER Rights Management Extension)					●

* Support for import and export of CATIA® V4, CATIA V5 and UG®, including PTC's patented Associative Topology Bus™ can be purchased separately.

** Available only with Windchill PDMLink. Data management support for other MCAD/ECAD data can be purchased separately.

● Included in package.
○ Package option.
◐ Lite structural analysis capabilities included.

For more detailed information about the Pro/ENGINEER packages, please visit www.PTC.com/go/proengineerpackages

PTC®