

# Pro/ENGINEER® Flex3C Package

WHAT YOU NEED TO DELIVER WINNING PRODUCTS

The Pro/ENGINEER Flex3C Package is the industry's most comprehensive product development solution, designed to solve the complex needs of today's globally dispersed development teams.

Pro/ENGINEER Flex3C provides your team with the power to: Create, using the industry's top-rated Pro/ENGINEER 3D CAD tools; Collaborate, using Web-based project management and live design conferencing tools; and Control, with complete product data management tools.

Collectively, this unmatched solution set gives your team a single, integral, affordable Product Development System, 100% backed by PTC.

## Create—with Pro/ENGINEER 3D CAD

Create high fidelity, geometrically complete digital product models using the advanced 3D CAD/CAE capabilities of Pro/ENGINEER. Build any size assembly, in a team environment, using simple top-down design techniques. Optimize your product by performing hundreds of design iterations—unattainable using manual methods. Impress your customers by creating stylish, aesthetically pleasing designs that feature complex shapes—all designed with ease.

## Collaborate—with Windchill® ProjectLink™

Collaborate with your product development stakeholders across the entire value chain using PTC's Windchill ProjectLink. Share ideas online with internal and external cross-functional teams as you optimize designs—in real-time. Efficiently manage and execute product development projects that involve large, globally dispersed virtual teams. Share common information like assigned tasks, schedules, and budgets, while precisely tracking key milestones and delivery status.

## Control—with Windchill® PDMLink™ or Pro/INTRALINK®

Control all your product information and critical product development processes using your choice of either Windchill PDMLink for workgroup data management and enterprise product data management, or Pro/INTRALINK, for both single and multi-site Pro/ENGINEER workgroup data management.



Automatically optimize cable routing through even the most complex designs, and never worry about manually rerouting the cabling as your design iterates.

## Key Benefits

The Pro/ENGINEER Flex3C Package simplifies today's complex product development environment, with intuitive, easy-to-use tools that work together seamlessly to get the job done.

- Enable teams to work concurrently on the same product designs
- Promote greater levels of design re-use while improving quality standards
- Enjoy an automated, standard engineering change process that:
  - collects related changes
  - enables easy and accurate analysis on all impacted parts
  - and provides rollout and notification of changes to product teams

## The Pro/ENGINEER Advantage: 100% Associativity Across Modules

Pro/ENGINEER's associativity ensures that all changes automatically update in analysis, in surfaces, and all downstream deliverables. With the ability to perform so many varied design tasks from within a single, fully integrated application, you now have the ultimate solution for product design.

## Pro/ENGINEER Flex3C Package

### FEATURES & BENEFITS

#### Create

##### Pro/ENGINEER Advanced Assembly

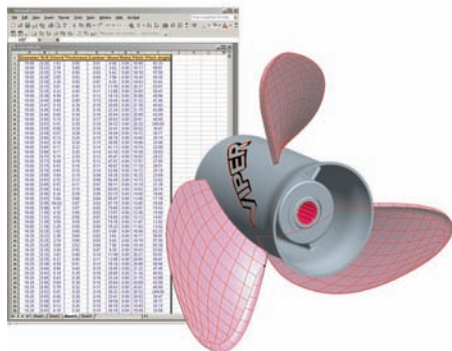
- Share and manage assembly design data more efficiently using pre-defined skeleton model interfaces
- Define and automate the enforcement of design rules, so that only appropriate relationships are created within the context of the design, making design modifications and reuse easy
- Develop unique sequence steps to provide models, views, and separate BOM listings for each step of the assembly process
- Protect your coveted intellectual property using our patented Shrinkwrap™ technology

##### Pro/ENGINEER Interactive Surface Design

- Use 2D concept sketches as a “rough” visual reference in the creation of a 3D model. Start conceptually by developing geometry either from scratch, from a sketch, scan sets or other reference data, then gradually develop the concept into a production model
- Work with a unique, four-quadrant modeling window that supports the direct creation, manipulation, and control of curves, surfaces, and connections
- Build, then modify complex surfaces by simply dragging curve control points, while maintaining G2 continuity

##### Pro/ENGINEER Mechanism Dynamics

- Obtain accurate data of dynamic spring, cam, damping, or impact analysis by incorporating the actual inertial masses of components and the forces acting on and between them
- Animate mechanisms in action and see how dynamic forces, acceleration, and velocity affect the digital product model using color-coded vector arrows
- Perform various types of analyses including: static/steady state, to find final resting place; dynamic, to compute force vs. time; and force balance, to find the force required to maintain a desired mechanism configuration



Optimize your design by evaluating countless design iterations using spreadsheets to drive your design.



Pro/ENGINEER gives you the power to add shadows and reflections to your photorealistic images, so you can make your product designs come to life.

##### Pro/ENGINEER Cabling Design

- Logically reference diagram schematic data
- Automatically select preferred terminators, plugs, and wire strip length
- Calculate mass properties, and automatically generate customizable BOMs, wire lists, and flattened harnesses

##### Pro/ENGINEER Piping Design

- Read fluid diagrams electronically, then use the information to interactively create 3D pipelines
- Evaluate pipelines for manufacturability and interference
- Instantly create isometric drawings of pipelines and spools

##### Pro/ENGINEER Behavioral Modeling

- Assess model sensitivity to understand the effects of change on design objectives
- Automatically generate a set of feasible solutions for multi-objective design problems
- Integrate your results with Pro/ENGINEER simulation software or other external applications

##### Data Interoperability

- Kernel support for ACIS™ Parasolid™ and Granite®
- Associative Topology Bus™ cross-interoperability for Pro/ENGINEER
- Direct translators for CADDs and AutoCAD® DWG
- Industry-standard translators: AutoCAD® DXF, IGES, STEP, SET, VDA, ECAD, CGM, COSMOS/M, PATRAN®, and SUPERTAB™ geometry files, SLA, JPEG, TIFF, RENDER, VRML

##### Imported Data Repair

- Dramatically reduce the time and effort required to clean up imported or legacy design data
- Collapse imported geometry, for better surface management, using the constraint manager

# Create. Collaborate. Control.

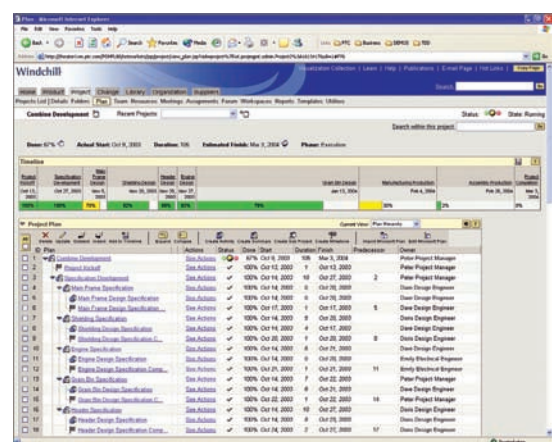
## Collaborate

### Windchill ProjectLink

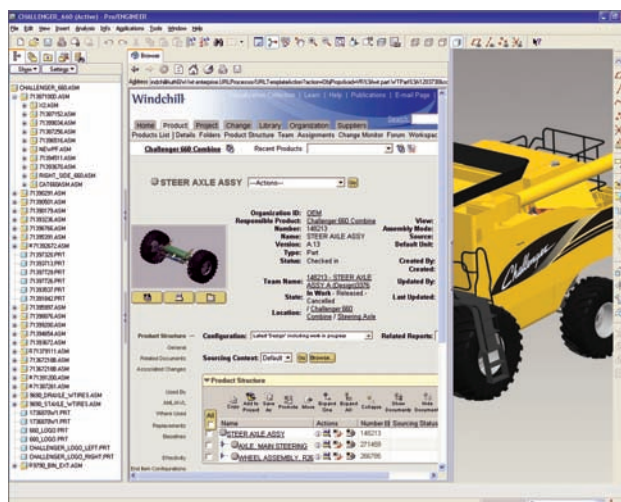
- Secure, Web-based, online project workspaces where globally dispersed team members, customers, and suppliers can work together on projects
- Online project management that tracks project milestones, deliverables, schedules, and resources
- A central repository for all project-related information
- Embedded visualization, with viewing and markup of multiple CAD formats and PDFs
- Template-driven process automation of key business processes such as NPI and Six Sigma
- Designed to work with familiar, everyday tools such as multiple CAD packages, Microsoft Office and Microsoft Project

### Peer-to-Peer Design Conferencing

- Design collaboration with real-time, synchronized Pro/ENGINEER design conferencing between any number of product development team members, including non-Pro/ENGINEER users
- Flexible, fast, and secure, with 192-bit encryption for sharing data and design sessions over the Internet



Windchill ProjectLink showing project schedule



Part selection with Windchill PDMLink embedded in Pro/ENGINEER

## Control

### Windchill PDMLink

- Creates a single, secure, Web-based source of product data for the entire enterprise, with vaulting, revisioning, structure management, search, and lifecycle management
- Embedded visualization to view and markup multiple CAD formats and PDFs
- Robust data management for Pro/ENGINEER, as well as multiple mechanical and electrical CAD tools, software source code, and documents
- Out-of-the-box change management support for both full-track and fast-track changes
- Configuration management that provides all required views of product information
- Robust integration with ERP and other business systems, with optional Windchill Enterprise Systems Integration (ESI) module

### Pro/INTRALINK

- Provides rich, mature, and reliable Pro/ENGINEER data management on a modern Windchill architecture
- Supports concurrent engineering
- Provides vaulting tools (check-in, check-out, baselines) and reporting tools
- Offers continued support for multi-site deployments with Pro/INTRALINK replication tools
- As a subset of Windchill PDMLink, provides a growth path to more comprehensive data management and process control capabilities

### Platform Support and System Requirements

For more information and system requirements, visit:

<http://www.ptc.com/partners/hardware/current/support.htm>

Pro/ENGINEER Packages

Foundation Advantage Package	Flex Advantage Package	Flex3C Package
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**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 Advantage), or more advanced capabilities such as simulation and analysis tools (Pro/ENGINEER FlexAdvantage), or a comprehensive Product Development System (Pro/ENGINEER Flex3C) that seamlessly connects your extended supply chain, you'll find exactly what you need in one of the packages in this chart.

**Pro/ENGINEER Foundation Advantage Package**  
The Essential 3D CAD Value Package

The essential tools that today's engineers need to create winning products

**Pro/ENGINEER FlexAdvantage Package**  
Powerful 3D CAD, Plus a Choice of Performance Option

For engineers who need the world's best design tools, plus powerful assembly creation and management capabilities

**Pro/ENGINEER Flex3C Package**  
What You Need to Deliver Winning Products

What manufacturers need to Create great products, Collaborate across the value chain, and Control projects, processes, and data

For more information about the Pro/ENGINEER Flex3C Package, please visit [www.PTC.com/go/flex3c](http://www.PTC.com/go/flex3c)

	Foundation Advantage Package	Flex Advantage Package	Flex3C Package
<b>3D Detail Design/Part Modeling</b>			
Model quality assurance with PTC's ModelCHECK	●	●	●
Solid, sheetmetal, and weld modeling	●	●	●
Support for 3D drawings and annotations per new ASME Y14.41 standard	●	●	●
3D cabling design			●
3D piping design			●
<b>Surfacing</b>			
Advanced parametric surfacing	●	●	●
Global modeling and warp surface modification	●	●	●
Interactive surface design for creating complex surfaces, G2 continuity		⊙	●
<b>Assembly Modeling</b>			
Embed form, fit, and function knowledge with AssemblySense™	●	●	●
Flexible models: single BOM entry for multiple geometry states	●	●	●
Simplified representations and Shrinkwrap™ to protect intellectual property and reduce file size	●	●	●
Advanced assembly with top-down design, process planning, design for manufacturability, 2D associative process sheets		●	●
<b>Interoperability and Data Exchange</b>			
Incorporation of Web services for native Web connectivity	●	●	●
Imported data repair	●	●	●
Multi-platform support including Windows/Linux/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*	●	●	●
<b>Simulation</b>			
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		⊙	●
Structural and thermal simulation		⊙	
Behavioral modeling for advanced product design and optimization			●
<b>Collaboration and Project Management</b>			
Peer-to-peer design conferencing for sharing 3D CAD designs in real time			●
Secure project workspace for collaboration with global team members			●
Project management and execution: control action items, milestones, deliverables			●
<b>Digital Product Data Management and Process Control</b>			
Enterprise product data management**			●
CAD workgroup product data management**			●
Automated change management process***			●
Configuration management***			●

\* Support for import and export of CATIA V4, CATIA V5 and UG, including PTC's patented Associative Topology Bus; compatibility and support for I-DEAS import can be purchased separately.  
 \*\* Pro/ENGINEER Flex3C package comes with a choice of Windchill PDMLink or Pro/INTRALINK  
 \*\*\* Available only with Windchill PDMLink

● Available in Package  
 ⊙ Performance Option:  
 Choose 1 of the 3 Options



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