PTC® the product development company®

Creo™ Parametric

CREO PARAMETRIC IS THE ESSENTIAL 3D PARAMETRIC CAD SOLUTION BECAUSE IT GIVES YOU EXACTLY WHAT YOU NEED: THE MOST ROBUST, SCALABLE 3D PRODUCT DESIGN TOOLSET WITH MORE POWER, FLEXIBILITY AND SPEED TO HELP YOU ACCELERATE YOUR ENTIRE PRODUCT DEVELOPMENT PROCESS.
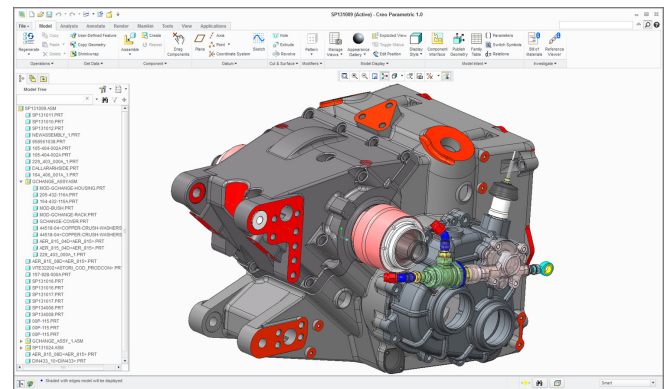
Where breakthrough products begin

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, yet lacked depth and process breadth. Or, they could choose broader solutions that fell short on usability. With Creo Parametric, companies get both a simple and powerful solution, to create great products without compromise.

Creo Parametric helps you quickly deliver the highest quality, most accurate digital models. With its seamless Web connectivity, Creo Parametric provides product teams with access to the resources, information and capabilities they need – from conceptual design and analysis to tooling development and machining. In addition with Creo Parametric, high-fidelity digital models have full associativity, so that product changes made anywhere can 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.

Key Benefits

- Quickly create the highest quality and most innovative products

- Accelerate concept design with FreeStyle design features

- Increase productivity with more efficient and flexible 3D detailed design capabilities

- Increase model quality, promote native and multi-CAD part reuse, and reduce model errors

- Handle complex surfacing requirements with ease

- Instantly connect to information and resources on the Internet – for a highly efficient product development process

The intuitive user interface streamlines design tasks.

Creo Parametric is the superior choice for speed-to-value

Through its flexible workflow and sleek user interface, Creo Parametric drives personal engineering productivity like no other 3D CAD software. The industry - leading user experience 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, Creo Parametric is based on familiar Windows® UI standards - providing immediate user accessibility and extending those standards to the unique challenges of 3D product design.

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

Deep and broad capabilities allow engineers to design to customer needs, not to the limitations of software. Creo Parametric creates seamless digital product information throughout all engineering processes, with associative CAD, CAM and CAE applications spanning conceptual design to NC toolpath generation. In addition, Creo Parametric excels in multi-CAD environments and guarantees upward compatibility of data from earlier Pro/ENGINEER™ releases.

Fast, secure collaboration means more productivity and less risk. Creo Parametric offers instant connectivity to valuable resources via an embedded Web browser. As part of PTC's integral Product Development System (PDS), Creo Parametric provides a seamless user experience with Windchill®.

Never Compromise

Based on the proven technology of Pro/ENGINEER – chosen by over 600,000 designers and engineers at nearly 19,000 companies worldwide – Creo Parametric offers the newest, most innovative 3D CAD capabilities for your detailed design process. There's simply no better value, quality or capability – anywhere. As a design professional, you can't risk having CAD tools that compromise your product, process or productivity. With Creo Parametric, you never compromise because you have the exact tools you need to get the entire job done – accurately and quickly.

Creo Parametric Capabilities
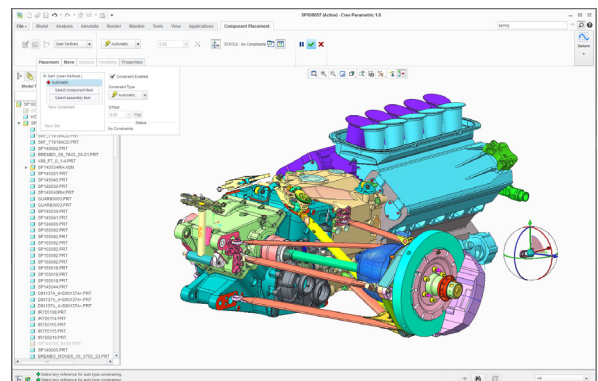
3D Solid Modeling

- Create precise geometry, regardless of model complexity

- Automatically dimension sketches for fast, easy reuse

- Quickly build robust engineering features such as rounds, chamfers, holes and more

- Create part variants using family tables

Robust Assembly Modeling

- Enjoy smarter, faster assembly modeling performance

- Create simplified representations 'on-the-fly'

- Share lightweight, yet fully accurate model representations using the unique Shrinkwrap™ tool

- Leverage real-time collision detection

- Use AssemblySense™ to embed fit, form and function knowledge to create assemblies quickly and accurately

Detailed Documentation Including 2D and 3D Drawings

- Create 2D and 3D drawings according to international standards, including ASME, ISO and JIS

- Create an associative bill-of-material (BOM) and associated balloon notes automatically

- Automate the creation of drawings with templates

Build assembly models of any size faster using best-in-class component placement capabilities in Creo Parametric.
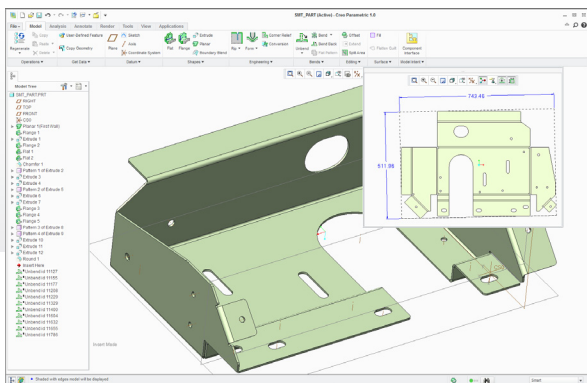
Technical Surfacing

- Create complex freeform shapes faster with FreeStyle features

- Develop complex surface geometry using sweeps, blends, extends, offsets, and a variety of other specialized features

- Trim/extend surfaces using tools such as extrude, revolve, blend, and sweep

- Perform surface operations such as copy, merge, extend, and transform

- Define complex surface geometry explicitly

Revolutionary Warp Technology

- Make global deformations of selected geometry in 3D

- Dynamically scale, stretch, bend and twist models

- Apply Warp to geometry imported from other CAD tools

Sheetmetal Modeling

- Create walls, bends, punches, notches, forms, and reliefs using the streamlined user interface

- Automatically generate flat patterns from 3D geometry

- Use a variety of bend allowance calculations to create flat patterns of the designs
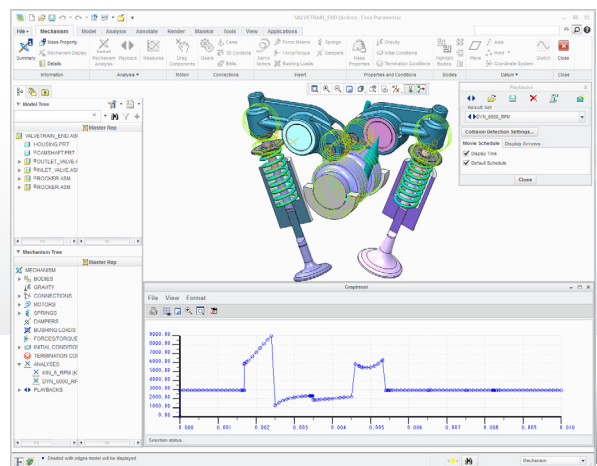
Digital Human Modeling

- Insert and manipulate a digital human inside your CAD model with Manikin Lite capabilities

- Gain valuable insight about interactions between your product and people who manufacture, use and service the product earlier in the design cycle

Weld Modeling and Documentation

- Define joining requirements

- Extract valuable information from the model, such as mass properties, clearances, interferences, and cost data

- Easily produce complete 2D weld documentation

Analysis Features

- Perform basic static structural analysis on parts and assemblies with CAE Lite capabilities

- Validate the kinematic motion of your design

- Interoperability with PTC Mathcad® engineering calculation software, lets you integrate Mathcad worksheets with your design to predict behavior and drive critical parameters and dimensions (Mathcad optionally available)

- Add Microsoft® Excel® files to your design

Flat pattern previews in sheetmetal design in Creo Parametric update dynamically so you can see your design edits in real-time.

Mechanism Design lets you create mechanical connections and simulate motion on kinetic assemblies.

Real-Time Photo Rendering

- Create accurate, photorealistic images of products quickly, while rendering even the largest assemblies

- Make dynamic geometry changes while maintaining photorealistic effects such as shadows, reflections, textures, and transparency

Integrated Design Animation

- Create assembly/disassembly animations directly from the modeling environment

- Reuse models easily, with the option to include mechanism simulation

Integrated NC Capabilities

- Create 2 1/2-axis milling programs in less time with integrated CAM Lite capabilities

- Machine prismatic parts with 5-axis positioning

- Control drawing entities with 2D drawing import wizards

Data Exchange

- Work with a number of standard file formats including STEP, IGES, DXF, STL, VRML, AutoCAD DWG, DXF (import of 3D with associated 2D), ACIS import/export, Parasolid import/export*

- Create parametric, full-feature 3D designs from 2D drawings using the AutobuildZ conversion wizard
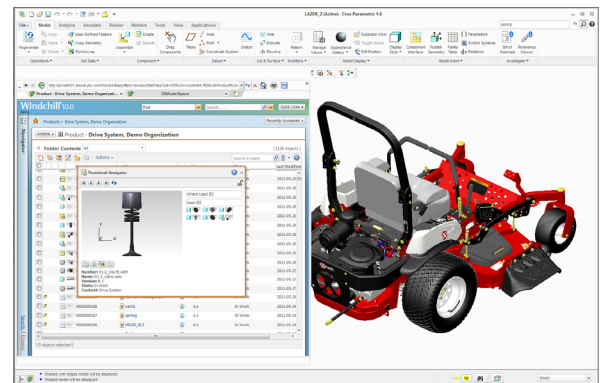
* Support for import and export of CATIA® V4, CATIA V5 and NX®, including PTC's patented Associative Topology Bus,™ can be purchased separately.

Web Capabilities Provide Instant Access

- Internet/Intranet support, for fast access to email, FTP and the Web – all from within Creo Parametric

- Seamless access to Windchill for content and process management

Complete Library of Parts, Features, Tools and More

- Download predefined parts and symbols using J-Link Programmatic Interface

- Customize the Creo Parametric user interface to serve your specific needs

- Get up to speed faster with integrated tutorials, Help resources and access to additional PTC University training content

Leverage Web connectivity for information–gathering, part catalogs, and optional Product Data Management (PDM) and collaboration solution access.

Easy to Expand, Impossible to Outgrow

The unlimited scalability of Creo Parametric means you can easily add new users, new modules, and new capabilities as your business and your needs continue to grow, and you'll never have to worry about importing incompatible data or learning a new user interface. Add-on extensions to Creo Parametric seamlessly provide extended capabilities including the following products:

3D CAD – Advanced Design Solutions

Creo provides a number of advanced, specialized capabilities to meet the broad range of designers' needs. From structural frameworks to digital human models, Creo extensions help you capture more of your design in 3D.

- Creo Flexible Modeling Extension
- Creo Advanced Assembly Extension
- Creo ECAD-MCAD Collaboration Extension
- Creo Expert Framework Extension
- Creo Manikin Extension
- Creo Piping and Cabling Extension

3D CAID Extensions

Creo delivers the capabilities you need to create the precise shapes, surfaces and aesthetics of your design. Unleash your creativity and show your designs "in the best light" with Creo CAID products.

- Creo Interactive Surface Design Extension
- Creo Advanced Rendering Extension
- Creo Reverse Engineering Extension

3D CAE Extensions

Verifying the performance of your designs early in the process can help you get to the end–result faster. That's why Creo provides design engineers with a broad range of integrated simulation and analysis capabilities to help them design with confidence.

- Creo Simulation Extension
- Creo Advanced Simulation Extension
- Creo Behavioral Modeling Extension
- Creo Fatigue Advisor
- Creo Mechanism Dynamics Extension
- Creo Plastic Advisor
- Creo Spark Analysis Extension
- Creo Manikin Analysis Extension
- Creo Tolerance Analysis Extension

3D NC and Tooling Extensions

Streamlining tooling design and manufacture can accelerate your time to market. Creo NC and Tooling solutions provide a broad range of mold, tool and die design and machining capabilities so you can leverage your 3D CAD data – thereby saving time and reducing errors.

- Creo Progressive Die Extension
- Creo Expert Moldbase Extension
- Creo NC Sheetmetal Extension
- Creo Prismatic and Multi-Surface Milling Extension
- Creo Production Machining Extension
- Creo Complete Machining Extension
- Creo Complete Mold Design Extension
- Creo Computer-Aided Verification Extension
- Creo Tool Design Extension

Multi-CAD Data Exchange and Other Products

Creo Parametric provides native data exchange with numerous 2D and 3D file formats. The following add-on extensions also provide associative interoperability and other capabilities, such as digital right management for protecting your IP, distributed processing, interoperability with 3rd–party applications and more.

- Creo Rights Management Extension

- Creo Distributed Batch Extension

- Creo Interface for CADDS 5

- Creo Interface for CATIA V4

- Creo Interface for CATIA V5

- Creo Interface for JT

- Creo Interface for NX

- Creo Legacy Data Migration Extension

- Creo Toolkit

- GRANITE Interoperability Kernel

Platform Support and System Requirements

For more information and system requirements, visit:
PTC.com/partners/hardware/current/support.htm

To Learn More

Visit: PTC.com or contact your local sales representative.