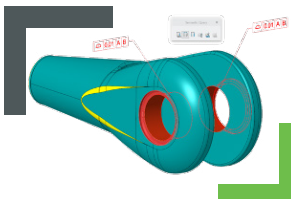# TOP ENHANCEMENTS CREO 10

DELIVER YOUR BEST DESIGNS IN LESS TIME

Our best Creo. Ever. You'll find a wide variety of improvements to help make every day more productive. These include new tools for managing, manipulating, and understanding CAD models, as well as new capabilities to design composite products and enhancements in electrification, ergonomics design, model-based definition (MBD), simulation and both additive and subtractive manufacturing.
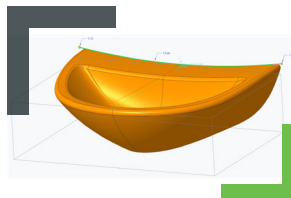
REQUEST A DEMO >>

PRODUCTIVITY & USABILITY

Every year, PTC and Creo make it easier and faster to do your job. Creo 10 is no exception with updates to areas such as multibody design, surfacing and model tree management.
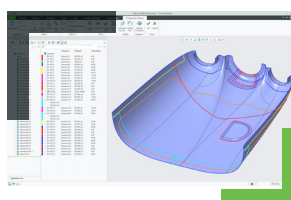
- Creo 10 includes improvement to multibody design workflows including a new split/trim feature and the ability to propagate appearances and references during Boolean operations.

- The Stretch tool in Warp has been enhanced to allow users to select a defined reference to stretch their model. Users can now select datum planes, points, axis, coordinate systems, surfaces, curves or facets as references to stretch the model in the specified axis direction. Freestyle and Style surfacing tools have also been enhanced with rotational symmetry and smooth normal connection, respectively.

- The model tree has been improved to remove confusion between restructuring and reordering an assembly.

- The extensive patterning capability of Creo have also been expanded to enable users to drive the pattern member count for nested patterns.

DESIGN FOR COMPOSITES

Expand your realm of possibilities. Leverage composite materials to ensure the strongest and lightest results possible.

- Introducing a new dedicated composite design and manufacturing environment within Creo. Providing a broad set of functionalities to define individual ply layup, ply sections, transitions, ply order and even create resulting solid geometry and Inner Mold Line (IML) quilt.

- Broad support for simulating and validating the draping and flattening of the individual ply as well as simulation of the final composite design.
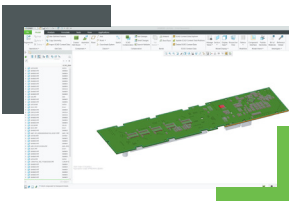
- Rich capabilities to apply splicing or darting operations to relieve stresses in the fabric.

- Automatically create complete and detailed plybook documentation of the final layup sequence.

DESIGN FOR ELECTRIFICATION

Electrification is becoming a key initiative for many industries. Creo has improved design tools for cables and harness design to help you create and manage wiring harnesses.

- The Split/Merge Harness Tool for Cabling can split an existing harness into two separate harnesses which can be later merged back together. This enables easy sub system reuse, as well as fostering greater collaboration by enabling multiple users to work on the same overall harness design.

- To improve the management of cables and wires in the model tree, a new application-centric tree has been added with three different views (cables, bundles and connectivity views).

- New ECAD capabilities have been added, including paste masks and hole parameters, to better design and control PCB design.

DESIGN FOR ERGONOMICS

Customers must be able to use your products safely and efficiently. Discover enhancements to Creo that allow you to account for the range of movement, the field of vision and uniqueness of users.
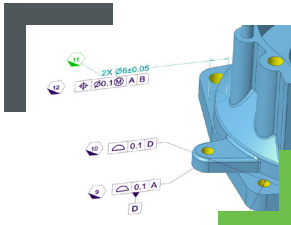
- The Visual Field features can now perform a reflection analysis by selecting an object. The resulting surface cone represents the visual field reflecting off the selected object. Additionally, the reflective object orientation can be controlled by adding a rotation value around one or two axes.
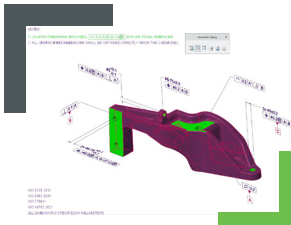
- Manikins now support multiple reach envelopes. There is a reach envelope for the index finger, middle finger, the thumb and the center of the palm. The Manikin libraries have been updated and are now stored as inseparable assemblies for easier management.

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MODEL-BASED DEFINITION & DIGITAL THREAD

Creo 10 gives you powerful model-based definition tools to provide greater clarity with less effort.
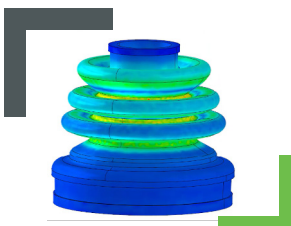
- The latest MBD enhancements allow the user to relate a symbol or a surface finish to other annotations in the 3D model, inheriting its annotation plane from the parent during the placement. With this tool, any movement of the related parent annotation would also be applied to the related symbol, and they would behave as a group also when being assigned to other combination states. In addition, the user can learn about the relation nature between any related annotations, by choosing either one of them and observing the cross highlighting of the other one.
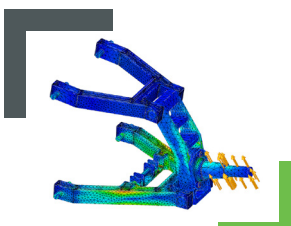
- GD&T Advisor has now been enhanced for improved semantic behavior of general profile tolerances, enhanced compliance with detailing standards and other usability improvements. Model surfaces that are not otherwise constrained by GD&T annotations are automatically associated as the semantic references of the general profile tolerance. Any further changes to the GD&T annotations in the model will automatically update the corresponding semantic references of the general profile tolerance. In addition, straightness & profile of a line geometrical characteristics are now supported for ISO GPS models.

SIMULATION & OPTIMIZATION

Improve your products with enhanced simulation-driven design tools. Introducing Creo Ansys Simulation Advanced, the latest addition to the Creo simulation offerings, which gives you options you might have never considered.
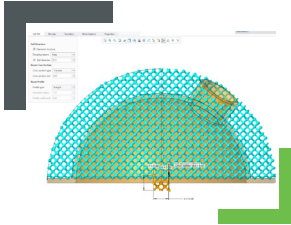
- Support for non-linear materials including Neo-Hookean hyperplasticity, linear orthotropic elasticity, and bi-linear plasticity.

- Support for combined thermal and structural analysis.

- Support for non-linear contact including new contact types such as frictional and rough is included.

- Creo Simulation Live now includes expanded contact simulation options and improved result options for fluids and structures.

- Creo Flow Analysis and Creo Simulate have also been enhanced with better animation and multibody support, respectively.

- With Creo 10, generative design continues to evolve with the addition of rotational symmetry and the ability to add point mass and remote loads.
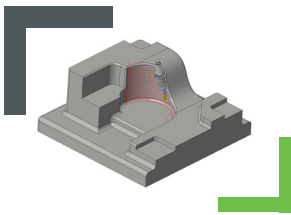
MANUFACTURING

Creo 10 brings improvements for both additive and subtractive manufacturing, making it easy for you to deliver high-quality manufacturable products.

Additive Manufacturing

- The latest functionalities allow users to create several new beam-based lattice types such as rhombic, rhombic with diamond structure, dodecahedron, and elongated dodecahedron. Also, get support for Auxetic cells which produce geometry that exhibit negative Poisson ratio.

- For formula-driven lattices, Creo 10 supports simulation-based variable wall thickness and highly efficient l-graph-wrapped (IWP) lattice cell.

Subtractive Manufacturing

- High-Speed Milling now supports barrel tools for both wall and floor 5-axis finish, to reduce toolpath time and increase surface finish quality.

- Additional control for CUTCOM and clearance has been added to Area turning.

Creo 10 offers a wealth of improvements to help you and your team improve productivity, quality, and innovation. From productivity tools that you will use every day, to simulation-driven design tools and innovative composite design tools, Creo provides the capabilities you need to help you deliver your best designs in less time.

Creo is a 3D CAD solution that helps you accelerate product innovation so you can build better products faster. Easy-to-learn Creo seamlessly takes you from the earliest phases of product design to manufacturing and beyond. You can combine powerful, proven functionality with new technologies such as generative design, augmented reality, real-time simulation, additive manufacturing and the IIoT, to iterate faster, reduce costs and improve product quality. The world of product development moves quickly, and only Creo delivers the transformative tools you need to build competitive advantage and gain market share.

Please visit the PTC support page for the most up-to-date platform support and system requirements.