

# PTC Creo® Flexible Modeling Extension

Fast, Flexible 3D Direct Editing

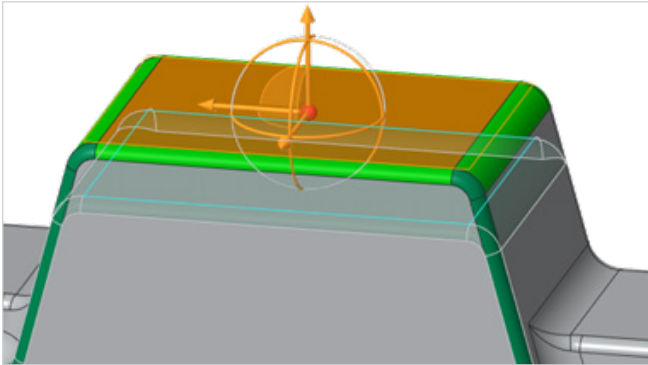
The PTC Creo Flexible Modeling Extension (FMX) is an industry-defining add-on product to PTC Creo Parametric™. For design engineers who need all the power of a parametric 3D CAD solution along with the utmost flexibility to make changes to any model, PTC Creo FMX provides the ideal solution: An easy-to-use, fast and powerful set of geometry editing tools that enables them to make the changes they want – without losing any design intent.

Engineering teams need to respond to many challenges when developing products, especially in a dynamic, competitive environment. Design engineers must respond quickly to project or bid proposals, rapidly generate design concepts, or make late-stage changes to the product based on customer or supplier input. To save time, you can leverage existing 3D CAD models and modify them. If you don't know how the model was built or if the model lacks design intent, the process can be time-consuming and frustrating – one that will likely require you to rebuild the model from scratch.

PTC Creo FMX gives design engineers the ability to edit 3D CAD data using the ease and speed of a direct modeling approach, while providing the power to retain the original design intent. You can collaborate better with other engineers and work more easily with multi-CAD data and legacy data with non-existent or outdated design intent. Whether you are at the initial stages of conceptualizing a design, or trying to simplify your product geometry for CAE analyses, PTC Creo FMX gives you the right tool to complete the task efficiently and effectively so you can accelerate your concept design and detailed design processes.

## Key benefits

- Intuitive, direct interaction with geometry helps you get up to speed quickly and easily edit 3D designs from any 3D CAD model
- Original design intent is preserved and your edits are captured as features that can be further modified in the future
- Easily accommodate late-stage changes to your engineering design faster and with less frustration with this flexible modeling approach
- Work more efficiently in a multi-CAD environment by easily incorporating and editing data from other CAD systems. You can also add parametric design intent to imported data
- Faster, more flexible 3D editing increases the efficiency and productivity of detailed design and downstream product development process



PTC Creo FMX helps you quickly edit geometry to your desired position by pushing and pulling the 3D Dragger.

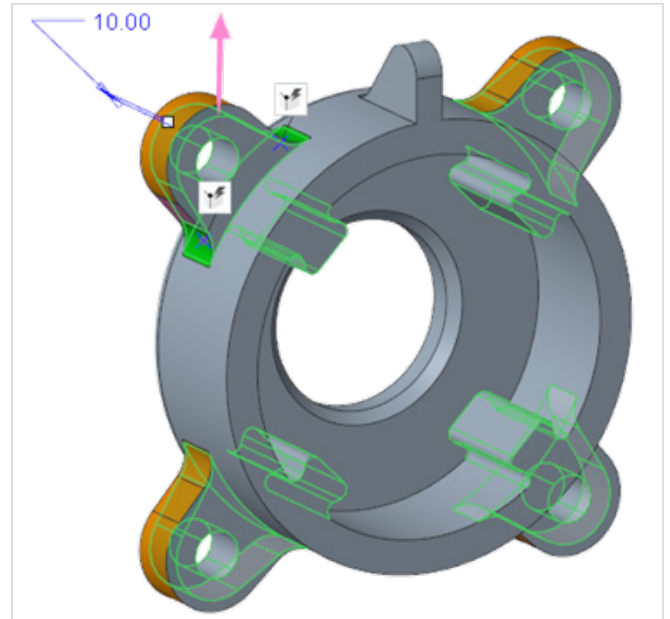
PTC Creo FMX supports a broad range of use cases across the product development process. A few examples of tasks that are impacted and improved include:

- Enable rapid concept design and faster bid proposals. You can edit and iterate existing 3D design concepts faster with the flexible capabilities in PTC Creo FMX
- Modify 3D geometry faster and with more flexibility, accelerating your detailed design process
- Work faster with imported data. With PTC Creo FMX you can edit geometry on imported data so you can work faster and more efficiently in a multi-CAD environment
- Accommodate late design changes. PTC Creo FMX gives you more flexibility when editing your 3D CAD models so you can execute changes faster and easier
- Streamline CAE and CAM workflows. PTC Creo FMX can help engineers simplify or edit geometries to prepare the 3D CAD models for design optimization studies, downstream simulation, or NC and tooling design tasks

## Capabilities and specifications

### Fast, intelligent geometry selection

- Smart filters for fast, intelligent, and automated selection
- Selection filters for geometry, features datums, and more



Recognize patterns of geometry in imported parts and propagate geometric changes to the pattern members with PTC Creo FMX.

- Shape-based selection capabilities
- Combine multiple selection criteria to quickly handpick desired geometry for editing
- Geometry rule-based selection gives you more control over complex parts
- Advanced selection techniques to exclude surfaces from the selection set

### 3D CAD model editing

- Move geometry faster and easier
  - The 3D Dragger tool allows you to “push-pull” your geometry to the desired position
  - Constrain selected geometry to be positioned relative to any desired reference by the desired offset dimension
  - Work with an assembly-style workflow
  - Constrain your selected geometry to any position in the model
  - Assembly constraints are remembered and solved at regeneration time

- Geometric editing tools
  - Move
  - Offset
  - Substitute
  - Mirror
  - Pattern
  - Edit Round
  - Modify analytic shapes like cylinders, spheres, tori, and cones
  - Attach
- Remove

#### Precise control

- Automated control over how attachment, round, chamfer, and solution topology is executed

#### Geometry recognition

- Supports pattern recognition and editing
  - Change the number of instances
  - Change the spacing of the pattern
- Supports symmetry recognition and editing

#### Propagation

- Move, offset, edit round, edit chamfer, and modify analytic changes can be propagated by symmetry or pattern
- Propagate geometric changes made with Move, Offset, Modify Analytic, and Substitute to neighboring tangent surfaces to maintain tangency
- Simultaneously change multiple surfaces
- Automatically replicate edits on a pattern

#### Seamless interoperability with PTC Creo Parametric

- Provides access to extended 3D parametric design capabilities
- PTC Creo FMX is integrated into the PTC Creo Parametric user interface. Quickly access commands using the dedicated UI tab and other productivity enhancing short cuts

#### Supports interoperability from PTC Creo Parametric

- Import data from neutral file formats – STEP, IGES, etc.
- Import other CAD systems, including SolidWorks® and Autodesk® Inventor®

#### Language support

English, French, German, Italian, Russian, Spanish, Korean, Japanese, Simplified and Traditional Chinese

#### Platform support and system requirements

Please visit the PTC [support page](#) for the most up-to-date platform support and system requirements.

For more information, visit: [PTC.com/product/creo/flexible-modeling-extension/](http://PTC.com/product/creo/flexible-modeling-extension/)

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