

PTC® Creo® Advanced Rendering Extension

Create Photo-realistic Images Before Building a Prototype

A picture is worth a thousand words. That's why companies invest significant time and money into building a physical prototype that can be photographed for use in marketing materials or consumer testing.

PTC Creo Advanced Rendering Extension (ARX) allows you to produce photorealistic 3D product images for use in design reviews, marketing collateral, technical documentation, user manuals, and product packaging – without having to build a prototype. As your design concept changes and evolves, you can easily update your images without creating a new prototype, thus reducing costs significantly.

With PTC Creo ARX, you can render images faster and with amazing realism. Simply select a specific material and apply photo-quality properties like a smooth, glossy finish or a rough, matte finish. You can represent the product's intended environment more realistically with PTC Creo ARX than with any other application.

You now have the flexibility to create the perfect effect with the power to directly manipulate the lighting through 360° of rotation. You can also create a suitable environment for the product to be rendered in (e.g., an outdoor scene or an office desktop). Additionally, you can apply special effects like textures, reflections, shadows, and depth of field to enhance the final image. These advanced capabilities not only create images that impress consumers, but they also give you back time to optimize your design and more budget to produce collateral that will generate both sales revenue and excitement around your product.



This image of a toaster in a kitchen environment demonstrates the power of PTC Creo ARX, which brings products to life with realistic room settings, reflections, and advanced lighting.

Faster design reviews, more impressive documentation

With photorealistic images of the product in its actual environment, design reviews are much faster and generate more enthusiasm. 3D-rendered images can also be used for consumer testing and for tailoring the product and product launch to ensure success – at a significantly lower cost. High-quality images can also be used in technical publications such as product documentation, white papers, and user manuals.

PTC Creo ARX will enable your product to break into the marketplace not only with accurate promotional material, but with stunning visuals showcasing all aspects of the product.

Key benefits

- Improve communication via better product presentation and collateral for design, marketing, training, and customer-facing materials
- Increase time for creativity while decreasing time waiting for rendering
- Achieve the highest degree of photorealism for designs
- Reduce product costs and increase efficiencies in detecting design issues, so changes can be made before costly prototypes are built

Features and specifications

Advanced lighting capabilities

- Simulate a wide range of lighting such as spotlight, skylight, and distant light
- Enhance lighting with High Dynamic Range Image (HDRI) support
- Vary shadow softness of each light (e.g., by simulating sunlight)
- Enable light attenuation for real-world simulation of light fall off
- Vary the intensity of each light to take into account other lights in the scene
- Increase graphical realism by showing soft shadows of your product on the floor and reflections



In this image, designers used PTC Creo ARX to realistically show decals on a cellular phone.



PTC Creo ARX gives you powerful HDRI rendering capabilities that let you show procedural bump cast effects and 3D wood texture.

- Supports caustics, final gathering, and global illumination
- Offers physical correct lighting with color temperature and wattage inputs

Simulate a wide range of materials

- Apply both image maps and procedural maps to a model
- Utilize bump maps to create relief and to represent material texture
- Use decal maps when applying an image on the surface, such as a company logo
- Determine the finish of the material—lacquer, satin, or shiny

- Access a standard library of over 200 predefined material types
- Use dynamic texture placement to precisely map materials and finishes to surfaces

Define the product environment

- Set the floor, wall, and ceiling position and apply the appearance scheme or use an HDRI image to generate the environment, lighting, and/or background
- Snap the floor, walls, or ceiling to the model
- Choose a cylindrical or rectangular room
- Use real-time rendering to view the room
- Reuse predefined settings across multiple models such as lights, rooms, and effects

Special effects

- Global Illumination
- Depth of field
- Region rendering

- Shadow control
- Color temperature
- Tone mapping

Language support

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

Platform support and system requirements

Visit the [PTC support page](#) for platform support and system requirements.

For more information, visit: [PTC.com/products/creo](https://www.ptc.com/products/creo)

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