

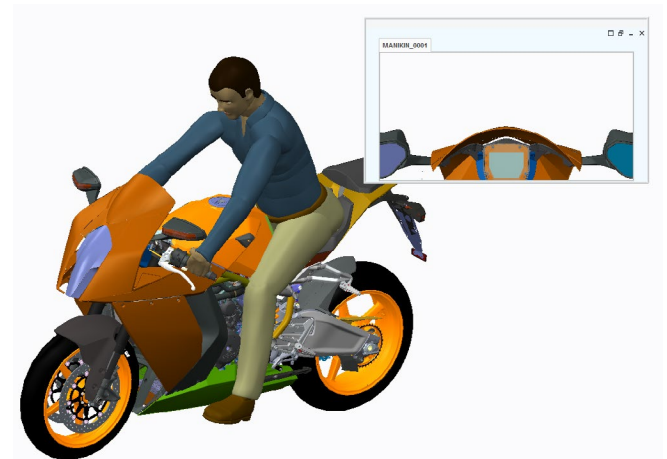
# Creo® Human Factors Extension

CONNECT PRODUCTS TO PEOPLE – WITH DIGITAL HUMAN MODELING

Adopting a “human-centric” approach to design is an increasing necessity in today’s competitive market. Designers in the Aerospace & Defense, Automotive, Industrial Equipment, and Electronics & High Tech industries need to understand and optimize how their products will be manufactured, used and maintained in order to ensure that products meet customer requirements, are comfortable to use, and possess a competitive advantage. In addition, manufacturers are often required to verify that their products and workplaces conform to health, safety and workplace standards.

Creo Human Factors Extension provides the ideal solution because it enables you to visualize, simulate, optimize and communicate these human-product interactions earlier in the design process, helping you save time and reduce product development costs.

Digital human modeling supports a human-centric approach to design by allowing a designer to add a 3D digital human model to their 3D CAD product model. A digital human model – also called a manikin – is an advanced 3D mechanism that provides an accurate representation of human physical characteristics such as size, shape, vision, movement, strength and comfort. The manikin can be customized for a specific gender and ethnic demographic and fully manipulated in real time, thereby helping the designer better understand the relationship between a product and the people interacting with the product, such as a consumer, operator, installer, assembler or maintainer.



Creo Human Factors Extension lets you quickly insert manikins into your 3D CAD model to visualize and optimize human-product interactions.

Traditional human modeling tools, originally designed for human factors specialists, can be difficult to use and expensive. Creo Human Factors Extension makes powerful digital human modeling capabilities more accessible to non-specialists, so all designers can understand human-product interactions earlier in the design process and optimize their designs in less time.

Easy to use and affordable, Creo Human Factors Extension is an ISO Standards-based digital human modeling solution. By understanding and simulating human-product interactions earlier in the product development process, you can dramatically improve both your detailed design and verification and validation processes.

### Key benefits

- Reduce time, budget and obsolescence associated with physical prototypes
- Ensure conformance with safety, health, ergonomics and workplace standards and guidelines
- Optimize products for your identified target audience within the overall global market
- Communicate and share complex human-product interaction issues using a strong, clearly communicable, visual simulation solution

### Capabilities & specifications

#### Quickly insert and customize digital human models

- Using the dedicated manikin toolbar, you can quickly insert a manikin into Creo and customize it based on gender, nationality, size and other associated variables
- Anthropometry support for a wide range of global populations helps you assess and maximize your product's potential in the global marketplace
- Digital Human Model structure conforms to the H-ANIM standard: ISO/IEC 19774
- Manikin libraries are included to help you capture and reuse manikin data

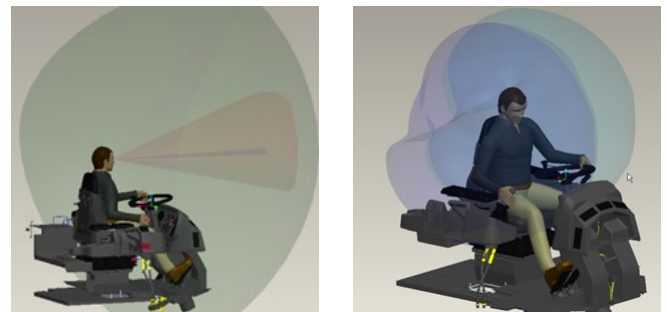
- Quickly access a comprehensive set of libraries containing standard postures (standing, sitting, kneeling, etc.) and hand positions (fist, pointing, pinching and more)
- Create and share your own customized manikin models, accessories and postures

#### Easily manipulate manikins

- Including Clash, Collision, Distance, Clearance, Mass and more

#### Visualize reach and vision

- Generating vision windows enables you to "see" what the manikin can see
  - Rendered
  - Dynamically updating
- Vision cones help designers identify what is inside the various human fields of view:
  - Peripheral (global vision)



Creo Human Factors Extension quickly indicates fields of vision and reach.

- Binocular (the visual field that can be seen by both eyes)
- Optimal (operational zones)
- Accurate (reading zone)
- Reach envelopes help identify the area inside the manikin's reach zones
  - Available for each arm and variable trunk positions

- Visualize line of sight, including the impact of head movement and eye movement
- The Reach function allows you to instruct the manikin to perform a reach and therefore validate design considerations such as comfort, clearance and accommodation

### Language support

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

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

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