

Tecnomatix Jack

A premier human simulation tool for populating your designs with virtual people and performing human factors and ergonomic analysis

Benefits

- Assess the human element at all stages of your product lifecycle
- Uncover human issues early in the design process
- Optimize your designs for friction free human interaction
- Leverage a comprehensive suite of analysis tools for all of your physical ergonomic analysis needs
- Effectively communicate issues and visualize potential solutions

Features

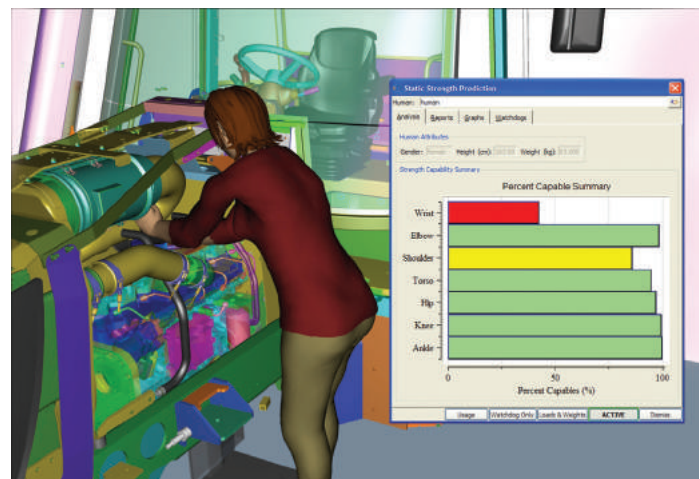
- Human figures that are anthropometrically and biomechanically accurate
- Broad set of anthropometric databases to model your user populations
- State-of-the-art task simulation engine to generate simulations using high-level commands
- Industry-leading human manipulation and figure control to create simulations faster and more accurately

Summary

Jack is a human modeling and simulation tool that helps you improve the ergonomics of your product designs and refine industrial tasks. Jack, and its optional toolkits, provides human-centered design tools for performing ergonomic analysis of virtual products and virtual work environments. Jack enables you to size your human models to match worker populations, as well as

test your designs for multiple factors, including injury risk, user comfort, reachability, line of sight, energy expenditure, fatigue limits and other important human parameters. Using Jack facilitates significant cost and time savings by helping you design workplaces that accommodate people well, improving assembly quality and user interaction.

Jack enables you to seamlessly integrate human factors and ergonomics into the planning, design and validation stages of your product lifecycle. Organizations that use Jack gain a significant competitive advantage thanks to classic ergonomics and human factors assessment techniques coupled with the latest visualization and simulation technologies.



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Features *continued*

- Most comprehensive set of human performance simulation tools available on the market today
- Extensive support for motion tracking and virtual reality systems

Human performance capabilities

- Anthropometric databases from regions around the world
- Force-influenced posture prediction
- Vision and reach envelopes
- Hand clearance and interference study capabilities
- Ergonomic analysis tools, including fatigue, low back injury risk analysis, material handling limits, energy expenditure, NIOSH, OWAS, RULA, strength prediction, time standards and ForceSolver
- Occupant packaging tools, such as comfort assessment, posture prediction, SAE packaging guidelines, and multiple vision zones including reflection, coverage and obscuration

The Jack solution provides the latest human simulation capabilities including:

- Task Simulation Builder, which enables you to use high-level commands to instruct the human model in your 3D, virtual product and work environment. This capability facilitates quick animation and scenario development. Once a particular task sequence has been defined for the human model, you can easily test what-if scenarios by swapping in human figures of different sizes, by moving objects in the environment or by changing the weight of an object. Human postures and motions are automatically recomputed to reflect the updated scene. The Task Simulation Builder also provides ergonomic reports and time estimates based on standard time tables.
- Human posturing techniques, which help you to quickly and accurately posture the human models with minimal input. Jack boasts some of the most sophisticated methods for figure manipulation and posture prediction available on the market today, including the ability to predict posture based on hand force exertions.



- Smooth skin human modeling, which uses deformable mesh technology to represent visually and anthropometrically accurate body shapes.
- Advanced hand modeling, which provides a premier solution for representing hand anthropometry and other hand modeling features.
- Customization capabilities, which include an easy-to-access scripting/programming interface to create analysis and interface add-ons that you can use to extend and custom-fit Jack to your business needs.

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