



RAMSIS in 3DEXPERIENCE

DIGITAL ERGONOMIC SIMULATION

Convenient, simple and safe operation that will make your products unique. With RAMSIS in 3DEXPERIENCE, you can secure these advantages early in development.

Earlier product maturity with RAMSIS

Right from the first design draft, digital ergonomics analysis helps to avoid late iterations in product development and saves up to 50% of time and costs. RAMSIS covers the entire range of digital ergonomic simulation functions for you. These include:

- Securing the **accessibility** of control elements
- Testing direct and indirect **vision** – also via mirrors and cameras
- Determining the **space and room requirements** for drivers, passengers or employees
- Measuring the maximum **effort** for performing activities

Effectively integrating ergonomics into the development process

Thanks to integration in 3DEXPERIENCE, RAMSIS can be quickly and effectively integrated into your development process, allowing you to work with the current CAD model of your product design and test vehicle ergonomics in your familiar environment.

How RAMSIS works: 3D Manikin & Ergonomics Simulation

To digitally evaluate comfort and safety, the interaction between human and vehicle or manikin and CAD model must meet the highest standards. Human modeling and

ergonomic analysis in RAMSIS are therefore scientifically validated and proven in industrial practice:

3D Manikins: RAMSIS is based on the world's most comprehensive anthropometric database, so 3D manikins can be customized for all your target groups, e.g. according to size and body dimensions, gender, population or age-specific characteristics.

Posture models and movements: Thanks to modern, scientifically proven posture and movement studies, the RAMSIS manikin behaves completely realistically when sitting, standing or performing tasks.

We transfer our encyclopedic knowledge of ergonomics and the body into powerful **software functionalities** for ergonomic simulation and analysis.

Leading functionality for innovative industries

RAMSIS is used in various industries, including the automotive, bus & truck, industrial vehicles and aircraft sectors. We meet the requirements of these industries with our unique software packages.

For the **automotive and bus & truck** industries, RAMSIS analyzes both the entry and exit designs, as well as the space-saving and standard-compliant design of interior concepts.

The **industrial vehicle development** sector uses RAMSIS to check safety, comfort and compliance with standards, reducing workplace accidents and maximizing productivity.

In **aircraft design**, space, comfort and activities in the cabin are prioritized together with the optimal use of space in the cockpit.

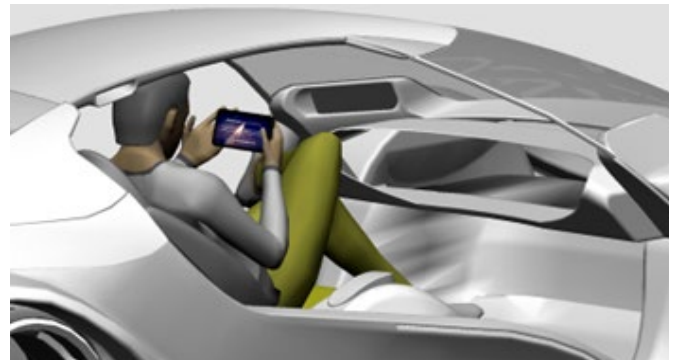


Enhanced ergonomics concepts – standards, demographics and innovation

Modules extend the RAMSIS software functionalities for specific tasks and special ergonomic concepts such as seat design and autonomous driving.

- The **Cognitive Module** extends the ergonomic analysis of vision to include perception. With this module, ergonomics specialists can supplement the visual analysis with acuity, gaze change times and reflections, plus other factors that affect the exchange of information.
- The **Virtual Aging** module brings in the demographic factor. It enables RAMSIS manikins to perform tasks according to age-specific performance factors such as strength and vision.
- **Compliance** with vision standards and regulations can be tested in ergonomic simulations for various industries, such as the automotive, bus & truck and IV (industrial vehicles) sectors.
- **Seat design** requires ergonomic analysis for comfort, including the best possible seat adjustment range.
- Comfort and safety are also combined in the **design of seat belts**: RAMSIS simulates belt travel for passengers and dummies, ensuring compliance with the SAE standard.
- RAMSIS can “wear” **equipment** such as helmets, shoes and backpacks, which are included in the posture and analysis calculation – this is important for analyzing confined indoor spaces or intensive interactions as found in defense or motorcycle usage scenarios.

- When autonomous driving allows drive-free phases, drivers change their postures and movements. These **non-driving-related activities** are an important part of our research.



Driving our ergonomics – consulting and research & development

Through its participation in research projects, Humanetics Digital Europe GmbH contributes to the further development of vehicle interiors.

Among other projects, we are currently evaluating non-driving postures for autonomous driving and posture models for the take-back of driving activity in all sectors.

If you wish to benefit from our knowledge, we offer you a unique combination of expertise, data, methods and tools to make your products successful and strengthen your processes.

Use RAMSIS in 3DEXPERIENCE to optimize your development processes and enhance the maturity of your products.

Get in touch with us to learn more about how your company can benefit from RAMSIS.