

## RAMSIS AIRCRAFT

Is the world's leading ergonomic CAD tool for ensuring

- » more ease of use and safety in cockpit and cabin
- » testing and optimization of installation, maintenance and repair work performance

### ■ Advantage: Human simulation in digital aircraft

Aircraft are very often sold while still at the digital model stage. Since aircraft design is defined down to the last detail, manufacturers can now set new benchmarks for increased comfort and safety with RAMSIS AIRCRAFT - in spite of strict regulations and guidelines. RAMSIS' digital ergonomic design will show your customers how a human being can move in the actual future aircraft – without the need for a mock-up.

Leading aircraft manufacturers like Airbus and Embraer use RAMSIS for company-specific projects, e.g. for VR simulations for assembly work or for comfort analyses for jet pilots.

### ■ New concepts with the leader in ergonomics competence

RAMSIS is a highly functional CAD manikin for the ergonomic design of aircraft in the strategy and conception phase. With the digital model, you can check both the operability of various aircraft elements and the viability of maintenance and repair work performance. Comfort and safety in cockpit and cabin are thus ensured, well before the final model freeze takes place.

RAMSIS also enhances ergonomics competence during the product development process. Results can be determined reliably, objectively and fast. You don't need to have detailed knowledge of ergonomics to operate RAMSIS - and results can be easily reproduced too. Every employee can access the data and evaluate it for his own area of operations – generating effective cooperation within your workforce.

### What distinguishes RAMSIS ...

- Most comprehensive global anthropometry database
- simulation of posture and behavior in cockpit and cabin based on cutting-edge research
- Highly accurate and realistic appearance
- Easy and seamless integration in your CAD processes
- flexibility and adaptability: used for individual ergonomics projects with leading companies like Airbus, EADS, Embraer and Eurocopter.

### ■ Your introduction to the RAMSIS world

Human Solutions enables a fast and productive take-off for you with RAMSIS, thanks to selected and proven services -

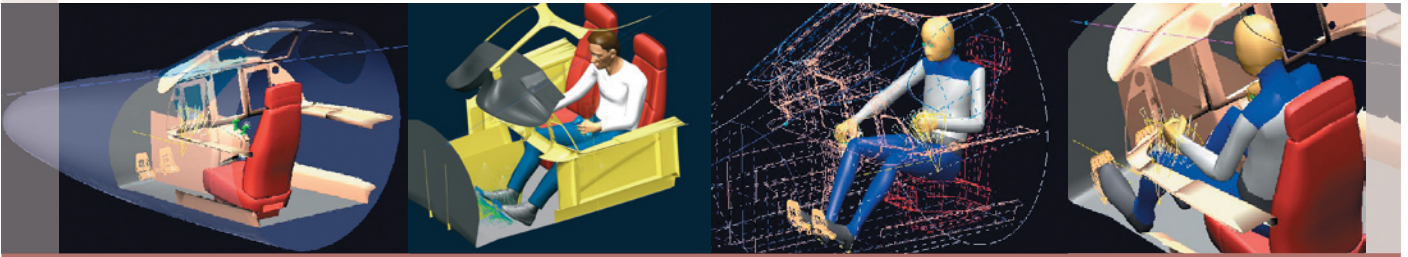
- » **Human Solutions Individual:** definition and testing of company-specific areas of application for RAMSIS
- » **Human Solutions Consulting:** ergonomics competence for individual or special projects
- » **Human Solutions Training:** targeted integration of RAMSIS with the product development process

### ■ Preferred ergonomics software

RAMSIS is distinguished by a unique combination of a sound scientific foundation and common-sense ergonomics and design functionality. For this reason, RAMSIS has long been and still is the preferred ergonomics software of the automotive and aerospace industry worldwide.

### With RAMSIS you can:

- » **Simulate your (international) customer population** in terms of body size, gender, age and geography. RAMSIS' accurate representation of the human body and comprehensive, global anthropometry databases come from credible and well-documented sources. They are based on renowned research projects and anthropometry surveys in Europe, North- and South America, as well as China, Japan and Korea.
- » **Exactly simulate posture and ergonomics in the cockpit** - thanks to ultra-modern posture studies, the virtual test persons behave completely realistically in sitting and in standing positions.
- » **Answer all questions** involving product quality with regard to comfort, safety and operability - RAMSIS' wide range of functions enables et al. the determination of space and room requirements in the cockpit, optimal direct and mirror vision, reachability analyses and the determination of posture-contingent maximum forces.



## RAMSIS: The world's leading ergonomics simulation software

With RAMSIS you can solve all ergonomics-related design problems

### Automatic posture calculation and determination of space and room requirements

*Typical questions: How comfortable are the various seating positions?  
Can cabin staff access all overhead luggage bins?*

#### Functionality in RAMSIS:

- » analysis of body dimensions
- » analysis of body weight distribution
- » automatic calculation of realistic postures of pilots, co-pilots and mechanics during the performance of individual tasks.
- » comfortable control of the virtual test person (manikin): tasks are interactively defined solely by means of the fixation and orientation of body parts.
- » tasks can be transferred to other manikins quickly and easily.
- » the posture of entire ranges of test samples is calculated automatically.

### Vision analysis: direct vision and mirror view

*Typical question: Are the most important controls and instruments mounted within the immediate field of vision of the pilot?*

#### Functionality in RAMSIS:

- » eye movements are included in automatic posture calculation.
- » eye position, including head and neck movements are automatically calculated.
- » the size and quality of the field of vision can be ergonomically evaluated - and visual distance is also taken into account.
- » vision through planar and spherical mirrors is simulated.

### Reachability analysis

*Typical questions: Are all controls and pedals easy to access?  
Can the mechanic reach necessary parts during maintenance?*

#### Functionality in RAMSIS:

- » reach surfaces can be calculated for freely definable body parts and body part chains. This applies to hand and arm, for example, to test the reachability of control levers, or to the fingers while operating smaller, clustered elements.

### Simulation of posture-contingent maximum force

*Typical question: Can the mechanic - depending on the posture necessary - apply enough force to perform all relevant actions during maintenance?*

#### Functionality in RAMSIS:

- » automatic calculation of the maximum, posture-contingent operating force.

### Availability

RAMSIS AIRCRAFT is available as:

- » an integrated module in CATIA V5
- » a stand-alone package for HP, IBM, SUN, Windows

### Import-/Export

- » Built-in IGES/VDA-translator
- » Interface with Motion Capture Systems
- » Export of motion sequences to AVI

Please find more information on [www.human-solutions.de](http://www.human-solutions.de) or contact us for a personal meeting at +49 (631) 303-5600.