PRESS RELEASE

Research project tackles the question of how we will be seated in the automated vehicles of the future

Kaiserslautern, August 9, 2018 – **What will drivers actually do while their vehicles are being driven autonomously? And how will changes in the driver's activities affect the vehicle interior, safety and comfort? To answer questions like these, the functions and capabilities of existing digital manikins must be expanded. Human Solutions GmbH, Simi Reality Motion Systems GmbH and the Department of Ergonomics at the Technical University of Munich will be conducting a joint research project on these and other related questions over the next three years.**

On July 1, 2018, the INSAA research project (vehicle occupant simulation in automated automobiles) was launched with the aim of further developing the RAMSIS digital human model to meet the requirements of automated driving for the driver. "In the vehicle industry, the classic driver's seat is currently being optimized for the ergonomic execution of the driving task, primarily with the aid of digital manikins," says Project Coordinator Dr. Hans-Joachim Wirsching of Human Solutions. This will also change the interior of the vehicle – and these changes must take ergonomic issues into account."

RAMSIS, the digital manikin by Human Solutions, has been used for the ergonomic design of vehicle interiors for the past 30

years – and it has so far been geared towards the primary driving task in conventional vehicle concepts, with the focus on comfort issues and on safety aspects like belt routing and visual field analyses. “We intend to expand the capabilities of RAMSIS through the INSAA project. In future, the postures and movements of RAMSIS will also include activities outside the vehicle, such working with a tablet,” explains Philipp Russ, CEO of Simi Reality Motions Systems. “To achieve this, we’ll be carrying out tests during which real occupant behavior is recorded with several cameras, and thereby measured in a contact-free manner. The results will then be transferred to RAMSIS.”

Exactly how the interior of automobiles will look in the future is still uncertain: “Various concepts are conceivable today. The degree of automation of a vehicle specifies the degree to which the occupants are involved in driving, and consequently the activities that can be carried out during the journey. In our research project, we will be focusing on enabling the use of the digital manikin to ergonomically test and validate these concepts,” says Professor Klaus Bengler of the Technical University of Munich.

This means, for example, that RAMSIS will ensure that all instruments which are relevant for the occupants are clearly visible and accessible in the future. Safety aspects such as belt routing will also be re-addressed to take the changes in the vehicle interior into account.

PROJECT PARTNERS

Human Solutions GmbH, Kaiserslautern

Overall coordinator, development partner; specification of industrial and technical requirements for tool development, development of simulation methods, integration of occupant behavior data, implementation into the 3D environment, validation and optimization of simulation methodology and the application of the demonstrator.

Simi Reality Motion Systems GmbH, Unterschleissheim, Germany

Development partner; planning, creation and implementation of marker-less and hybrid motion capture methods for the creation of simulations and for use as a real-time occupant information system in autonomously-driven vehicles.

Technical University of Munich – Chair of Ergonomics, Garching

Research partners; specification of application scenarios, research into activities not related to driving and determination of selected postures to be studied; construction of a test station; research into occupant behavior; test person study; support in the development of simulation methodology, validation of simulation methodology.

PATRON

SME-innovative: ICT

The “INSAA” project is an example of the promotion of innovative small and medium-sized enterprises (SMEs). The “SME innovative” initiative by the German Federal Ministry of Education and Research has set up a “fast track” for SMEs, which can now submit their project ideas in the field of information and communication technologies at any time – and receive preferential support through simplified funding and accelerated approval procedures. The aim is to mitigate innovation risks for SMEs and to support these SMEs with top performance in the high-tech sector.

About the Human Solutions Group

Successful products are customer-oriented and market-driven, so the route to final production must be constantly streamlined, making it faster and more cost-efficient. In development-intensive industries like fashion and mobility, product and sizing & fitting information is the key to success – and the cutting-edge technologies of the Human Solutions Group will put you on the path to perfect production.

- **Human Solutions GmbH:** Body dimension data & ergonomics simulation directly in CAD for ergonomic vehicle design or fit optimization in the apparel industry.
- **Assyst GmbH:** Integrated CAD and PLM solutions for efficient collection development in fashion.
- **AVM Solutions GmbH:** ERP and integrated management systems for shorter lead times in fashion.

The Human Solutions Group has more than 200 employees and partners in 50 countries. Its products are sold all over the world.

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