



RUMBA research project: MAN develops interior concepts for automated trucks

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- **MAN Truck & Bus is the only truck manufacturer in the prestigious RUMBA project consortium**
- **Alternative utilisation options for truck cabs of automated vehicles and integration into the logistics process**
- **Findings will be incorporated into the development of future automation systems at MAN**

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New technologies require new approaches - this also applies to automated cars and trucks and their driver's seats. This is why MAN Truck & Bus and eleven partners from research and industry have been working on the RUMBA project for over three years, focussing on the still new interaction between people and automated vehicles. As part of the project, MAN has focussed on the future requirements for automated commercial vehicles and their infrastructure from the perspective of users and experts, as well as on the design of truck cab concepts for automated journeys. The commercial vehicle manufacturer has been involved in the field of automation for many years and once again demonstrated its holistic approach with its involvement in RUMBA.

"We at MAN Truck & Bus have been actively promoting the topic of automation for many years and are also pioneers in the field of user-oriented interior concepts," says Dr Frederik Zohm, Chief Technology & Development Officer at MAN Truck & Bus. "We are therefore delighted to be the only commercial vehicle manufacturer in the RUMBA project to analyse the requirements for future truck cabs during automated journeys and to develop solutions that will also be used in series development."

For more than three years, an interdisciplinary team from business and science researched the challenges of automated driving in the RUMBA project (realisation of a positive user experience by means of user-friendly interior design for automated driving functions) - across the board for cars and trucks. In addition to MAN Truck & Bus, the research partners included Audi, CanControls, the Würzburg Institute of Transport Sciences, OHP, Stuttgart Media University, the Spiegel Institut Mannheim, the University of

MAN Truck & Bus is one of Europe's leading commercial vehicle manufacturers and transport solution providers, with an annual revenue of about 14,8 billion euros (2023). The company's product portfolio includes vans, trucks, buses/coaches and diesel and gas engines along with services related to passenger and cargo transport. MAN Truck & Bus is a company of TRATON GROUP and employs approx. 33,000 people worldwide.

Stuttgart, Robert Bosch Automotive Steering, studiokurbos and CARIAD. The consortium leader for the entire project was Robert Bosch GmbH.

With the automation of vehicles, the interaction between people and vehicles needs to be redesigned. RUMBA therefore wanted to analyse user needs and implement them in new interior concepts, among other things. The focus was also on driving safety, user experience and the design of driving behaviour. In this way, automated driving should become a positive experience for everyone in the future - that is RUMBA's declared goal.

The project began by analysing the needs of people behind the wheel: how do they want to use the time freed up in automated vehicles, how is the logistics process developing in the commercial environment - and how is the image of the professional driver changing? Based on these findings, RUMBA focussed on adapting the design of the vehicle interior with ergonomic aspects in mind. For example, the respondents wanted a reclined seating position for relaxed phases, plenty of free space for working and sufficiently large display surfaces. New control elements are designed to enable these new freedoms.

Finally, the project partners have also dedicated themselves to the development of user status recognition: Is the driver ready to take over the driving function? How comfortable is his or her situation? And is there a risk of motion sickness while the system is controlling the journey? How can this be countered?

“At RUMBA, we focused primarily on the design of truck cab concepts for automated journeys,” summarises Dr Anna Sprung, who led the project on the MAN side. “Among other things, the project brought us the realisation that the use of driverless automated trucks (SAE Level 4+) leads to changes in the entire logistics process. Both truck cabs that are optimised for short manual journeys (in-hub) and concepts for passenger transport (Hub2Hub) can be considered for this. These findings will be incorporated into the development of future automation systems at MAN.”

Further information on the RUMBA project is available online: projekt-rumba.de