



German Autolabs

Study: Artificial intelligence ensures less distraction from smartphones in city traffic

Test drives in Munich rush hour traffic conclude: Driving errors including inappropriate speed, lane errors, lack of distance and incorrect indicating are reduced when the voice assistant simply remains silent at critical moments.

Berlin, September 9, 2020 - The digitalization of our work makes the smartphone indispensable for many employees. For certain occupational groups such as drivers, this can become a serious problem. The constant flow of smartphone information is distracting and leads to errors even for experienced drivers, as a recent study by the traffic psychology institute "mensch-verkehr-umwelt" (mvu) commissioned by the Berlin-based technology company German Autolabs shows. The use of intelligent voice assistants has significantly reduced the distraction caused by smartphones in complex driving situations.

During a total of 60 test drives lasting several hours in Munich rush hour traffic in June and July 2020, messages were played back from the smartphone in high-complexity intersection situations. Although all test subjects were experienced drivers, a total of 547 driving errors occurred. The most common types of errors: Speed errors (25.2%), lane errors (19.9%), security errors (17%) and signalling (9.1%).

The same drivers used an intelligent voice assistant in the second run, which suppresses messages from the smartphone in complex situations and plays them back with a time delay. The result*: Significantly fewer speeding violations, less unadjusted acceleration, fewer priority and subordination errors, and fewer obstructions or hazards for pedestrians and cyclists. "The effect is highly significant," confirms Prof. Dr. Wolfgang Fastenmeier, director of mensch-verkehr-umwelt (mvu), the Institute for Applied Psychology.

In order to reduce the cognitive load on the driver, German Autolabs relied on artificial intelligence that analyzes the route and enriches a complexity assessment from 126 defined traffic situations, including real-time data such as weather and time of day. The result has a direct influence on the dialogues of the speech assistant, which, like a real passenger, recognizes when it is better to remain silent.

The research project, funded by the Federal Ministry of Transport and Digital Infrastructure (BMVI) as part of the mFUND program, is now to be integrated into German Autolabs' speech assistance platform for professional drivers. This platform ensures that drivers from logistics and transport can work in a networked, safe and efficient manner by means of voice control.

"People who are behind the wheel for work are especially exposed to permanent stress and often have to concentrate on several things at once. Distraction and excessive demands are correspondingly high," says Holger G. Weiss, founder of German Autolabs. "Thanks to the intelligent voice controls that we have developed and now successfully tested, fleets can become safer and more efficient."

* measured in t-test for dependent samples



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About German Autolabs

German Autolabs builds voice assistance products for professional drivers. Founded in 2016, the technology company offers industry-specific solutions for transport and logistics fleets worldwide. It is based on a proprietary voice AI platform, which is offline-capable and tailored to industry-specific requirements. To find out more, visit germanautolabs.com.

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