

Car with IQ: Continental presents a demo car with innovative interaction technologies



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Continental presents intelligent demo car at the Consumer Electronics Show (CES) in Las Vegas

- Biometrics key to innovative interaction between people and their vehicles in demo car
- Vehicle recognizes approaching people and interprets their intentions
- Technological leap through the fusion of AI and sensor technology

Frankfurt, Germany, December 13, 2024. Continental is offering an outlook into the near future of mobility at the Consumer Electronics Show (CES) in Las Vegas, which starts on January 7, 2025.

Technological innovations for interaction between the automobile and drivers are presented in a specially constructed show vehicle – the

Intelligent Vehicle Experience Car

. These solutions could go into series production in the next three to five years. The demonstration at CES 2025, the world's most important technology trade show, focuses on external communication between humans and automobiles, with a focus, among other things, on intuitive, touch-free access to the vehicle using biometrics. This means that the car recognizes users even before they get into the vehicle, interpreting facial and movement characteristics and deriving actions from them, such as opening and starting the vehicle or proactively opening the tailgate in the supermarket parking lot, for example. More importantly, it also identifies persons who are not authorized to use the vehicle and may approach it with criminal intent. In this case, the doors remain locked and a warning is activated.

Continental's demo car is a concrete look at the software-defined

vehicle, the automobile that is shaped and managed by software – and at the same time ushers in the era of biometrics for future vehicle generations.

Biometrics opens up completely new horizons for the mobility of tomorrow,

explains Dr. Claudio Longo, Head of Research and Advanced Engineering at Continental. The interaction between humans and machines in vehicles is crucial for a positive user experience. In the future, vehicles will also interact with their users even before the doors are opened. They will be able to interpret intentions, movements and facial expressions. For Jean-François Tarabbia, Head of Architecture and Network Solutions at Continental, intuitive access is a key component:

The car is on track to become a smart device, similar to a cell phone, which will use biometric technologies to take the user experience to a new level of security and comfort.

Continental is already one of the leaders in smart device based access solutions for series production by major automotive manufacturers. The innovations in the demo car at CES show what will be possible in the very near future.

Biometric technology: personalized interaction between people and their cars

The automobile is rapidly evolving into a software-defined vehicle. More and more functions are software-based. To ensure that the increase in functionalities, new technologies and innovative assistance systems do not make people feel uncomfortable, a harmonious, homogeneous and, above all, intuitive interaction with the automobile is essential for a positive user experience: for the well-being of the occupants, for their sense of comfort and, last but not least, for safety.

HMI – this abbreviation is crucial for the success of mobility concepts, today and tomorrow. Human Machine Interfaces are the key to intuitive interaction between users and the vehicle. The user experience begins when you approach the vehicle and experience support even before you enter it. Exterior HMI with audio and visual feedback is essential to confirm the status of the vehicle and thus

manage the cooperation between the vehicle and the user.

The intelligent vehicle from Continental focuses precisely on this first, crucial contact between people and their cars. To achieve this, it uses the advantages of biometric recognition, as is familiar from the facial recognition used by many smartphone apps, for example. For the success of future intelligent interaction systems, it is crucial that customers are already accustomed to certain user experiences from other contexts and also expect such convenience solutions from a premium product such as a car. However, the intelligent vehicle goes further than previous smartphone generations: it anticipates the intentions of the user, understands the context and personalizes the interaction.

A wide range of functions are possible within the context of the vehicle-user relationship on the basis of biometrics. Among other things, Continental's demo car demonstrates approach detection (the car detects approaching persons), user identification (the car identifies authorized persons by means of facial recognition), intention recognition (the car recognizes the intention of an approaching person, for example by interpreting a hand movement in the vicinity of the door), and intuitive trunk access (the trunk opens automatically when an authorized person looks in the direction of the tailgate for a certain period of time). In the first generation of this innovation, the opening impulse is still triggered by a slight kick in the direction of the rear bumper.

Artificial Intelligence powers the new generation of cars

For these functions, Continental combines artificial intelligence algorithms and vehicle sensors that are already available in the vehicle for various applications. For example, as part of Continental's smart device based access system CoSmA 360-degree cameras enabling parking functionalities can also be used together with proven ultra-wideband radar sensors to detect and identify people.

The demo car to be presented at CES showcases practical and, in some cases, already proven technologies that Continental is continuously developing to meet new user demands and expectations. It also addresses specific challenges, such as the protection of personal data and the optimized management of energy consumption, to avoid draining the batteries. The connection to a secured cloud makes it possible to integrate new intelligent functions into the vehicle

wirelessly "over the air" over the entire life-cycle of a car.

Continental will showcase its latest technologies at a private structure exhibit in Central Plaza across from the Las Vegas Convention Center from Tuesday, January 7 through Friday, January 10. The technology company has numerous solutions that highlight mobility innovations, from the road to the cloud. An invitation-only media event has been scheduled for January 7.

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