

Transparent Tech: Invisible Biometrics Sensing Display Monitors Passengers' Vital Parameters



PUBLISHED NOV 19, 2024
BY [CONTINENTAL AG](#)

Continental and technology partner trinamiX receive CES Innovation Award Honoree for innovative display solution

- Camera installed invisibly behind OLED display ensures high user acceptance and offers comprehensive driver monitoring functionalities
- New safety features: 3D distance mapping of driver and passengers provides optimized airbag deployment and reliable seat belt detection
- Innovative biometric imaging helps monitor passengers' vital parameters such as their heart rate

Babenhausen, Germany, November 20, 2024. Continental will present a display novelty at the Consumer Electronics Show (CES) in Las Vegas (January 7–10, 2025) that recently won a CES Innovation Award Honoree: the Invisible Biometrics Sensing Display tracks the vital parameters of persons inside the vehicle using a camera and a laser projector installed behind the dashboard display to support a wide range of safety and comfort functions. The technology detects the passengers inside the car through a high-resolution OLED screen, meaning it is completely invisible to the naked eye.

The innovative display offers a lot of other advantages: For example, it features 3D distance mapping to optimize the deployment of airbags and other restraint devices and check the correct fastening of seat belts. In addition, the Invisible Biometrics Sensing Display, which was developed together with trinamiX, a leading provider of biometric solutions and BASF subsidiary, enables contactless monitoring of vital parameters such as heart rate to identify stressful situations or an impending medical emergency in the driver's seat. A corresponding safety feature installed in the vehicle can be triggered if needed to

protect the occupants as well as other road users.

Our expertise allows us to seamlessly integrate pioneering technologies into our display solutions and thus enhance the range of functions offered and create added value,

says Pavel Prouza, head of the User Experience (UX) business area at Continental.

CES Award for invisible integration of sensor systems for driver monitoring

In the run-up to the Consumer Electronics Show, the world's preeminent technology trade show held every January in Las Vegas, Continental has received the CES Innovation Award Honoree in the

Vehicle Tech and Advanced Mobility" category for its intelligent display solution. "The award underlines our extensive technical expertise in user experience. By installing the camera and laser dot projector invisibly behind the display, we will unlock completely new creative possibilities for designers of car interiors and boost acceptance among users,

continues Prouza. The Invisible Biometrics Sensing Display captures a number of key data points that are relevant for interpreting driver monitoring systems. It therefore provides an innovative all-in-one solution that is invisible to the naked eye.

Monitoring of vital parameters using biometric imaging

A 1.5 MP near infrared camera and an eye-safe laser dot projector are embedded behind the high-resolution OLED screen to monitor vital parameters. The underlying biometric imaging technology was developed by technology partner trinamiX. The process captures the reflections of the light points emitted by the laser dot projector in the invisible light spectrum to derive results with the help of algorithms based on artificial intelligence. The solution also provides other relevant information, including the distance of the driver to the cockpit or the classification of textile materials, which are needed to identify whether the seat belt has been fastened correctly.

Our biometric imaging technology is ideally suited for use in car interiors. The ability to monitor vital signs and other relevant

passenger data without physical interaction and using just a single hardware module is unique on the market. We are delighted to be able to offer this solution together with Continental,

says Wilfried Hermes, Director Consumer Electronics North America and Europe at trinamiX.

Continental at the CES 2025

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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Press release distributed by Wire Association on behalf of Continental AG, on Nov 19, 2024. For more information subscribe and [follow](#) us.

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