

# The Multimodal Automotive Experience

What is the future of smart automotive technology? Smart Eye & iMotions believe that the next-generation car experience will go beyond skin-deep to empower the vehicle's ability to support the user. Just as doctors use different tools to diagnose different conditions, new car systems will need to accept and interpret more than one type of data to gain a deeper understanding of human experience.

**Multimodality means gathering information about human states and behaviors from various types of sensor technologies such as multispectral cameras, radar and HMI events.**

## How Does Our CES 2024 Demo Work?

Smart Eye's demo at CES 2024 gives visitors an opportunity to see how multimodal data collection unlocks new insight into human behavior in a car.

In the demo, you will get to perform a driving task while information about your physiological and behavioral responses is collection from contact sensors and through remote sensing. The data is then analyzed using the iMotions biometric research platform.

Examples of data gathered:



Eye Tracking



Facial Expression Analysis



EDA / GSR



EEG



ECG

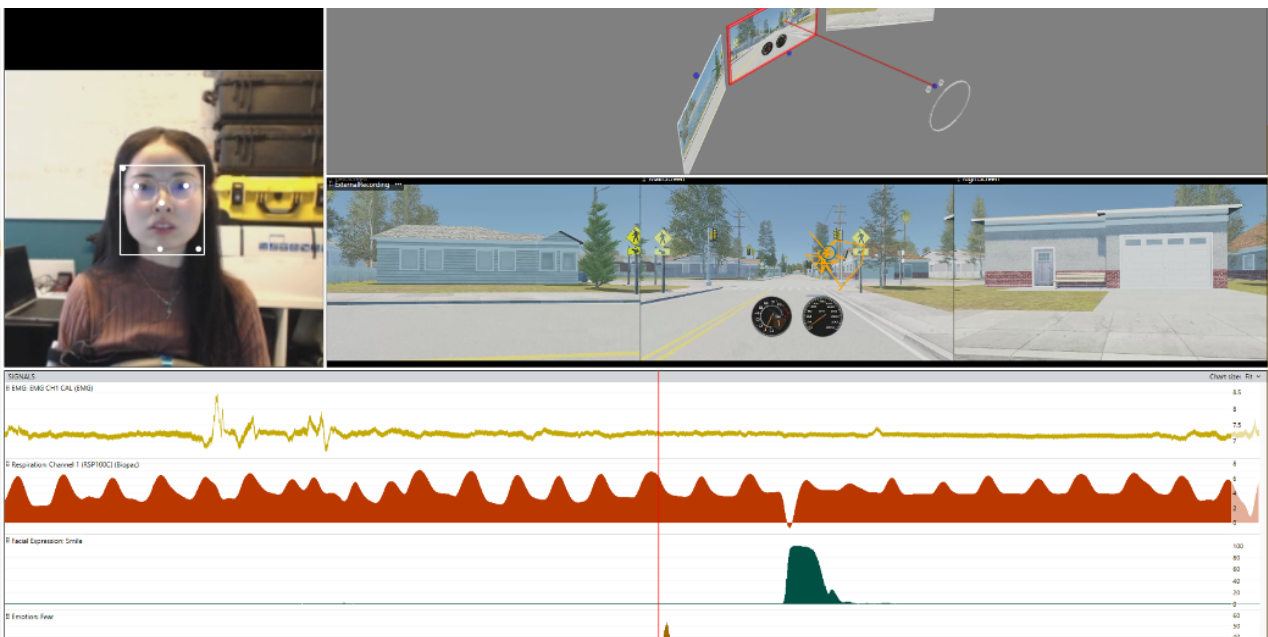


EMG

## Applying Multimodal Data Fusion in Automotive

Using sensors, such as multispectral camera technologies, and the iMotions biometric research platform, tomorrow's cars will be able to remotely detect the vital signs, emotions and behaviors of the people in the cabin. This insight can then be used to adapt the vehicle's features and functions, improving road safety and enhancing the mobility experience for all passengers.

In Automotive Research and Development, the multimodal approach shown in our CES 2024 demo will offer a deeper understanding of human behaviors, reactions and instincts — providing actionable insights in the research and development phase of automotive solutions.



Get in touch with the team,  
and book a demo to learn more:  
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