# FEV unveils CogniSafe, an advanced driver monitoring system to boost road safety



AACHEN, GERMANY – FEV, a prominent player in the mobility sector, has unveiled CogniSafe, a state-of-the-art Driver Monitoring System (DMS) aimed at significantly improving road safety. Announced recently, this advanced system leverages cutting-edge technologies including deep learning and computer vision to monitor drivers' conditions in real-time, even in challenging circumstances.

Dr. Thomas Hülshorst, Group Vice President Intelligent Mobility & Software at FEV, highlighted the features of CogniSafe, stating, “With our latest development, we are actively reducing accidents caused by human error, which account for over 90% of all accidents.” This advancement is particularly crucial for (semi-) autonomous vehicles, as legal safety requirements continue to tighten and drivers must be prepared to intervene when necessary.

CogniSafe employs a sophisticated array of functionalities that seamlessly work together. The system integrates multiple sensors, including a network of cameras that operate in both visible and infrared spectrums. This comprehensive setup allows the system to analyse driver behaviour from various angles. It continuously tracks the driver’s gaze, evaluates eye condition through metrics such as the percentage of eye closure (PERCLOS), and assesses head posture to gather data on alertness, fatigue, and potential drowsiness.

Artificial intelligence plays a vital role in the effectiveness of this new technology. Convolutional Neural Networks (CNN) facilitate precise, real-time analyses that adapt to both the unique characteristics of different drivers and varying environmental conditions, such as changes in lighting. This adaptability is designed to enhance the system's performance and reliability over time.

Dr. Hülshorst also pointed to the potential benefits of CogniSafe for specific business sectors, particularly for fleet operators and insurance companies, both of whom have strong incentives to endorse and support safe driving practices.

For further details about CogniSafe, FEV invites interested parties to visit their website or reach out directly via the provided contact information.

Source: [Noah Wire Services](https://www.noahwire.com)

## Bibliography

1. <https://www.fev.com/en/fev-develops-ai-supported-driver-monitoring-system-cognisafe/> - This link corroborates the announcement of FEV's CogniSafe, a state-of-the-art Driver Monitoring System (DMS) that uses deep learning and computer vision to monitor driver conditions.
2. <https://www.fev.com/en/fev-develops-ai-supported-driver-monitoring-system-cognisafe/> - This link explains the role of Dr. Thomas Hülshorst and the significance of reducing accidents caused by human error, especially in (semi-) autonomous vehicles.
3. <https://www.fev.com/en/fev-develops-ai-supported-driver-monitoring-system-cognisafe/> - This link details the integration of multiple sensors, including cameras in visible and infrared spectrums, to analyze driver behavior from various angles.
4. <https://www.fev.com/en/fev-develops-ai-supported-driver-monitoring-system-cognisafe/> - This link describes how CogniSafe tracks the driver’s gaze, evaluates eye condition using PERCLOS, and assesses head posture for alertness, fatigue, and drowsiness.
5. <https://www.sae.org/publications/technical-papers/content/2024-01-2012/> - This link provides technical details on how CogniSafe uses deep learning and computer vision methods, including Convolutional Neural Networks (CNN), to detect driver distractions and fatigue.
6. <https://www.sae.org/publications/technical-papers/content/2024-01-2012/> - This link outlines the four modules of CogniSafe: driver anomaly detection, gaze estimation, eye state analysis, and head pose estimation.
7. <https://www.fev.com/en/fev-develops-ai-supported-driver-monitoring-system-cognisafe/> - This link highlights the adaptability of CogniSafe to different drivers and environmental conditions, such as changes in lighting, using AI and CNN.
8. <https://www.fev.com/en/fev-develops-ai-supported-driver-monitoring-system-cognisafe/> - This link mentions the potential benefits of CogniSafe for fleet operators and insurance companies due to their interest in safe driving practices.
9. <https://www.sae.org/publications/technical-papers/content/2024-01-2012/> - This link discusses the practicality and technicality of CogniSafe in the development and deployment of autonomous vehicles.
10. <https://www.sae.org/publications/technical-papers/content/2024-01-2012/> - This link evaluates the performance of each module of CogniSafe on benchmark datasets and its role in enhancing road safety.
11. [https://www.researchgate.net/publication/385863009\_FEV's\_'CogniSafe'\_An\_Innovative\_Deep\_Learning-Based\_AI\_Driver\_Monitoring\_System\_for\_the\_Future\_of\_Mobility](https://www.researchgate.net/publication/385863009_FEV%27s_%27CogniSafe%27_An_Innovative_Deep_Learning-Based_AI_Driver_Monitoring_System_for_the_Future_of_Mobility) - This link provides an overview of the innovative deep learning-based AI driver monitoring system, CogniSafe, and its significance in future mobility.
12. <https://www.businessmole.com/cognisafe-fevs-innovative-ai-driver-monitoring-system/> - Please view link - unable to able to access data