



**GSR II:
Ensuring driver safety,
regulatory compliance,
and technology innovation**



GSR II: Ensuring Driver Safety, Regulatory Compliance and Technology Innovation

Mobex Webinar

21.06.2024

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GSR II: Driver Safety, Regulatory Compliance, Technology Innovation

Agenda

Planned Time	Topic	Speaker
05 Min.	CES Company	Yannick Frisoni
05 Min.	EU – General Safety Regulation overview	Yannick Frisoni
15 Min.	EU – GSR – CES main solutions	Yannick Frisoni / Ralph Ivancevic
05 Min.	Worldwide safety regulations highlights	Ralph Ivancevic



**SAFETY
FIRST**

WE ARE...

- › An engineering and technology provider.
- › A one stop shop – from the idea to the product.
- › A gateway to high volume automotive products.
- › More than 2,800 experienced engineers & specialists.
- › Developers of the technology for future mobility.

OUR CORE TOPICS

- › Network & Architecture
- › Electrification & Emission Reduction
- › ADAS & Autonomous Driving
- › Chassis & Brake Technology
- › Human Machine Interface & Connectivity,
- › Digitalization, IT & Data Solutions
- › Software Defined Vehicle
- › New Mobility Ecosystem
- › Acoustic Solutions

General Safety Regulation

Introduction



“Regulation of the European Parliament and of the council on type-approval requirements for motor vehicles”

- › **Mandatory** technical requirements for type-approval in the European Union
- › Applies for Vehicle categories “M” & “N”
 - › Passenger Cars, Light Commercial Vehicles, Buses, Trucks and Trailers
- › Closely follows EuNCAP requirements
- › Approved by European parliament – entered into force in 2019
 - › 2022 for new vehicles types
 - › 2024-2026 for All vehicles registrations

General Safety Regulation

Functional Scope Overview

Regulation




Regulation (EU)
2019/2144

Safety Regulations – Functional scope overview	Implementation Date		CES Solution
	EU vehicle type-approval	EU vehicle registration	
Advanced Emergency Braking on vehicles (Cars, Vans)	2022-07	2024-07	✓
Advanced Emergency Braking for pedestrian and cyclist	2024-07	2026-07	✓
Reversing Detection System	2022-07	2024-07	✓
Emergency Lane Keeping System (Cars, Vans)	2022-07	2024-07	✓
Intelligent Speed Assistance	2022-07	2024-07	✓
Blind Spot Information System (trucks, Buses)	2022-07	2024-07	✓
Pedestrian Cyclist Collision Warning (trucks, Buses)	2022-07	2024-07	✓
Driver Drowsiness and Attention Warning	2022-07	2024-07	✓
Advance Driver Distraction Warning	2024-07	2026-07	✓
Event Data Recorder (Cars, Vans)	2022-07	2024-07	✓
Protection of vehicle against cyber attacks	2022-07	2024-07	✓
Tire Pressure Monitoring System (van-truck-Buses)	2022-07	2024-07	✓
Emergency Stop Signal	2022-07	2024-07	
Alcohol interlock installation facilitation	2022-07	2024-07	✓
Pedestrian protection head impact protection (Cars, Vans)	2024-07	2026-07	

General Safety Regulation

Functional Scope in Discussion

Regulation	Safety Regulations – Functional scope overview	Implementation Date		CES Solution
		EU vehicle type-approval	EU vehicle registration	
 <p>Regulation (EU) 2019/2144</p>	Advanced Emergency Braking on vehicles (Cars, Vans)	2022-07	2024-07	✓
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Watch video on:

[https://conti-engineering.com/
wp-content/uploads/2024/06/
gsr_ii_webinar-recording.mp4](https://conti-engineering.com/wp-content/uploads/2024/06/gsr_ii_webinar-recording.mp4)

General Safety Regulation Introduction

Front Safety

- › Emergency Brake Assist
- › Lane Departure Protection
- › Speed Limit Assist

Driver Status

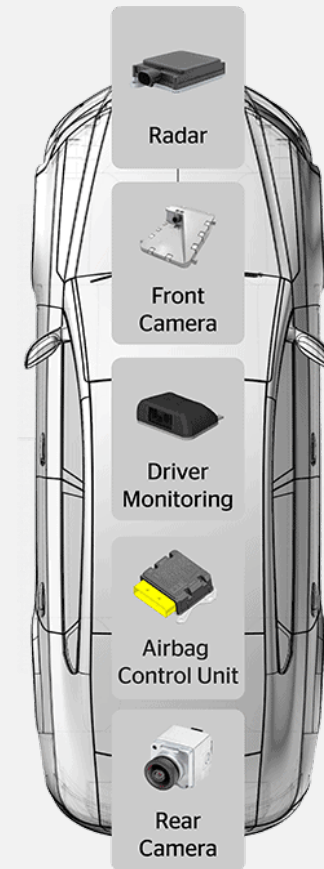
- › Driver Drowsiness Warning
- › Advanced Driver Distraction Recognition

Passive Safety

- › Event Data Recorder
- › Restraint Control System
- › VRU Protection

Rear Safety

- › Reversing Motion Assistance



Our GSR Turnkey System

Exterior Active Safety

- › From 2022, all new vehicles for the EU-market have to fulfill the new EU-General Safety Regulation (GSR)
- › The GSR introduces a multitude of advanced safety features
- › CES has developed a GSR compliant turnkey solution
- › This solution is **modular** and **scalable** to serve functions beyond regulation

Front Safety (incl. Driver State)

- › Emergency Brake Assist (C2C)
- › Emergency Brake Assist (C2P + C2B)
- › Forward Collision Warning
- › Lane Departure Protection
- › Lane Departure Warning
- › Speed Limit Assist
- › Unsteady Driver Warning (driver state)

Rear Safety*

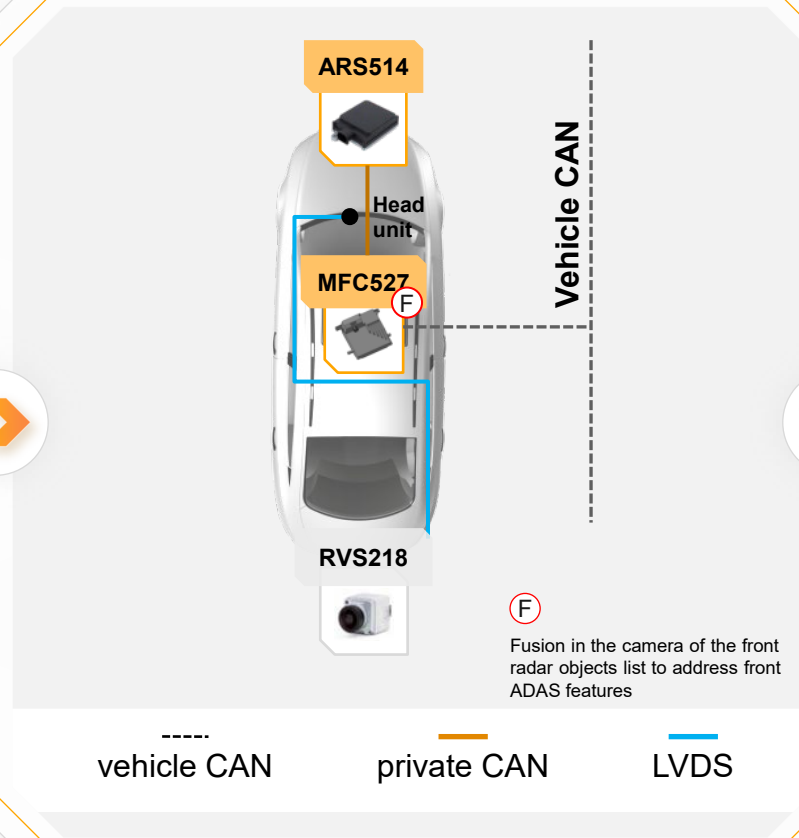
- › Reversing Motion Assistance (Rear-Viewing)



Exterior Active Safety System Architecture Overview

Required Input Signals for the System

- › VDY parameters
 - › Speed, yaw rate, ...
- › GPS – Map
- › Head unit
- › Motion status
- › Actuator status
- › ...



Output Signals from the System:

- › Acceleration / Deceleration request
- › Steering request
- › Rear video flow (Head unit)
- › HMI
 - › Warning requests
 - › Driving information
- › ...



Our GSR Turnkey System

Interior Active Safety

- › From 2024, all new vehicles for the EU-market have to fulfill the new EU-General Safety Regulation (GSR)
- › The GSR introduce a multitude of advanced safety features
- › CES has developed a GSR compliant turnkey solution
- › This solution is **modular** and **scalable** to serve functions beyond regulation

Driver Safety (Driver Monitoring System)

- › **A**dvanced **D**river **D**istracti**o**n **W**arning
- › **D**river **D**rowsiness and **A**ttention **W**arning

EUNCAP:

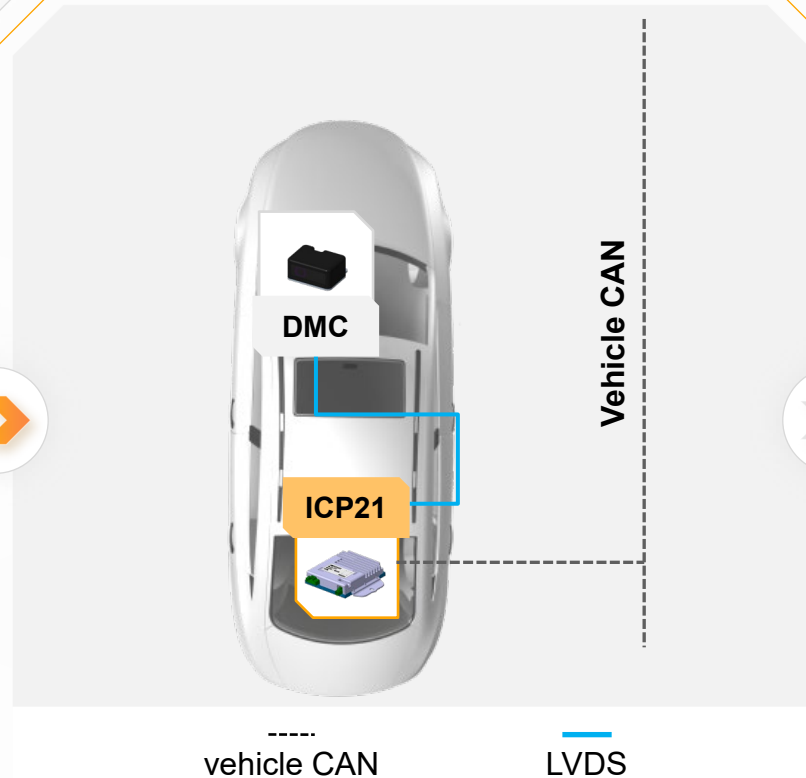
- › Fatigue (Drowsy/Microsleep/Sleep)
- › Distracti**o**n (Long/Short)



Interior Active Safety System Architecture Overview

Required Input Signals for the System

- › Vehicle Speed

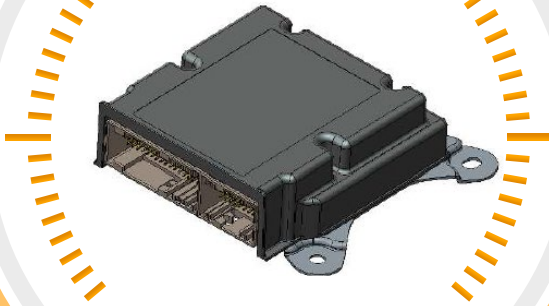


Output Signals from the System:

- › Driver Attentiveness State
- › Driver Drowsiness State
- › Head Pose, Gaze Direction, ...
- › HMI
 - › Warning requests
 - › Driving information
- › ...

Our GSR Turnkey System

Passive Safety

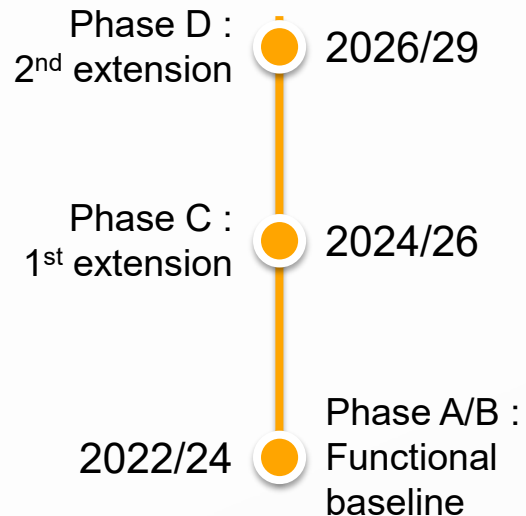


- 01 | Front – side – rear crash detection
- 02 | Rollover detection
- 03 | Event Data Recorder
- 04 | Restraint control system
- 05 | Pedestrian impact protection
- 06 | Protection against cyberattack

The “ACU” is part of system using crash sensors , IMU sensor and occupant monitoring system

EU-GSR impulse expansion of safety regulations in all the automotive markets region

EU-GSR Roadmap



global trend with main deployments in Europe , North America and Asia ...

United States

- › Automated Emergency Breaking → 2029 AT
- › SAFE Act of 2020

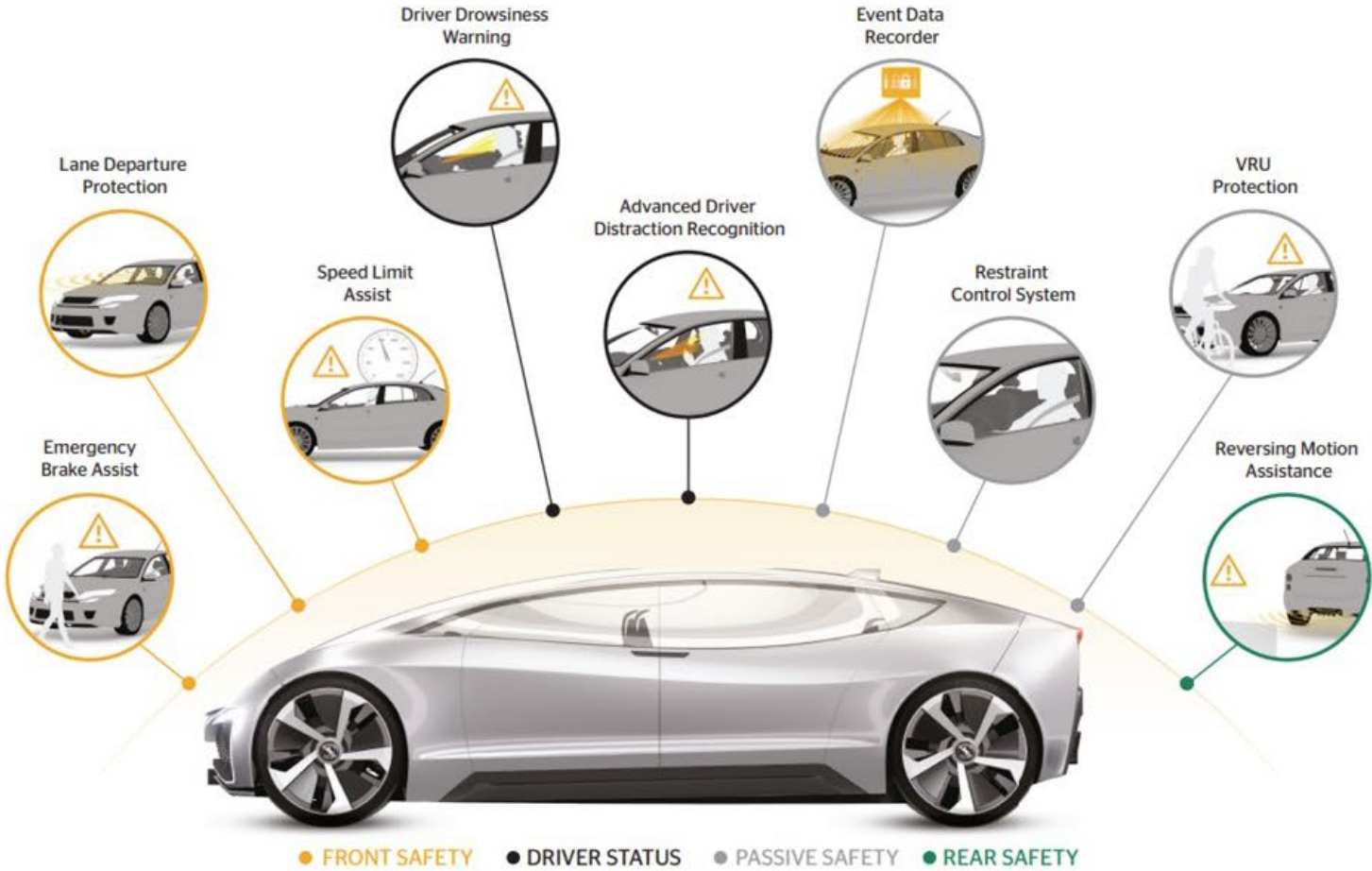
China

- › Driver Attention Monitoring System (DAMS) GB/T 41797-2022

Japan

- › Automated Emergency Breaking → 2021 NT / 2025 AT
- › Accelerator Control for Pedal Error → 2025

Full Spectrum of Safety Solutions for GSR Readiness



Your Contacts



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Thank You