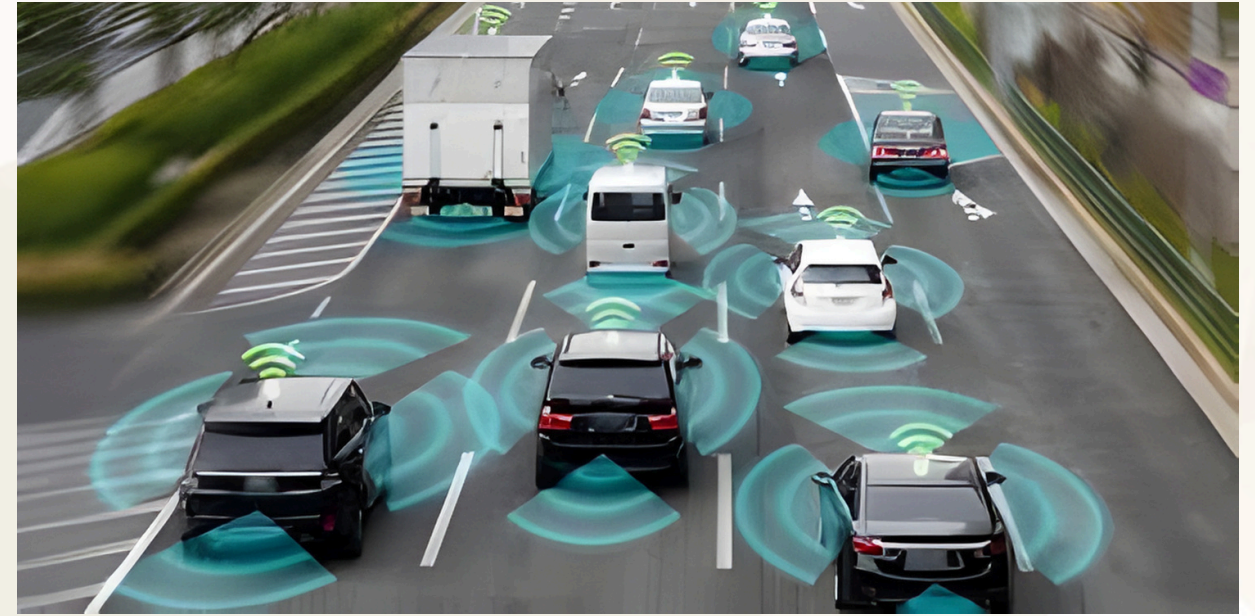




### ADAS Advanced Driver Assistance Systems

ADAS is a comprehensive set of electronic sensors, cameras, and radar systems that enable a vehicle to perceive its surroundings and warn or intervene to protect the driver against potential hazards. In short, it means having a digital copilot by your side that never gets tired and can make decisions in milliseconds.



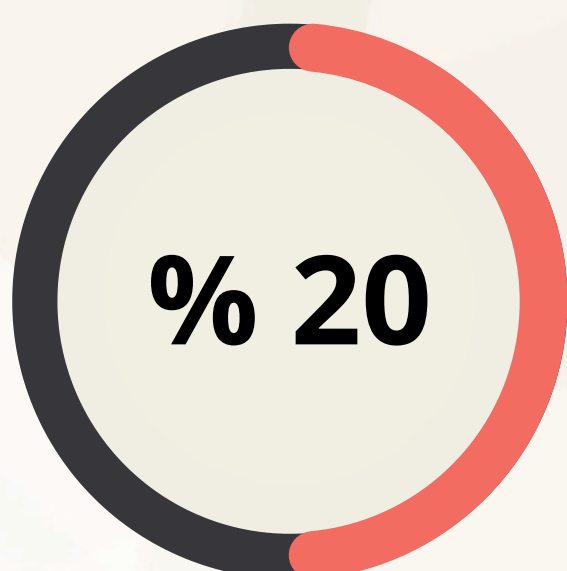
- **1970s (The Birth of Reactive Systems):** The first major step was taken in 1978 with the introduction of electronic ABS (Antilock Braking System) technology. This system aimed to provide the driver with steering control just before a crash.
- **1990s (Stability and Speed Control):** ESC (Electronic Stability Control) was developed in 1995. In 1999, the first radar based Adaptive Cruise Control (ACC) systems took their place in luxury segment vehicles.
- **2010s (Proactive Intervention Era):** AEB (Autonomous Emergency Braking) and LKA (Lane Keeping Assist) systems began to become prerequisites for achieving 5 stars in Euro NCAP tests.
- **Post 2022 and Current Situation:** With the European Union regulation GSR 2019/2144, ADAS equipment gradually became a legal requirement in all new vehicles.

## EFFECTS OF ADAS SYSTEMS ON CRASH STATISTICS



According to the comprehensive field reports of the Insurance Institute for Highway Safety in America, vehicles equipped with Autonomous Emergency Braking and Forward Collision Warning systems reduce rear end crash rates by 50% compared to vehicles without these features. Furthermore, in the event of an unavoidable crash that occurs despite intervention, the risk of injury decreases by 56% because the speed is greatly reduced.

Protection of Vulnerable Road Users: According to analyses by the European Transport Safety Council, with the widespread adoption of Autonomous Emergency Braking systems featuring pedestrian and cyclist detection in the European market, it has been proven that pedestrian fatalities and severe injury crash cases have decreased by an average of 30%.



Legal and Physical Limitation in Speed Related Incidents: With the full adaptation of the Intelligent Speed Assistance system, which has become mandatory in new vehicles under the European Union GSR regulations, a net decrease of 20% in speed related fatal crash numbers is projected across Europe. This statistic means saving thousands of lives every year.