



Three Significant Breakthrough Developments Being Integrated into Driving Systems for Safety, Connectivity, & Response

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1. Safety from Emergency Systems

One major development in ADAS technology is safety. As advancements in autonomous emergency braking systems and forward-collision warning systems continue, electrical faults have become a major concern. Because of this, demand for semiconductors has significantly increased. In fact, semiconductor growth, such as the ones used in ADAS features, is expected to [increase by more than 7 percent](#) by the end of 2018. Auto manufacturers will be looking to improve their capabilities to ensure they're implementing the highest safety measures for ADAS.

Automotive manufacturers, OEMs and suppliers alike should all be cognizant of how safety plays into their processes. All players in the automotive supply chain will need to participate in creating and following new testing and certification protocols to meet stringent industry standards.

2. Response of Sensors

As automakers work to make vehicles easier to use and more comfortable, sensors have become more robust in response. Semiconductor manufacturers are developing newer more sophisticated sensors, which should be used in ADAS features like steering and parking assist as well as adaptive cruise control, for increased distance capabilities in proximity sensors, vision sensors, and more precise rotation in actuators.

To adapt, suppliers will need to develop more advanced sensors that are much more efficient and reliable by using the most sophisticated testing and measurement systems, as previous methods may no longer be suitable for these newer, more robust components.

3. Connectivity & Telematics

Perhaps most notably, increased connectivity is another major development in ADAS. Telematics is quickly becoming a necessity for auto manufacturers as features like voice assistance and eCall gain popularity. Drivers enjoy the convenience of greater access not only to other people, but their vehicles as well. This means telematics devices will become more adept at collecting usable data for drivers to better understand their vehicles.

Increased connectivity has revolutionized how vehicles are being constructed and sold, and those in the automotive industry can't ignore this. Whether it's a family minivan or a large semi-truck, telematics will continue to play a large part in the automotive industry. More telematics devices in vehicles will help prepare for the demand in increased connectivity. The devices can report back valuable data in real-time such as vehicle location, diagnostics or call for help in an emergency, like automatic collision notification.

Background and Backstory Content:

What is [Advanced driver-assistance systems](#)?

ADAS, is a system to help the driver in the driving process. Advanced driver-assistance systems are systems developed to automate, adapt and enhance vehicle systems

ADAS relies on inputs from multiple data sources, including automotive imaging, [LiDAR](#), [radar](#), [image processing](#), [computer vision](#), and [in-car networking](#). Additional inputs are possible from other sources separate from the primary vehicle platform, such as other vehicles, referred to as [Vehicle-to-vehicle](#) (V2V), or Vehicle-to-Infrastructure (such as mobile telephony or wifi data network) systems.

Advanced driver-assistance systems are one of the fastest-growing segments in automotive electronics,^[5] with steadily increasing rates of adoption of industry-wide quality standards, in vehicular safety systems.

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