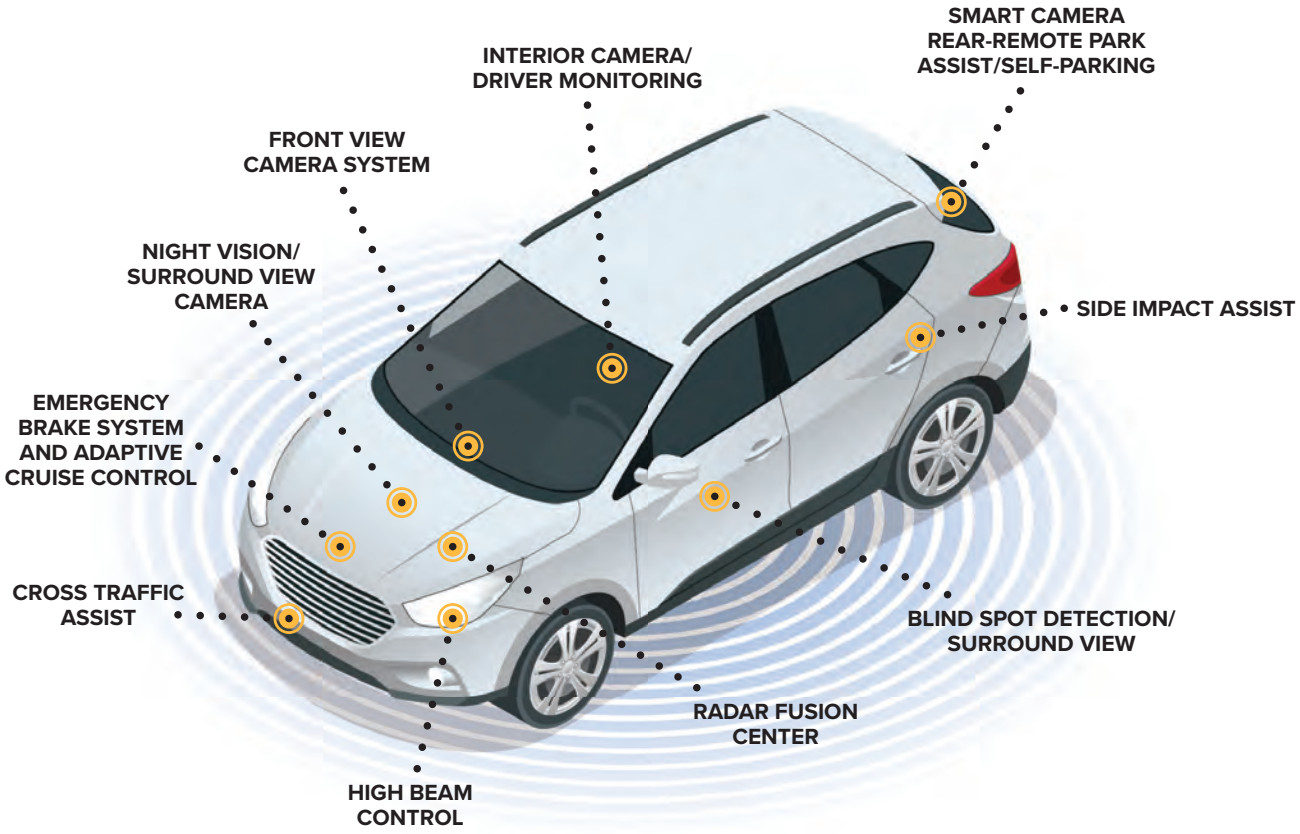
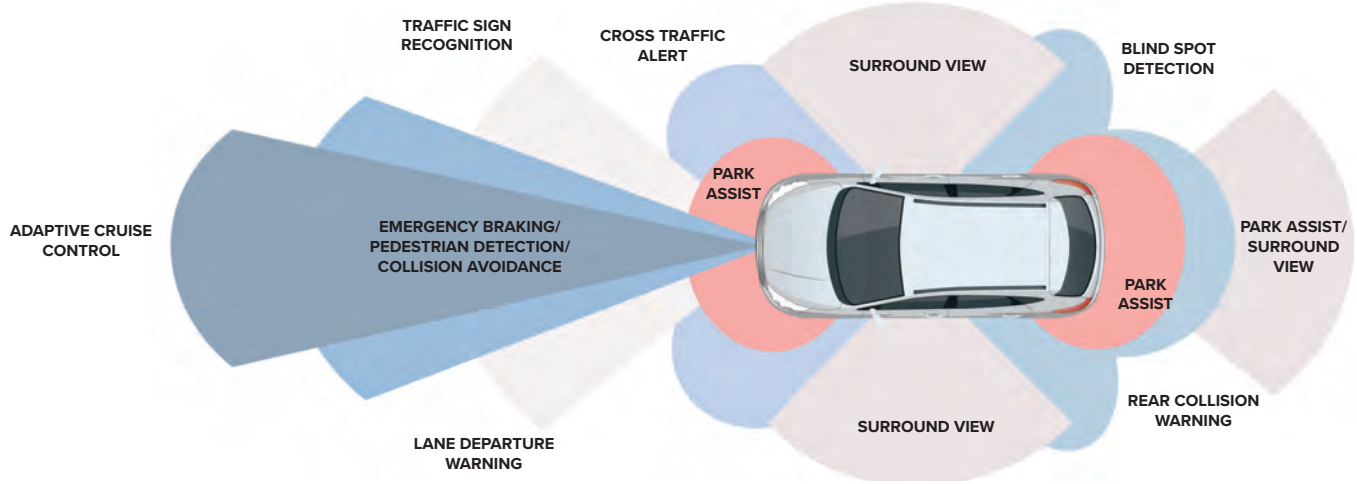
ELITEK® VEHICLE SERVICES

ADAS (Advanced Driver Assistance Systems)

EDUCATION GUIDE



EXAMPLE OF ADAS COMPONETS (Graphic 1)



EXAMPLE OF ADAS SCANNING AREAS (Graphic 2)

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DISPATCH@ELITEKAUTO.COM

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WHAT IS ADAS?

- Passive (ex: Beep / Chime) and Active (ex: car braking) integrated technology
- Built-In from car manufacturers or added on in aftermarket
- Designed to automate and enhance vehicle and driver safety
- Alerts driver of potential problems; aids in avoiding collisions

ADAS TERMINOLOGY

Automatic Emergency Braking Systems (AEBS): Function of collision warning and emergency event preparation – braking control for mitigating damage with forward obstacle. *(Graphic 1 & 2)*

Forward Collision Warning (FCW): Cameras, radar, or laser to scan the road ahead to alert driver if the distance to a vehicle ahead is closing too quickly. *(Graphic 2)*

Adaptive Cruise Control (ACC): Using radar to find out distance to cars, and automatically adjusting the throttle to blend into traffic with no input from the driver. *(Graphic 1 & 2)*

Blind Spot Departure (BSD): Technology that detects and warns of vehicles a person can't see alongside their car. It gives a visual, audible, and/or tactile alert to indicate that it's unsafe to merge or change lanes. The system may provide an additional warning if a turn signal is used when there is a car in the next lane. *(Graphic 1 & 2)*

Lane Departure Warning (LDW): System which alerts the driver, through either visual, audio or haptic warnings, or a combination of all three, to the proximity of the front road wheel to the lane boundary. In the case where a haptic response is implemented, the resultant feedback to the driver through the steering wheel is similar to that of the "Rumble Strip". *(Graphic 2)*

Parking Assistance System (PAS): Sensors mounted on the bumpers detect the distance of obstacles from the extremities of the car and deliver an audible beep which gradually becomes more panicked the closer you get. Some systems are now combined with a digital graphic which shows which part of the car is closest to an object. *(Graphic 1 & 2)*

Pedestrian Detection System (PDS): Acts as an extra set of eyes for motorists, helping them avoid potentially catastrophic collisions. *(Graphic 2)*

Traffic Sign Recognition System (TRS): A forward-facing camera, which scans the road ahead for traffic signs. This camera is connected to character recognition software, which then makes a note of any changes described by the signs and relaying it onto the car's instrument panel. The information stays there until any change occurs, so if a driver is unsure of the current speed limit all they have to do is check the information that the car has noted. *(Graphic 2)*

Night Vision (NV): Allows drivers to see things that would otherwise be difficult or impossible to make out at night. Active night vision systems project infrared light, and passive systems rely on the thermal energy that emanates from cars, animals, and other objects. *(Graphic 1)*

Heads-Up Display (HUD): Comes from the aviation world; Windshields serve as a giant screen, and a projector embedded in the dashboard sends a transparent image onto it. The image leaves the projector and bounces off a series of mirrors, magnifying and flipping the image so that the data comes out right-side up and legible.

Driver Drowsiness Detection (DDD): Monitors steering movements and advises drivers to take a break in time.

SOURCES

1. AEBS: http://www.unece.org/fileadmin/DAM/trans/doc/2009/wp29grrf/AEBS-LDW06-01-e.pdf
2. FCW: https://www.consumerreports.org/cro/cars/why-forward-collision-warning-and-automatic-emergency-braking-ne
3. ACC: https://cars.usnews.com/cars-trucks/what-is-adaptive-cruise-control
4. BSD: https://www.consumerreports.org/car-safety/blind-spot-warning-guide/
5. LDW: https://adasdevpro.com/product/lane-departure-warning/
6. PAS: https://www.carwow.co.uk/guides/glossary/parking-systems-explained
7. PDS: https://www.boston.com/cars/news-and-reviews/14/03/2016/drivers-guide-what-you-need-to-know-about-pedestrian-detection-systems
8. TRS: https://www.carwow.co.uk/guides/glossary/how-does-road-sign-recognition-work
9. NV: https://www.lifewire.com/advanced-driver-assistance-systems534859-
10. HUD: https://www.roadandtrack.com/about/a31240/how-does-a-heads-up-display-work/
11. DDD: https://www.bosch-mobility-solutions.com/en/products-and-services/passenger-cars-and-light-commercial-vehicles/driver-assistance-systems/driver-drowsiness-detection/

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