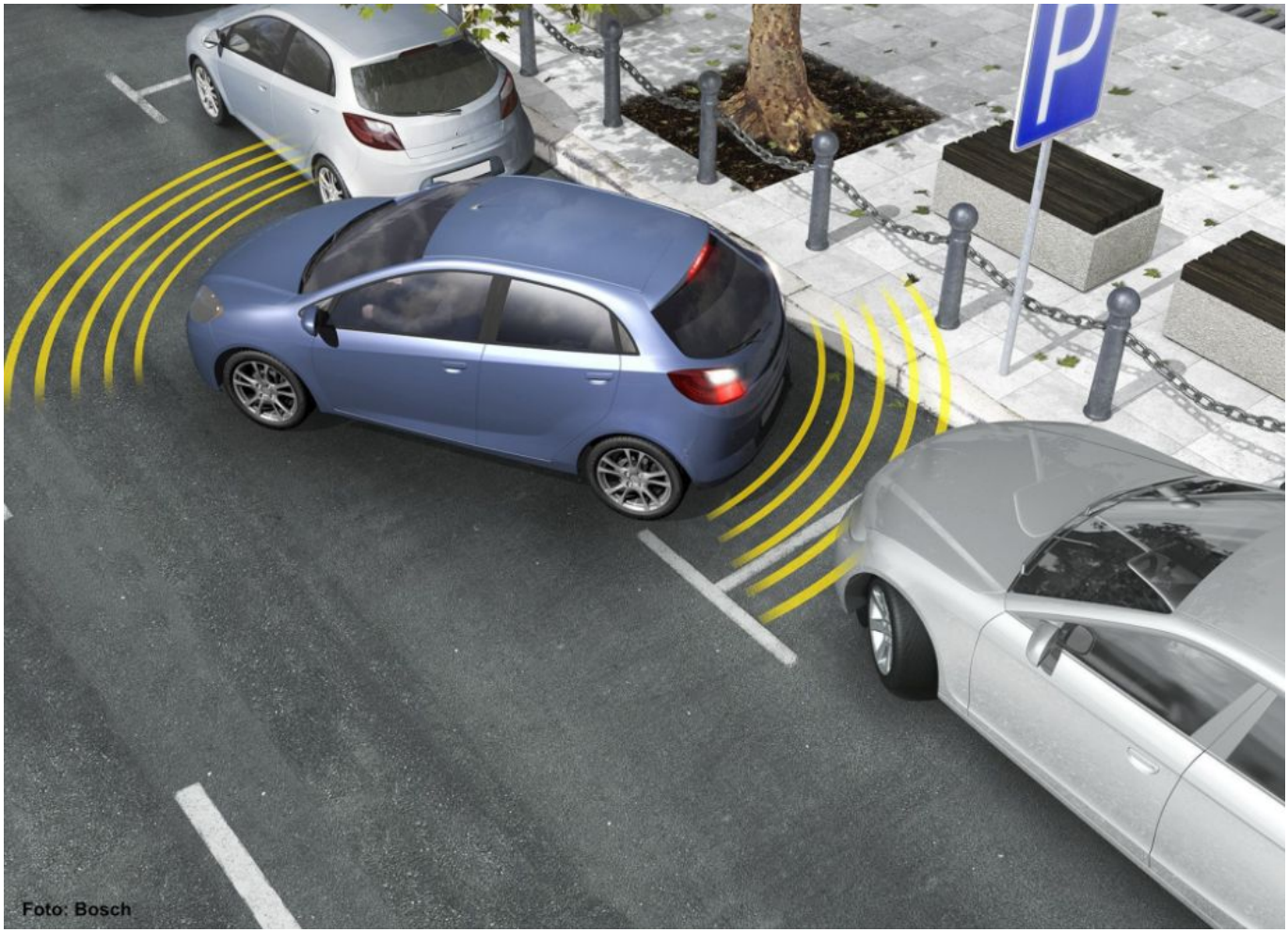
Parking aid

Parking aids are advanced driver assistance systems designed to make parking easier. Such systems monitor an area of between roughly 20 and 250 cm in front of and behind the vehicle and warn the driver about any obstacles.

Function

Parking aid systems are activated as soon as the driver engages reverse gear. If provided with an additional front-end safety function, the system is activated on dropping below a defined speed.



Parking aid systems use ultrasonic sensors integrated into the front and rear end of the vehicle to monitor the area directly in front of and behind the vehicle. To do so, the sensors emit ultrasonic signals and pick up the echo of these. The system determines the distance from the obstacle on the basis of the time difference. This enables parking aid systems to detect obstacles in good time. Depending on the make and type of system, the driver is informed of the distance by an acoustic signal alone or by a

combination of visual and acoustic signals.

The purely acoustic version indicates the distance from the obstacle by emitting warnings at ever shorter intervals until this becomes a continuous tone. Combined visual and acoustic systems start by indicating the proximity of an obstacle by way of LED displays or graphics on the infotainment system monitor and give an additional acoustic warning at very close distances.

Basic systems just have three or four sensors at the rear end of the vehicle. More elaborate versions use up to 12 sensors - six at the front and six at the back.

Sophisticated parking aid systems make use of sensors fitted on the side at the front of the vehicle to measure the parking space: These measure the length and depth of the parking space. The system also calculates the best way to park and displays this for the driver on the infotainment system monitor.

Reversing camera systems

Parking is further facilitated by reversing camera systems, which are combined with conventional parking aid systems and are becoming ever more popular. The area behind the vehicle appears in the camera image on the monitor of the radio or navigation system. The display shows the driver whether there is anything in the way in real time. The distances measured by the ultrasonic sensors are embedded in the camera image in the form of coloured bars for example, so the driver has all the information he needs at a glance.

Parking aid system components

Parking aid systems consist of the following components:

- Ultrasonic sensors
- Control unit
- Warning element

Safety and value retention

The use of parking aid systems can help to avoid the annoying, costly repairs associated with parking scrapes. Which means that such systems have usually paid for themselves the first time they have prevented vehicle damage.

Images

Bosch

Continental

HELLA

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Source: https://www.my-cardictionary.com/dictionary/driver-assistance-systems/parking-aid