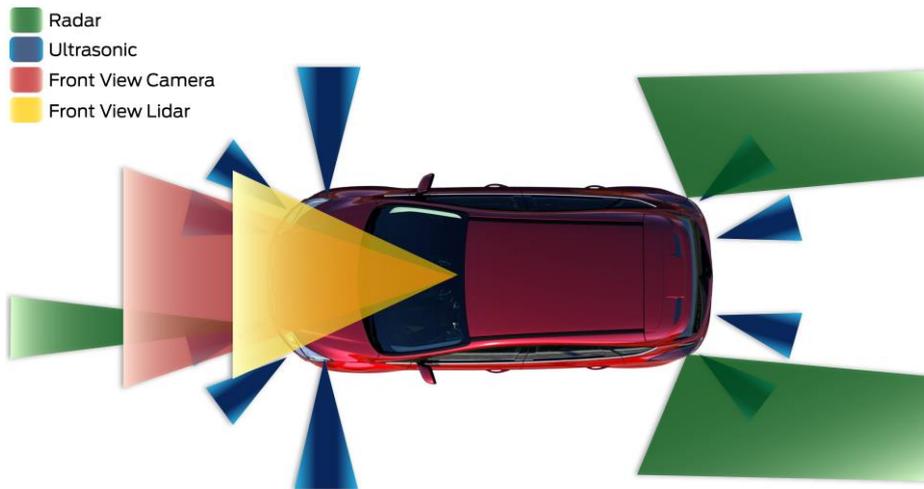




Reward 2011

## Ford Driver Alert



Ford's Driver Alert is a driver assistance feature that uses a forward looking camera to monitor the vehicle position in the lane and calculate a vigilance level for the driver. If this vigilance level drops below a certain value (e.g. potentially indicating the driver is tired), the vehicle will issue a visual and audible warning. Additionally, Driver Alert shows the actual vigilance level of the driver in the cluster upon request.

The forward looking camera is constantly monitoring the vehicle position in the driving lane and additionally checks for sudden and exaggerated corrections, which are characteristic of drowsy or inattentive driving. Based on this information and the history of the calculated vigilance level the system issues two levels of warning, a soft- or hard-warning. The soft-warning consists of an audible chime in order to alert the driver to the message in the cluster screen. The hard-warning is triggered if the vigilance level calculated by the system remains below a certain level. It also comes along with an audible chime to alert the driver, but it is now more intrusive to urge the driver to take a rest.

### What is the safety benefit?

It is estimated that drowsiness is a major cause of over 6,000 of serious and fatal accidents in Europe annually. Driver Alert depends on the driver responding to the warning and taking a sufficiently refreshing break. However, even modest assumptions regarding the numbers who are likely to respond leads to an estimation that a system like Driver Alert could prevent a third of all accidents involving a passenger car every year in Europe caused by drowsiness.

## **How was Driver Alert assessed?**

Ford conducted extensive trials using driving simulators to determine the steering pattern which characterises drowsy driving. Road trials were also conducted to verify the camera performance amongst at the different roads within the EU. In addition to the in-house work done for the Driver Alert system, track testing under controlled conditions was done by one of the independent Euro NCAP laboratories to ensure that Driver Alert met targets for when warnings were given to the driver.

## **What are the limitations?**

Ford Driver Alert can only warn a driver that he is drowsy. It is the responsibility of the driver to take a break and to ensure that the break is sufficient to restore his levels of attention. Driver Alert cannot judge the quality of the break taken by the driver. However, after a break, the system will continue to monitor the driving pattern and will warn the driver again if drowsiness is detected. It is anticipated that the warnings will provide the incentive needed to make drivers take a break.



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