

Green telematics project launches multiple field trials: 190 drivers, seven nations, 66 vehicles, one question – can we make ecodriving real?

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Progress in the application of telematics to encourage greener driving styles is revealed in the latest interim results and field trials from the EU ecoDriver project.

The €14.5 million project, with €10.7m EU contribution, coordinated by Professor Oliver Carsten at the University of Leeds Institute for Transport Studies, runs for four years ending in 2015.

It is one of the major EU intelligent mobility

projects.

Project coordination is in the UK at University of Leeds (Institute for Transport Studies) while the technical work is divided into five sub-projects managed by different partners.

These are:

- supporting drivers in eco-driving
- real-time calculation of energy use and emissions
- real-world trials
- evaluation of effectiveness
- scaling up and future-casting

The brochure details the extensive field trials the piloting of which are due to start this month.

The ecoDriver project is developing an in-vehicle device which coaches the driver on how to make the most fuel-efficient use of the vehicles. In short, the aim is to produce the best eco-driving system possible. In other words – to show the driver how best to adopt green (and safe) driving techniques so as to achieve:

...a 20% reduction of CO2 emissions and fuel consumption for road vehicles.

This green telematics device collects information from the vehicle, the road and road use, which it presents to the driver in easy-to-read displays. The project encourages environmentally friendly driving, or **eco-driving**.

This is, as the project makes absolutely clear, 'an increasingly important topic given the real contribution it can make to saving fuel and reducing carbon emissions':

Drivers often do not realise the amount of influence their driving style has on their vehicle's fuel consumption, potentially leading to significant unnecessary emissions and increased fuel costs. The goal of eco-driving applications is to assist drivers of cars, buses and trucks in optimising their driving behaviour in different circumstances. **This will improve energy efficiency, without compromising safety.** [My emphasis]

And this is no mean task. The partners recognise that the predominant culture in driving runs counter to

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considering how to make the best of the vehicle and the fuel which powers it:

Eco-driving may not directly receive a warm welcome.

The project says no-one is denying that a more environmentally friendly approach to driving is needed. (For example, the issues are acute for the UK where the government has a legally-binding requirement to reduce atmospheric pollution. More has to be done.)

The project brochure states that:

While inland transport accounts for over 20% of [green house gas] emissions in the EU, progress in reducing it is less than in some other sectors (particularly residential/ commercial emissions). This offers a major potential for eco-driving as well as other applications to improve the environmental performance of transport.

It notes that 'not many drivers are prepared to learn how to adopt a more fuel efficient (hence less polluting) driving style'.

What is notable is this is not a project about directly controlling the driver.

It is a project about controlling the vehicle.

In this case exploiting a technology, which is available now, to give the driver more information on how the vehicle itself is performing. This assists the driver make better-informed decisions.

The result is better driving, and fuel use, and improved use of the vehicle and its road space.

The project has developed a range of devices and different ways of displaying the information in forms which graphically, or **haptically**, prompt simple ways of improving driving so as to hit pre-set economy and efficiency targets.

The trials

The trials, involving 190 drivers, are extensive.

They use different vehicle types (private car, commercial delivery and fleet vehicles, public transport) with engines of different types, (petrol, diesel, part fuel-part electric, and all electric) on differing road types in varying locations.

They compare different styles of driving on the same roads and the same types of driving style on different roads.

It compares drivers with devices with drivers without devices.

At the end of the day the data will help evaluate the savings in CO2 emissions and fuel use as well as asking the drivers how they experienced use of the devices.

Sixty-six vehicles will be used, including passenger cars, vans, trucks and buses.

They will be held in Spain, France, Italy, Germany, the Netherlands and Sweden. The UK trial, for buses only, is in association with the operator *First* on a route in the north of Leeds (West Yorkshire).

Displays

The information collected from the vehicle showing how it is being driven is displayed in some novel and entertaining ways.

Here is one example (still under development and subject to change) from the main screen of the full system (other versions have been developed including PC, roaming devices, smartphone and dashboards).

This screen is designed to be used while driving.

In addition to showing the device is properly connected it displays :

Gear information: current gear engaged appears in white; recommended gear is shown through arrows. Up – driver should shift up. Down – shift down.

Speedo – blue needle: current speed. Green – (the rather lovely-named) eco-speed or best speed (or speed range), for an eco-driving style depending on road limits, car configuration, engine type, vehicle ahead, and other issues.

Performance score: shown by avatar on coins. These coins represent the driver performance in following recommendations on all previous trips in one of four levels:

- no level (no coins)
- beginner (1 coin)
- medium (2 coins)
- expert (3 coins).

Tree with oxygen bubbles, to show the global score achieved by the driver from all the actions performed by following (or not following) the system’s recommendations. The score is calculated on the basis of acceleration
deceleration
cruising
gear change
idling.

More bubbles = a good score, achieved following the system recommendations. There are eleven status possibilities: No bubbles to full of bubbles, taking into account that every bubble can be small or complete.



Pop ups



Other screens (as pop ups) advise on upcoming bends, gradients, preceding vehicles and speed recommendations, whilst also giving information about an action to perform.

In the example [left] one of the system developers at CTAG in Spain explains:

the driver is approaching a bend and the system recommends taking the foot off the accelerator in advance to reach the bend at the lower speed which is recommended on the speedometer in the image.

At the end of the trip, a summary of information is available.

These score the driver on the five main driving features being measured – rates of acceleration and deceleration, cruising, shifting (or gear selection) and idling.

The global score, duration and date are also shown.

The button “Tips”, at the bottom of the screen, opens a new screen with advice to the driver on how better to improve the score (and hence the driving style).

The future

The project should be completed in 2015. The final stage of the project is certainly comprehensive. It

...will estimate potential Europe-wide impacts by scaling-up the results obtained during the test trials. The impacts of future technological, political, and lifestyle scenarios on green driving support systems and on CO2 emissions will also be explored.

I asked Professor Carsten if the project has at any point considered the relationship between its type of device

and the devices at present available to run (a) eCall and (b) black-box insurance (c) the vehicles own performance, maintenance and driver alert functions? He replied:

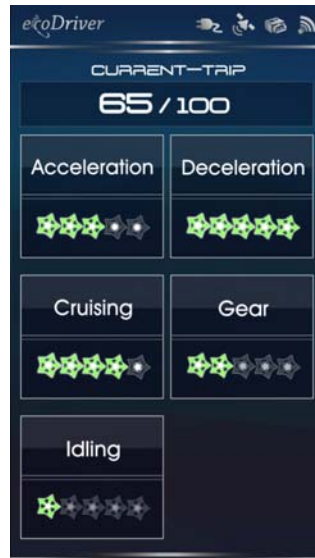
No – we are trying to create the best eco advice system that we can. But certainly the vehicle manufacturers in the consortium will be considering integration with other systems, e.g. cruise control, etc.

In fact, of course, it would not be difficult for an insurer to draw upon the ecodriving rating and convert it into an insurance product – or for it to be allied with the eCall device. Clearly, much work to be done here and an interesting set of findings to anticipate in the coming months.

More information

For more information, visit: www.ecodriver-project.eu

See also telematics.com reports on [telematics](#), [students and green driving](#), and [women, equality and telematics insurance](#).



Bio

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Journalist and comms specialist for over 40 years – trained in print, broadcasting, and industrial intranet. Written about comms policy (eg. as radio editor at Time Out); held senior comms roles in public bodies (National Health Service, local government) and privatised undertakings (London Electricity – now Electricité de France). Since, has developed interests in the ordinary citizen's use of judicial review to challenge irrational decisions of government and the use of rights (like the Freedom of Information Act) to explore irrational decisions (like the BBC's original decision to close the BBC digital radio service BBC 6 Music).

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