



# MeBeSafe nudges literally on the road

**Traffic rules only work if people choose to obey them. But the traffic environment could instead be redesigned so that good choices are more likely to be made.**

**MeBeSafe has designed several so-called nudges to make traffic safer, and they are now ready for the roads.**

*"There it is! The lights are turning on – we're getting closer and closer to it. And.... It works!"*. Stefan Ladwig, coordinator of the MeBeSafe EU project, is delighted. MeBeSafe is all about nudging for safer traffic, and the first so-called nudge has just been put on a road.

Car after car drives down the road while specially adapted roadside lights flicker on and off. And the drivers seem to react.

This mysterious light-switching-device is one of the things MeBeSafe has produced to make traffic safer. At present, the classic way of making traffic safer is to prohibit all dangerous behaviour.

But rules and laws can only work if people recall them and actively choose to follow them. If subjected to strict surveillance and tough enforcement, most people will likely obey – but that means we have used fear to control people. Why not give them the option to make a safe choice on their own?

MeBeSafe therefore makes use of the ever more popular nudging approach. A nudge is an alteration of the surrounding world that aims to make it more likely for you to take a good decision. That said, you will always be free to make any choice you want – since a nudge is the total opposite of a compulsion.

This positive approach is what MeBeSafe will be taking to the streets. And the streets are a dangerous place indeed. A lot of people are still dying or getting injured there every day.

Many measures have been designed and implemented to help us, but most of them just try to avoid or mitigate a crash when the situation has already become critical or when the crash has already occurred.

However, each accident is the result of a chain of previous events. If good, safe choices were made throughout this chain, many accidents would never even get close to occurring. This is the aim of MeBeSafe.

## **Decreasing the danger of intersections**

**Intersections are a red spot** in traffic. So many serious accidents occur in this seemingly safe haven, and mixed intersections between cars and bikes are high on the list. In fact, eight out of ten accidents between cars and bikes happen here. The scenario usually follows the same predictable pattern: car driver and cyclist approach intersection, car driver and cyclist fail to spot each other in time, and car driver and cyclist collide. To make this situation less dangerous, both drivers and cyclists need to act.



It would make total sense if all road users approached a dangerous intersection at low speed and with high awareness. Low speed makes it easier to spot one another in time, and also to brake when necessary.

MeBeSafe has found that flat stripes running across the road can help. These stripes cannot be felt, but they get progressively closer together. And as they get closer and closer together on your approach, your instinctive perception is that you are going faster and faster – so you slow down.

The initial results actually indicate a remarkable combination of effects. The stripes seem to generate a significant speed reduction combined with very high appreciation by cyclists.

However, a similar effect has to be found for cars too. MeBeSafe has therefore made use of another novel idea. By placing rows of lamps along both sides of a road, we can make them light up one after another in sequence. This pattern makes it seem as though the lights are moving towards you.

As the surroundings appear to move faster, this naturally makes you more prone to slow down here too. But the cleverest thing about this system is that the lamps only turn on if your speed is inappropriate.

### More obvious nudges

These nudges are both rather discreet, and you may not give them a second thought. But nudges can be much more obvious too. MeBeSafe has developed such a nudge for installation inside the car – and it helps you spot cyclists.

An ideal implementation would be a green line projected in the windscreen that seems to follow the road. Whenever a cyclist appears, the line turns red and a notch is projected to show where the bike is coming from. When this system was adapted from a simulator to a real car, the line was converted into an icon in the instrument panel showing the very same graphics. This icon has also been found to have a good effect on focusing the driver's attention.





## CONTACT MEBESAFE

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## ABOUT MEBESAFE

MeBeSafe is funded by the European Commission and coordinated by ika at RWTH Aachen University under the Horizon 2020 banner. The project started on the 1st of May 2017 and will run for 42 months. MeBeSafe aims to directly change habitual traffic behaviour by using the concept of nudging.

By using apparent nudges within the car, a whole world of possibilities opens up. There are already coffee cup symbols in instrument panels that light up when the on-board system detects that the driver is tired. However, such symbols are usually not enough to prompt an actual reaction.

MeBeSafe will therefore experiment with rewarding the driver for taking a break. Would the tired driver be more prone to stop and rest if he or she got a free cup of coffee from the nearest café? Or a cinema ticket? Such an incentive scheme could educate the driver and thereby work in the long term.

### A new way to coach drivers

Another way to make an impact over time is to use coaching. MeBeSafe is exploring this for truck drivers. Truckers live on the road. They are the experts and very few people have the knowledge needed to coach them. The only people who actually can are their fellow truckers, but they don't have the time to come along and see how their friends drive.

So MeBeSafe has invented an app for that. The app tracks a trucker's driving, and all this data belongs solely to the driver. Nobody can monitor them or force them to give away the data. Only the phone with the app will analyse the data, and suggest when two peers should meet and what they should discuss at this meeting.

**All of these solutions** have been thoroughly tested in multiple pre-studies to ensure that they are the best possible solutions to date. And now they are being driven onto the road. MeBeSafe has built all of this on real roads, in real cars or for real phones.

Over a period of six months they will be tested by people in everyday situations to obtain precise statistics on how they work, for whom they work, and how they can make the streets safer.

