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BESMART - Multi-modal behaviour and safety support system on the basis of smartphone applications

Scientific Responsible
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The objective of the project is to develop an innovative and seamless Internet of Things application with tools to evaluate and improve the behaviour and safety of all drivers (car drivers, powered two-wheelers, cyclists, professional drivers) along multi-modal trips. Within the framework of the project, a 200-driver naturalistic driving experiment will take place in order to:

a) unobtrusively collect data along multi-modal trips by means of smartphone technology, and integrate the data to identify unsafe behaviours resulting from speeding, harsh maneuvering, distraction, to create the driver's safety "footprint" and
b) develop measures by means of novel technology applications, namely smartphone applications and a web-platform, allowing to inform, notify, motivate and train the drivers, to improve their critical skills and reduce their errors and their accident risk.

The interventions developed and tested include two-levels:

a) personalised feedback will be communicated to all drivers, with statistics and reports, allowing them to identify their critical deficits or unsafe behaviours for different modes, and
b) incentives within a social gamification scheme, with personalised target setting, benchmarking and comparison with peers.

The project is driven by a user-centered, ergonomic and low-cost instrumentation approach, which allows flexibility in data collection and handling, and increases the exploitation potential for wide acceptance by the end users of the proposed tools (the drivers themselves, scientific community, business and professionals, Authorities, etc.). The key expected impacts include significant benefits on road safety and other societal impacts, as well as new approaches for driver training and support, safer use

of vehicles (with considerable implications towards the era of autonomous vehicles) and enhancement of innovation capacity and creation of new market opportunities for businesses.