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KEYNOTE TALK

Distraction and inattention on the road: biases and profits of a connected world

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Topic : Driving is dangerous. This is one of the most demanding rapid process control situation which exists worldwide, and even worse, it is almost only in hands of non-professionals, all with limited formal education and control of their health and cognitive capacities.

That said, driving is a major social standard, providing autonomy to citizens and capacity to work and enjoy, and also a world of paradoxes.

Indeed, although it is obvious that any driver distraction is lengthening the reaction times and therefore is potentially consequential for road safety, the road and car design are "machines" producing billions of distractions for many good reasons, some -most?- being safety-related (alerting system, navigation guidance and intelligent on-board assistances, car audio alerting on future problems and preventing sleepiness), some being commercial sales-related (side road advertisements) and some being passengers-related (which is also one central social benefit of driving). Most or even all of these distractors and dual-side, good (for some aspects) and bad (for other aspects) at the same time. It is very probable that a total suppression of distractors should result in worsening road safety, both by the effect of cognitive disconnection with real world, and by the very useful content of many distractors for making contextual driving decision.

This conference tries to show new pragmatic avenues to control risk associated to distractors, adopting a more global vision and escaping a "black and white approach".

There is a growing evidence that the classic scientific approach showing longer reaction times to telephone and other connected on-board distractors sounds trivial, but cannot results in a large capacity improving road safety on the short and midterm for two reasons. First, how can we imagine dramatically improving road safety only firing one or two distractors among billions of other competitive and continuously mushrooming on-board IT's distractors. Just trying to fire one or two distractors here and there is probably a non-end and non-effective battle. Second, many usual scientific risk analysis often minimizes (misinterprets?) both the capacities of cognitive control, especially routine cognitive control, including human learning capacities, and the value of global ergonomics including the design of a more resilient road and vehicle environment. The conference proposes a taxonomy of road distractors, especially the ones associated to Information technology with a corresponding tentative skill assessment of drivers. This new avenue leads to consider a mix of solutions improving road safety. The priority is not that much given to suppress and fix one specific distractor, whatever it is, since it is a non-end process, but to better contextual control risks associated with distractors. Some solutions are based on global

ergonomics requiring an intelligent context analysis filtering, and some based on educating drivers to better use their natural ecological cognitive control of distractions.

Biosketch: Senior Adviser Patient Safety at the Haute Autorité de Santé and risk manager in a medical insurance (MACSF), Paris, France. He pioneered in the mid 80's the concepts of human error, ecological safety, crew resource management, and system safety. In late 1992, he was detached from the military to the European Joint Aviation Authorities (JAA) and became the first Chief Human factors and Flight safety of the JAA, then occupied a series of managerial positions in European and French research programs and administration (Land transport, Industrial and Environmental risks). In the late 90's, he moved his research on patient safety, system approach and resilience. He has published over 100 international papers, chapters, and authored or co-authored 10 books (last book: Navigating safety, Springer, 2013).

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