

## **Analysis of the electric mobility effects on the traffic security (SAELMO)**

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### **Summary, October 2011**

The electric mobility development, concerning especially the electric cars, is still at the very beginning, but most probably soon or later it will end up to dominate the market. It is not yet known its impact on the traffic security and many of the aspects presently debated in this regard are simply based on assumptions instead of solid empiric statistics.

Therefore, the SAELMO project (in German “Strassenverkehrssicherheitsauswirkungsanalyse” – Effects’ analysis of the electric mobility on the traffic security) had to start from a research concept that gave maximum space to hypothesis which could be used as evaluations basis for experts and other specialists interested in this domain.

In this perspective, it was necessary to proceed by evaluating the bibliography which covers both the accidents’ analysis acquired so far and the results of the relevant international research projects. From this requirement it has been possible to establish the first connections between the electric mobility and the traffic security.

The next step consisted in pondering these relationships of cause and effect in the frame of the experts’ discussions to formulate working hypothesis. Some of these relationships were better outlined, other discarded and some other considered deserving further elaboration. With the purpose of putting into action these thesis, the knowledge previously collected by the experts was compared with the experience made by the pioneers of the electric mobility. This way enriched, these thesis were further investigated by the experts group of SAELMO.

The final thesis resulted from this process concerning “vehicle”, “human being” and infrastructure” were illustrated in the frame of the Delphi survey (better known as “Thesis’ ranking”) to some 80 experts of the road traffic in Switzerland and in the European Union countries, for the purpose to verifying their accuracy and comprehensibility.

All the thesis resulting from this consultation process could be analyzed one by one in relation with the concept of “accident cycle”, becoming this way a catalogue comprehensive of the main aspects to take into consideration for future interventions to increase the traffic security for the electric vehicles.

The elaboration of the main aspects for future interventions was further defined in a final conference focused on the traffic security policy in regards of the electric vehicles. In this frame, the SAELMO project’s results were illustrated and debated. The participants’ comments and opinions expressed during the conference consented to modify the final report’s results and recommendations.

The most significant results of this research are the following:

- The problem of the electric car’s silent functioning was considered over all less serious than what indicated by the media assumptions.
- The vehicles themselves are not considered problematic from the traffic security point of view. The problem is rather identified with the electric vehicles’ distribution in the various sectors of the traffic space, which is not yet completely clear.
- Overall, the electric car’s driving is considered as much safe as any other car with a traditional engine.

The comprehensive results of the research and the actions’ proposals for the future traffic security of the electric vehicles are illustrated and analyzed comprehensively in the chapter 6 and 7.

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