



## SAFER SUCCESS STORY: SEVS, Safe Efficient Vehicle Solutions

*"In Volvo Cars' R&D plan for strategic areas in need for competence, manning and specific studies, the SEVS "drivkraft model" was used."*

*Lars Greger, Manager Technology Strategy & Planning, Volvo Car Corporation*

- A generic, strategic and tactical methodology ("The SEVS Way") to handle complexity and uncertainty by involving relevant stakeholder experts in a participatory and exploratory analysis
- A driving force model and metrics for simultaneous evaluation of the properties safe, green and affordable for a given use case
- Influenced the product strategy decision for one of the partners who used the SEVS methodology in-house
- Influenced innovative ideas for new urban vehicles

The aim is to enhance both safety and energy efficiency in the transport system through a holistic approach. New, energy-efficient vehicles can be made safe and affordable if all desired properties are considered from the very beginning and the context in which they exist is integrated in the analysis. SEVS, Safe Efficient Vehicle Solutions, is an explorative project addressing complex societal and technological challenges related to the future transport of people and goods **and at the same time** shaping efficient tools and methods for dealing with such complexity and uncertainty involving experts from many different organizations.

### Benefit to the project partners and impact on society:

- SEVS has developed a generic method for how to work efficiently in cross-disciplinary explorative projects and perform analysis of complex societal development.
- The project provides a "smorgasbord" of results and insights of possible future societies and the different driving forces that influence the shaping of the future transport system. These methods and insights prevent errors commonly made when analyzing the future.
- SEVS has built a community of researchers, vehicle engineers, planning experts in society and industry and others that now share a common understanding of a scenario-based approach.

### Approach:

The approach is to organize stakeholders in a workshop based process. Between workshops in-depth studies are conducted. One core activity is to agree on the most uncertain influencing factors and define scenarios based on this. The consequences for different use cases in the transport system are then explored. Since complexity by definition cannot be divided into smaller separate pieces, SEVS developed methods and tools enabling a holistic analysis. The participating experts should have a high degree of diversity and span over fields like social sciences, vehicle technologies, city traffic administration, and resource analysis. SAFER as an Open Innovation Platform facilitated and strengthened the trust among people.

### Measurable results:

- Four complementary scenarios of the future society has been developed
- Seven vehicle concepts (desktop studies) to illustrate effects on vehicles based on scenario
- Creation of a driving force model which describes driving forces, their relations and how they shape the future transport system
- A generic method to analyze which transport solution the user will select, based on the scenarios and selected use cases
- About 100 seminars and workshops with multi-disciplinary teams and about ten dissemination seminars
- Deeper understanding of mega cities challenges, using Shanghai as the study case
- Several reports e.g. "Electro Mobility in Norway - Experiences and Opportunities with electric vehicles", The SEVS Way and about 20 sub-reports (not public), the SEVS Brochure and the Exhibition
- Input to more than six new projects; e.g., Balancing active and passive safety, Urban Personal Vehicle, and applications e.g. Multi-purpose Urban Mobility Solution (UDI)

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**Partners:** AB Volvo, Autoliv, Bisek, Chalmers, Göteborgs stad, Göteborgs Universitet, IBM, Innovationskontor Väst, Innovatum, Johanneberg Science Park, KTH, Malmeken, Mistra Urban Futures, Scania, SP, Swedish Hybrid Vehicle Centre, Volvo Cars, VTI

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