

Session 2: «Integrated Approaches of Energy and Transportation Infrastructures for Cities»

Roman Rudel,

Head of Institute for Applied Sustainability to the Built Environment, SUPSI, CH



SUPSI

Towards Smart Sustainable Cities

Integrated Approaches of Energy and Transportation Infrastructures for Cities

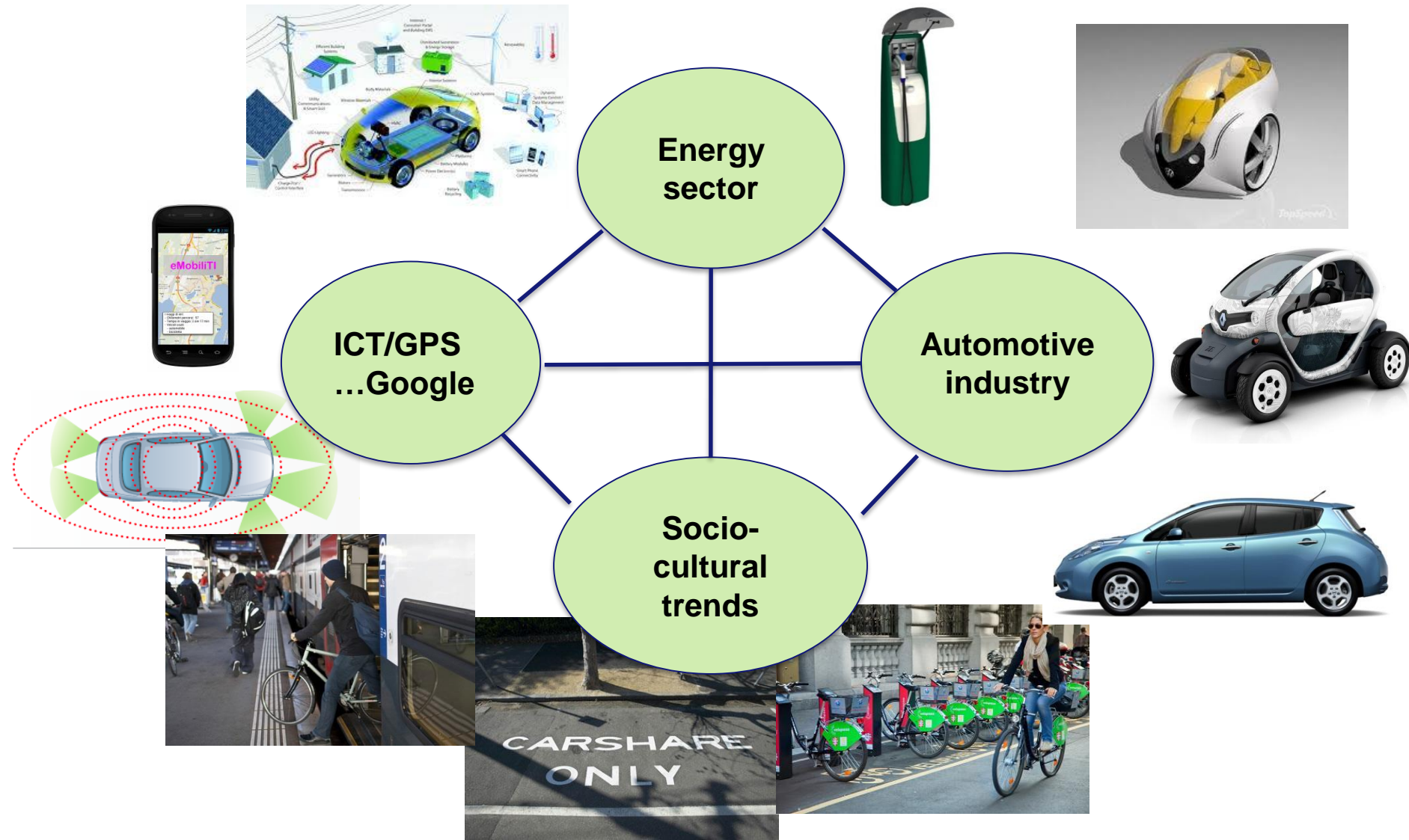
14 June 2017

Roman Rudel - Head of ISAAC

Longterm transformation of the energy and transportation system and infrastructure

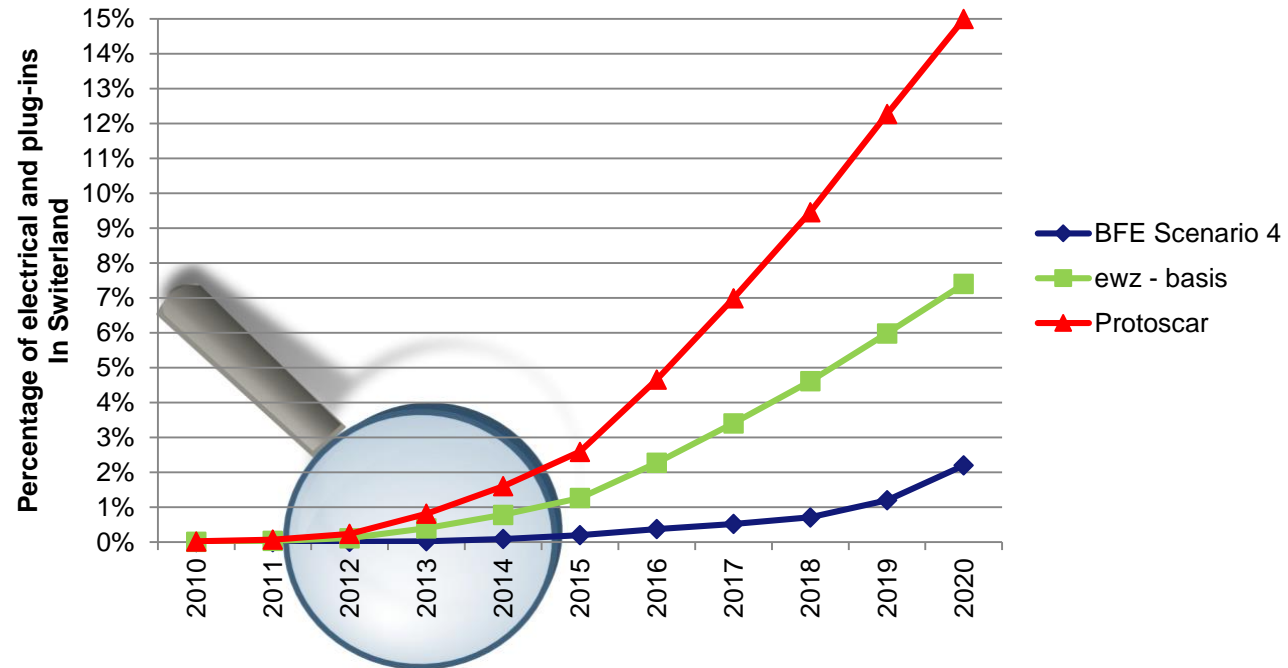
- Mobility and energy infrastructures are still dominated by fossil fuel
- Technological options are available
- Consumption and mobility behaviour patterns are deeply embedded in everyday life and routines
- New technologies can help to overcome all sort of barriers

Strong convergence between energy, mobility and ICT sector



Focus on the adoption phase of new technologies in a co-evolutionary perspective

Scenarios of the diffusion of electric and hybrid plug-in vehicles in Switzerland



Source: Federal Office of Statistics, ewz Alpiq/Protoscar

Interdisciplinary approach to technology adoption

- The transition and change towards an energy efficient mobility needs:
 - to understand the different forms of lock-ins in the present system (energy system, infrastructures, industry, space planning....)
 - to overcome psychological and behavioural barriers in the adoption process of new and innovative technologies
 - to investigate the role of users in shaping the technology (not only technology matters)
 - to induce individual and collective learning processes
 - to elaborate policy recommendations and guide lines

The living lab research approach in an ongoing project

Real life users
explore, experience and evaluate
 innovation and new behavioural patterns
in real-world settings



Activation of an **open learning process** and of a
co-evolutionary perspective
 between innovation and its users



It allows
 a **deeper and more effective understanding**
 of the phenomena



A powerful **decision-support system**
 for the definition of **new policies and regulations**