Workshop "How will software-defined mobility change our lives?"

"UpGrade Mobility" Winter School

25th-29th of November 2024 in Karlsruhe

Digitalization and software are nowadays the main innovation drivers of mobility systems: from the vehicle to the interconnected infrastructure components. They enable new functions and services for more automation, comfort and efficiency, which have the potential to change our lives.

During the third "UpGrade Mobility" Winter School, the impact of Software-defined Mobility (SDM) on different aspects of the human life will be discussed in a workshop entitled *"How will software-defined mobility change our lives?"*.

The topic will be handled in two sequential parts, each focusing on a different set of key questions:

Part I: Meaning and Status of SDM (Tuesday, November 26th)

- What are SDM and Software-defined Vehicles (SDV)?
- Technological, industrial, and daily life areas affected by SDM?
- Are we software-defined already?

Part II: Obstacles and Solution Approaches for SDM (Thursday, November 28th)

- What is preventing (or can prevent) SDM from changing our lives?
    - Human factors, maturity of technology, etc.?
    - Missing/inadequate infrastructure?
    - Risks of SDM: privacy, security/safety, "social injustice", accessibility?
- What needs to be done to overcome the obstacles for establishing impactful and beneficial SDM?
    - On technological, social, and political level

To ensure the key questions of both parts are considered from a wide/general perspective, three groups will work on them in parallel, each with its own perspective:

- **Group 1: Human & Society (H&S)**, Lead: Sofie Ehrhardt (KIT)
- **Group 2: Software and Data (S&D)**, Lead: Moritz Laupichler (KIT)
- **Group 3: Engineering and Systems (E&S)**, Lead: Lars Fischer (KIT)

The group lead is responsible for planning and moderating the working sessions of his/her group. He/she can optionally employ a special moderation method. In the following page, two exemplary methods, which can used by the working groups, are shortly described.

Moderation Methods (selection)

Disney method

Creativity technique with the aim of looking at a problem from different perspectives.

- Group is divided into three roles:
    - <u>Dreamer/visionar</u>: Develops new possibilities, fantastic and never-before-seen ideas
    - <u>Critic/skeptic</u>: "Yes, but..." Questions critically → Sees pitfalls, hurdles, risks and difficulties
    - <u>Realist</u>: Connects the ideas with the challenges → develops logical arguments about what can be realized and how
- Don't let groups get too big, collect contributions in brainstorm mode.
- At first, no direct reaction to what has been said before. Only allow direct responses to what has been said once all groups have had a turn once or twice.
- The moderator ensures that everyone only expresses themselves in their role, even if they personally have a different opinion.
- It is best to write it down on a large whiteboard so that all points are present in the discussion afterwards and you don't have to keep flipping through the flip chart.

Looking back from the future

Discovering and developing good ideals for the future. Suitable for large and small future topics

1. Formulate what a desired scenario for the future is being created for.
2. Determine a specific date in the future when this desired scenario has become reality or at least a recognizable part of it has been achieved.
3. Put everyone back in this exact time, on this day, and describe in detail what the situation looks like.
4. In a further step, we "report" what was done, starting from "November 2024", i.e. the date of the actual present, to make this happen.