

Sustainable Transport Systems

"Synchromodality" is a new transport concept that promotes the resource-saving and optimized use of all modes of transport. By an optimal use of the existing transport capacities, a modal shift towards sustainable modes of transport (rail, inland and waterway) can be achieved. Within the research area "Sustainable Transport Systems" the requirements for synchromodality in Austria will be analyzed.

The concept of synchromodality, which has its origin in the Netherlands, represents a concept of diverse sustainable transport systems. The focus lies in the interaction of different modes of transport with the sustainable use of existing transport resources. The goal of the competence field "Sustainable Transport Systems" is to investigate the requirements of a working synchromodal network from the point of view of LSP as well as from the perspective of the consignors. A preliminary study - conducted at the Logistikum Steyr - on the topic of synchromodality (project SynChain, sponsored by the FFG in the program Mobility of the Future 845307) focused on the detailed analysis and profound understanding of the success factors of the concept. The findings indicated that infrastructural and technological requirements are not critical for the implementation of synchromodal transport systems, but rather "soft factors" such as consciousness, cooperation and trust as well as acceptance among the decision makers along the transport chain. By considering those factors, our working objectives can therefore be divided in two areas: "Mental Shift" and "Modal Shift".



Mental Shift

The goal in the research area of the mental shift is to raise awareness on the subject of sustainable transport systems and thus stimulating a permanent rethinking. In addition, motivational approaches will be explored to reach a long-term investigation on this objective. Gamification can be named as an example for such an approach. Beside a literature review and qualitative interviews, quantitative surveys were also prepared by using questionnaires. The research is made in form of a longitudinal section study and is evaluated by using the Structural Equation Modeling (SEM).

Modal Shift

To investigate whether a modal shift (and thus synchromodality) can be realized within the transport industry, potentials and barriers of integrating sustainable transport modes are analyzed. Expert interviews with logistics managers will be conducted and literature review will be carried out.

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