View metadata, citation and similar papers at core.ac.uk
brought to you by CORE
provided by Institute of Transport Research:Publications

With public participation to a stopless and timetableless urban quarter bus in the Real-world lab Schorndorf

Matthias Klötzke, Eva Fraedrich*, Laura Gebhardt, Tim Sippel, Frank Ulmer

International Sustainability Transitions Conference 2016, Wuppertal

The German Aerospace Center (DLR), the University Esslingen, the University Stuttgart, the Verkehrs- und Tarifverbund Stuttgart (VVS), Knauss Linienbusse, Daimler AG and the City of Schorndorf have been engaged in a project ("Reallabor Schorndorf – Reality Lab Schorndorf") to develop an innovative, demand-oriented operational system as well as a vehicle concept for public busses in the city of Schorndorf in Baden-Württemberg. A crucial aspect of the project is the integration and participation of users of Schorndorf's transport system into the development process against a transdisciplinary background.

Reality Lab Schorndorf

In the "Reality Lab Schorndorf," a bus concept for the inner city area is currently being developed. On call – and by means of digital solutions, the bus shall pick up passengers at a desired stop and drop them off at their destination. Thus, the bus system complements the main transport connections in times of lower demand. In addition, smaller vehicles will be implemented. The project shall contribute to a resource-efficient, flexible and user-friendly transport system.

- **Sponsor**: Ministerium für Wissenschaft, Forschung und Kunst, Baden-Württemberg
- **Funding volume**: 1.2 Mio. €
- **Project duration**: 01.02.2016-31.01.2019

Innovative Mobility Concepts for Urban Areas

Source: DLR 2014

First evidence of transformations in urban mobility systems demand for new solutions[1,2,3,4]:

- Increase in the use of public transport as well as active modes
- Increase in the flexible use of different modes (multimodality, intermodality)
- Decrease of car usage (in particular among young transport users)
- Increase in digital (information) services within the mobility sector

Design Thinking Process

Source: Own illustration

A group of Schorndorfer volunteers will act as "co-designers" in the development process. In joint "Design Thinking Workshops", they will contribute to the requirements analysis, develop solutions and evaluate pilot concepts.

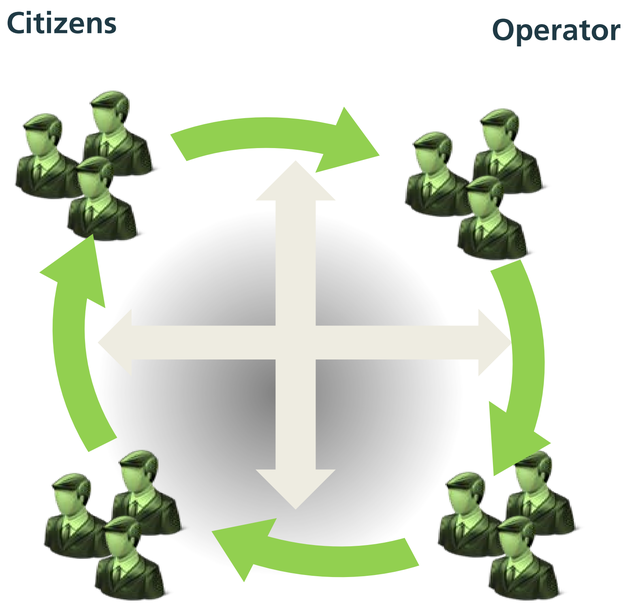
Fictional characters (Personas) thereby help to focus on specific needs and desires instead of dealing with abstract requirements. The Personas represent four user groups of Schorndorf's transport users: seniors (1), mobility-impaired (2), car users (3) and bus users (4). The input for the Personas is based on demographics, expert interviews, participatory observation and the workshop participants.

Project Structure

Crucial within the project is the integration of knowledge in a transdisciplinary manner that is reflected in the project's structure:

	Participation	Operation Concept	Vehicle Concept
1	Initial position	Specification analysis	Specification management
2	User perspective	Architecture	Drafts/sketches
3	Expert perspective	Implementation	Concepts
4	Monitoring pilot phase	Testing/ Pilot phase	Construction
5	Public dialogue	Evaluation	Installation of demonstrator
Knowledge Management			
Project Coordination			

Public participation approach



Source: Own illustration

Project Consortia

Deutsches Zentrum für Luft- und Raumfahrt
SCHORNDORF DIE DAIMLERSTADT
zirius Zentrum für Interdisziplinäre Risiko- und Innovationsforschung
Hochschule Esslingen University of Applied Sciences
Mercedes-Benz Vans. Born to run.
vvs
Knauss Linienbusse

Research questions

1. What are the requirements for innovative concepts that allow for flexible, comfortable mobility?
2. What could a public transport concept look like that is based on user requirements and developed from their perspective?
3. What would an innovative vehicle look like?
4. How can the users be integrated into the development process?

In the project, various methods (qualitative social research, creativity methods, citizen participation procedures) are used to generate benefits in the development and planning process:

- Enhancement of acceptance and transparency from user perspectives
- Practical findings, based on everyday mobility practices and knowledge of crucial actors

References

[1] Ahrens, G.-A.; Klotzsch, J. & Wittwer, R. (2014): Auto nutzen, statt besitzen. Treiber des multimodalen Verkehrsverbunds. In: Zeitschrift für die gesamte Wertschöpfungskette Automobilwirtschaft 17 (2), S.6-21.
[2] Heinrichs, Dirk & Oostendorp, Rebekka (2015): Urbane Mobilität – in Zukunft Intermodal? In: ATZ extra, Springer Verlag 20 (4), S.18-21.
[3] Kuhnimhof, Tobias (2012): Mobilitätstrends junger Erwachsener. In: Internationales Verkehrswesen 64 (2), S.53- 54.
[4] Institut für Mobilitätsforschung (2011): Mobilität junger Menschen im Wandel –multimodaler und weiblicher. In: Ifmo-Bericht der BMW Group.

www.reallabor-schorndorf.de

Gefördert vom Ministerium für Wissenschaft, Forschung und Kunst Baden-Württemberg
Baden-Württemberg MINISTERIUM FÜR WISSENSCHAFT, FORSCHUNG UND KUNST
WISSENSCHAFT FÜR NACHHALTIGKEIT

Deutsches Zentrum für Luft- und Raumfahrt
German Aerospace Center

Transport Program
Pfaffenwaldring 38-40
70569 Stuttgart

Corresponding author: eva-maria.fraedrich@dlr.de