

ReLUT Newsletter

Issue Nr. 1
March, 2026



Welcome!



Updates from Frankfurt University ReLUT

ReLUT - Research Lab for Urban Transport is an interdisciplinary team of researchers in Frankfurt, Germany working on current and future challenges of mobility. Our research focuses on the development of economic and ecological solutions for new mobility models. In addition to the disciplines of transport planning and logistics, ReLUT combines a wide range of competencies: urban planning, social science, data science (Big Data), computer science (AI), geoinformation, law, automotive engineering, and economics.

At the beginning of 2026, we continued to work on various research projects in the areas of emissions reduction and simulation-based analysis and launched a new project in the field of local mobility.

We hope you enjoy reading about what we are working on. We are always open for collaborations on existing and new projects. Please contact us if you have any ideas of future endeavors.

Best wishes,



Petra Schäfer



Tobias Hagen



Anne Lange



Dennis Knese



NEXTLOGIC

Rethinking Urban Spaces Towards Climate Neutrality



Funded by: European Union (Horizon Europe – Mission Cities)

Duration: January 2026 to December 2029

Project Lead: Prof. Dr. Tobias Hagen

Kick-off for a new Horizon Europe Project

In January 2026, the ReLUT team traveled to Belval, Luxembourg, for the official kick-off of the EU-funded project NEXTLOGIC. Over two productive days, 34 partners from across Europe—including universities, industry leaders, and eight pilot cities—came together to launch this ambitious four-year initiative aimed at transforming urban logistics.

NEXTLOGIC addresses one of today's most pressing urban challenges: integrating efficient, zero-emission last-mile logistics into dense city centers without compromising public space. The project aims to reduce congestion and emissions by developing a digitally empowered platform. By leveraging Digital Twins (DT) and Extended Reality (XR), the consortium will co-design and test solutions such as mobile microhubs, smart loading zones, and multimodal hubs that align with the „15-minute city“ concept.

ReLUT's Role: Digital Twins and Frankfurt Pilot

ReLUT works in the consortium as the leader of Task 2.1: Digital Twins for urban space, mobility and logistics. Our team alongside other partners in this task is responsible for developing the Digital Twin framework that integrates real-time data to simulate and optimize logistics flows. By fusing heterogeneous data sources, we aim to provide cities with the tools to visualize impacts on traffic, emissions, and space usage before physical implementation.

Furthermore, Frankfurt am Main serves as one of the project's replicating cities. In cooperation with local partners, we will support the deployment of technologies that address the city's current mobility and logistic challenges in real-world conditions.

The meeting in Luxembourg marked the start of what promises to be four years of fruitful collaboration. We look forward to work with our partners to drive the transition toward climate-neutral cities.

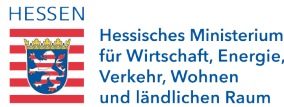


Amir Babaei, M. Sc.
Research Assistant



Katharina Dehler, M. Sc.
Research Assistant

Evaluating the Impact of E-Scooter Bans on Intermodal Mobility



Funded by: Hessisches Ministerium für Wirtschaft, Energie, Verkehr, Wohnen und ländlichen Raum

Duration: November 2025 to November 2026

Project Lead: Prof. Dr-Ing. Dominic Hofmann

In February 2024, the Association of German Transport Companies (VDV) recommended banning e-scooters from buses, trams and subways due to potential fire and explosion risks associated with their lithium-ion batteries. Following this recommendation, numerous local transport providers – including Frankfurt's VGF, Cologne's KVB, and Munich's MVG – implemented such bans. While technical safety assessments exist, the actual impact of these decisions on passenger behaviour and intermodal travel remains a significant research gap.

SivESco (Safety of E-Scooters in Public Transport - Transport Impacts of a Transport Ban), launched in November 2025, focuses on the mobility-related consequences of these bans. Led by Prof. Dr. Dominic Hofmann, the research team is investigating how these restrictions influence the use of e-scooters and their role in intermodal trips.

To achieve a comprehensive understanding, the methodology combines:

Scientific Synthesis & Policy Mapping: Creating a comprehensive overview of current carriage regulations across transport networks and integrating existing studies on e-scooter usage to provide a neutral, evidence-based assessment of the status quo.

Data Analysis: Evaluating e-scooter-specific data from the national study „Mobility in Germany 2023“ (MiD).

Quantitative Surveys: Conducting online and on-site interviews in Frankfurt am Main to capture real-world user data and behavioural shifts.

The findings will provide essential insights for transport planners and policymakers. By analysing how these bans alter e-scooter users' behaviour and affect their intermodal trip chains, the project aims to provide a reliable foundation for future strategic transport decisions. The project is funded by the State of Hesse and the HOLM funding program „Innovative Projects in Logistics & Mobility“ and will run until November 2026.



Katharina Dehler, M. Sc.
Research Assistant

U!REKA

U!REKA Research Days 2025

Following our workshop from U!REKA Connects 2025 in Helsinki in May 2025, we took the next step at the U!REKA Research Days 2025 in Amsterdam in November 2025, hosted by Amsterdam University of Applied Sciences.

The Research Days offered two days of trainings, workshops, and networking in a vibrant setting that helped to match with the right partners and to discuss research ideas. A standout element was the “Climate Exam”, a modular tool to test and deepen climate knowledge. Its multi-level structure makes it easy to adapt for teaching purposes, and we see clear potential to integrate elements into courses at Frankfurt University of Applied Sciences.

We also joined practice-oriented sessions – especially valuable was the training on EU research proposals, covering funding possibilities, proposal structure, and concrete impact and dissemination strategies.

As part of the programme, we organized and held a workshop “Collaborative Research in Mobility & Logistics” in which we and 13 participants from across the alliance continued working on research ideas from our workshop in Helsinki. After a brief recap of Helsinki and introductions, four topic groups developed project ideas and next steps, which were consolidated in a final plenary. Outcomes already include agreed follow-up meetings and first pathways toward proposals, supported by shared visual notes and photo documentation for ongoing consortium building.



Nicole Reinfeld, M. Sc.
Research Assistant



Prof. Petra Schäfer
Professorship of Transport Planning,
Speaker of the ReLUT

Publications

Reinfeld, N., & Hagen, T. (2026). Licensing delay versus reduced car orientation in Germany: A cohort perspective using panel data. *Travel Behaviour and Society*, 43, 101225. <https://doi.org/10.1016/j.tbs.2025.101225>

Siegl, L. & Bornemann, T. (2025). Assessment of shop floor environment dynamics in production plants by developing an innovative methodology for an appropriate implementation of mobile transport robots. *Prod. Eng. Res. Devel.*, 2025, <https://doi.org/10.1007/s11740-025-01367-6>

Knese, D. (2025). Walkable and Cyclable Side Streets in Frankfurt – Appraising (Provisional) Traffic Calming Measures With a Multimethod Analysis. In: McNally, C., Carroll, P., Martinez-Pastor, B., Ghosh, B., Efthymiou, M., Valantasis-Kanellos, N. (eds). *Transport Transitions: Advancing Sustainable and Inclusive Mobility. Proceedings of the 10th TRA Conference, 2024, Dublin, Ireland - Volume 2: Sustainable Transport Development*. Springer, Cham. https://doi.org/10.1007/978-3-031-85578-8_20

Düerkop, S., Knese, D., Grubmüller, J., Overmeyer, M., Bickmann, J., Grigoleit, S., Wong, C. (2025). The Status Quo and Potential of Cycle Logistics: Technologies, Business Models and Societal Trends. In: Herberger, D., Hübner, M. (eds.): *Proceedings of the Conference on Production Systems and Logistics (CPSL 2025)*, publish-Ing., S. 509-520. <https://doi.org/10.15488/18849>

Reinfeld, N. & Hagen, T. (2025). How would employees commute today if they had the same characteristics as employees in 1980? – Using entropy balancing to decompose changes in observed commuting mode choice over time in repeated cross-sections. *Transportation Research Part A: Policy and Practice*, 192, 104370. <https://doi.org/10.1016/j.tra.2024.104370>

Reinfeld, N. & Hagen, T. (2025). Using cluster analysis to identify behaviorally homogeneous groups in multiple stages of the four-stage model. *Transportation Research Procedia*, 82, 3155-3175. <https://doi.org/10.1016/j.trpro.2024.12.240>.

Hamann, J. Hagen, T. & Saki, S. (2025). Understanding Traffic Patterns using Clustered Semantic Trajectories and Local Geographic Units. *Transportation Research Procedia*, 82, 2911-2930. <https://doi.org/10.1016/j.trpro.2024.12.227>

Working Papers

Schlecht, M., Habenicht, I., Siegl, L., Jansma, F. & Bornemann T. (2025). Accelerating the Simulation of AMR Fleets Using VDA5050, LIF and Multi-Core Simulation. 21. ASIM-Fachtagung Simulation in Produktion und Logistik. Dresden, Germany, 24. bis 26. September 2025. <https://doi.org/10.25368/2025.263>

Congratulations!

Jonas Hamann-Effertz completed his doctoral thesis “Using geospatial data and machine learning methods for decision support in traffic management and transport planning” with distinction on February 9, 2026.



The cumulative dissertation examines how machine learning methods in combination with geodata can support traffic planners and managers in their decision-making to counteract the negative consequences of increasing traffic volumes. Four articles present data-driven approaches, including the spatial zoning of urban areas, the derivation of trip purposes from GPS data, forecast models for parking garage occupancy, and a comparative methodology for the planning and design of park-and-ride facilities. Overall, the work highlights the potential of modern data

collection and machine learning methods for traffic planning and management and discusses both their scientific limitations and practical implications.

A note from us:

This is the last issue of our international newsletter that we will be sending directly to you. If you would like to stay informed about ReLUT's work, [please sign up here.](#)

IMPRESSUM

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