

Korea-EU Horizon Europe Researchers Networking Forum on Energy & **Advanced Mobility**



Prof. Dr.
*appointed professor of the High-tech
Agenda Bavaria, Germany
Research Professorship*

Galia Weidl

University of Applied
Sciences Aschaffenburg



TH Aschaffenburg
university of applied sciences

Competence Center
Artificial Intelligence
Lab: Connected Urban Mobility –
Intelligent Traffic Infrastructure



NOTE: You are certainly allowed to add more slides for sharing but your presentation should not be longer than 3 minutes



1. Short Introduction of my Organization

Real City Living Lab Aschaffenburg

Con-UM: Connected Urban Mobility – Intelligent Traffic Infrastructure

Type of Institution: **Competence Center Artificial Intelligence**

Infrastructure: **Real City Living Lab Aschaffenburg @ City Ring AB**

Investment (500,000€): **12 LiDAR sensor systems with SW package for detection of all road users, Visibility Sensors (adverse weather conditions) and 2 Environmental Sensors (mobile)**

funded by the High Tech Agenda Bavaria in relation to the research professorship "Connected Urban Mobility - Learning Traffic Infrastructure" of Prof. Dr. Galia Weidl, THAB



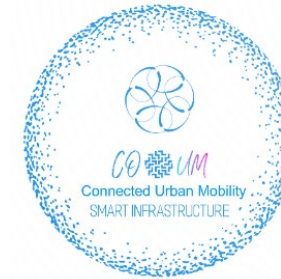
Research team: 2 PhDs @THAB & 1 industrial PhD @ ZF

Ongoing plans for more resources: Digital Twin projects

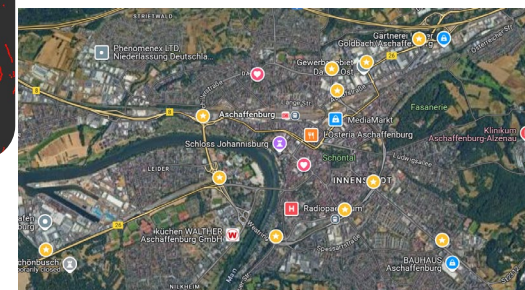
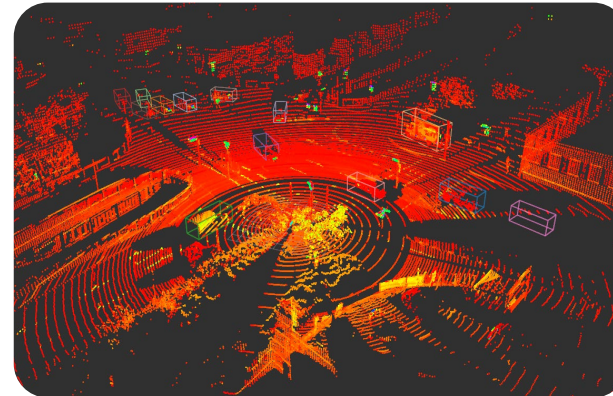
Institutional area of focus: **Advanced Mobility, Digital Twin**

University Ranking:

THAB consistently ranks among the top institutions in Bavaria and across Germany in terms of **third-party funding per professor** in the research areas of Intelligent Systems, Materials, and Knowledge Transfer & Structural Change, with current public funding of **€11.5 million**.



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2. Expertise

Expertise of our University: [Aschaffenburg](#), [Competence Center Artificial Intelligence](#)

Our potential contribution to consortium: **Explainable AI, System perception, Situation analysis, experimental testing**

1. *Smart Infrastructure (available): Real City Living Lab @ City Ring AB.*

Data Fusion:

- 12 LiDAR sensor systems & SW package for detection of all road users
- Visibility Sensors (adverse weather conditions) and
- 2 Environmental Sensors (mobile)

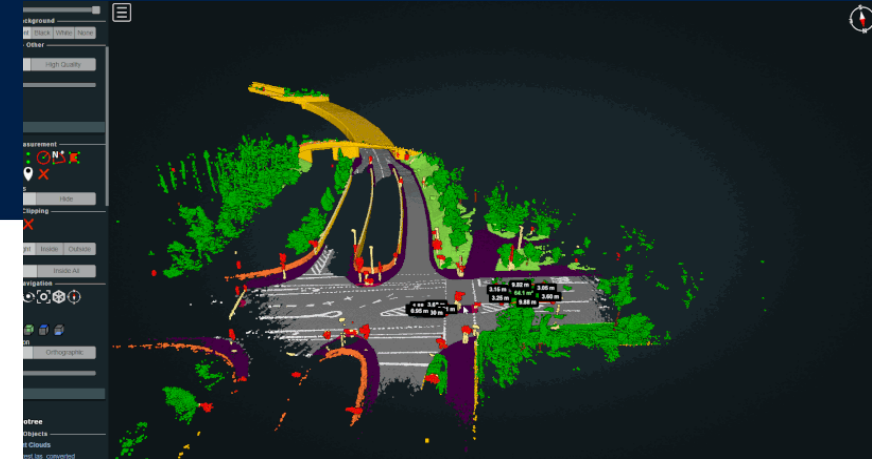
2. *R&D on Digital Twin: Adopt & Develop Open Source Software*

Research focus on

- **Data fusion & Traffic flow analysis:** traffic patterns at different times and correlations to traffic disturbances
- Understand the mechanism behind **accidents and traffic disturbances** and **enrich the AI models with root causes (XAI)**
- Understand the impact of **traffic flow patterns and its environmental impact (air quality)**

➔ **Prevention** of accidents and traffic disturbances

➔ **Increased safety** of all traffic participants





3. Your Project Idea

① HORIZON-CL5-2026-10-D6-01: Flagship-pilot: large-scale demonstrations of CCAM

Main Objectives:

- Integrate and demonstrate advanced CCAM technologies in real urban environments.
- Validate safety, efficiency, and public trust through multi-site testing.
- Develop policy and business models for large-scale deployment.

Our Idea briefly explained: CCAM in learning traffic infrastructure (Real City Living Lab AB)

- Create a city-scale simulation–demonstration framework, connecting infrastructure data with AI-based perception and intentions recognition of traffic participants.
- Evaluate how CCAM systems can operate effectively in real urban environments by ensuring: Safety under severe weather conditions, cybersecurity, and reliability.
- Strengthen societal trust by co-creation with citizens/stakeholders. Define criteria & set priority.

③ HORIZON-CL5-2027-06-D6-04: Holistic solutions for CCAM integration in critical scenarios

Main Objectives:

- Identify and classify critical edge cases for CCAM operations in Learning Infrastructure.
- Develop AI-driven decision support for real-time risk management.
- Strengthen cooperation between road authorities (AB), mobility & ITS operators (SWARCO), and emergency services.

Our Idea briefly explained: CCAM in learning traffic infrastructure (Real City Living Lab AB)

- The project designs a Digital Twin-based service to maintain safe and resilient urban safety.
- Design holistic CCAM solutions in for rare, critical, and high-risk scenarios
- Ensure: Real-time holistic situation interpretation for road users, operators, and service provider
- Develop AI-driven decision support for real-time risk management: mitigate risk scenarios
- Explore in the digital twin the CCAM & Learning Infrastructure Integration with Traffic management, mobility platforms, and emergency services.

② HORIZON-CL5-2026-10-D6-02: Geopolitical competition and socioeconomic resilience in CCAM

Main Objectives:

- CCAM in Learning Infrastructure perspective
- Develop innovation and policy roadmaps, ensuring Europe’s leadership and resilience in CCAM under evolving global competition.

Our Idea briefly explained: CCAM in learning traffic infrastructure (Real City Living Lab AB)

- Simulate and assess CCAM impacts using the digital twin of Aschaffenburg to evaluate socioeconomic, employment, and demographic effects within a real-city living lab.
- Integrate economic–transport modeling with urban digital twins to build an evidence-based road map for sustainable and inclusive mobility policies.
- Develop resilient governance and business strategies stress-tested against varying geopolitical and economic conditions.

④ HORIZON-CL5-2026-10-D6-10: Enhanced resilience in multimodal passenger transport through digital technologies and AI

Main Objectives: Multimodal passenger transport systems in Learning Infrastructure perspective

- Increase resilience of multimodal passenger transport systems using digital twins and AI.
- Enable predictive maintenance and real-time disruption management.
- Enhance safety for all traffic participants, reliability, and network efficiency.

Our Idea briefly explained: CCAM in learning traffic infrastructure (Real City Living Lab AB)

- Use real-time data AI analytics systems to dynamically predict & respond to disruptions → Optimizing network recovery.
- Predictive maintenance strategies by AI to prevent failures.
- Guidelines and tools for operators to minimize disruptions and run emergency simulations.
- Real-life demonstrations in multimodal corridors (time-coordination: bike, bus, train, shared mobility) in Aschaffenburg, Germany.



4. Profile You are Seeking and Why

PRESENTED PROJECT IDEA: Extend *Real City Living Lab Aschaffenburg* to
Learning Infrastructure in CCAM perspective

1. Our Expertise & Role & Strengths

THAB expertise in **Explainable AI, system perception, situation analysis, experimental testing**
interested in joining a suitable consortium to analyse & advance CCAM in the context of Learning Infrastructure.



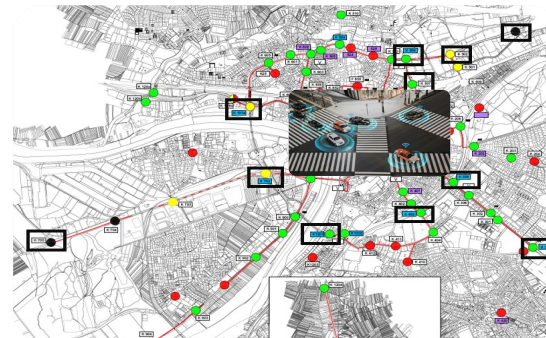
2. Looking for Partners with Experience in

- CCAM R&D to explore perspective gains from Operation in Learning Infrastructure
- Digital Twin Living Lab, to collaborate on the scaling & transfer of Open Source Software for Advanced Mobility in the Real City Living Lab Aschaffenburg and beyond
- Reinforcement Learning for Smart Control of traffic lights (TL) or without any TL, explore Connected Mobility

3. Existing Collaboration: THAB x Seoul University

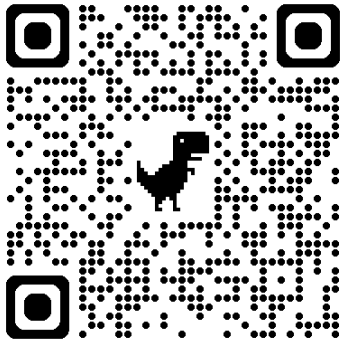
University of Seoul: Research focus on:

- Autonomous mobility systems
- Urban-scale simulations (Digital Twin)
- Multi-agent & ROS-based robotics
- Policy & regulatory impact analysis





5. Contact Details



Google Scholar

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