



# CELTIC EUROOGIA

## Online Proposers Day

15<sup>th</sup> & 16<sup>th</sup> September 2020



**Pitch of the Project Proposal**  
**Optimal emission-free local public transport**



Hochschule Kempten  
University of Applied Sciences



**Samuel Würtz University of Applied Sciences Kempten**  
**[samuel.wuertz@hs-kempten.de](mailto:samuel.wuertz@hs-kempten.de)**

# Teaser



*In order to achieve environmentally friendly public transport, the way to go at the time are electric busses. Many obstacles must be tackled before the operations can be switched to those alternative drives.*

*We combine research approaches from classic traffic research with advanced machine learning techniques to achieve optimal transport networks for electric busses*

*We invite any public transport provider as well as public transport planners interested in switching to emission-free operations to take part in our research pursuit*

*Forschungszentrum Allgäu,  
is the research department of the University of Applied  
Sciences Kempten.*

*It has different interdisciplinary research fields like:  
Energy systems, connected mobility, automation  
technology, health care management  
With an annual project volume of 7 million €*

*Our research group focuses on e-mobility and smart  
mobility since 2009*



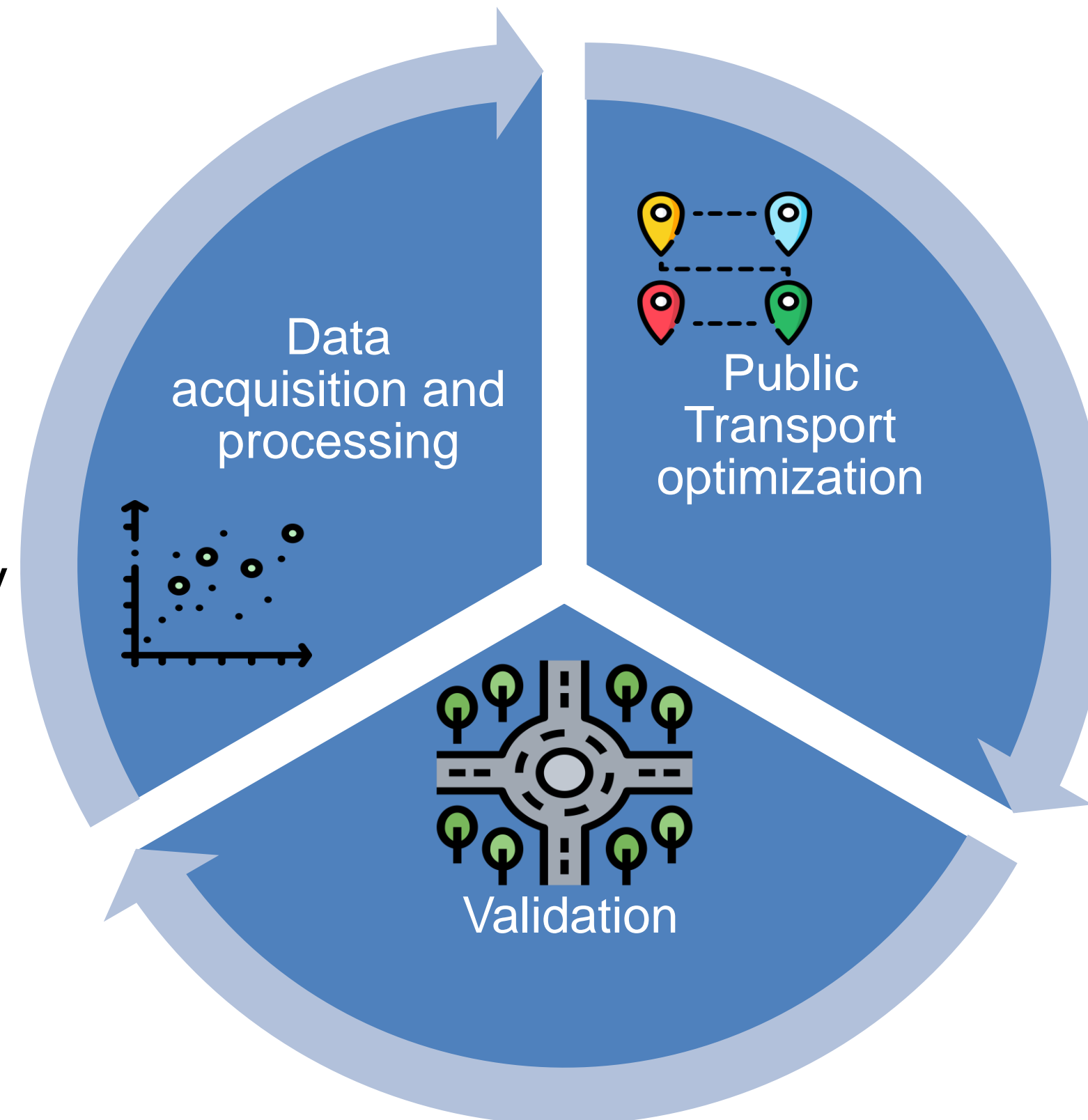
# Proposal Introduction



*We want to collect real-world data from public transport systems and simulate the operations in a detailed traffic simulation. Based on that we want to solve the Urban Transit Route Network Design Problem, by combining our collected data with state-of-the-art Machine Learning approaches to achieve the best possible solutions for the emission-free public local transport. In the third step we validate our solutions in the simulation before it gets applied in the real world.*

# Proposal Introduction

- Collect data from buses in public transport (trajectories, energy demand, vehicle weight, mobility demand..)
- Identify key factors which need attention in electrical operations
- Enrich the data with detailed energy demands from our energy model



- Urban Transit Route Network Design Problem
- Plan routes for buses
- Plan charging infrastructure
- Frequency and timetable development
- Scheduling drivers and vehicles

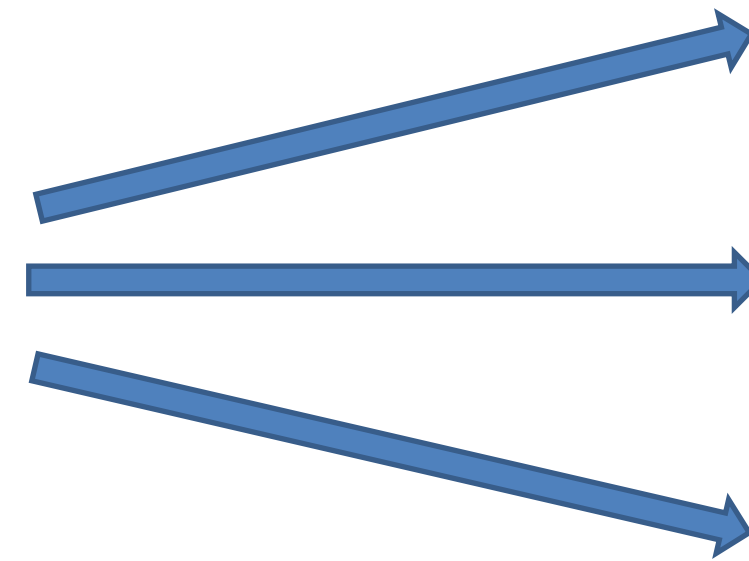
- Validate solutions in detailed traffic simulation
- Validate the simulation against collected data from busses

# Partners



- *We have existing cooperation with monalysis GmbH from Kempten, Germany, experts in data-acquisition and processing.*
- *We are looking for public transport providers interested in working together with us.*
- *Also partners with expertise in planning public transport operations would be of interest*
- *city authorities interested in reducing emissions for the residents.*

*Please choose :*



**ICT**

*Green Energy*

*I don't know*



# Contact Info

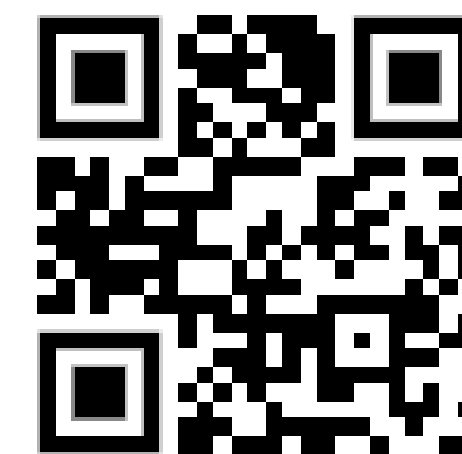


**For more information and for interest to participate please contact:**

Samuel Würtz,  
University of Applied Sciences Kempten  
samuel.wuertz@hs-kempten.de  
00 49 831 2523-9354  
Leonhardstr. 19, 87437 Kempten



**Presentation available via:**





# 17 Sept. 14.00 CET Join the follow-up Telco

[Join Webex meeting](#)

Meeting number (access code): **163 808 3031**

Meeting password: **4EJbweXP23w**

Join by phone

[+49-6925511-4400](#) Germany toll

[Global call-in numbers](#)

[Can't join the meeting?](#)

