

IDP

# Development of a Frontend/Dashboard for the Simulation of Battery Electric and Autonomous Trucks

## Motivation

Increasing climate protection requirements and a worsening shortage of drivers pose major challenges for logistics. Electrification and automation provide the potential to address these challenges, and especially the combination of both offers promising synergies on a system level. The decoupling from legally binding driving time regulations significantly increases flexibility and opens up new opportunities for a smart integration into a renewable energy system.

A simulation model for battery-electric and autonomous freight transport is currently being developed at the chair. To visualize the results and to enable the derivation of implications from the simulation, a frontend or dashboard for the simulation is required

## IDP topic

The aim of this IDP is to develop a frontend or dashboard to dynamically visualize the simulation results. For this, relevant existing and possible additional simulation outcomes must be identified. You are encouraged to contribute your ideas and to develop a visualization concept for a smart dashboard displaying the simulation results. You can implement this concept using an approach of your choice and connect the frontend or dashboard with the simulation model.

## What you get

- The possibility to benefit from a pioneering role and to make your contribution for shaping the future of logistics
- The opportunity to implement your own ideas
- Close supervision with weekly meetings
- In case of excellent working performance: opportunity for a follow-up thesis work (master's thesis)



## Work packages

- Familiarization with the concept of electric and autonomous trucks
- Identification of relevant simulation outcomes
- Development of a visualization concept
- Implementation of a frontend/dashboard for the simulation

## Requirements

- Passion for e-mobility and energy-transition-accelerating technologies
- Initial programming experience
- Ideally experience in building frontends/dashboards
- Independent and structured way of working
- Very good German or English language skills

I am looking forward to receive your complete application with a CV, current overview of grades, a brief motivation, and any other documents. **The IDP can be conducted either in German or English.**

## Contact

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## Start date

From now

## Workplace

FTM (Garching Forschungszentrum) or remote