

Project Study / IDP

Designing and implementing a Smart Metering Mobile App

Background

The digitalization of the shift towards Renewable Energies ("Energiewende") opens up a broad variety of both challenges and possibilities for energy utilities, industry and consumers. In particular, detailed insights into consumption patterns could allow end-users to optimize their electricity usage and reduce energy costs. A necessary ingredient to this optimization is the integration of Smart Metering for private consumers. This technology allows for close to real-time information on consumption and energy costs and – if rightly designed – provides incentives to shift or reduce consumption across time. However, prior to a mass rollout, an extensive research into the suitable design of Smart Metering appliances needs to be undertaken. With this project, TUM and SWM are teaming up to conduct cutting-edge research on the further development of Smart Metering and corresponding apps.

Scope of the project study / IDP

The key part of this Smart Metering study is a prototype mobile app allowing consumers to monitor and adjust their consumption according to their personal profile and current tariffs. Requirements are:

- Development of a mobile app (iOS and/or Android, preferably both)
- The app should be able to visually display all relevant user information, such as
 - Data on consumption as obtained by the Smart Metering devices (history)
 - Data on prices / tariffs provided by retailer (SWM)
 - Other potentially relevant information, e.g. CO₂ emissions caused by consumer, consumption of peers, benchmarks against other consumption profiles
- Development of a creative front-end user experience
- Extensive testing of the app through real users study
- Presentation of the results

This project can be undertaken as a "project study" or an "IDP". In both cases, the project is supervised by TUM Center for Energy Markets and by TUM Managerial Economics professorship. Qualified applicants are invited to send their electronic application (preferably in groups) to cem@wi.tum.de.