**Hiwi/Wihi Job**  
Support in development of energy management system using PMU and cloud architecture

**Background of the research:**

Electrical distribution system, especially low voltage grids, are often hardly monitored by system operators. At the time of power system transformation, the monitoring becomes the crucial aspect to address before solving or facilitate solving any further challenges in the power grid. In order to improve the monitoring quality in the medium and particularly low voltage grids, the usage of the phasor measurement units (PMU) is considered as a very promising solution enabling many other paths of further development in the distribution network. Furthermore, the usage of the cloud-based control and energy management systems gives more opportunities and flexibility, but on the other hand brings new challenges concerning e.g. communication infrastructure.

**Particular content:**

You will participate in the development of some aspects of energy management system (for electrical grids and buildings) including (and according to your experience, skills and wishes):

- development of software for low-cost electrical metering hardware e.g. raspberry PI based,
- performing associated simulations, if necessary, in order to support your development and implementation (e.g. in matlab, python)
- coupling of physical or virtual devices (sensors, actuators) with software controller and cloud environments,

**Your profile:**

- C++ and/or Python practical programming skills,
- basic linux environment understanding,
- electrical power system knowledge and hardware (e.g. raspberry pi), virtual machines & dockers understanding would be very useful but not a must.
- networking, telecommunication knowledge is also very welcomed.

**Contact: (Feel free to contact me for more information!)**

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