**COM SYS**

**RESEARCH**

# HiWi Positions (9-12 h/w): Field Test Support for a Smartphone-based Energy Outage Detection System
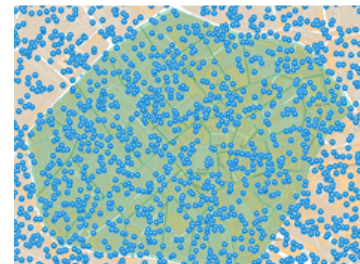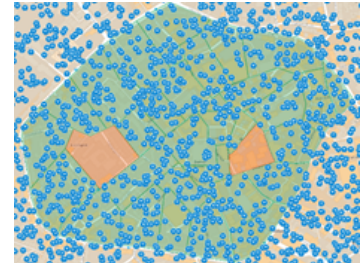
## Introduction

When a smartphone detects the sudden disappearance of previously-visible WiFi networks within its vicinity, this may point to some kind failure in the energy grid in that area. Wireless networks like GSM, LTE and 5G, are usually battery-buffered and thus immune to intermittent outages.

We can hence collect information on assumed grid failures from smartphones and inform the grid operators automatically on possible outages, which drastically reduces the response times and the resulting outage lengths.

COMSYS has developed a prototype of a system implementing the aforementioned functionality. It consists of a **Python-based back-end** server for the calculations and an **Android application library** for conducting the measurements.

We are now planning to conduct **field tests with industrial partners** and need **assistance in maintenance and further development of the system**.

## Your Job

Your job will be to accompany the field tests from our side, making sure that the backend system is running smoothly. For this, first **you will be given a thorough introduction into the different aspects of our system** (it's not *that* complicated) and then be responsible for fixing bugs and implementing additional algorithms on the back-end part. Occasionally, you may also need to address problems arising from the communication with the smartphone library.

Required for this job is the willingness to work yourself into our backend system consisting of Python scripts, a NoSQL database and (to a minor degree) C# code. Android knowledge is a plus but not a must have. You need *not* know anything about electrical engineering.

**Your working hours can be freely arranged**, as long as you can work on the project on at least two different days per week.

COMSYS offers you a friendly, open-minded working atmosphere, candy and coffee close to purchasing price, occasional social gatherings and more. If you are interested in working with us on this project, please contact us! **You can apply until the end of July, 2018.**

## Contact

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