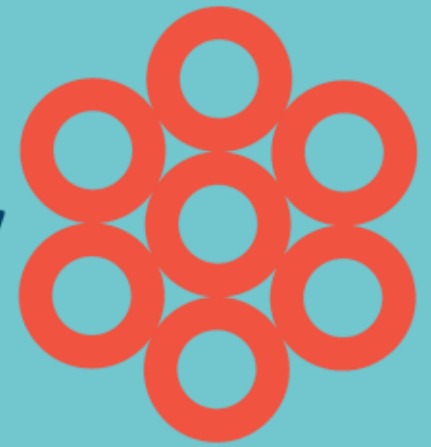


# Technology Briefing EMPA November 11

Till Richter, Head Data  
[till.richter@aliunid.com](mailto:till.richter@aliunid.com)

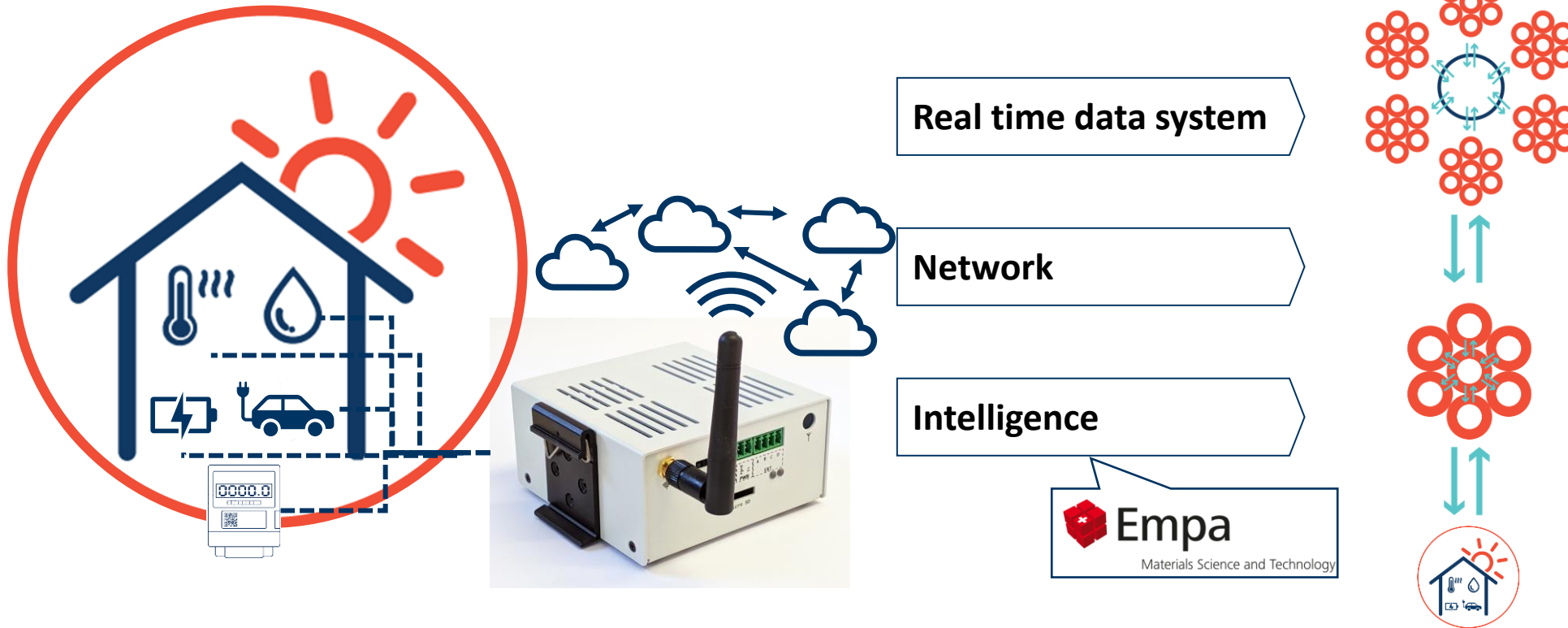
when  
**energy**  
breathes



Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
Confederaziun svizra



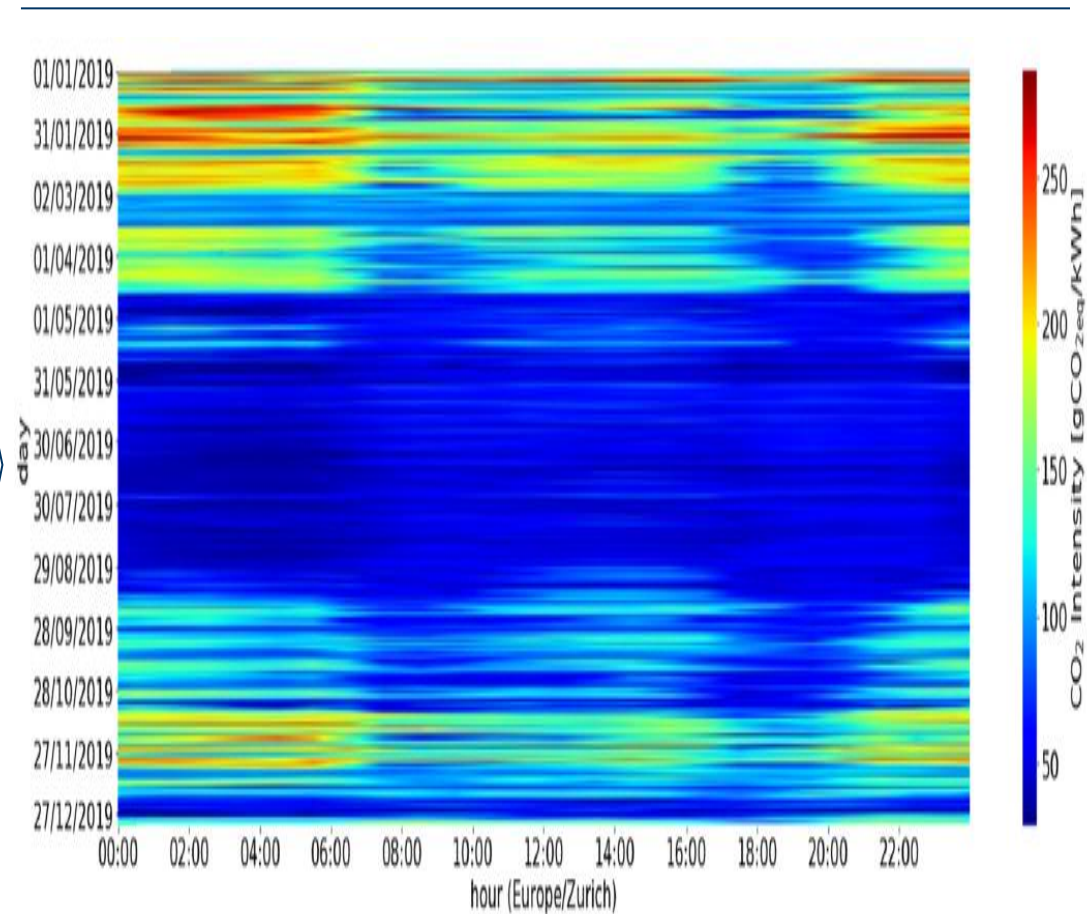
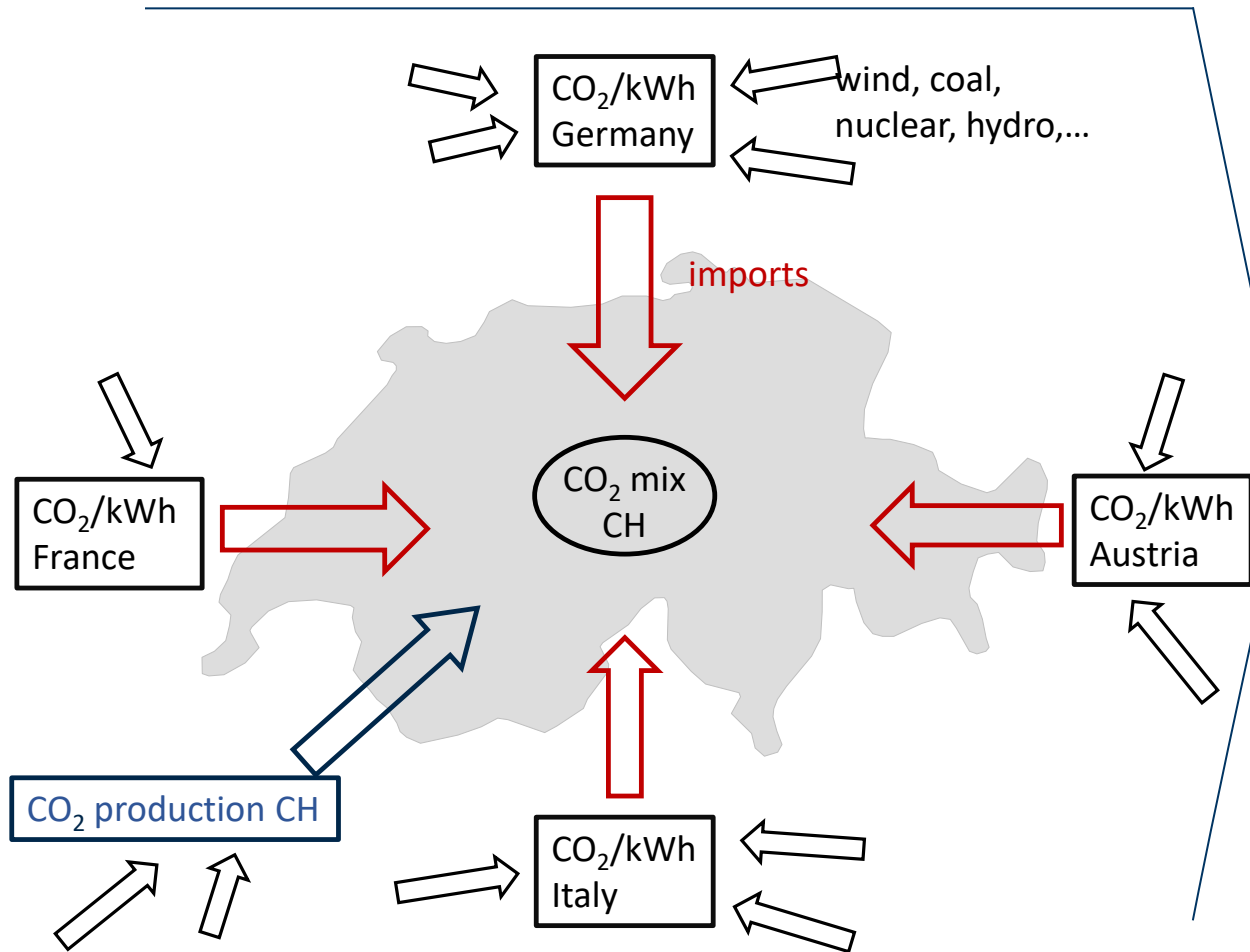
How can energy start to breathe?  
How can we use the flexibility in the grid to create value?



Our intelligent and digital platform for utilities allows to use flexibility in the grid to create value



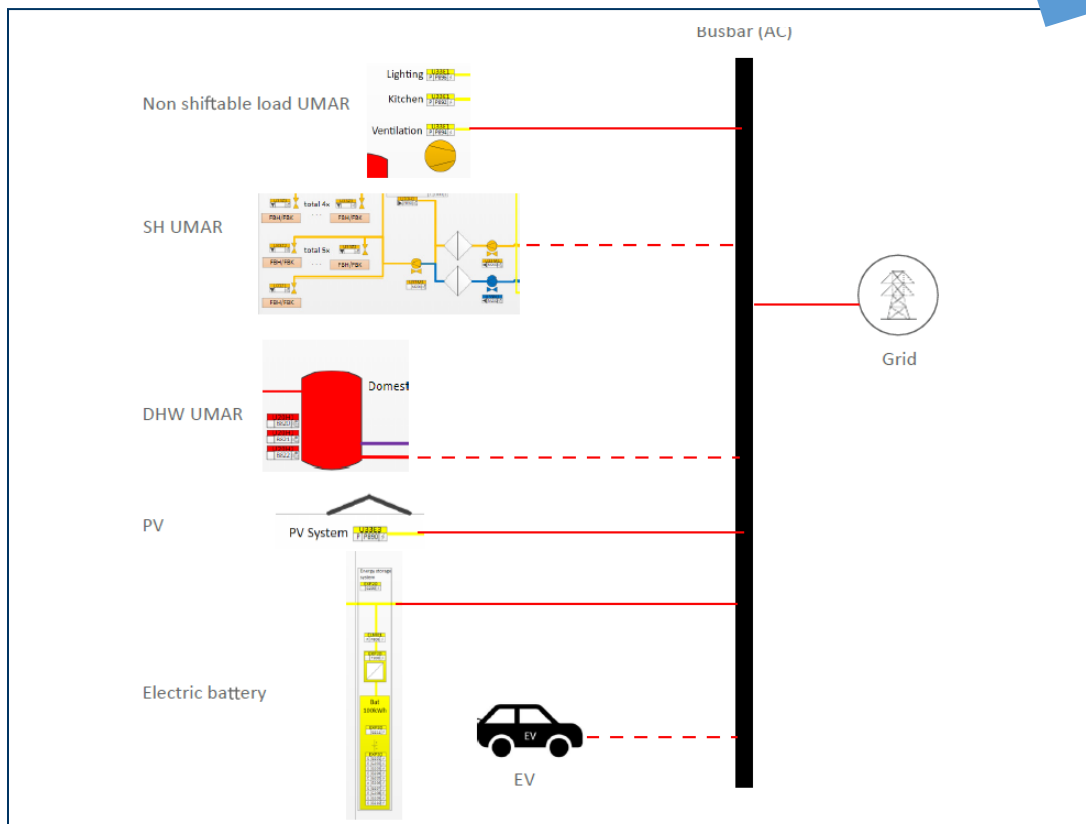
# aliunids shifts loads to times of the day when CO2 emissions are low



# aliunids model-based controller (MPC) was codeveloped based on a joint research project

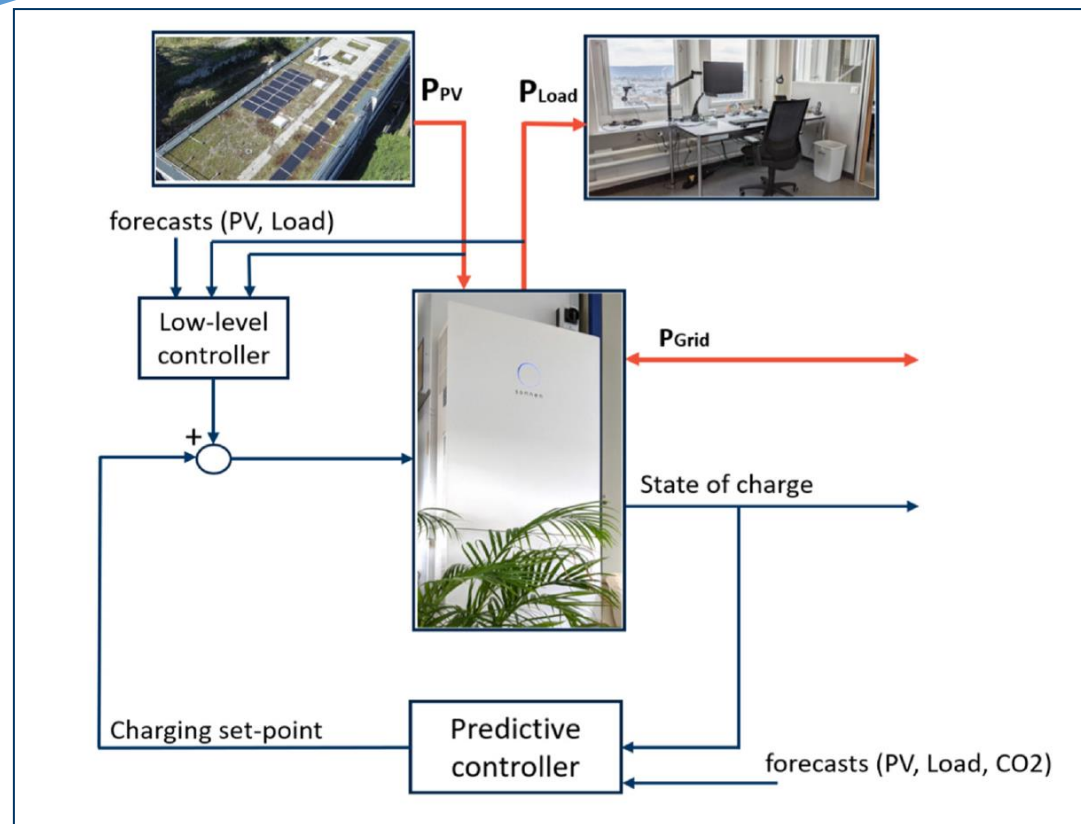
5 min Philip Heer

EMPA setup at NEST



5 min Till Richter

aliunid prototype



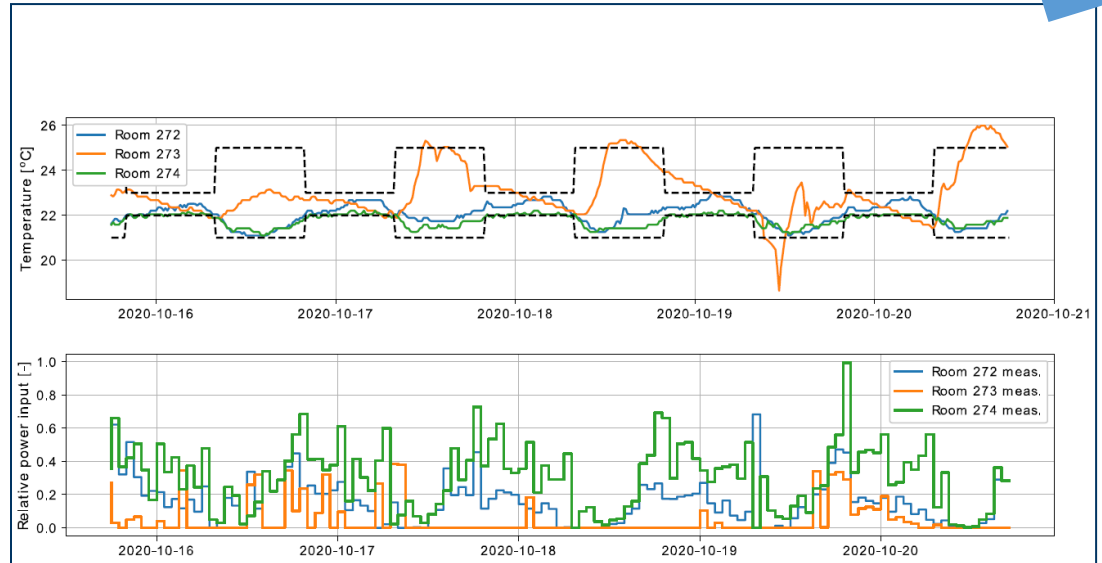
Source: Dr. Hanmin Cai



# aliunids model-based controller (MPC) was codeveloped based on a joint research project

5 min Philip Heer

EMPA setup at NEST

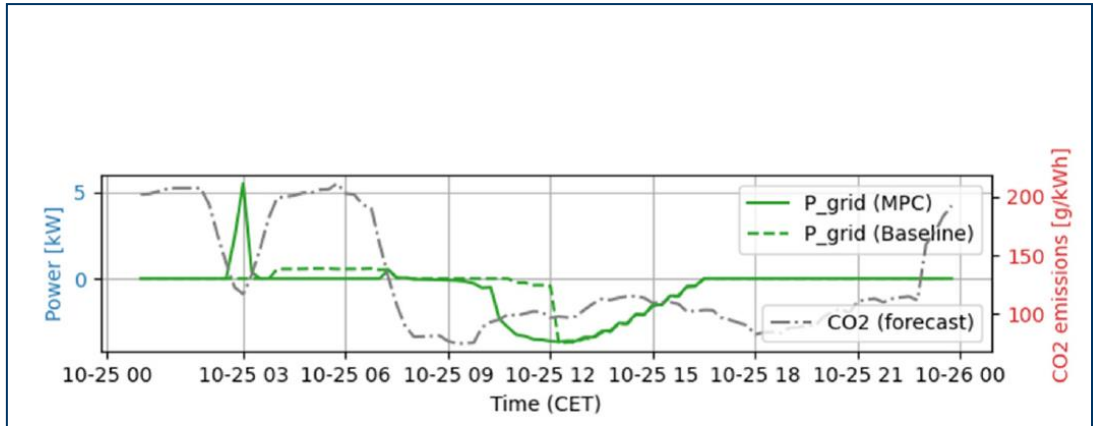


Objective: keep the temperature in the room in the comfort zone while minimizing the heating energy

Source: Dr. Hanmin Cai

5 min Till Richter

aliunid prototype



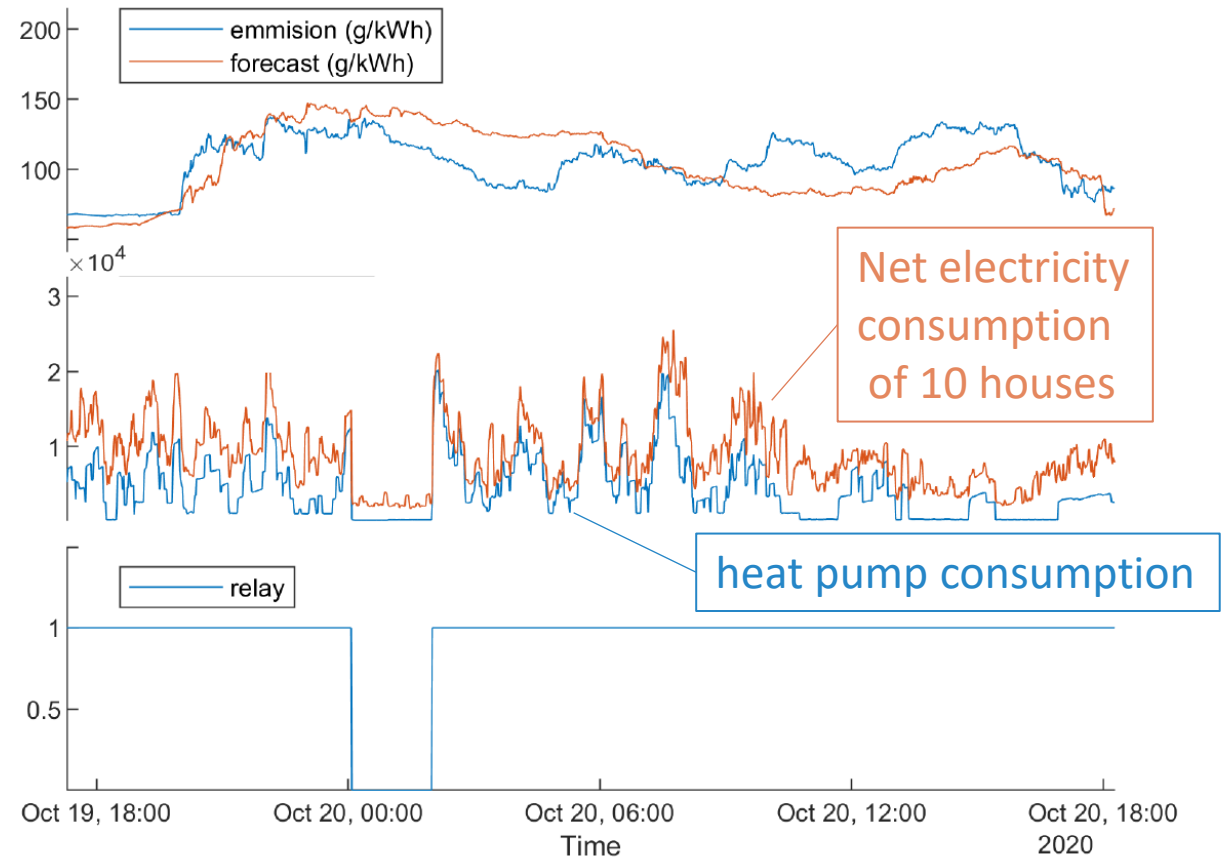
Objective: built an energy management system that controls the battery in such a way, that the CO2 emissions of the electricity is minimized



# First proof of concept to use the flexibility of heat pumps



aliunid fog device connects to the smart meter. By switching a relay, the heat pump and the domestic hot water tank can be switched on/off







...the journey has just begun





# Do you want to track your electricity consumption easily on your cell phone? Do you want to become a beta tester?

Simple assembly, with prepared adhesive tape on existing electricity meters, without requiring any tools.

## Advantages right now

- + Real-time insight and transparency into power consumption
- + History of power consumption (→Energy efficiency)

## Advantages next April (Launch Minimum Viable Product)

- + Transparency about current CO2 of the electricity
- + continuous insight into real electricity mix
- + Contextualization, explanation and reference to CO2, as well as orientation point according to ES2050
- + Contribution to the energy supply of the future (e.g. electricity product)...



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