



UPPSALA  
UNIVERSITET

# SweGRIDS

## Distribution grids in cities: A case study of smart mobility houses - FPS24

**PhD student:** Alexander Wallberg, [alexander.wallberg@angstrom.uu.se](mailto:alexander.wallberg@angstrom.uu.se)

**Supervisors:** Rafael Waters(UU/Stuns Energi), Mikael Eriksson(UU/Vattenfall)

**Project funded by:**





UPPSALA  
UNIVERSITET

# Background

SweGRIDS

- The electrification of the transport sector is accelerating
- Collaboration with Uppsala Parkerings AB, UPAB
- The mobility house **Dansmästaren**
- Opened in November last year

UPPSALA  
PARKERINGS AB



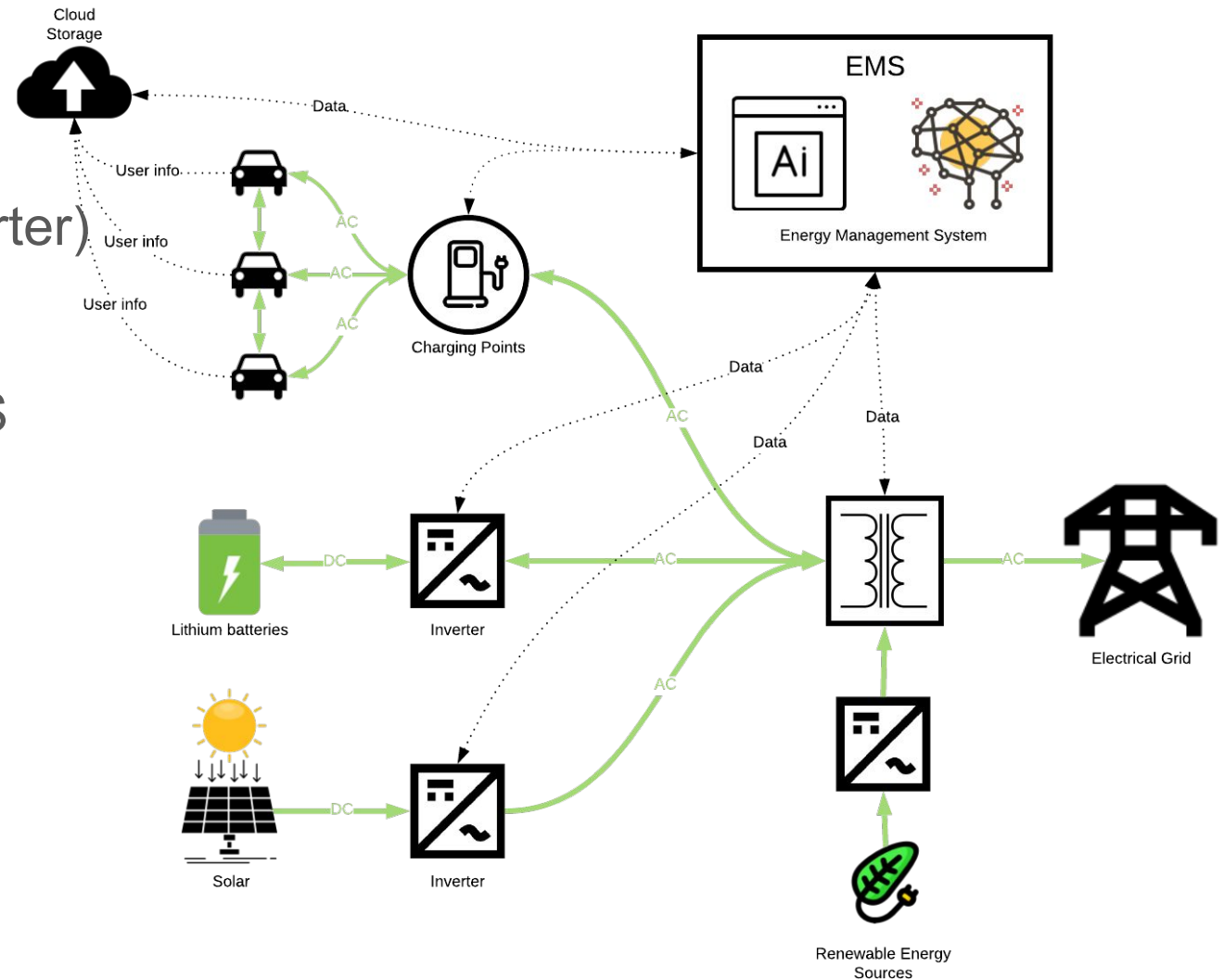


UPPSALA  
UNIVERSITET

# Dansmästaren - Technical system

SweGRIDS

- 60 22kW charging points
- 137 kWh Li-ion battery (60kW inverter)
- 62 kW solar (50kW inverter)
- Energy Management System, EMS





UPPSALA  
UNIVERSITET

# Objectives

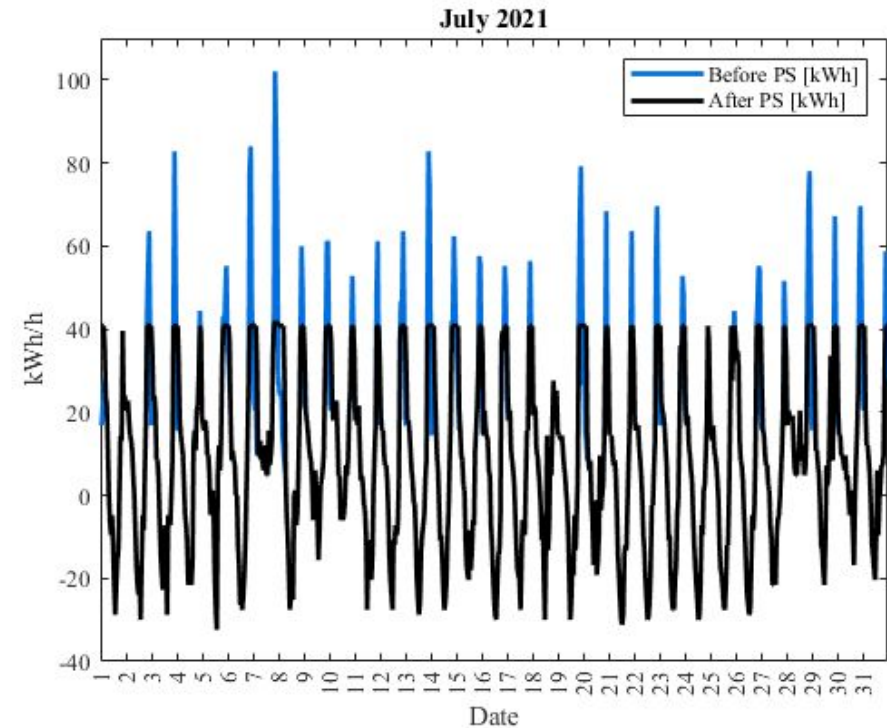
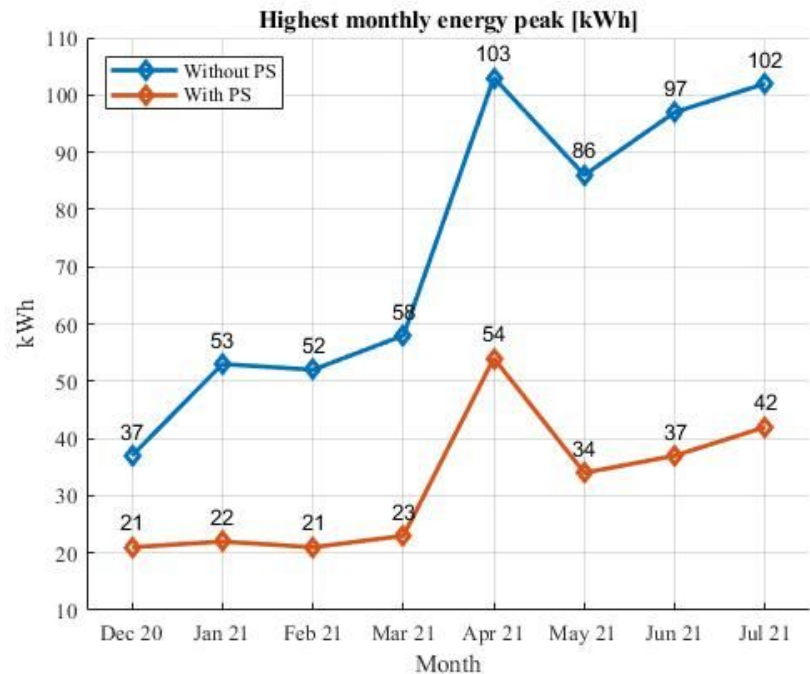
SweGRIDS

- Make Dansmästaren a flexible **testbed** for electro-mobility and EV-charging
- Reduce the negative impact of EV-charging on the city grid
  - Investigate charging strategies - Controlled and scheduled EV-charging
  - Utilizing the 137kWh BESS's Peak Shaving capabilities
  - Utilize V2G technology to use the EVs to support the city grid by load balancing and FFR



# Dansmästaren - Papers

- In the process of publishing
- Simulation model of the mobility house's technical systems to investigate the battery systems peak shaving capabilities





UPPSALA  
UNIVERSITET

SweGRIDS

Thanks for listening!