



Microgrid in MANNHEIM



Task F6

Field test on transfer between interconnected and islanding mode in Mannheim

Britta Buchholz
Roland Pickhan
Mariam Khattabi
Stefan Drenkard
Hans Dietschmann



NTUA:
Aris Dimeas
Panayiotis Moutis





Objectives of MANNHEIM field test

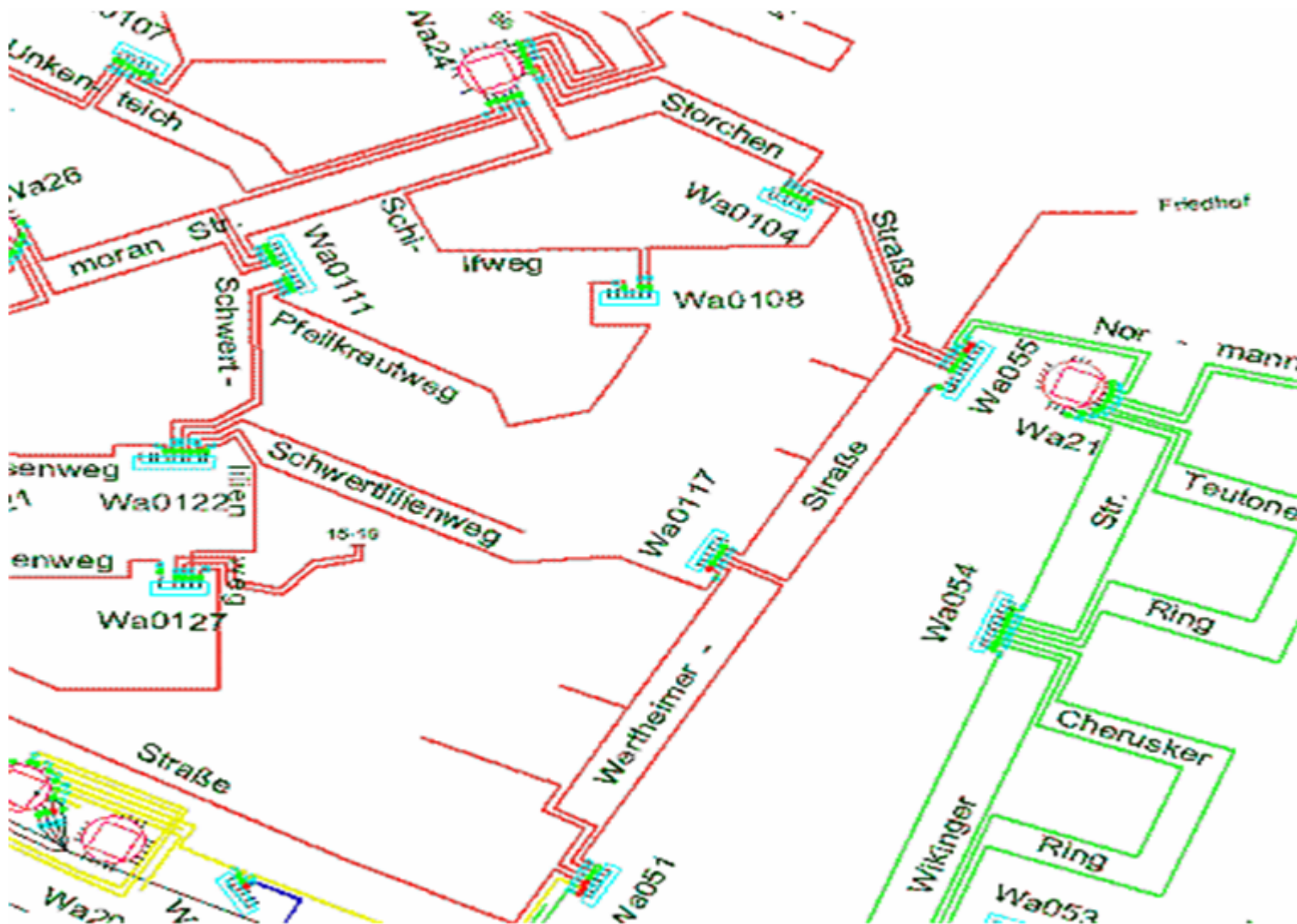


- Prepare grid segment for microgrid
- Test communication between loads and generation
- Proof transition from grid connection to islanding mode
- Proof functionality of NTUA multi agent system





Result 1: Low voltage grid segment prepared for microgrid



Result 2: Communication between loads & generation



Field test area



Water Pump



0,175 kWel



Fountain

Storchen Str.

Wärthener Str.

Kindergarten



2 PV-units 23,5 kWp

Binsenweg



Whisper Gen
1,2 kWel
8 kWth



Back up system



Convectomat
12,5 kWel

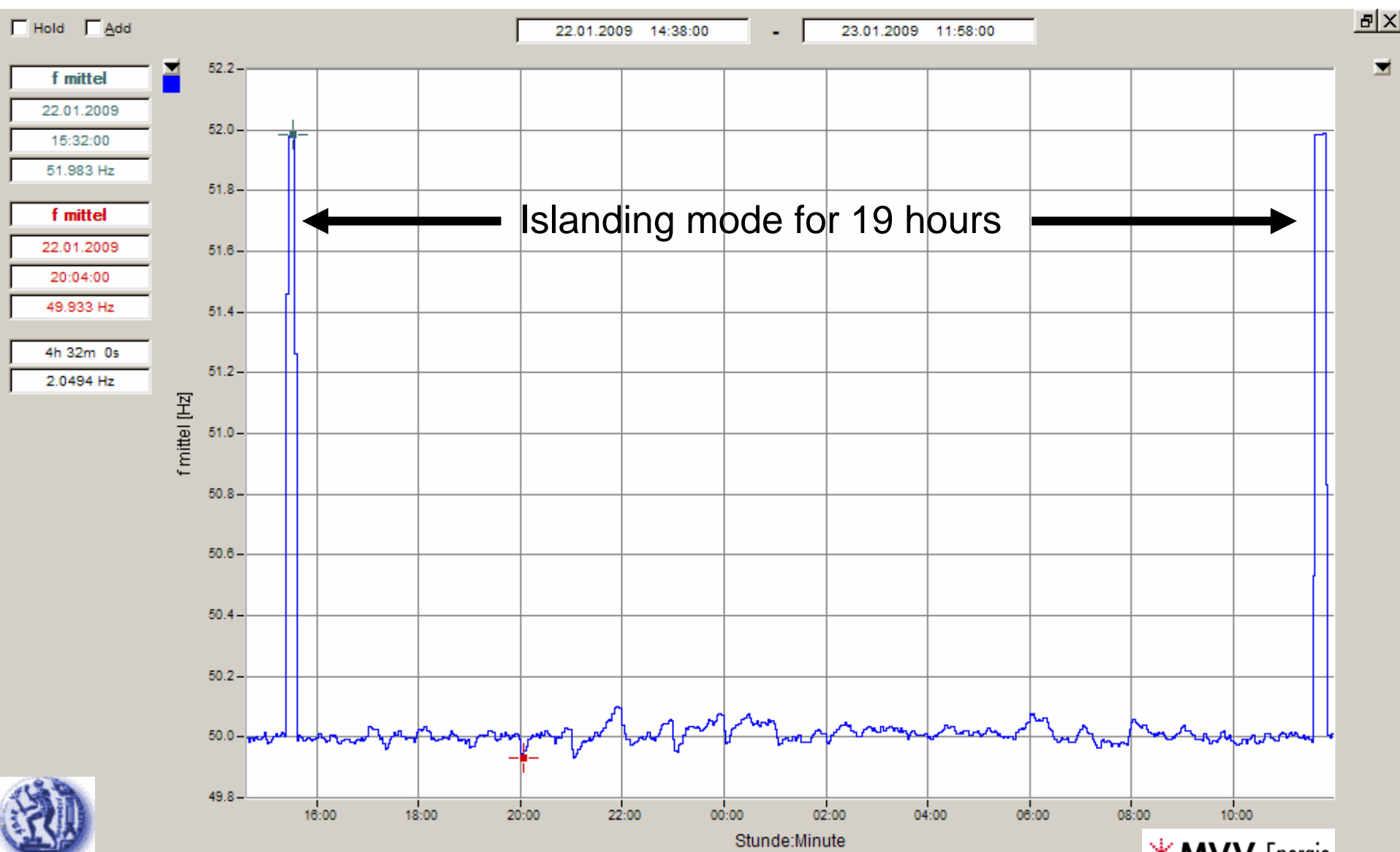


Air cond.
9,9 kVA



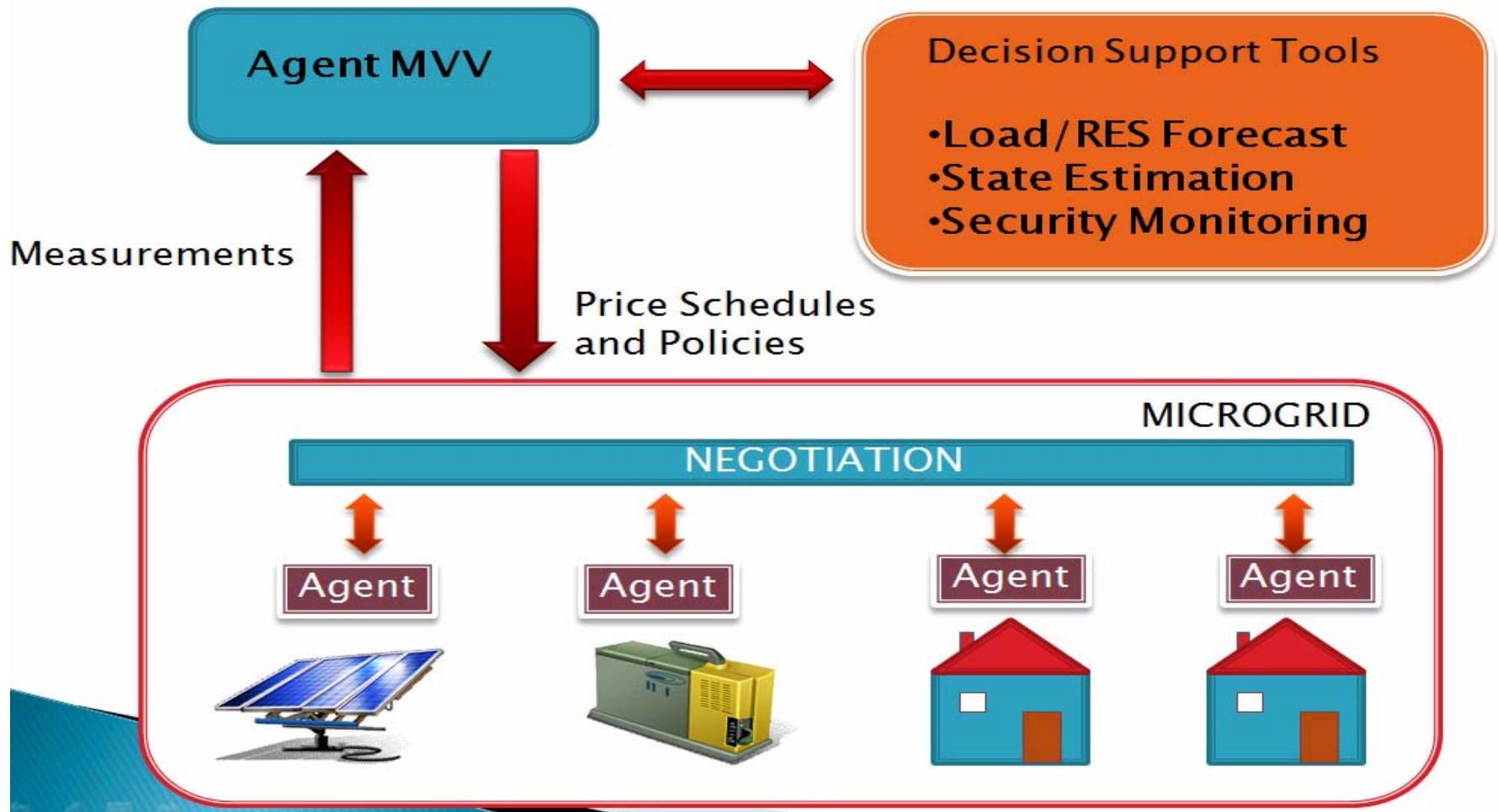


Result 3: Proof of seamless transition Grid - Island - Grid





Result 4: Proof of functionality of multi agent system



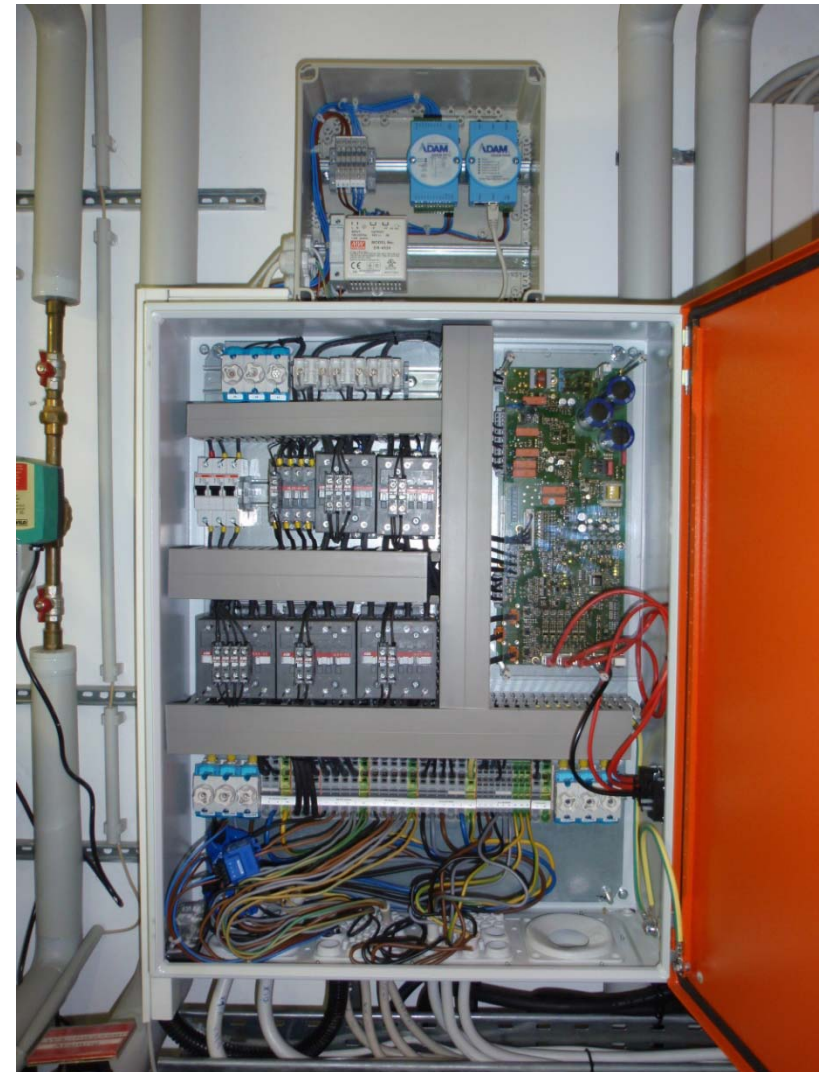


Value added in TF6 by MVV and NTUA



- Reports
- Field test infrastructure
- Proof of microgrid concept
- Awareness building and social acceptance
- Education

PROJECT IS SUCCESSFUL





Lessons learnt in MANNHEIM for future field tests

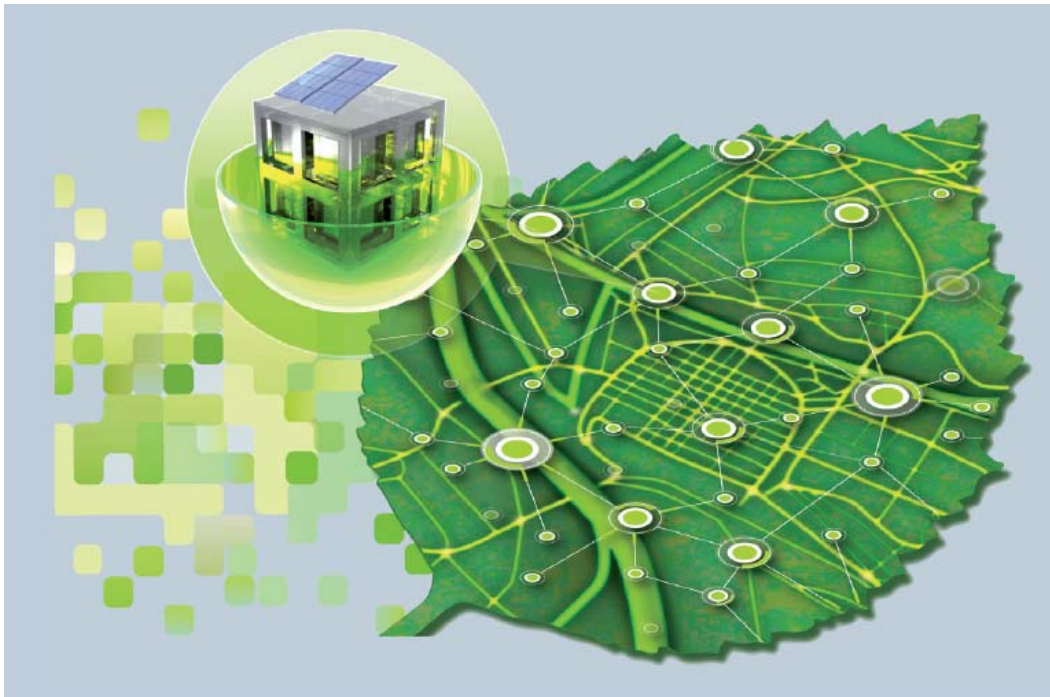


- Synergies with other projects help, but are difficult as regards timing
- Consider full formal procedure to pass from laboratory stage to go life in real system
- Unbundling creates additional challenges for the integration of distributed generation
- Social acceptance by real prosumers requires more efforts and than expected
- Kinderhaus is a very good starting point for awareness building!



The MoreMicrogrids project created major know-how for the development and road map of an active distribution network in Mannheim

What is next?



Model City Mannheim

