

Research Project  
**ImaStabil**

Impedance analysis of PV power plants for  
securing a stable and reliable grid operation

15.09.2022 / 6. Konferenz des Interessenverbands Netzimpedanz

# Project ImaStabil

## Key Facts

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### Partners

- Fraunhofer ISE (Leader)
- morEnergy GmbH
- greentech GmbH
- Helmut-Schmidt-Universität, Hamburg



### Supporting partners

- Westnetz
- Versorgungsbetriebe Bordschholm GmbH
- Energinet.dk ?
- EirGrid ?
- FGW Fördergesellschaft Windenergie und andere Dezentrale Energien e.V.

### Planned Duration

- 01.12.2022 – 30.11.2025 (3 years)

### Funding

- Overall budget: 3.2 Mio. EUR
- Federal Ministry for Economic Affairs and Climate Action (BMWK): 69 %
- Own contribution by industry partner: 31 %



# Project Goals

Realistic determination of the harmonic properties of PV power plants

## Lab-based impedance spectroscopy of inverters

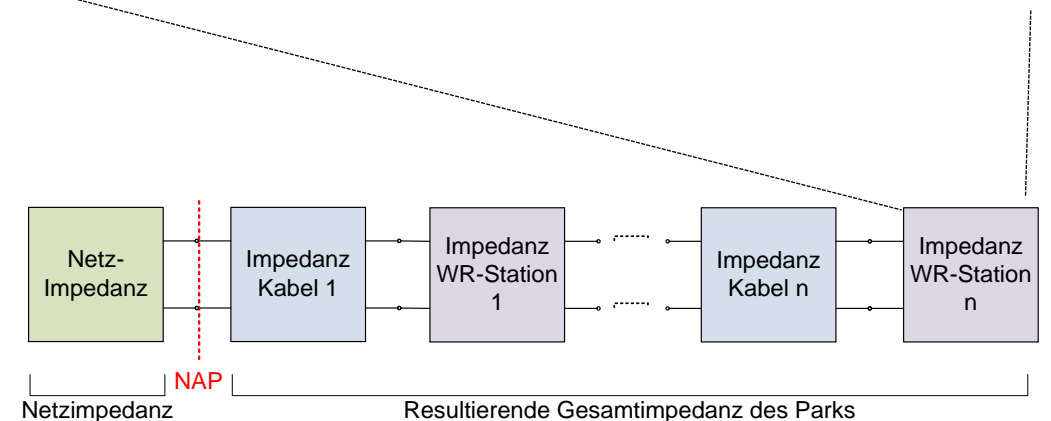
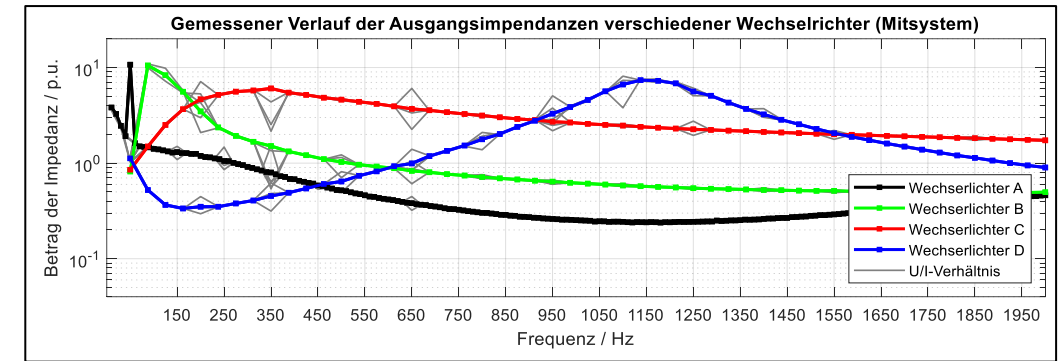
- Determination of harmonic Thévenin models for inverters
- Analysis of several commercial devices

## Impedance measurement in the field

- Development of a mobile impedance measurement device
- Field test campaigns in three PV power plants incl. LV and MV side impedance measurements
- Health-monitoring of inverters in the field

## Harmonic load-flow simulations for PV power plants

- Harmonic simulation models for PV power plants in PowerFactory
- Validation against field measurement data



# Contact

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