



Ministry of Industry and Trade



Federal Ministry
for Economic Affairs
and Climate Action

Implemented by

giz Deutsche Gesellschaft
für Internationale
Zusammenarbeit (GIZ) GmbH

Provide energy efficiency technical experience - Leipziger Stadtwerke

Leipzig, Februar 25th 2022

 **Leipziger**
Stadtwerke

Growth in Leipzig

Forecast 2030:
720.000

Population

2010:
508.695

2015:
567.843

Leipzig – in the Top 10 List of
Attractive Cities in Germany



**1. Leipzig overcame
the Competition**

**2. Leipzig increased its
International
Relevance**

**3. Leipzig established
Social Stability**

**4. Leipzig commits
itself to Quality of
Life**

Overview of the Leipziger Group



Leipziger Group

100% Owned by the City of Leipzig

Facts & Figures 2017

Employees	4,781
Fixed Assets	2.1 Bill. EUR
Revenue	2.5 Bill. EUR
EBITDA	210 Mill. EUR

Leipzig Public Utility

- 4,938 km District Heating-, Gas- & Power Network
- 2.2 GWh Heating- & Gas Generation
- 0.9 GWh Electricity Generation
- 232 MW_{elek} Generating Capacity

Leipzig Water Works

- 6,263 km Drinking Water & Sewage Network
- 30 Mio. M³ Drinking Water Generation

Leipzig Public Transport

- 1,313 km of Transport Lines
- 294 Trams
- 159 Buses
- 138 Mil. Passengers



^{**1} Radius ca 50 km

Our 360° Approach to Energy Solutions

Measurement Concepts

Customized individually to monitor and visualize your energy consumption

- Billing
- Device Management
- Measurement Concepts

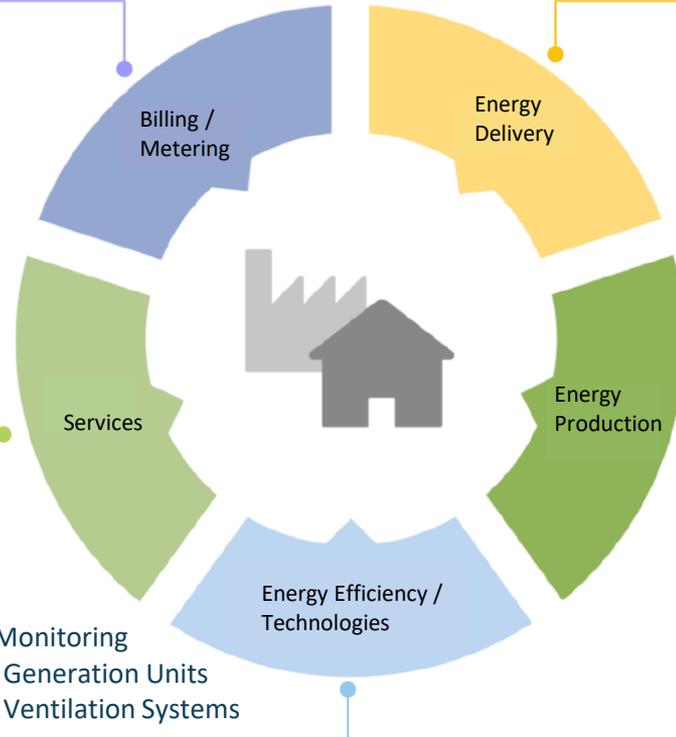
Intelligent service solutions

- Online Portal Solutions
- Energy Performance Certificates
- Smoke Detectors
- Legionella Testing

Energy efficiency and innovative technologies

We identify savings potential and achieve sustainability through state-of-the-art technologies

- E-mobility
- Energy Analysis
- Heater check / Monitoring
- Optimization of Generation Units
- Optimization of Ventilation Systems



One Supply Source

- Gas
- Electricity
- District Heating
- Grid Connection

Achieve cost savings or additional revenue from self-produced energy

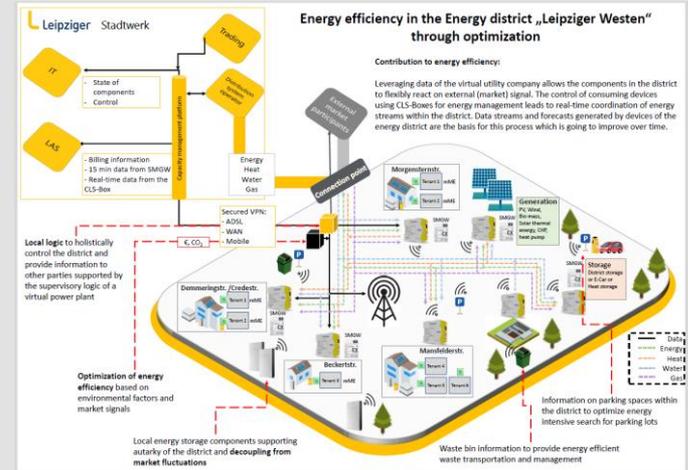
- Electricity
- Cooling
- District Heating
- Power Storage
- Contracting Solutions

Energy Efficiency / New Technologies

Energy Districts



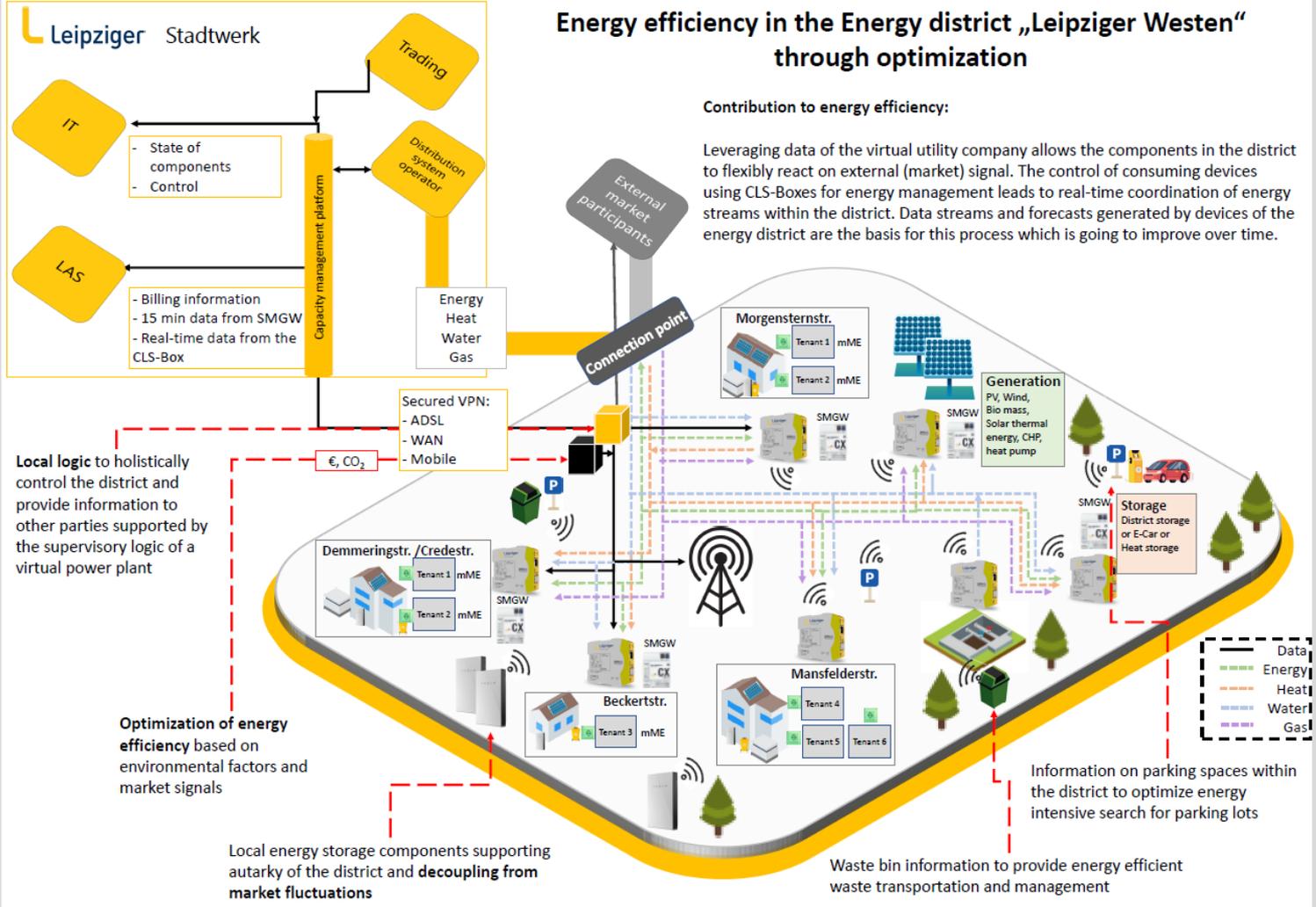
- Energy district is designed to be self sufficient with regards to power and heat (mostly)
- Allows components in the district to flexibly react on external (market) signal
- Control of consuming devices for energy management
- Real time coordination of energy streams within the district



Energy efficiency in the Energy district „Leipziger Westen“ through optimization

Contribution to energy efficiency:

Leveraging data of the virtual utility company allows the components in the district to flexibly react on external (market) signal. The control of consuming devices using CLS-Boxes for energy management leads to real-time coordination of energy streams within the district. Data streams and forecasts generated by devices of the energy district are the basis for this process which is going to improve over time.



Local logic to holistically control the district and provide information to other parties supported by the supervisory logic of a virtual power plant

Optimization of energy efficiency based on environmental factors and market signals

Local energy storage components supporting autarky of the district and decoupling from market fluctuations

Waste bin information to provide energy efficient waste transportation and management

Information on parking spaces within the district to optimize energy intensive search for parking lots

Energy and Energy Efficiency Services



Energy Services

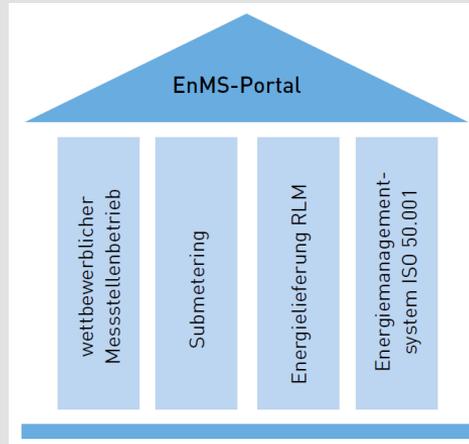
Light Solutions

Photovoltaics

Heat Generation

- ❖ Technical concept
- ❖ Funding / Tendering
- ❖ Project and Site Management
- ❖ Realization and Commissioning
- ❖ Operational Management
- ❖ Monitoring and Control

Energy Efficiency Services



- ❖ ISO 50.001
- ❖ EnMS portal

Energy Efficiency and Climate Protection Network

- Initiated by Leipziger Stadtwerke and Chamber of Industry and Commerce Leipzig (IHK)
- 16 members setting common CO₂ reduction targets
- Knowledge transfer
 - Energy policies
 - Energy management in companies
 - Smart Lightning Solutions
 - Energy data analysis etc.
- Development of **Decarbonization Roadmap**



Thank You!



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Energy Efficiency Measures

Internal

Increase of Combined Heat and Power Plants (decentralized generating units)	Increase of Photovoltaics	Conversion to LED Lighting	Building and Land Management
Construction of: 4x2 MW plants 2x9 MW plants	Installation of PV system on roof surfaces Output: 452 MWh/a	Gradual conversion to LED lighting in heat and power plants, storage buildings, offices, etc.	Exchange of multifunction devices, roof renovations, Swapping projectors/ monitors in consultation rooms

* compared to the separate generation of electricity or heat

Energy Efficiency and Climate Protection Network

Decarbonization Roadmap

Accounting of CO₂ emissions in the areas of electricity, heat and mobility

Development of CO₂ development paths up to max. year 2045 (regional differences) in the areas of electricity, heat and mobility (technical and organizational development of measures)

Calculation of the technical residual emissions from 2022 to 2035 and identification of compensation options

Accompanying the development paths (implementation of measures and documentation) as a permanent task