GREENCOM NETWORKS

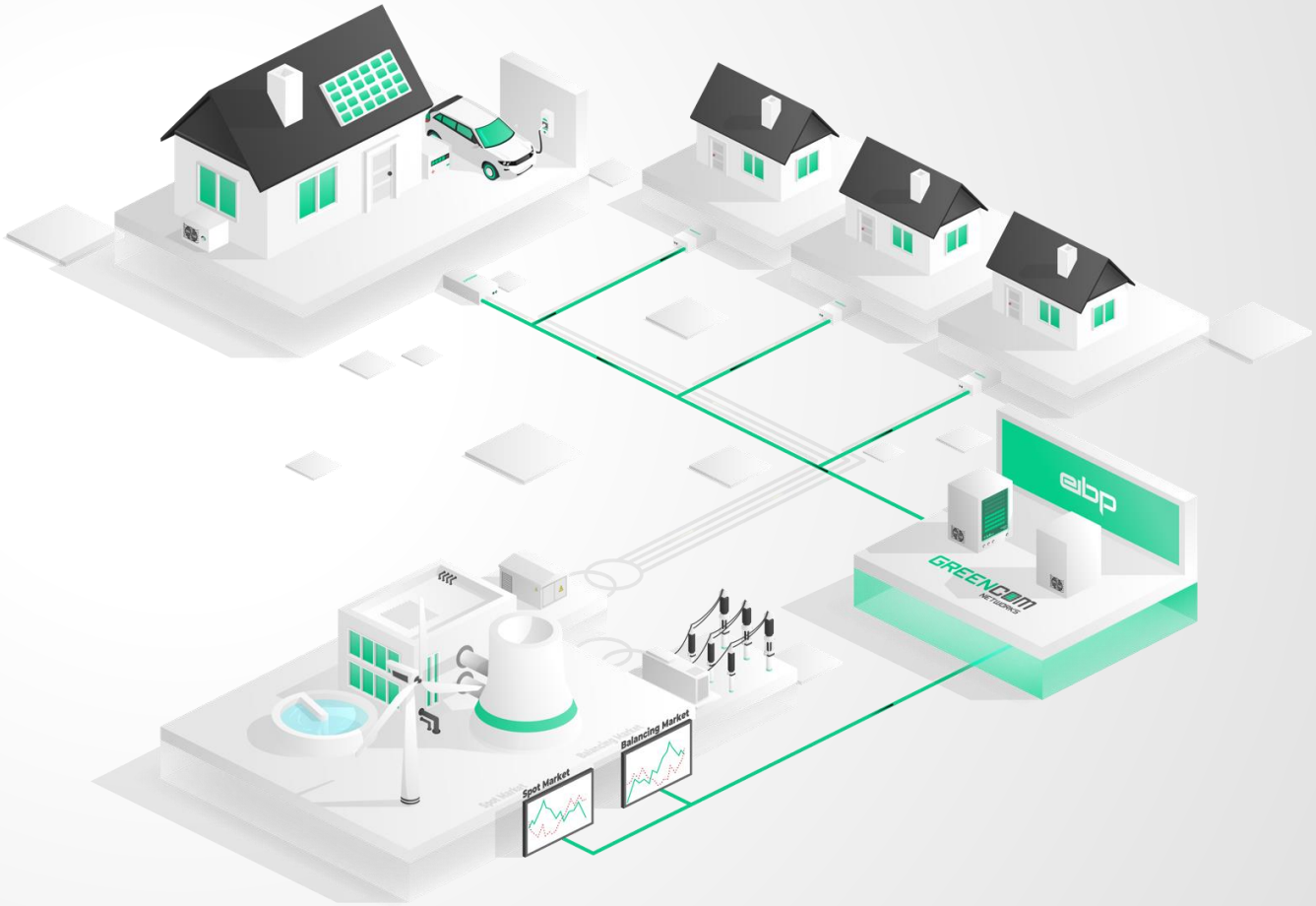
ENERGY TRANSITION DIALOGUE IN LUXEMBOURG

October 24 2019

Who are we.

GreenCom Networks is a **German-French software-as-a-service company** offering a white label **Energy IoT Platform** to utilities, energy service companies and manufacturers of **energy-relevant devices.**

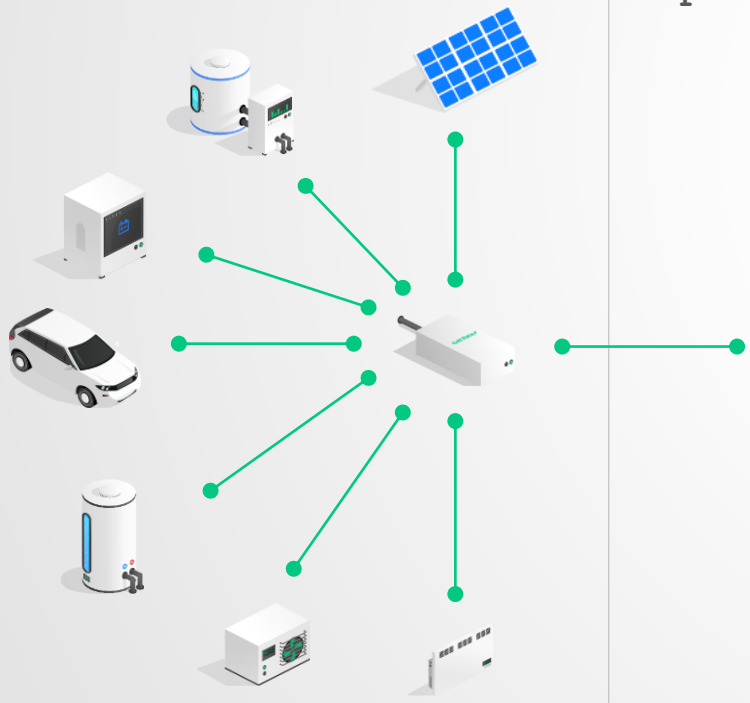
Our energy information brokerage platform (eibp) enables energy providers to launch **disruptive digital business models** while leveraging the increasing share of **distributed energy assets** and end consumers' demand for **innovative services.**



GreenCom has a unique end-to-end IoT solution to enable new digital energy services that transform today's energy Markets.

Devices & Connectivity

We connect all end user devices with our gateway.



Energy Information Brokerage Platform

We collect all relevant user data on our energy IoT platform

Use Cases

This data collection serves as base for several application areas and use case.

Home Energy Management

- Energy independence
- Power Flat-rate
- 21° as a Service

Aggregation Services

- Energy Communities
- Peer-to-Peer Energy
- Virtual Power Plants

Virtual Market Place

- Asset sales
- Energy supply contracts
- Repair and maintenance
- Insurances

Optimize local energy flows with eibp:boost and offer your clients an engaging end customer app.

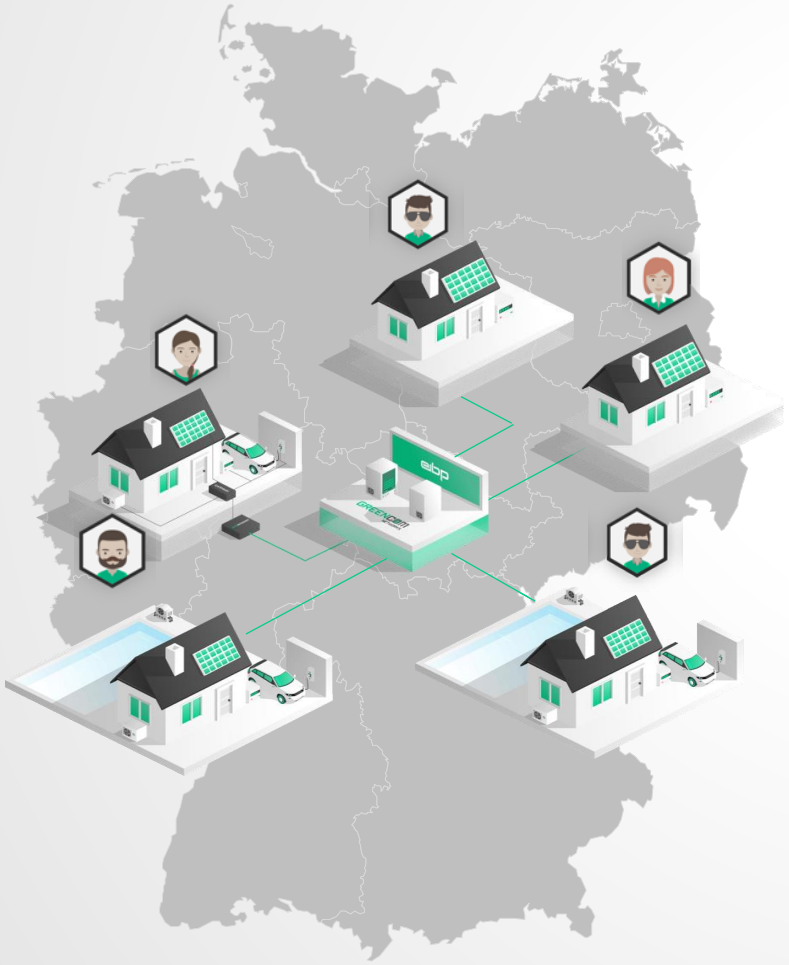
eibp:boost

Features

- Intuitive end customer portal and app templates
- Continuous customer engagement
- Machine-learning-based forecasting of connected devices
- Machine-learning-based optimization of local energy flows to improve economics by up to 10%
- Detailed reporting features for the local hero
- Access to a broad device base of leading manufacturers through GreenCom's device driver library

eibp:mesh – lay the foundation for a distributed energy community.

eibp:mesh



Features

- Connecting customers with each other
- Overall and individual production and consumption within energy community
- Energy efficiency benchmarking features
- Gamification and competition amongst customers
- Foundation for peer-to-peer energy through virtual energy sharing principles

Showing live energy flows within the community.

Changing the paradigm – „shine“ as a community movement from the bottom.

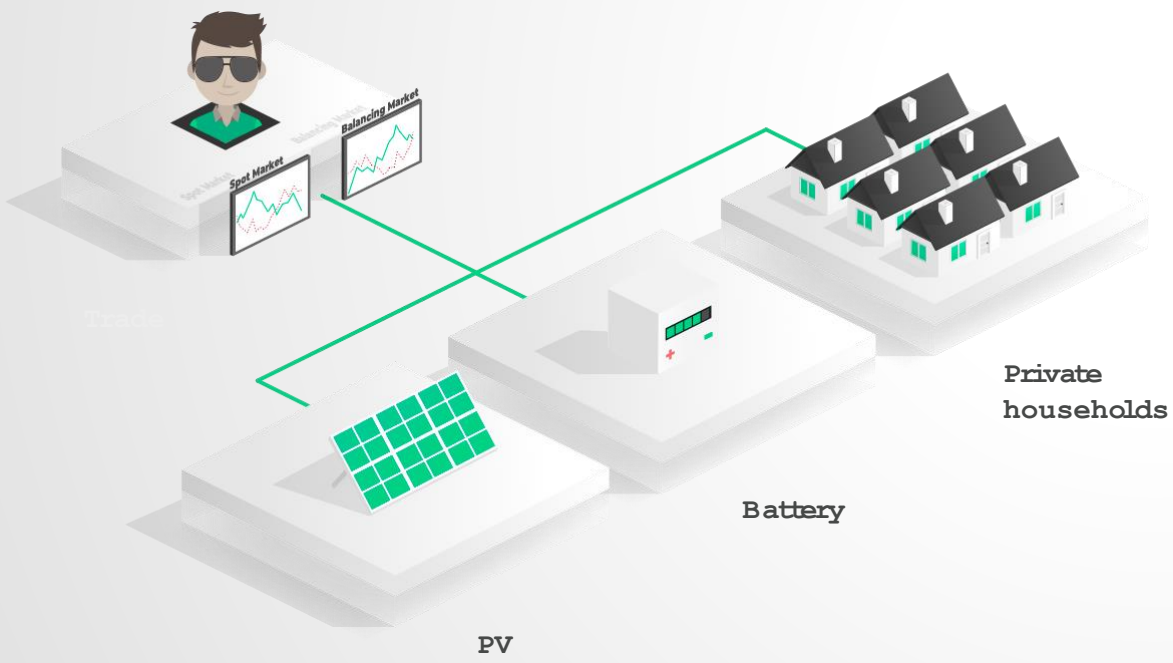
shine

- Create your own energy community
- Fully digital customer interaction
- Receive a bundled community supply tariff for all members
- Real-time transparency on energy flows within community
- Get an extra premium on top of feed-in premium on your local production
- Real-time balance of financials, energy and CO2 footprint
- Receive a discount on consumption during times of local production within your community
- Gamification and interaction

eibp:cluster – our virtual power plant leverages the power of decentralized small assets.

eibp:cluster

Available by End of Q3/2019



Features

Integration with **existing trading, VPP and ERP** systems and **energy market data**

Integration of **distributed generation, consumption and storage assets** for an **overarching automatic optimization** of different asset types

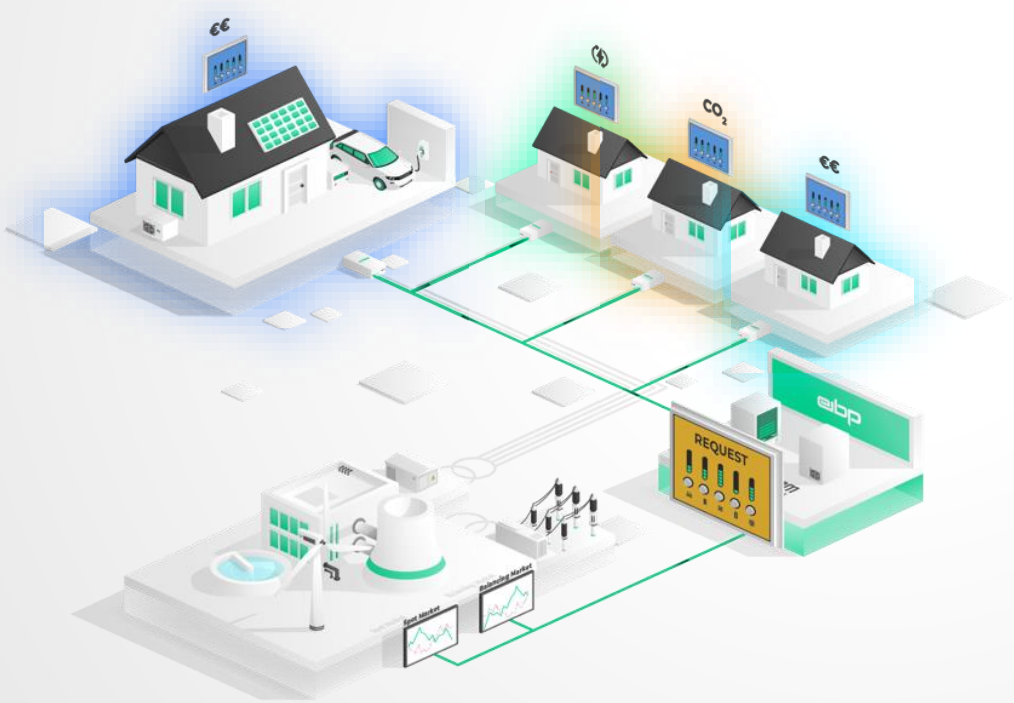
Applied **machine-learning technology** for **advanced forecasting and optimization**

- Continuous **optimization** on the basis of **actual market price forecasts** across all liquid markets under consideration of **asset-specific parameters**
- Balancing markets (primary, secondary, tertiary control depending on the prequalification of the asset); Spot; Intraday

Logbook for reporting

Local optimizations are end-customer/customer specific.

How does itwork?



Configurable optimization goals

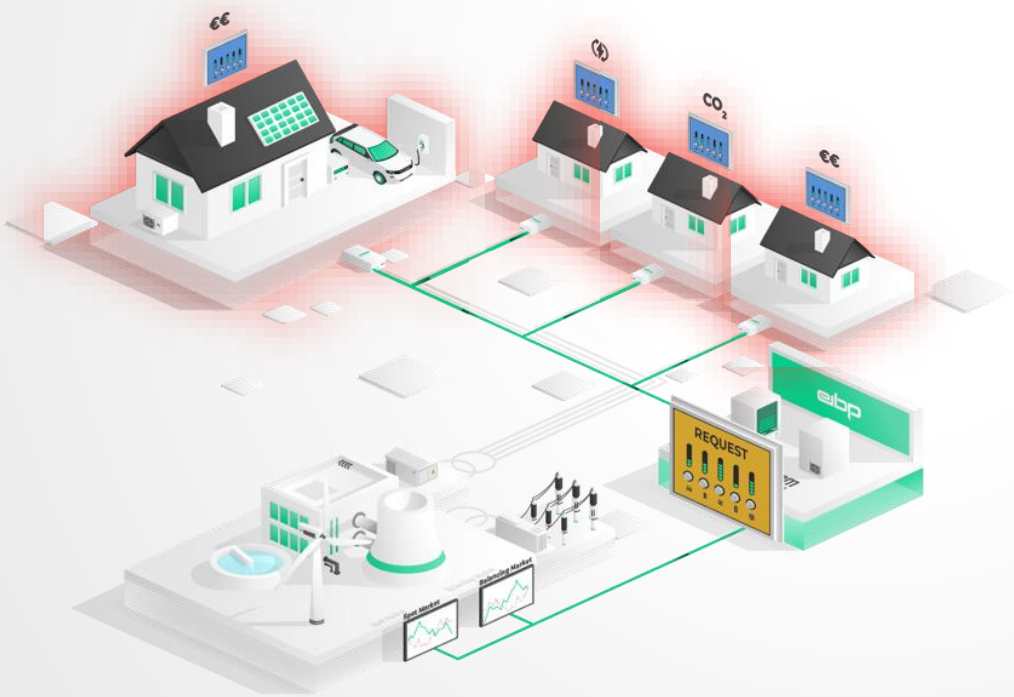
- Economic
- Autarky
- CO2
- …

Production and consumption forecasts

Comfort level aware

Global optimization find the best way to use on the targeted market.

How does itwork?



Identify flexibility

Market price forecasts

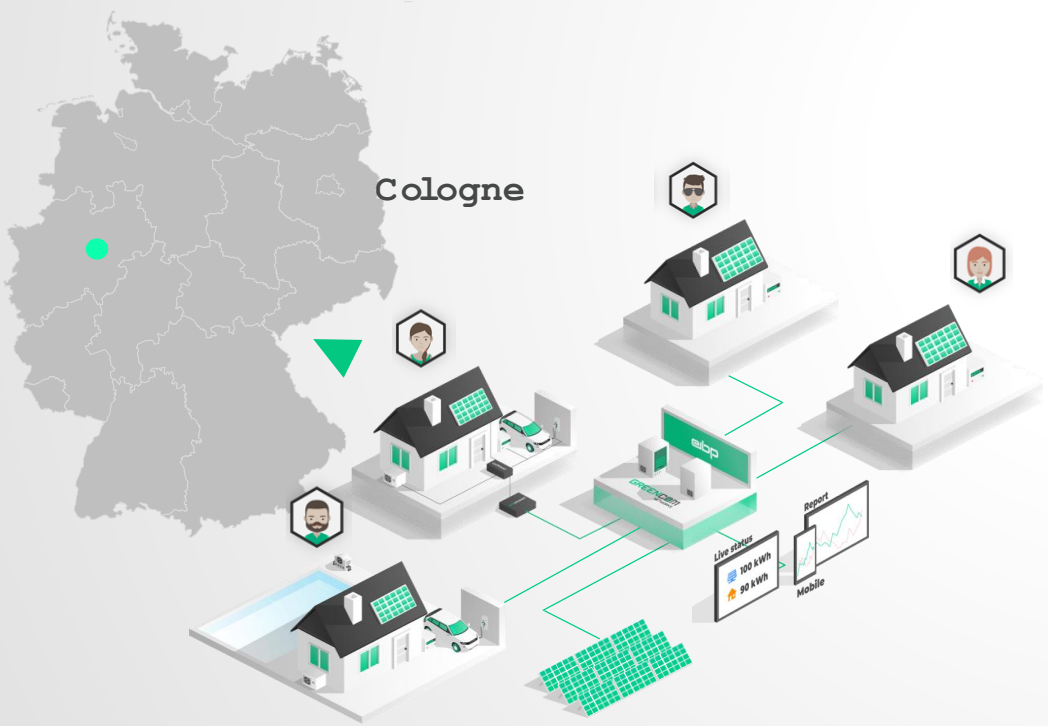
Devices filtering and selection

- Responsiveness
- Availability
- Accuracy
- ...

Operational costs and constraints

Example Smart City Business Model with RheinEnergie – Fully digital and sustainable energy community in Cologne.

Projekt Stegerwaldsiedlung



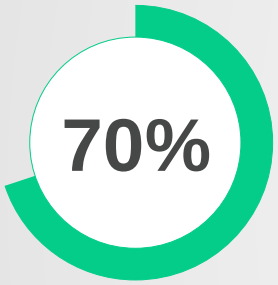
Installations

- 700 customers, 16 apartment blocks
- 972.03 kWp
- 655 kWh Battery storage capacity, 64 kW
- 44 heat pumps, 184 kWel, 572 kWth
- 1,734 kWth district heating, 52,500 l buffer storage
- 5 EV charging stations

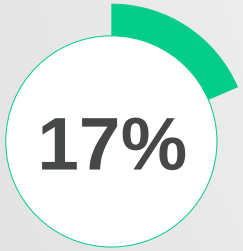
RheinEnergie

Smart Cities generate significant benefits through an intelligent, fully digital energy management.

Overall Results Example Stegerwaldsiedlung

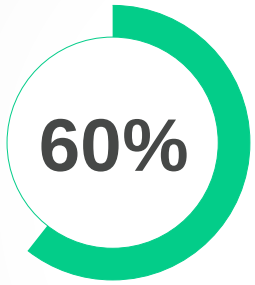


independence from outside power supply

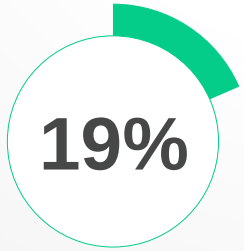


energy cost savings

Impact of AI-based Optimization



reductions of CO 2 emissions



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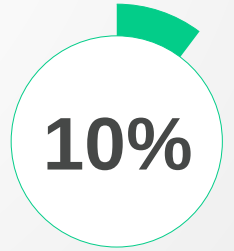

increased independence from outside power supply

RheinEnergie

GREENCOM NETWORKS

Thank you.

JAN LENGERKE

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Looking under the hood – our technology.

Devices







Connectivity

Gateway Hardware


Device Driver Library


SMA, LG Chem, KEBA, VIESMANN

+ many more | + many more | + many more | + many more

Operational Tools

Cloud Platform

Multi-Cloud	Azure, aws, IBM Cloud
NoSQL Database	cassandra
Event-based	kafka
Micro-Services	Micro-Services
Micro-Services	Micro-Services
Dockerized	docker
AI / Machine-learning	

Applications

eibp:boost
Home Energy Mgmt.

eibp:mesh
Energy Community

eibp:cluster
Virtual Power Plant

eibp:empower
TariffCreator

3rd Party Applications

Use Cases

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