



# Venios Energy Platform (VEP)

Real-time Grid Operation System

# Company

Venios is a young IT-company developing software solutions for efficient smart grid management helping to resolve the challenges of the energy sector.



## We are...

- located in Frankfurt (HQ Germany) and Hartberg (AT)
- founded 2012, owner-controlled with commercial investors
- profitable, reliable and agile



## Our customers are...

- energy suppliers
- public utilities
- Distributed System Operators (DSO)
- in **6 countries**



## Recognition the last 12 months...

- Top 10 Energy Technology Solution Provider
- Most outstanding in Energy Software Solutions
- Winner of the VDE|FNN – Innovation Hub
- 50 Fastest Growing Companies of the year
- Top 100 Sustainable Fast Track Companies



**Venios**  
Most Outstanding in Energy Software Solutions - Germany



... a growing ecosystem of partner solutions



| smart **grid** solutions |



SOLANDEO



## Smart Meter Integration/ Digitalization



## Distributed Energy Resources (DERs)



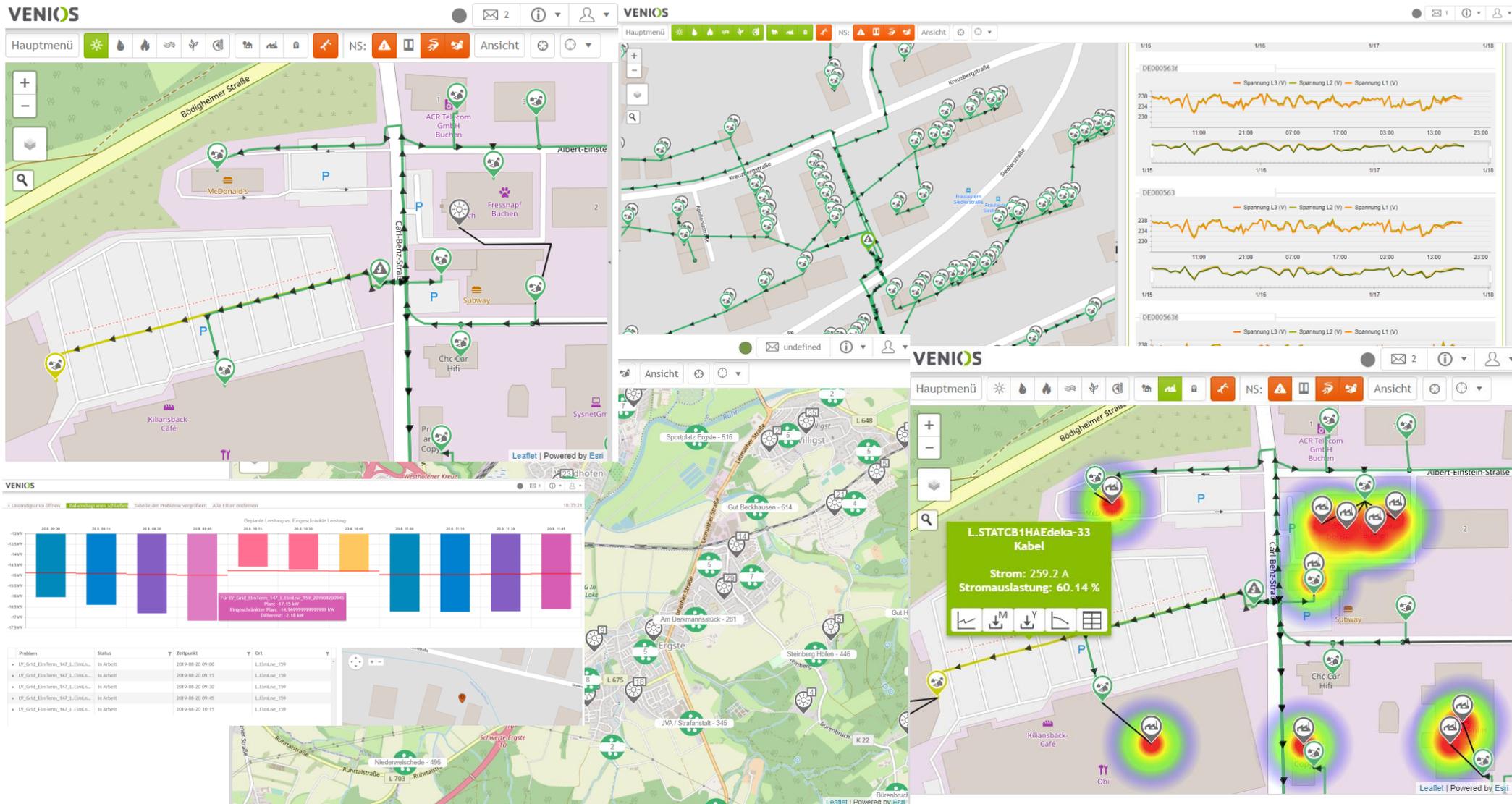
## Electrification of transportation and heat



Which increases the need for...

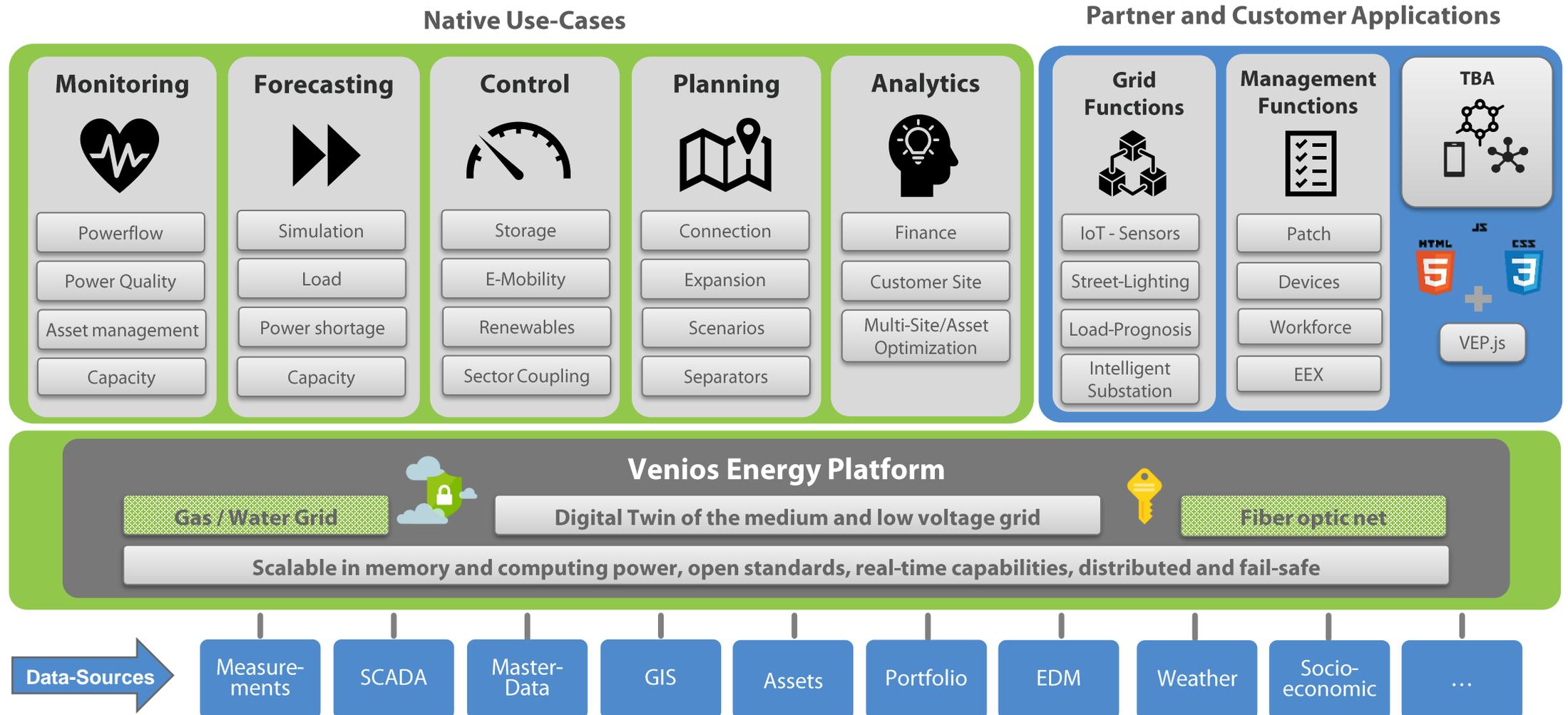
- Demand response and grid flexibility
- Load forecasting and grid management
- Grid planning for EV charging and RE feed-in
- TSO-DSO interfaces

# Venios Energy Platform - a real-time digital twin for grid operation 4.0



# Venios Energy Platform – How does it work?

A high performance system for intelligent and predictive grid management in real time



# Reference project| Stedin – Universal Smart Energy Framework (USEF)



**VENIOS**<sup>®</sup>  
the world of smart grids

**Client:** Stedin

**Project name:** Universal Smart Energy Framework

**Where:** Rotterdam, Netherlands

**Internetseite:** <https://www.usef.energy/>

## Goal:

Due to the generous subventions of electric cars by the Dutch government, there a relatively sudden and large increase in the amount of cars wishing to charge in the grid operated by Stedin. The sudden need for charging power became a massive problem for the local grid infrastructure, so that load management had to be implemented.

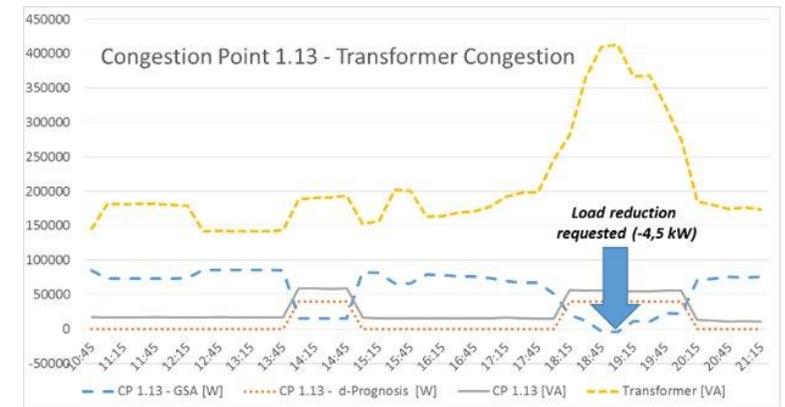
## Solution:

To create transparency in grid capacity through hybrid network status calculation (model data, secondary data, real measurement data). Allocation of capacity based on the Universal Smart Energy Framework (USEF). Integration of new measurement hardware, battery storage or controllable local network stations in the further course of the project.

## What is Venios's role?

VEP takes over the load management via the following processes:

- The grid security analysis function of VEP calculates network capacity (24h in 15min intervals)
- VEP avoids overloading the transformer by reducing the load
- VEP recommends an optimized asset/equipment timetable. Released grid capacity can be used for load shifting



# Reference project| Greencity – Welcome in the urban district of tomorrow!



**Client:** Municipal Utility of Zürich (ewz)

**Project name:** Greencity

**Where:** Zürich South, Switzerland

**Partner:** smart grid solutions AG (SGS)

**Webpage:** [www.greencity.ch/de](http://www.greencity.ch/de)

## Goal:

Greencity is the first urban district in Switzerland to meet the conditions of the 2000-watt society and represents a largely grid-independent area.

## Solution:

- 100% supply from locally generated renewable energy sources (including photovoltaic)
- Innovative energy contracting of the ewz
- Greencity-Grid: highly efficient linkage of power generation and consumption
- Environmentally friendly mobility concept (own S-Bahn and bus stops, two car-sharing locations and approx. 10% of parking spaces reserved for electric vehicles)

## What is Venios's role?

With the Venios Energy Platform (VEP), the energy flow is optimized taking into consideration the available infrastructure and coupling the various sectors; mobility, heat and electricity (**sector coupling**).

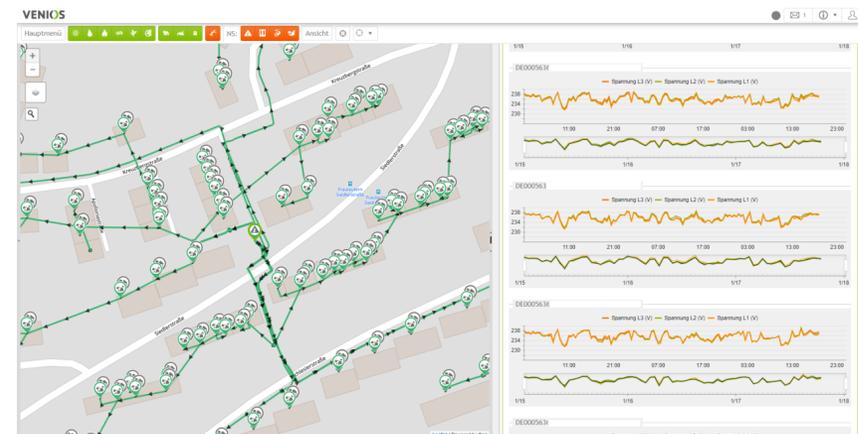


GESAMTAREALPLAN GREENCITY



## The Venios Energy Platform...

- ... is a real-time grid operation tool for a smart grid
- ... creates a live view of the lower and medium voltage grids below classic SCADA systems
- ... predicts future grid load (short / long-term)
- ... recognizes flexibility and capacity
- ... generates solution proposals for reacting to bottlenecks (market, sector coupling etc.)
- ... can control the infrastructure directly and highly automated if desired
- ... offers the possibility to visualise gas, water and fibre-optic cable infrastructure
- ... delivers mobile applications for the employees out in the field
- ... has been tried and tested for over 9 years!



Thank you!



**VENIOS®**  
the world of smart grids

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