Nemocs
Our platform for your Virtual Power Plant
Build upon the same infrastructure that we trust

Converting our energy system to renewables is an enormous challenge for the energy sector: a large number of decentralized units need to be intelligently coordinated to provide a reliable supply of energy. With the help of a Virtual Power Plant, managing this new and complex system is possible. Correcting imbalances in the grid is just one of the benefits to linking decentralized energy producers and consumers: bundling these assets and controlling them centrally is also an essential prerequisite for the successful integration of renewables into the market.

As the operator of one of the largest Virtual Power Plants in Europe and as an experienced energy trader, we can offer you a complete IT solution for constructing your own Virtual Power Plant with NEMOCS. You’ll gain access to the powerful infrastructure behind NEMOCS, which has proven itself time and again in our daily business. It incorporates all the ideas and features that we have developed with our IT experts and energy traders for practical applications. This is our guarantee that your Virtual Power Plant is based on a successful model that incorporates our full expertise.

Hendrik Sämisch und Jochen Schwill
Founders and CEOs of Next Kraftwerke

NEMOCS is the product of our success

For years, we’ve operated a Virtual Power Plant that now includes more than 6,400 networked energy producers using diverse sources of energy and industrial energy consumers. With a power output of more than 5,400 MW, we are an established player on the energy market and active on all the relevant energy trading exchanges in Europe. NEMOCS represents the fruits of our labor that we are passing along to you: it’s the best platform we’ve ever had.

- **Tried and tested on all markets**: EPEX Spot day-ahead and intraday markets as well as the control reserve market
- **Powered by diverse technology**: From biogas and PV or wind CHPs to hydro power plants and emergency power
- **Continual optimization in real time**: Examples include improvements to automation, scalability, and performance
FOR SUCCESS ON THE MARKETS

Most important features at a glance

Our software as a service solution provides everything you need for the successful operation of your Virtual Power Plant. From a central control system, you can monitor and manage thousands of assets to balance power fluctuations or trade energy on the markets.

- **Connect mixed assets**
  Using a standard interface, you can connect different technologies to the Virtual Power Plant and control them remotely.

- **Monitoring assets**
  The control system displays and records real-time information on current capacity, storage levels, and standby status of your assets. You can see the exact amount of available capacity in your VPP.

- **Data visualization**
  The graphical user interface of NE-MOCS provides several visual interfaces. For example, you can view filtered by technology type, customer groups, or location.

- **High-performance data processing**
  Price signals from the energy market and network signals from the TSO are processed in seconds and converted to operational commands for the assets. Using API-interfaces, the data can be transferred to your master data, trading, or accounting systems.

- **Optimized asset operation**
  Based on input and output data of the networked assets in addition to market and weather data, you can establish schedules for peak-load operation, optimizing flexible assets and their respective market value.

- **Fully-automated control**
  The central control system remotely manages each individual asset at its optimal operating point and ensures the predetermined schedule is executed. Restrictions on individual assets are of course taken into account. Changes to the operating schedule are possible on short notice.
Communication and data flow with NEMOCS

The control system is the technological core of the Virtual Power Plant. It is here that all the information from each asset comes together in real time using M2M communication. This provides a precise snapshot of your Virtual Power Plant’s available capacity at all times. Market and network data is also processed in the control system and converted to individual operational commands. This allows flexible assets to be powered up or down as needed, for example. NEMOCS is based on standard interfaces and is therefore scalable and open to all types of technologies. Importing and exporting data to and from other systems is no problem with the API-interface.
Decentralized energy producers and consumers

- Solar
- Wind
- Biogas
- Emergency power
- Hydro
- Demand Response
- Energy storage

External data
- Weather forecasts
- Consumption forecasts

Asset live data
- Current capacity
- Storage levels
- Standby status ...

Operational commands based on
- Market and TSO signals
- Schedules

Market data
- TSO data

Trading

Energy markets
- Electricity exchange
- Control reserve
- OTC
WHAT WE OFFER

Start now with the complete package

With NEMOC, we supply everything you need to construct and operate a Virtual Power Plant from a single source. We provide you with the complete infrastructure in addition to managing set up and hosting.

WHAT WE OFFER

1. We can network the energy producing and consuming assets if desired.
2. The Virtual Power Plant is created according to your specification and needs.
3. We set up access for the required number of users and provide training for your employees.
4. You are completely in charge of your Virtual Power Plant, but you can rely on our support team at all times.

Advantages of our software as a service solution

- **Cost-effective**: You have the advantage of a high-performance VPP solution without investing in your own costly IT infrastructure.
- **Modular and scalable**: NEMOC is tailored to your individual needs. The system adapts to a growing number of participants and use-cases and can be set up for as many users as needed.
- **Flexible**: You can integrate diverse products and technologies and react to changing conditions.
- **User-friendly**: All data and information are depicted in a way that is easy to understand for all users. Protocols and analyses allow for simple documentation and evaluation of processes.
- **Fully-developed**: NEMOC has proven itself in day-to-day operation by our IT specialists and traders. Your Virtual Power Plant is built on a platform that has been tried and tested for years. You’ll also be a part of future developments to the system.
- **Secure**: Our platform meets the strict criteria of German IT security laws and is ISO certified (ISO/IEC 27001 and ISO/IEC TR 27019).

Tailored to your needs

“Every customer has different needs and use-cases. That’s why our platform has been constructed modularly and can be individually configured. I am happy to support you in planning and implementing your custom-made software solution.”

Felix Jedamzik
Key Account Manager
A reliable partner for the energy supply of the future

The transition to renewable sources of energy is an enormous challenge for our energy supply. Since 2009, we’ve risen to this challenge and have developed solutions for the energy market of the future. We’ve been successful. Today, we operate one of the biggest Virtual Power Plants in Europe - with capacity equivalent to two nuclear power plants, and subsidiaries in eight countries. NEMOCS incorporates the entire spectrum of our expertise. We are happy to share this knowledge and to support you in creating your own Virtual Power Plant.

Reliable

As a power plant operator and energy trader, we’ve got plenty of practical experience with the challenges that come with operating a Virtual Power Plant – and the market opportunities it provides. After incorporating your specific goals and market circumstances, we are uniquely positioned to help and advise as you plan and implement your Virtual Power Plant.

Comprehensive

As a full-service provider, the complete infrastructure is available to you for operating your Virtual Power Plant. At the same time, you can always rely on our full support: If needed, we can assume 24/7 operation of your Virtual Power Plant. Just get in touch.

Collaborative

Next Kraftwerke provides you with a personal contact for all your questions and requests. More than 130 employees are working toward the satisfaction of our customers.

Specialized

By supplying control reserve, we’re helping to keep the grid stable and are currently operating in seven European control reserve zones. Our software solution is perfectly suited for providing capacity reserve and trading energy flexibility.

Distinguished

We have received a number of awards for our innovative concepts and products:

- Brand eins Innovator des Jahres, 2018
- Financial Times 1000, 2017
- Intersolar Award, 2017
- National Energy Globe Award Germany, 2017
- RGi Good Practice of the Year Award, 2016
- eco Internet Award, 2016
- Global Cleantech 100, 2015
- Eurelectric Award, 2015
- Nominated for the Hermes Award, 2015
- German Energy Award, 2014
ABOUT NEXT KRAFTWERKE

Facts and figures

- Networked assets: > 6,400
- Total capacity of the Virtual Power Plant: > 5,400 MW
- Traded energy quantities (2017): 11,5 TWh
- Control areas: Active in seven European TSO
- Countries: 2009
- Locations: 10
- Employees: 141
- Revenue (2016): 382 million Euro

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