The energy management of the future
Tapping new potential in the energy market with virtual power plants and demand response solutions
Energy has to be transmitted over long distances using infrastructure that is weakened with age.

The energy supply is becoming increasingly more decentralized.

Energy-hungry megacities are booming thanks to a prosperous economy.

New challenges, enormous opportunities

Energy is the backbone of our modern world. Population growth and the strong pull of cities continue to drive demand in many countries.

At the same time, the conditions under which electricity is generated and consumed are changing rapidly. These changes often go hand in hand with the infeed of distributed energy generators, including renewables, and high stress on aging grids. Traditional roles are changing: pure consumers, for example, are becoming market participants who generate power or can offer storage capabilities. In liberalized energy markets, energy is becoming a commodity with marketable excesses, bottlenecks and fluctuating prices.

All of these trends are opening up new challenges, perspectives and opportunities – for established market participants as well as newcomers.

Prevailing questions:

- How can you take advantage of the new opportunities?
- How can you flexibly integrate distributed energy generators and use them to your advantage?
- How do you adjust demand to generation capacity?
- How do you increase your flexibility on the energy market?
Virtual power plants: Smart management of distributed energy resources

Distributed energy resources offer attractive marketing potential. On their own, however, they are too small and power generation from renewable sources varies too much for reliable planning of these resources. The solution is to combine them into a large unit – a virtual power plant – that can be efficiently controlled.

The “brain” behind our virtual power plant is the DEMS®, the decentralized energy management system. It processes influencing data such as weather forecasts and energy prices with the goal of optimally marketing energy and establishing planning security for you, the operator. As a result, you can create reliable prognoses and fine-tuned schedules for all energy resources.

Thanks to integrated real-time optimization, you can flexibly adapt this planning to actual demand – and take immediate action, for example when a market opportunity suddenly arises.

DEMS® thus helps you operate distributed energy resources by optimizing costs in an environmentally friendly way, and perfectly coordinate power generation and consumption. Above all, however, it allows you to achieve additional value added through new marketing opportunities.
Demand Response: Controlling and marketing loads

The imminent challenges in energy supply can no longer be met solely by actively managing generation. Load flexibility must also be actively included in planning and operation. The old principle that “generation will follow consumption” is changing as demand adapts to supply.

DRMS is the solution for automated load management. Our system makes it possible to selectively influence power consumption by reliably forecasting and planning loads and their behavior. As a result, you can make optimum use of existing resources and implement new, innovative business models, for example by participating in energy and regulated markets or by supporting grid operation.

Load management also offers the possibility of interacting with consumers, which allows optimal planning and implementation of load control measures. As a result, end consumers can also benefit from active integration in business processes.

Now you can use loads to create a win-win situation – thanks to DRMS.
The solutions: Virtual power plants and demand response management

Your benefits at a glance:

- Additional value added thanks to better ability to market the flexibility of distributed energy resources
- Versatile applications thanks to
  - reliable forecasting, planning and smart management of distributed energy resources
  - load event planning and initiation
- Cost-efficient operation through real-time monitoring and optimization of plant schedules