INEA

KIBERnet

SmartGrids Technology

30+ years of DSM experience

3rd generation of fully automatic peak clipping systems

System performance:

- 8 - 30 % peak power reduction
- 5 - 25 % electric bill savings
- 300+ MW loads controlled
- CO2 reduction

Customized solutions

Investing in your future
Operation Part Financed By The European Union
European Regional Development Fund

KIBERnet system increases the efficiency, safety and reliability of the electricity transmission and distribution systems and removes the obstacles to the large-scale integration of distributed and renewable energy sources.

Background

In the 20th century, the electric system was designed by utilities on the basis of a key assumption: electricity generation was sized assuming fully controllable sets of centralized generators while electricity consumption, disregarding large centralized storage, came from a fully stochastic set of clients in any given geographical location. These one-way power flow electricity networks were then dimensioned according to peak demand conditions, which were forecasted using electricity macro consumption models.

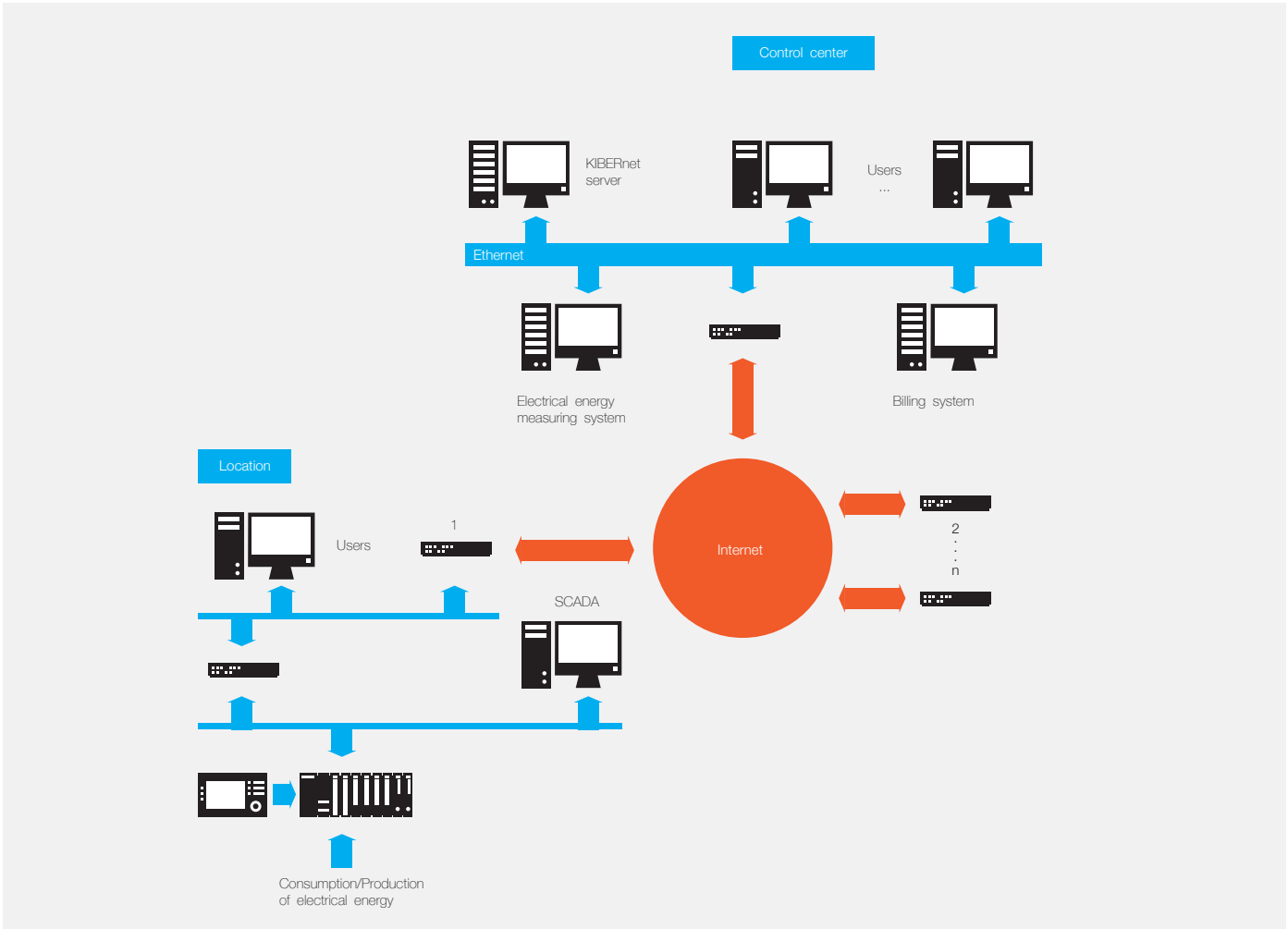
In the 21-st century, some of the generation units have a stochastic behavior due to the intensive use of renewables, while some consumption becomes controllable thanks to smarter appliances. The absence of allocation signals for generation units concentrates generation in favored areas, with the number of generation units decreasing in less favored areas i.e. distances between load and generation are increasing, which in turn requires higher transmission capacities. The whole electric system optimization process has changed, requiring networks to become smarter and stronger, favor decentralized storage and allow bi-directional power flows. Operators must coordinate more on a day-to-day basis to keep the whole electric system reliable at affordable costs. This paradigm change has triggered a joint new vision to better operate networks for transmission and distribution system operators called SmartGrids – Electricity Networks of the Future.

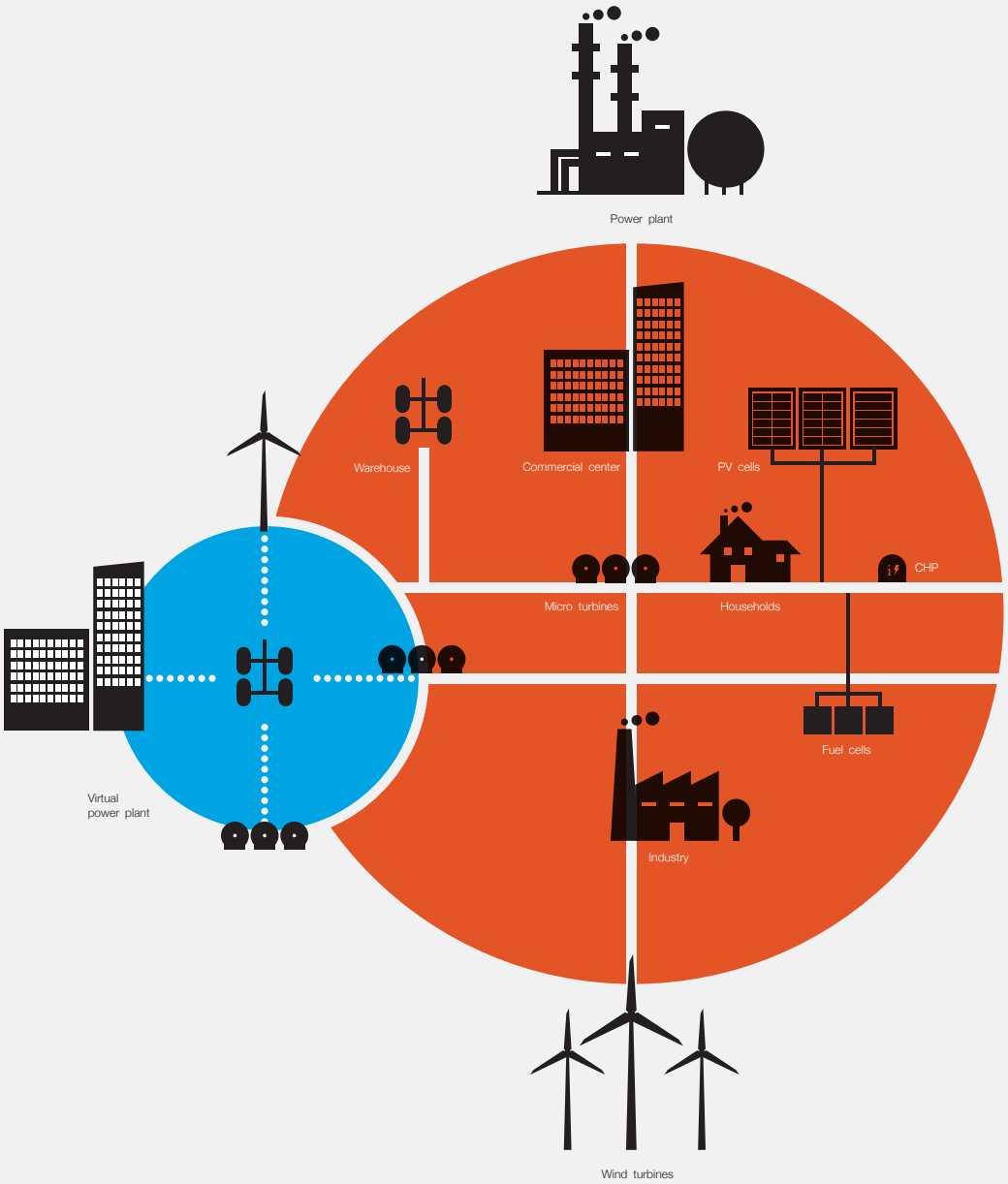
KIBERnet – The SmartGrids Technology

The KIBERnet system remotely manage electricity consumption and distributed generation across a network of industrial and commercial prosumer customer/generator sites to enable a more information-based and responsive electricity transmission and distribution network. It is a tool for effectively managing arising challenges in balancing the supply and demand in the electricity system.
The KIBERnet system is a family of SmartGrids products designed for the following four user groups:

- Transmission System Operators (KIBERtso),
- Distribution System Operators (KIBERdso),
- Electricity Suppliers (KIBERsup),
- Industrial and Commercial Electricity Prosumers (KIBERsik).

In order to avoid security of supply issues, such as brownouts and blackouts, during periods of peak electricity demand, transmission and distribution system operators, and electricity producers have traditionally increased production capacity by building additional power plants and transmission lines.
As an alternative, KIBERnet system offers demand response solution, whereby it monitors electricity consumption and automatically shed electricity loads to reduce their usage during these same peak periods. This helps optimize the balance of electric supply and demand and creates a significant financial savings for all four user groups.





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