

## ***Abstract***

**METERING EUROPE 22.09.2008, Amsterdam**

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### **Smart Metering Enables Customers an Active Market Role**

- E-Energy, a German government programme, will gain advantages from ICT used as catalyst for overall changes in energy markets
- Customers acquiring by the "Internet of Energy" a status of a market player
- Smart meters as an essential part of a high-tech strategy are changing architecture of technical and organisational infrastructures in energy markets

Latest studies point out that any further development of the energy system requires digital intelligence and networking to reduce energy costs increase the security of energy supply and reduce the impact of climate change. Taking this as a challenge, E-Energy was declared as a lighthouse project in terms of technology policy to support the development of new ICT products, processes and services. Their implementation towards an "Internet of Energy" will intelligently monitor, control and regulate the electricity system from generation and distribution up to energy consumption.

In particular, the activities of the E-Energy Solutions allow a balance between volatile (weather-dependent) power generation and fluctuating power consumption. Based on a "Smart Architecture" and intelligent information networks Smart Meters play a key role acting as an energy control centre for distributed producers and consumers.

In conjunction with this type of smart power measuring technology, E-Energy solutions may automatically ensure that power is primarily used (in households, machines, plants, commercial and industrial equipment etc.) when it is available at a low cost and in sufficient amounts (e.g. when winds are strong or sunshine is intensive) without having to compromise on convenience, energy supply security or quality.

Suppliers can offer more flexible rates and customers can be informed to price signals, so they can shift their energy consumption to low-load times with lower tariffs, manually or automatically.

The new E-Energy solutions will be tested in selected model regions. Hereby the E-Energy Programme substantiates Germany's leading position in implementing integrated measures for solving energy and climate issues.