

# E.ON – Discovering Smart Housing Solutions

## 1. The Company

E.ON is a multinational energy supplier headquartered in Düsseldorf, Germany. With over 26 million customers and more than 62,000 employees at facilities across Europe, Russia, and North America, E.ON belongs to the world's largest investor-owned electric utility providers.

## 2. Sustainability Innovati

In 2014, E.ON Energie Deutschland launched the SolarManager, a smart control system for solar power. It is comprised of a radio-controlled gateway, function connectors and smart meters that are installed in the customer households with photovoltaic installations. This allows the system to provide information on how much



*Source: [www.eon.de](http://www.eon.de)*

power is generated and fed into the grid, and shows how high the own consumption and electricity purchase is. Furthermore, it includes a forecast of sunshine hours.

E.ON SolarManager helps users to use their generated power most efficiently by matching times of energy consumption and energy generation, i.e. running the washing machine when sun is highest. This helps to reduce the network load and efficiency of the whole power supply system, and might also ease the implementation of smart grids and decentralized energy storages in the future. The combination with a weather forecast and the illustration of the estimated (strongest) sunshine hours helps the user to predict his power generation and therefore plan his power consumption perfectly and conveniently from anywhere.

## 3. Engagement of End Users and Other Stakeholders

The solar manager is the first product launched as an outcome of the Thinking Energy trial, E.ON's main project to investigate future smart housing solutions.

At the heart of the Thinking Energy project is a large-scale field trial, which was implemented in the town of Milton Keynes, UK. The project was organized and implemented by E.ON Technologies UK. During the trial, user input on smart home technologies was gathered via three different methodologies: First, the users participated in online surveys. Second, they engaged in focus group meetings, and third, E.ON conducted in-home interviews with selected users.

The user feedback that E.ON Technologies UK gathered through this three-level approach disclosed some dead ends, while at the same time revealing needs for adjustments and ideas for new solutions. E.ON Technologies UK took user feedback to either eliminate a product from the trial, to implement some adjustments or to develop a new solution, if it was promising according to their evaluation.

In addition to the field trial in the UK, E.ON Energie Deutschland organized another small scale field trial in Germany. During the field trials, E.ON made use of different methodologies to gain user input on the smart home technologies. These included online surveys, phone interviews, focus group meetings, and in-home interviews. The additional field trial served to uncover regional differences with regard to the technological environment as well as user behaviors.

### **Other Stakeholders**

Throughout the innovation process, E.ON collaborated with several organizations from the private, public and educational sector.

In the ideation phase, collaboration with public and non-profit actors facilitated the search for participants for the field trials. In this phase, E.ON Technologies UK partnered with the local council of Milton Keynes and the National Energy Foundation, a local charity, who both supported the project.

The field trial required also the cooperation with companies from the public and the educational sectors, in order to develop technological solutions and assure a smooth running of the field trial. Partner companies included technology suppliers, hardware manufacturers, market research institutions and universities.

## **4. Success factors of the user-centric development process**

The case illustrates organization requirements and learning with regard to large-scale user integration.

The successful set-up and implementation of the user-centric development process was related to several internal and external factors. On the internal side, the management team enjoyed a high degree of autonomy and flexibility, due to strong management support and a large project budget. They assigned an employee to managing the organization of the field trial and the communication with the participants on a full time basis. On the external side, the involvement of different actors such as local municipalities, universities and technology partners was key for successful set-up and implementation of the trials.

There were two important learnings with regard to the integration of user input: First, employees recognized the importance of direct contact between engineers and customers, in order to develop a product according to market needs. Second, it turned out that participation of E.ON Energie Deutschland employees in focus group meetings in the UK were indispensable, since some of the information provided by the users was valuable for the German market, but not for the UK market.

User integration also influenced the way E.ON Technologies UK seeks for innovation in the future. This refers to the fact that they have intensified user integration beyond Thinking Energy. During the project, the company learned that users could successfully contribute to product development and formed an innovation community.