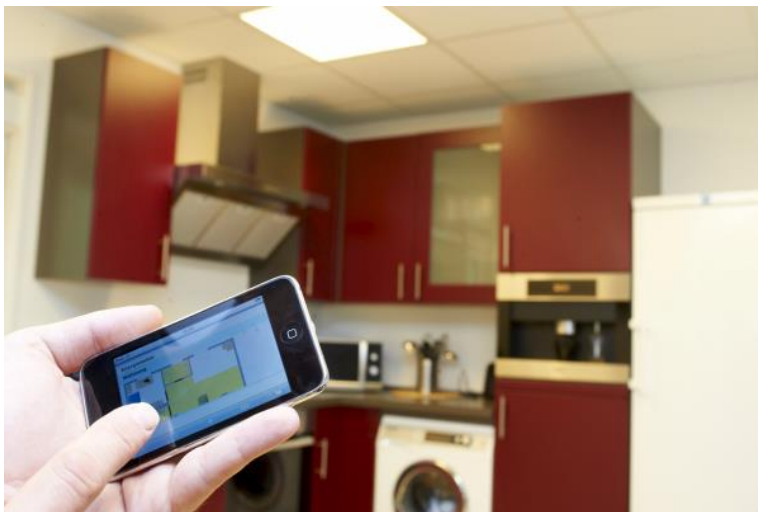


KIT to Participate in the Smart Energy Supply Showcase

**C/sells Demonstration Project to Start under the BMWi SINTEG Program –
State Secretary Rainer Baake Hands Over Approval**



How can the energy management of private households be optimized and what does this mean for supply grids? This is one of the questions covered by the C/sells project. (Photo: KIT)

Cellular, interconnected, participative, sustainable, and comfortable: These are the attributes of future smart energy supply. The partners of the C/sells project, among them Karlsruhe Institute of Technology (KIT), want to lay the foundation for this to happen. Now, State Secretary Rainer Baake from the Federal Ministry for Economic Affairs and Energy (BMWi) handed over the grant approval to the about 50 partners from industry, the energy sector, and science. In the next four years, numerous partial projects of C/sells are planned to be funded with about EUR 100 million.

“The energy transition has given rise to many questions in many areas,” the President of KIT, Professor Holger Hanselka, explained. “KIT will contribute vast research competences to the energy sector and digitization. That is why we feel responsible for developing holistic answers and feasible concepts together with our partners. And we want to expand Germany’s locational advantage resulting from the energy transition.”



KIT Energy Center: Having future in mind

Monika Landgraf
Chief Press Officer

Kaiserstraße 12
76131 Karlsruhe, Germany
Phone: +49 721 608-47414
Fax: +49 721 608-43658
Email: presse@kit.edu

**For further information,
please contact:**

Kosta Schinarakis
PKM – Science Scout
Phone: +49 721 608 41956
Fax: +49 721 608 43658
Email: schinarakis@kit.edu

“In C/sells, we want to analyze how cellular approaches might interact in the future energy system,” Wolf Fichtner, holder of the Chair for Energy Economy at KIT and coordinator of the KIT activities in C/sells, says. Cellular energy systems are characterized by the energy consumers and producers, e.g. solar facilities, being located on the same grid level, in the same cell, and energy transmission to higher grid levels being minimized. Today already, about half of the solar electricity production takes place in South Germany and is used in many applications. For this reason, it makes sense to consider the region a model for solutions in entire Germany and to make it a model region for the decentralized energy transition. “Work focuses on innovative operation concepts and decentralized balancing of production and consumption,” Fichtner adds.

Under C/sells, KIT contributes to a number of topics: Which structures are needed to control decentralized units of the energy infrastructure on the asset level? And how can decentralized flexibility potentials of energy production and consumption be collected for commercialization on today’s central and future decentralized markets? What will be the consequences for current power grids, future smart grid structures, and their supply security? How can the energy management of private households be optimized with not only one but many energy carriers being considered? What will a regional energy management system look like, which efficiently uses the existing flexibility of energy production and consumption? What does more flexibility mean for the grids, which grid states are to be expected, and how can distribution and transmission grids be operated accordingly? The results will be studied for their mass market capability using the existing research platforms for smart energy systems of KIT, the “Energy Smart Home Lab” and the “Energy Lab 2.0”. Experience gained in pilot operation will be incorporated again in theoretical studies. Moreover, development of complex computation models will play an important role, among others to optimize the interaction of flexibility and market. On the part of KIT, the Institute of Applied Informatics and Formal Description Methods, the Institute for Applied Computer Science, the Institute of Electric Energy Systems and High-Voltage Engineering, and the Chair for Energy Economy of the Institute for Industrial Production take part in C/sells.

C/sells was established on the initiative of Smart Grids Baden-Württemberg e.V., Forschungsstelle für Energiewirtschaft e.V. (Research Office for the Energy Industry), Munich, and the utility company EAM. It also covers demonstration facilities in Baden-Württemberg, Bavaria, and Hesse. The C/sells consortium consists of partners from the energy services and grid sectors, operators and

manufacturers, science, and transfer. C/sells is part of the funding program “Schaufenster intelligente Energie – Digitale Agenda für die Energiewende” (SINTEG, Smart Energy Showcase – Digital Agenda for the Energy Transition) of the Federal Ministry for Economic Affairs and Energy. The program is aimed at developing and demonstrating in large-area “showcase regions” scalable model solutions for an environmentally compatible, secure, and affordable energy supply based on a high proportion of renewable energy sources. The focus is placed on smart interconnection of production and consumption and the use of innovative grid technologies and operation concepts. The solutions found will serve as models for wide implementation. The Federal Ministry for Economic Affairs funds the five showcases with a total of more than EUR 200 million. Together with the investments made by the companies, more than 500 million Euros will be invested in the digitization of the energy sector. SINTEG is an important contribution to the digitization of the energy transition. In total, more than 200 companies and other actors from science take part in the SINTEG showcases.

More information:

www.csells.net (in German only)

<http://www.bmwi.de/DE/Presse/pressemitteilungen,did=791840.html>
(in German only)

About the Smart Grids Baden-Württemberg e.V.

The Smart Grids Baden-Württemberg e.V. (SmartGridsBW) understands itself as a branch-overlapping and association-overlapping initiator, moderator, and integrator in the interconnection of energy grids with the accompanying communication infrastructure, which is gaining importance. SmartGridsBW developed from an informal collaboration of actors in the area of energy supply and communication that started in 2012. Now, it has more than 70 members. The office is located at Karlsruhe Institute of Technology. On the way of the politically desired energy transition towards a both sustainable and resource-compatible and affordable energy supply, quick and comprehensive exchange of information between science, industry, the energy sector, and not least politics and the general public is an important element for the further development of the strengths and competencies of the innovative actors in Baden-Württemberg and beyond. SmartGridsBW is far more than an independent information platform and, together with its member companies, has developed concrete plans, such as C/sells, and implements them within the framework of complex work packages.

<http://www.smartgrids-bw.net/home> (in German only)

More about the KIT Energy Center: <http://www.energy.kit.edu>

Karlsruhe Institute of Technology (KIT) pools its three core tasks of research, higher education, and innovation in a mission. With about 9,300 employees and 25,000 students, KIT is one of the big institutions of research and higher education in natural sciences and engineering in Europe.

KIT – The Research University in the Helmholtz Association

Since 2010, the KIT has been certified as a family-friendly university.

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