SmartQuart becomes first real labaratory of the energy transition

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- Official handover of the funding decision by Peter Altmaier on 16.12.19
- Consortium shows energy Consortium shows energy-optimized quarters in Essen, Bedburg and Kaisersesch from 2020
- gridX is responsible for the connectivity and thus for the intelligent energy management in the neighbourhood

Munich, 16.12.2019. Today, Monday, Federal Minister of Economics Peter Altmaier handed over the funding notice to the first "real laboratory of the energy transition". The "SmartQuart" project, which was developed by a consortium of nine partners, can now start in January 2020. The aim of the project is to make the use of fossil fuels in the project quarters largely superfluous. In the cities of Essen and Bedburg in North Rhine-Westphalia and Kaisersesch in Rhineland-Palatinate, the individual city districts will be networked with each other. In this way, the differently structured districts are to complement each other in a sustainable and economic way in a systemic network and exchange energy with each other.

"I am delighted that the first real laboratory of the energy turnaround is already starting work. Our real laboratories are innovation projects on an industrial scale. In them, we develop and test technologies that we need for our ambitious energy and climate policy goals. SmartQuart is an example of how the energy revolution can be transferred from the electricity sector to other sectors," explained Peter Altmaier at the handover in the Ministry of Economics.

"SmartQuart" represents typical urban quarters from low-density rural areas to very high-density urban areas.
By depicting three areas typical for Germany, the concepts can be transferred to other quarters. In all three urban quarters, residents, energy suppliers and local technology providers are involved in the implementation of "SmartQuart". In addition to gridX, the project partners are innogy SE, Cisco Systems Holding GmbH, Hydrogenious Technologies GmbH, OFB Projektentwicklung GmbH, RWE Power AG, RWTH Aachen University, the town of Bedburg, the municipality of Kaisersesch and Viessmann Werke GmbH & Co. KG. Associated partners are the City of Essen, Siemens AG and H2 MOBILITY Deutschland GmbH & Co.KG.

gridX is the only startup among large corporations represented in the consortium. The young company, which has been operating on the market since 2016, is responsible for the connectivity of the quarters. Only the innovative technology of gridX enables the actual implementation of intelligent energy management. Thus, via the gridX cloud, plants, buildings and residential buildings within the three quarters are networked and also altogether via a central contact point. With "SmartQuart", gridX shows that climate-neutral energy supply within a quarter and in interaction with neighbouring quarters is already technically and economically possible today. The central project element is the exchange of energy and intelligent networking within and between the quarters. Consumption and generation are already being optimized at the local level. The basis for this is the transparent, scalable and manufacturer-independent platform of gridX. Thus, a holistic and sustainable neighbourhood concept for a renewable energy and heat supply is demonstrated.

With the real laboratories of the energy transition, sustainable energy technologies are tested under real conditions and on an industrial scale. The BMWi provides more than 100 million euros annually for this purpose. If Germany's climate protection goals are to be achieved, the share of renewable energies in all sectors and in all areas of daily life must still grow significantly. This is precisely where the "SmartQuart" project comes in - in a citizen-driven energy, heat and mobility turnaround from the districts. An important factor here is decentralised sector coupling at local level in neighbourhoods in order to implement the energy turnaround in the areas of mobility, heat and electricity. Different approaches to solutions are being developed in the neighbourhoods, which complement each other across neighbourhood boundaries.

The districts: In order to implement the energy system transformation in the Bedburg district, "green" local district energy (heat energy and household electricity) will be used. The energy will be generated locally by a new wind turbine, which will be built as part of an expansion of the local wind farm, and in new neighbourhood PV systems, and consumed in the neighbourhood. Highly efficient central and decentralised (per house) heat pumps will also be used.
A hydrogen-based microgrid is to be installed in the rural community of Kaisersesch. This shows the entire value chain from the generation, conversion, storage, distribution and use of renewable energy by the end user in the sectors of heating, electricity, mobility and industry. Thus renewable energy is to be integrated into the energy system.
In the Literaturquartier in Essen, the former site of the Westdeutsche Allgemeine Zeitung (WAZ), a new quarter is being created consisting of a residential area, small businesses, office and hotel buildings. With a PV and hybrid PV system, the highly dense urban quarter is able to generate its own energy. In addition, new mobility offers will be made through charging points as well as e-car and bike sharing, and the balance of consumption and generation will be optimised by using a central quarter storage and an intelligent digital quarter energy management system.

About gridX: The energy transition is one of the most important challenges of our time. At its locations in Aachen and Munich, gridX GmbH faces up to this challenge honestly, cleanly and transparently: The white label solutions Microgrids, Independent Homes, Smart Commercial and Smart Charging set an example in the Internet of Things and convince with self-developed hardware and software, innovative technology and first-class services. With a digital platform for business customers and electricity consumers, the company leads its customers into the future of energy supply.
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About real laboratories: "Real laboratories of the energy transition" are a new funding pillar in the German government's energy research programme. Companies test the real operation of new technologies in a region. Together with partners from science and research, they analyse the interactions with the energy system and society. The interaction of actors and technologies in the energy system transformation process will be demonstrated on site. In this way, valuable experience is gathered to accelerate the transfer of innovations into practice. The results of the real-world laboratories also show how the legal framework conditions must be further developed so that business models can be competitive in the long term.

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