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SMA Solar Technology AG – Press Release

## **Research Project PV-Regel: Concepts and Solutions for the Provision of Balancing Power With Photovoltaics**

**Niestetal, October 21, 2014—SMA Solar Technology AG (SMA), the Institute for High Voltage Technology and Electrical Energy Systems (elenia) of Technische Universität Braunschweig and GEWI AG are conducting a joint research project to investigate how photovoltaic systems can provide balancing power for the stability of power grids in the future. The goal is to develop suitable technical solutions for photovoltaic systems ranging from small private systems to large-scale solar power plants and to demonstrate their feasibility in a field test. SMA is the coordinator for the PV-Regel project, which runs until July 2017 and has a budget of approximately €3 million. The four German transmission system operators Amprion, TenneT, TransnetBW and 50Hertz have signed on as associate partners. The German Federal Ministry for Economic Affairs and Energy is funding the research under the Sustainable Power Grids initiative.**

With an increasing share of renewable energies in power generation, renewables have to take over responsibility for the system and for stabilizing the power grid. Providing balancing power as needed to maintain grid frequency is a central aspect of this. The partners of this joint project want to study the principles of providing balancing power with photovoltaics, particularly on an international level, and to develop economically optimal requirement profiles for the future provision of balancing power with photovoltaics. “Even today, photovoltaic systems are already fully involved in grid management. The potential for even greater involvement in the future is significant,” said Roland Grebe, SMA Board Member for Technical Innovation, at the kick-off meeting.

Other project goals include developing innovative concepts for solar power plants to provide balancing power and testing a megawatt-class battery inverter capable of providing an instant reserve. In the category of small-scale plants, the goal is to develop and evaluate practical system solutions for the provision of balancing power using hundreds, and eventually thousands, of decentralized and pooled photovoltaic systems.

In addition to the PV-Regel research project, SMA is working with partners from science and industry in other government-sponsored projects on additional important issues regarding grid integration of photovoltaics and innovative solutions for the energy transition. These include, among other things, the contribution of photovoltaic systems to voltage maintenance, to reactive power management and to transient grid stability as well as the role of photovoltaics in grid restoration, the integration of batteries and intelligent energy management solutions. The goal is to

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develop a new generation of system- and cost-optimized photovoltaic systems that ensure supply reliability and system stability in the decentralized and 100 percent renewable energy supply of the future.

## **About SMA**

The SMA Group generated sales of more than €930 million in 2013 and is the global market leader for solar inverters, a key component of all PV plants. SMA offers innovative key technologies for future power supply structures. It is headquartered in Niestetal, near Kassel, Germany, and is represented in 21 countries. The Group employs more than 5,000 people worldwide. SMA's broad product portfolio includes a compatible inverter for every type of module on the market and for all plant sizes. The product range includes both inverters for grid-connected photovoltaic plants as well as off-grid and hybrid system technology. The product portfolio is supplemented by comprehensive services and operational management of utility-scale PV plants. Since 2008, the Group's parent company, SMA Solar Technology AG, has been listed on the Prime Standard of the Frankfurt Stock Exchange (S92) and also in the TecDAX index.

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