



SMA Solar Technology AG – Press Release

## **SMA Operates Unique Test Center for Hybrid Energy Systems**

**Niestetal, June 25, 2015—SMA Solar Technology AG (SMA) has constructed a unique test center for hybrid energy supply systems at its headquarters in Niestetal. The test center with a capacity of around five megawatts focusses its activities on simulating and analyzing a wide range of operating strategies in hybrid energy supply systems. The test center also analyzes and optimizes the way in which various components inside a hybrid energy system, including PV and battery inverters, work.**

In addition to diesel generators, complete photovoltaic diesel hybrid systems also comprise regenerative grid feed-in and a battery-storage system so that virtually all grid management services under the general categories of frequency and voltage stability can be covered in a stand-alone or utility grid. The SMA test center investigates the behavior of system components in the case of underfrequency or overfrequency that is triggered, for example, by load variations; the balancing out of voltage increases/decreases; and the autonomous supply (independent of the utility grid) of different loads.

“In our test center, we are able to comprehensively simulate the composition of hybrid energy supply systems. The configuration and functionality of what is currently the world’s largest photovoltaic diesel hybrid power plant, Cobija in Bolivia, were also purposefully tested here to enable its successful operation right from the outset,” said Volker Wachenfeld, Executive Vice President of the Off-Grid and Storage business unit at SMA. “Operators of these types of systems benefit from the fact that we are able to assemble their precise configuration, ensure operational stability and verify the anticipated savings—including for diesel fuel consumption,” continued Wachenfeld. “We are able to adapt the system design to the operators’ individual requirements and provide a detailed simulation of the local conditions (load flows, cable lengths, PV array power, etc.). We identify potential errors such as control engineering instabilities at an early stage and can implement suitable measures, which means that we can embark on the commissioning stage with a good feeling.”

The SMA test center is equally suitable for the simulation of conventional hybrid stand-alone electricity supplies, such as for settlements of up to around 20,000 inhabitants in remote regions or hotel resorts, as well as extensive hybrid grids that supply power to large industrial users and commercial consumers. Parallel operation of solar power and diesel generators, with a high share of electricity produced from solar radiation, is managed using the SMA Fuel Save Solution in addition to state-of-the-art storage technology. As part of this process, empirical values showing how the system works under diverse operating states are compiled and suitable sets of parameters are determined for the SMA Fuel Save Controller.



## **About SMA**

The SMA Group with sales of more than €800 million in 2014 is the global market leader for solar inverters, a key component of all PV plants and 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 4,500 people worldwide. SMA's broad product portfolio includes a compatible inverter for every type of module on the market and for all PV system sizes. The repeatedly awarded product range includes system technologies for grid-connected photovoltaic systems as well as off-grid and hybrid systems. The technology is protected by more than 550 patents. The range of services is supplemented by comprehensive services and operational management of large-scale PV power 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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