

# PRESS RELEASE

Hybrid Energy Storage | Battery Energy Storage | January 31, 2018

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## **AEG Power Solutions Announces that SWB Chose its Innovative Concept of Combined Battery Energy Storage and Power to Heat to Provide Primary-Frequency Control Power**

- **First operational implementation of a brand-new concept developed by AEG Power Solutions**
- **The facility has an installed capacity of 20 MW allowing it to deliver 15 MW of primary frequency control power**

**Zwanenburg, The Netherlands, January 31, 2018**–, [AEG Power Solutions](#), a global provider of power supply systems and solutions for industrial, critical infrastructure environments and innovative power electronic applications, today announced that swb Erzeugung AG & Co. KG (*swb*) a Bremen-based German utility chose its innovative concept of combining battery energy storage and power-to-heat for its primary-frequency control power operations. This service is provided to grid-operators to stabilize the grid and is increasingly needed as renewable sources are integrated.

In this hybrid system, energy is stored both in a battery system and an electrical heating system which are connected to the power converter. These are controlled as one unit to provide the required bidirectional power flow (to or from the grid) to balance the frequency and ultimately to ensure the stabilization of the grid.

AEG Power Solutions designed this unique concept based on its power electronic expertise. The patent is currently under review. The company has engineered the complete solution and will provide *swb* with 24 storage converters integrated in ISO-metal sheet containers together with an hybrid storage option, low-voltage distribution cabinets, auxiliary power supply as well as medium voltage transformers and the heating system in separate enclosures.

This hybrid storage system significantly reduces the cost of primary-frequency power operation. First, the required battery capacity is significantly smaller compared to a conventional battery-only system (approx. 50%), and the second source of storage (heating) is considerably less expensive. Additionally, power electronics and all components for grid connection (e.g. transformer) are used twice by utilizing both storage systems which contributes to minimizing installation hardware costs. This improves the pay back for the operators of the system and helps to reduce grid fees which is of general public interest.

“Our team has worked on this solution since 2015, explains Jörg Liedloff, CTO at AEG Power Solutions, we are convinced that this approach is a very cost-effective and highly reliable one to support grid-stabilization requirements. It’s a great achievement for us to partner and implement it together with *swb* which is in charge

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of the global control system. We strongly believe that the market for such solutions is maturing now and will offer us further opportunities.”

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“At swb we believe we can develop a sustainable and renewable energy supply, says Jens-Uwe Freitag, managing director at swb Erzeugung AG & Co. KG. The hybrid system concept developed by AEG PS is innovative and a perfect match for SWB as we supply electrical and thermal energy already today. We cooperated tightly with the AEG PS team. This solution will contribute to position us strongly in our market.”

The facility will be installed on site by May 2018.

### **About AEG Power Solutions**

AEG Power Solutions (AEG PS) Group is a global provider of power electronics systems and solutions for all industrial and demanding commercial power requirements offering one of the most comprehensive product and service portfolios in the area of uninterruptible power supply and power management. Thanks to its distinctive expertise bridging both AC and DC power technologies and spanning the worlds of both conventional and renewable energy, the company creates innovative solutions for next generation distributed power generation.

AEG Power Solutions Group is the sole subsidiary of the holding company 3W Power S.A. (WKN A114Z9) / ISINLU1072910919), based in Luxembourg. The Group is headquartered in Zwanenburg in the Netherlands. The shares of 3W Power are admitted to trading on Frankfurt Stock Exchange (ticker symbol: 3W9K). For more information, visit [www.aegps.com](http://www.aegps.com).

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