

PRESS RELEASE

Battery Energy Storage | Micro Grid | May 11, 2022

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Grid Independency for Shopping Mall in South Africa thanks to Storage Converters from AEG Power Solutions

- Solar powered 1.2 MWh lithium-ion battery energy storage supplies shopping mall and protects against daily power outages in Paarl, South Africa
- Peak shaving reduces energy prices to a minimum and leads to an amortization time of 4-5 years
- AEG PS' storage converter island mode and seamless transition in combination with low harmonics allow grid-friendly integration

Zwanenburg, The Netherlands, May 11, 2022 - AEG Power Solutions, a global provider of power supply systems and solutions for all types of critical and demanding applications, successfully commissioned its Convert SC Flex with 1 MW capacity in the Rembrandt Mall project in Paarl, South Africa. The storage converter forms together with solar panels and lithium-ion batteries an island grid – allowing the mall to be independent from the local public power grid during the day.

South Africa's power grid is facing several outages daily – especially during the peak times at 7-10am in the morning and 6-8pm in the evening. Prices per kWh vary between 2,20 RAND in peak times and 1,20 RAND at midday to 0,80 RAND at night. Since the energy crisis in 2008 Eskom's electricity prices were skyrocketing by 8 times of their initial values. While energy prices depend highly on the peak consumption and the notifying period, the new system helps in terms of peak shaving and therefor lowering the energy contracts to a minimum.

Rembrandt Mall is now taking power independency in its own hands by combining PV panels with a 0.9 MWh battery energy storage forming an own grid with advanced hybrid UPS (uninterruptible power supply) capabilities. One storage converter is connected to the power grid and charges the batteries during the night times at low electricity prices. During day times the system switches into off-grid mode powering the shopping mall via the connected solar panels. The second

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converter forms the local micro grid and works as UPS which is backed up by a genset to cover winter times and rain seasons.

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The system has been implemented by Solar Plexus Africa. Currently it comprises eleven 82 kWh batteries and will be extended in the coming weeks to 1.2 MWh battery capacity in total. "The decision to use lithium-ion batteries was based on the long durability of 6000 charging cycles which lead to a battery lifespan of approximately 15 years in the current setup, explains Dawie Joubert, the owner of the shopping mall. Another advantage of AEG Power Solutions' storage converter is its grid-friendly integration with low harmonics which is a significant factor for electricity grids with low stability."

The system is fully running since July 2021 and has an expected amortization period of 4 to 5 years.

About Solar Plexus Africa

Solar Plexus is Africa's leading on-site micro-grid system supplier for electricity generation and storage with the mission to provide green renewable energy and grid independency for the industrial and commercial sectors throughout the continent.

The advanced hybrid UPS for micro grids is Africa's leading high-voltage energy storage system.

About AEG Power Solutions

AEG Power Solutions ensures continuous power availability and the safe operation of critical applications thanks to with a wide portfolio of power supply systems and services: AC and DC UPS, battery chargers, rectifier systems, service and maintenance on 24/7 basis, as well as fully customized UPS systems to customer specifications.

AEG Power Solutions has developed a distinctive expertise and world-class engineering capacities that bridge both AC and DC power technologies and span conventional and renewable energy platforms. AEG Power Solutions has decades of experience with UPS and power electronics, and grid integration, and is leveraging its conversion expertise to engineer and deliver solutions for the energy transition.

AEG Power Solutions is the sole subsidiary of the holding company 3W Power. For more information, visit www.aegps.com.

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