



CASE STUDY



1 | Challenge : **Emergency bridging in 13 data centres**

A Dutch service provider of data centre space for third parties for the external accommodation of their own servers (colocation) required a concept to ensure a permanent power supply for the equipment of a location.

Data centres are the backbone of digitalisation and the demand for central computing power is increasing worldwide. More and larger data centres are being built.

This not only increases the energy demand itself, but also the performance requirements for a secure power supply (UPS) in the event of a failure of the public grid. This trend will continue in the coming years.

The customer had increased power requirements of in part several megawatts for five to ten minutes bridging time, which had to be met.

A solution was offered by high-current AGM pure lead

batteries in a network of several parallel strings and voltages of more than 400 V. The most challenging aspect here is the high voltage.

It is particularly challenging to realise the same discharge behaviour in all battery strings so that the entire system not only performs at nominal level, but also ensures this over a long period of time.

The customer, a colocation provider, hosts a broad community of providers of public and private cloud services at one of its locations with 13 state-of-the-art data centres and thus offers access to well-known cloud platforms.

USP in data centres
necessary

Several 100 kWh
need to be bridged

Uniform discharge
behaviour of all
battery strings
necessary

Long-term
solution
wanted



Marcel Birkhölzer
Key Account Manager

"Securing the power supply in case of grid fluctuations is essential in order to be able to use the digital services of our everyday life continuously."

Uniform voltage curve of all battery strings

Excellent high current capability for rapid discharge

10 years performance guarantee

13 data centers were equipped

2 | Solution : Permanent power supply without compromise

Long-term performance and energy efficiency characterise the UPS in the data centres. With the high-performance pure lead battery grid | Xtreme VR, the customer requirements could be fully met.

The customer's primary objective was to ensure the required discharge performance - with a performance guarantee of 10 years.

In order to meet this objective, HOPPECKE decided to supply the battery systems consisting of 6 strings with 32 blocks each with pure lead batteries, which had been produced in the new, fully automated battery plant in Poland. State-of-the-art and digitalised manufacturing processes at this location, combined with a short supply chain, form the basis for mastering the demanding requirements of this type.

The grid | Xtreme VR batteries were explicitly developed for the type of application with backup times of a few minutes. Above all, the fast-charging capability and the

excellent high-current behaviour made them the right product for the customer in this case to provide the energy needed in the event of a grid failure.

In addition, the 15-year service life expectancy exceeds the ten-year performance guarantee requested by the customer. In addition, the thin plate technology used produces a higher energy and power density than is the case with conventional AGM batteries. This makes it possible to reduce the space required and install more batteries in the same area.

Even the increased room temperature in data centres does not pose a challenge. The grid | Xtreme VR battery has an increased operating temperature range of up to 55° C, instead of the usual 45° C.

After commissioning the system, an extremely uniform voltage curve of all strings in the network was documented and the project was successfully completed.

Key Benefits

- Reliable power supply in the event of a power failure
- Application possible at operating temperatures of up to 55°C
- Reduced space requirement and thus reduced infrastructure costs
- 15-year service life expectancy

3 | Produkte :

► Batterien: **grid | Xtreme VR 12-110**



POWER FROM INNOVATION

Bontkirchener Straße 1, 59929 Brilon-Hoppecke, Germany

Tel: +49 (0) 2963 61-347 | E-Mail: reservepower@hoppecke.com | www.hoppecke.com



CASE STUDY