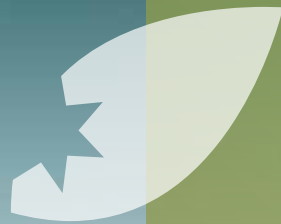




powerstar<sup>®</sup>



Power **resilience**  
for a net zero world

# About Powerstar

Powerstar designs and manufactures power resilience technologies that enable your net zero carbon goals.

## SMART POWER MANAGEMENT

Founded over 20 years ago by Dr Alex Mardapittas, Powerstar has grown to become one of the world's leading innovators of on-site power systems.

A range of Behind-the-Meter hardware and software, and broad technical expertise mean that Powerstar manages and optimises reliable, clean, and cheap power for its commercial and industrial customers.

Find out more about Powerstar at [www.powerstar.com](http://www.powerstar.com)



**RESILIENCE** ⊕



Resilience against power disruptions **plus** smart management of multiple power flows



## Power **Resilience**

The ability to continue your core activities without impact from disruption to your power supply.

A power disruption is not just a power cut. Short term voltage drops or spikes, power fluctuations and inconsistencies can reset equipment, interrupt activities, and shorten the life of your critical electrical equipment.

Powerstar technology provides power resilience to a whole site through any combination of three core technologies:

- ⊕ Uninterruptible Power Supply (UPS)
- ⊕ Voltage Regulation
- ⊕ Reliable, low-loss transformers



# RESILIENCE


## Applications

Resilience+ is a technology range that provides power resilience to a site plus additional applications and benefits.

Not only are Powerstar's power resilience solutions highly efficient, but they can also be used to reduce energy costs and carbon emissions, improve sustainability, and more.

Whatever energy goals your site needs to achieve, Powerstar can manage and optimise the power flows to support them.



 Power Resilience



 On-site Generation



 Solving Grid Constraints




 Net Zero



 Smart Microgrids




 Reducing Energy Bills




 EV Charging



 Energy Efficiency



 Generating Revenue

# RESILIENCE


## Technology


Powerstar design and manufacture a range of hardware and software in two UK facilities. These technologies increase the resilience of a site's power supply while reducing energy consumption and CO<sub>2</sub> emissions.


The technology is all used "Behind-the-Meter", meaning that it is connected on your own site and impacts your site's energy use. It can be used stand-alone or in combination to achieve compound benefits.


Powerstar's range of bespoke technologies includes battery energy storage, voltage regulation, transformers, and microgrid control systems.





 Modelling & Simulation

 Voltage Regulation

 Battery Storage

 Microgrid Control

 Uninterruptible Power Supply (UPS)

 Transformers

 Battery Buffered EV Charging

# Modelling and Simulation

Simulating a complex energy system before implementation ensures that it is feasible and cost effective and speeds up approvals processes.

Powerstar has unrivalled capability to model the multiple power flows that exist in a Behind-the-Meter microgrid installation. The 'digital twin' can be used to assess every possible scenario and stress-test the system for points of failure before manufacture and installation.

Every microgrid project is unique. Powerstar's feasibility studies ensure that your chosen solution will work as intended and provide proof of concept to investors, stakeholders, and authorities.

## Stoba Prazisionstechnik UK Ltd

### Challenge

Stoba Prazisionstechnik UK Ltd are a mass manufacturer of metallic parts and high-quality components to the automotive industry. Due to the high quality and precision of the manufacturing process, Stoba experienced significant financial consequences as a result of power disruptions affecting production.

### Solution

To protect Stoba's entire site and manufacturing process from power disruptions, Powerstar installed a bespoke 1MW battery energy storage solution with fast switching and control software capable of providing comprehensive Uninterruptible Power Supply (UPS). Integrated voltage regulation also provides additional security while reducing electricity consumption, costs, and CO<sub>2</sub> emissions.



- Manufacturing
- Power Resilience
- Reduced Energy Bills
- Energy Efficiency
- Battery Storage
- Voltage Regulation
- Uninterruptible Power Supply (UPS)





# South Staffordshire Council









## Challenge

With on-site servers responsible for critical data, South Staffordshire Council required a reliable power supply to prevent power disruptions causing downtime and data loss. However, they also wanted a system that could support and manage the renewable generation from their 100kW on-site solar array, while simultaneously providing some revenue from grid contracts.

## Solution

Powerstar designed and installed a 250kW battery energy storage solution to provide site-wide fast switching Uninterruptible Power Supply (UPS) to protect the site from power disruptions. The solution also enabled South Staffordshire Council to remove their carbon-intensive backup generator, and efficiently manages their solar generation to prevent exceeding their agreed export capacity, eliminating the risk of penalties from National Grid.



-  Public Sector
-  Data Centres
-  Power Resilience
-  On-site Generation
-  Generating Revenue
-  Solving Grid Constraints
-  Battery Storage
-  Uninterruptible Power Supply (UPS)



## Our Clients



"Powerstar identified waste that we did not think we had. They diligently overcame issues during commissioning and have provided us with a fault free system that saves what they promised."

**MARK BOXALL**  
Managing Director  
Tetra Pak CPS Ltd

"Powerstar has been a major part of our comprehensive energy efficiency programme. It is perhaps the simplest and most effective way to instantly save energy and therefore we would highly recommend Powerstar systems."

**MARK ORPIN**  
Head of Energy Management  
ASDA Supermarkets

"Everyone was so passionate about the product and its benefits for the environment. It was an easy decision to make as it is in line with everything ourselves and our parent company are aiming to achieve on the sustainability side of the business."

**KEN JACKSON**  
Maintenance Manager  
Nutricia

## Sectors


All commercial and industrial energy users benefit from improved quality and resilience of their power supply.

The sectors highlighted here have power resilience as a critical requirement.


Automation, robotics, PLC control, life support systems, data servers, and critical infrastructure cannot afford to suffer from even the slightest power disruptions and fluctuations.

Find out more about how these sectors are supported at [www.powerstar.com](http://www.powerstar.com)



 Manufacturing




 Retail & Distribution




 Defence




 Healthcare



 Public Sector



 Data Centres





Power resilience  
for a net zero world



To find out more about how we  
can help your organisation,  
**contact us** today.

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