

EVERYTHING IN ONE

CABINET

Energy technology company secures its future with multi-use storage system



PROFILE

Client:
Klaus Schleicher Energietechnik GmbH

Industry:
Power engineering

Special characteristics:
Multi-use storage system

Region, country:
Eichenzell, Hessen, Germany

THE BACKGROUND

Klaus Schleicher Energietechnik GmbH (KSE) designs, sells and installs integrated energy concepts. With 70 employees and a market share of 85%, it is one of the largest companies in the sector in east Hessen. The company runs its business under the slogan 'Everything from a single source'. KSE services the entire value chain with its own installers and electricians, which results in high quality and rapid reaction times.



THE CHALLENGE

When KSE moved its headquarters to Eichenzell in 2020, it put an innovative energy concept into effect on its own premises. The headquarters' operations are secured by a back-up power installation which also stores electricity from a PV installation for self-consumption. Among other things, KSE wanted to use the electricity from the roof to run more than a dozen electric charging stations to charge both company vehicles and employees' cars.

Even though the grid infrastructure and services are currently extremely reliable in east Hessen, the switch to sustainable energy raises long-term challenges. Due to the increasing number of power generating plants and the decommissioning of large power stations, grid quality and stability

will suffer in the future. This represents a high level of risk for critical and sensitive power infrastructures such as data processing centres. KSE would like to offer a professional solution that does not rely on fossil fuels to these types of business. The latest generation of powerful lithium-ion battery storage systems can not only provide sustainable and cost-effective security for complex commercial infrastructures but can also contribute to grid stability and improve the quality of the local utility grid.

The requirements for a storage solution:

- Capacity to run quick charging stations
- Suitability for off-grid operation to allow work to continue in the event of a power outage
- High storability with many guaranteed cycles for sustainable provision



CHARGING STATION
INFRASTRUCTURE



BACK-UP POWER



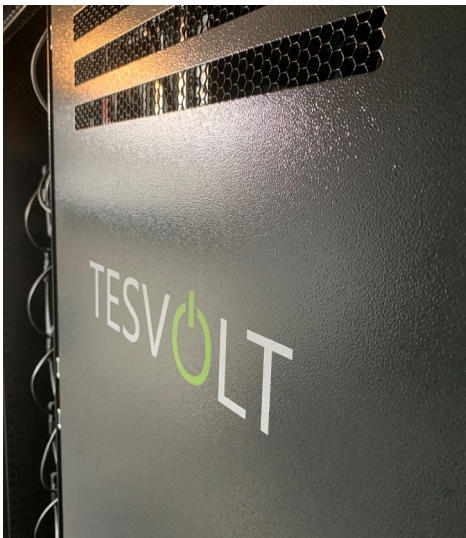
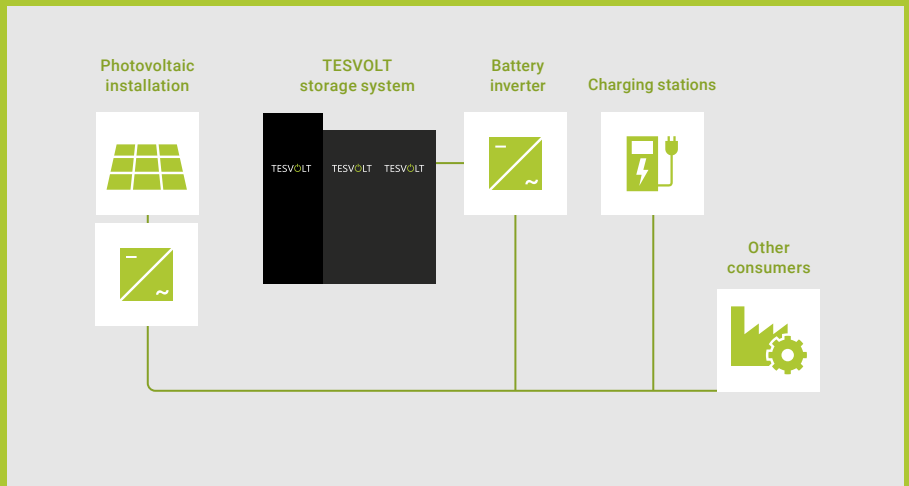
INCREASED
SELF-CONSUMPTION



POWER QUALITY

THE SOLUTION

Based in Lutherstadt Wittenberg, TESVOLT has been KSE's go-to provider of storage solutions for commercial applications for many years due to its innovative, high-quality products. The TS-I HV 80 is the allstar of the future for high-voltage applications. In addition to its back-up power function, it also stabilises frequency and voltage in off-grid applications through its active filter. KSE installed the TS-I HV 80 with an inverter for 76.5 kWh of energy and an output of 75 kW.



"The quality of Tesvolt products puts them in a different league."

Klaus Schleicher, CEO, Klaus Schleicher Energietechnik GmbH

"TESVOLT has provided professional support for all our projects from start to finish – a unique service."

Steffen Schönherr, Engineering Director, Klaus Schleicher Energietechnik GmbH

THE ADVANTAGES

- Installing a storage system means that KSE could dispense with an expensive transformer station and use a lower power rating. This one decision saved the company a five-figure sum.
- A storage system that can do everything: self-consumption optimisation, peak shaving, running charging stations, time of use, back-up power, power quality, semi-off-grid, control of consumers and producers. These applications can also be combined through a multi-use function.
- **Active filter**
Stabilises voltage and frequency while reducing load imbalance, reactive power and harmonics in the local electricity grid
- **High control rate**
Rate response time to power requirements in the utility grid in milliseconds
- **Expandable**
Can be retrofitted at any time using a modular principle to up to a maximum of four 85 kW IPU inverter modules – not just after the first few months of operation but even many years later

PROJECT: FACTS AND FIGURES

Storage system	TS-I HV 80
Energy content	76.8 kWh
Discharging power	75 kW
Cell	Lithium NMC prismatic (Samsung SDI)
Efficiency (battery)	Up to 98%
Cycles	6,000–8,000 (0.5C to 1C cycles, at 23°C +/-5°C with 100% depth of discharge)
Operating temperature	-10 °C to 50 °C
Battery inverter	TESVOLT PCS
Installer	Klaus Schleicher Energietechnik GmbH

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