TESVOLT
Free to go green.

PRINT QUALITY THAT REQUIRES ENERGY

Label factory delivers premium quality thanks to state-of-the-art storage technology

IMPLEMENTED APPLICATIONS

SELF-CONSUMPTION OPTIMISATION

PEAK SHAVING

PROFILE

Client:
Aleithe Haftetiketten GmbH

Type of business:
Production

Region, country:
Lutherstadt-Wittenberg (Saxony-Anhalt), Germany

THE BACKGROUND

Aleithe Haftetiketten GmbH is a traditional family-run printing company with over 70 employees. The company supplies customers from almost all industries – from food manufacturers and drinks and chemicals companies to those supplying medical products. The demands placed on labels are getting tougher, for example due to legal provisions such as recycling obligations or complex material requirements.

THE CHALLENGE

The machinery at Aleithe is correspondingly sophisticated: six flexo printing machines, several digital printing lines, complex multi-layer processing and specialised UV curing systems with nitrogen chambers ensure top quality and speed, even when having to be food-compliant. Production is mainly carried out during two shifts between 5:30 am and 10:30 pm; some orders run through several machines in succession. All of these processes result in high energy demand – around 789,000 kWh per year – that could only be partially covered by the existing PV installations on the company buildings.

The hike in energy prices during the coronavirus pandemic showed just how vulnerable a medium-sized production company can be to volatile electricity costs. Although Aleithe subsequently covered the remaining roof areas with PV (almost 500 kWp in total), three key challenges remained:

- **PV peaks and high machine outputs**
  Even high-performance presses were often unable to make full use of the PV peaks; energy flowed unused into the utility grid
- **Shift work and evening processes**
  Because part of the production process takes place early in the morning or in the evening, PV generation and consumption are not congruent.
- **Future plans for cost-effective energy models**
  Looking ahead, the company wants to use flexible energy concepts, such as energy trading or optimised self-consumption models. This required a reliable, scalable storage system with a trading option.

The original plan was for a compressed air storage system, though it proved unsuitable; at the same time, the cost of lithium battery storage systems dropped significantly. This made it more economical to adopt state-of-the-art storage technology.

THE SOLUTION

Aleithe opted for a battery storage system from TESVOLT – not least because of its geographical proximity to the manufacturer and its trust in its technical expertise. Since spring, Aleithe has been a field test customer, using a TESVOLT system that temporarily stores PV generation and thus noticeably increases self-consumption.

As a family business, we think long-term. Storage systems are a strategic building block for us – and we remain convinced that we are on the right track.'

Raik Lau, Technical Director, Aleithe Haftetiketten GmbH

For us, it is important that we get our energy consumption under control while at the same time being able to produce sustainably. The TESVOLT storage solution is exactly what we need.'

Kerstin Aleithe, Managing Director, Aleithe Haftetiketten GmbH

THE BENEFITS

Despite the usual field test start-up phase, it is already clear that the storage solution helps to make energy costs more predictable and significantly increase self-consumption. Thanks to the storage system, Aleithe Haftetiketten GmbH can absorb peak loads, store PV surpluses efficiently instead of releasing them at unfavourable feed-in conditions, and use trading applications in the future as soon as sufficient operating data is available. The TESVOLT FORTON offers:

- **Real efficiency**
  Thanks to HYPEROX+ technology, energy consumption for cooling is reduced by around 60% compared to liquid-cooled systems. Result: lower operating costs and high cycle stability.
- **Flexibility**
  Optimum system design with up to 4 battery systems per inverter and up to 16 systems scalable in parallel from 90 kW to 1,500 kW. Easy commissioning thanks to plug and play installation.
- **Security**
  High operational and investment reliability thanks to integrated cybersecurity, over-the-air updates and direct service access. Up to 15-year guarantee when using the TESVOLT Energy Trading Option.

PROJECT FACTS AND FIGURES

Storage system	2x TESVOLT FORTON
Energy/output	184 kWh / 92 kW
Cell	High-temperature cell, LFP
Efficiency (battery)	Charging: 98.5%, Discharge: 98.7%
Cycles	15,000 (for energy trading with 2 full cycles per day) 10,000 (when used for self-consumption optimisation, peak shaving, multi-use)
Operating temperature	-20°C to 55°C
Battery inverter	1 x KACO bp gs 92.0 TL3
Installation	Hanni Solar

TESVOLT AG
Am Heideberg 31 | 06886 Lutherstadt Wittenberg
Deutschland | Germany
Phone +49 (0) 3491 8797 100
info@tesvolt.com | www.tesvolt.com

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