A SURGE OF JOY

Peak load shaving for large kitchens

TESVOLT
Free to go green.

PROFILE

Client:
W&W Gastronomie- und Veranstaltungs GmbH

Industry:
Gastronomy

Region, country:
Munich, Germany

THE BACKGROUND

Oktoberfest in Munich (known locally as the 'Wiesn') is the world's biggest fair, attracting over six million visitors a year. The Wiesn's power consumption is on the increase and currently corresponds to the annual consumption of a town with 21,000 inhabitants. At the same time, the fair is a trailblazer when it comes to climate-friendly technology and environmental matters, favouring particularly sustainable companies when awarding permits for the event.

THE CHALLENGE

At the Tradition beer tent, the name says it all. Here, guests can look forward to a brass band, groups dressed in traditional costume and, of course, lots of beer – alongside classic Bavarian fare such as roast pork and chicken. The tent requires a great deal of power, consuming some 200,000 kWh at each year's Oktoberfest. Around 70 % of the power consumption originates in the kitchen, which caters for just over 8,000 guests at peak times. The rest is attributed to lighting and patio heaters, which have to be electric given the risk of fire.

As is often the case in the catering trade, the tent also struggles with load management – that is, spreading the electrical loads across different times of day to avoid current spikes. Consumption by guests – and therefore the use of the tent's kitchen – is constantly high, requiring industrial dishwashers, grills and cooking appliances to operate almost non-stop. It is not unusual, therefore, to see consumption peaks of over 700 kilowatts. Until now, these peaks were served from the utility grid, but the quantity of power that the energy supplier keeps in reserve for consumption peaks costs business operators a lot of money, with demand rates reaching over EUR 160 per kW. If a storage system were to provide the power instead of drawing it from the grid, the tent operators could benefit from significantly lower grid charges and thus greatly reduce their electricity procurement costs.

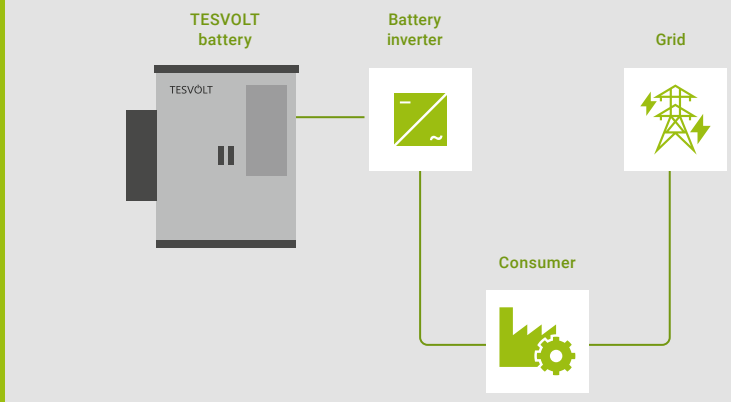
Requirements for a storage solution:

- High-performance storage system with a high depth of discharge and many guaranteed cycles for a sustainable and long-lasting investment
- Easy installation and high operational reliability in a busy environment
- Suitable for outdoor use, as there is no space in the tent

PEAKSHAVING

THE SOLUTION

Munich-based company MP Elektrotechnik had already assumed responsibility for tent electronics on behalf of a number of operators. In order to accommodate the peak loads in the Tradition festival tent using a battery storage system, the company installed the outdoor version of the TS HV from TESVOLT. For this project, they opted for the lithium-ion system with an energy content of 67 kWh. With its high energy density and extremely robust housing, the compact storage system can be installed almost anywhere around the tent.



"Patio heaters are indispensable nowadays – but they consume a lot of power and the peak loads drive up our electricity prices. In previous years, we've seen consumption peaks of over 700 kilowatts. The storage system is intended to help us tackle this problem."

Toni Winklhofer, host of the Tradition tent at Oktoberfest

"Thanks to the high energy density of its battery cells, the storage system also takes up very little space and its capacity can be expanded – even years later. The storage system will allow the tent operators to save several thousand euros."

Matthias Poeting, MP Elektrotechnik München

THE ADVANTAGES

- Savings of several thousand euros per festival
- **Space-saving and robust**
  1945x1989x1030 mm in size and a double-walled aluminium housing from Rittal with level of impact protection IK10
- **Safe and long-lasting**
  The system boasts an above-average lifetime of up to 30 years thanks to extremely robust Samsung battery cells and the one-of-a-kind battery management system, which optimises cells not only within a single module, but also between the modules in each cabinet.
- **Expandable**
  TESVOLT systems can be expanded or exchanged at any time – not just after the first few months of operation but even many years later.
- **Transparent**
  seamless monitoring of storage system health down to cell level
- **Powerful and responsive**
  Thanks to the battery management system, TESVOLT's storage systems make the energy they accumulate fully available. TESVOLT storage systems are 1C-capable, meaning they can be fully charged or discharged within an hour with the proper configuration. As a result, even high-performance consumers can be kept running.

PROJECT: FACTS AND FIGURES

Storage system	TS HV 70 Outdoor
Energy content	67 kWh
Discharge power	60 kW
Cell	Lithium NMC prismatic (Samsung SDI)
Efficiency (battery)	up to 98 %
Cycles	6.000–8.000 (0,5C- to 1C at 23 °C +/-5 °C with 100 % depth of discharge)
Operating temperature	–33 to 55° C
Battery inverter	SMA Sunny Tripower Storage
Installer	MP Elektrotechnik München

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