

BATTERY STORAGE

OPTIMIZES CONSUMPTION

IN HOSPITALITY

A hotel without a power bill



PROFILE

Client:

Sporthotel Schönblick

Industry:

Hospitality

Special characteristics:

Tesla charging station

Region, country:

Lake Constance, Germany

THE BACKGROUND

Meersburg lies between Friedrichshafen and Überlingen on the north shore of Lake Constance. Thanks to its easy accessibility, idyllic setting and nationally renowned restaurants and wine bars, the town attracts around a million day trippers per holiday season. The 250,000 overnight visitors per season have numerous accommodation options to choose from, including Alfred Nebel's Sporthotel Schönblick.



THE CHALLENGE

Sporthotel Schönblick has a total of 18 spacious rooms, a gym, and a spa area with a sauna and jacuzzi, as well as outdoor facilities including a heated swimming pool and a large patio area. Guests with electric vehicles can make use of a Tesla destination charger.

Nebel welcomes several thousand guests each year. As in every hotel, the power consumption is closely linked to occupancy, with the sauna, lighting, consumer electronics, air conditioning systems, hair dryers, solarium and much more operating to serve the guests and ensure their comfort. The hotel's power consumption therefore varies widely and averages 60,000 kWh per year in total.

To save on heating costs, the hotel has a gas-powered combined heat and power unit (CHPU), which also heats the outdoor pool, among other things. Until now, however, Nebel has had to feed the excess power produced by the CHPU into the grid at a price that is several orders of magni-

tude below the price at which he buys it. He would therefore like to have a photovoltaic installation set up in combination with a storage system so that, in future, he can produce even more power and consume a larger proportion of it himself.

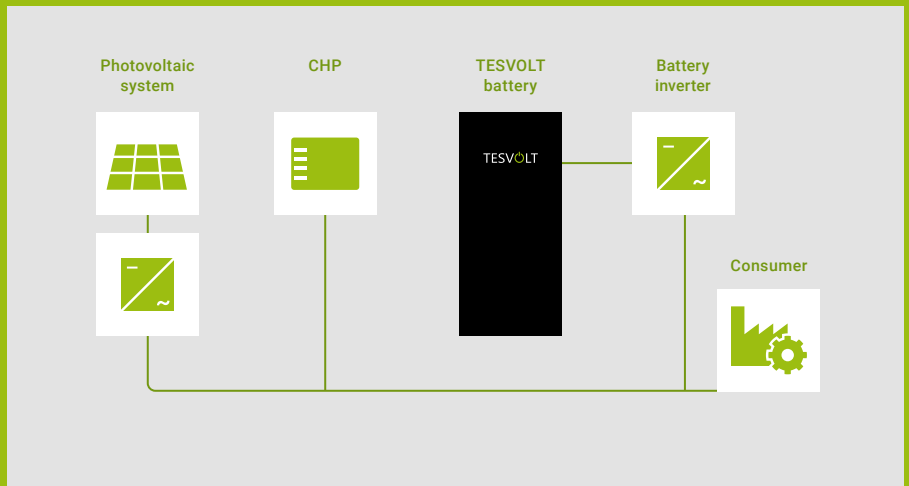
The requirements for a storage solution:

- A powerful storage system with a high depth of discharge and high number of guaranteed cycles for a sustainable and long-lasting investment
- Low-maintenance and reliable operation in combination with a CHPU and solar installation



THE SOLUTION

The solar installer RMsolar GmbH from the island of Reichenau covered the angular roof of the hotel with two 30 kWp solar installations. In the basement of the hotel, the company then installed a TS 48 V from TESVOLT, which is based in Lutherstadt Wittenberg. The lithium-ion battery storage system has an energy content of 38.4 kWh and offers a discharging power of 18 kW. Nebel can therefore optimise the operation of his CHPU and use solar power even when the sun isn't shining.



“My objective was to stop receiving power bills. The storage system helps to make that a reality. I don't even notice it happening – and that's a good thing.”

Alfred Nebel, operator

“TESVOLT systems have now proven their worth to me – they're extremely reliable and powerful. I don't hesitate to tell my customers that either.”

Roland Müller, CEO of RM Solar

THE ADVANTAGES

- **Savings of several thousand euros a year** thanks to the photovoltaic installation and storage system.
- **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 when the sun isn't providing enough power.

PROJECT: FACTS AND FIGURES

Storage system	TS 48 V
Energy content	38,4 kWh
Discharge power	18 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	-10 °C to 50 °C
Battery inverter	SMA Sunny Island
Installer	RM solar GmbH

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