

IN THE CURRENT OF TIME

Battery storage system powers world's first media boat



PROFILE

Client:
Media Pioneer Publishing AG

Industry:
Journalism

Special characteristics:
World's first media boat

Region, country:
Berlin, Germany

THE BACKGROUND

On the stretch of the River Spree that curves round the Bundestag and the Federal Chancellery, *The Pioneer One* "media boat" of the well-known journalist Gabor Stein-gart is in operation. Forty metres long and seven metres wide, during the day the boat acts as a work-place for around 30 journalists. It is equipped with an 82 m² newsroom with the capacity for live broad-casting and a sound studio. In the evening and on weekends the boat is used as a top-class event venue with space for up to 200 guests.



THE CHALLENGE

The electronics on board *The Pioneer One* are very complex. As well as conventional consumers such as lighting and devices for navigating the boat, there are also air conditioning units, TV cameras, editing suites, on-board catering facilities and powerful transmitter antennas, all requiring power. The latter in particular are a vital component for the smooth operation of the media boat. More than 10 different SIM cards from four internet providers ensure that the boat is constantly online, even when it is passing under one of the wide, flat bridges that cross the Spree.

Traditionally on inland vessels, diesel-electric systems are used not only to power the engine, but also to provide the on-board power supply. But *The Pioneer One* is no traditional vessel. Recording and broad-casting high-value journalistic formats in top quality is difficult to manage over the rumbling and vibrations of a diesel generator. Besides, the aim is for the operation to be carbon neutral if possible, and to contribute as little as possible to air pollution

on the Spree. New EU emission standards setting limits on particles emitted from inland vessels are a further argument for emission-free operation wherever possible. High-quality lithium-ion battery storage systems can keep even the most demand-ing electric motors and circuits running for hours.

The requirements for a storage solution:

- High storability with many guaranteed cycles for sustainable provision
- High energy density combined with low weight
- Smart battery management system for efficient operation
- Uncomplicated installation and synergy with the complex power electronics on board *The Pioneer One*



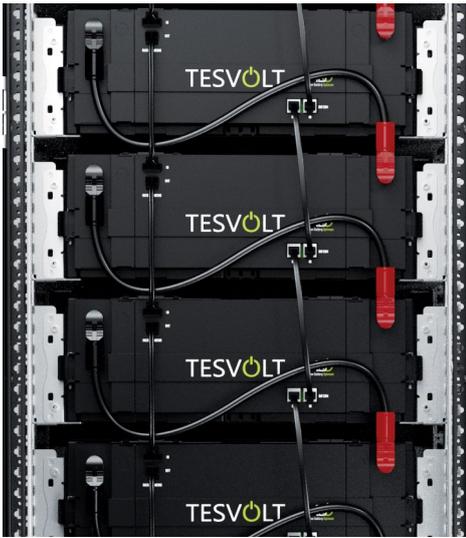
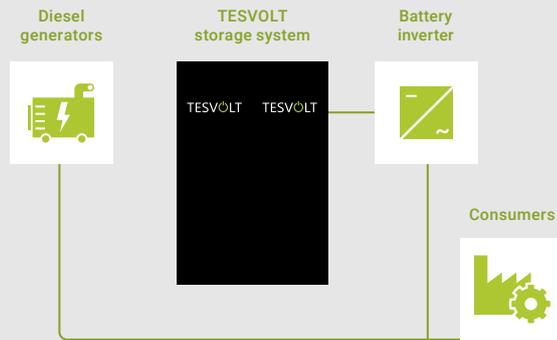
OFF-GRID



OPTIMISATION OF
DIESEL GENERATOR

THE SOLUTION

Together with the client, Bonn-based boatbuilders Lux-Werft designed the vessel and its electronics. To cover the boat for four hours of electric operation, the company chose the high-performance storage system TS HV 70 from TESVOLT. With an energy content of 345 kWh, it can power the boat's engine and all the on-board electronics at the same time. The battery is usually charged overnight in the harbour. A diesel generator is called on only when needed.



“The technology of the TESVOLT storage system impressed us. Boats remain in service for over a hundred years, so the long lifespan is especially important for us.”

Lux-Werft

THE ADVANTAGES

- **Safe and long-lasting**
The system boasts an above-average lifespan thanks to extremely robust Samsung battery cells and a one-of-a-kind battery management system. This optimises cells not only within a single module but also between modules within a cabinet.
- **Certified**
The storage system is certified in accordance with IEC 62619/IEC 62620 and meets the normative requirements set out in ESTRIN 2020/1.
- **Quiet and vibration-free**
Unlike a diesel generator, the battery storage system creates no disturbance to broadcasts or events on *The Pioneer One*.
- **Powerful and responsive**
Thanks to the battery management system, TESVOLT storage systems make the energy they accumulate fully available (100% DoD). TESVOLT storage systems are 1C-capable, meaning they can be fully charged or discharged in one hour with the proper configuration. As a result, even high-performance consumers can be operated in situations where a diesel generator would be too dirty or too loud.

PROJECT: FACTS AND FIGURES

Storage system	TS HV 70
Energy content	345 kWh
Discharging power	345 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	Siemens
Installer	Lux-Werft

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TESVOLT
THE ENERGY STORAGE EXPERTS