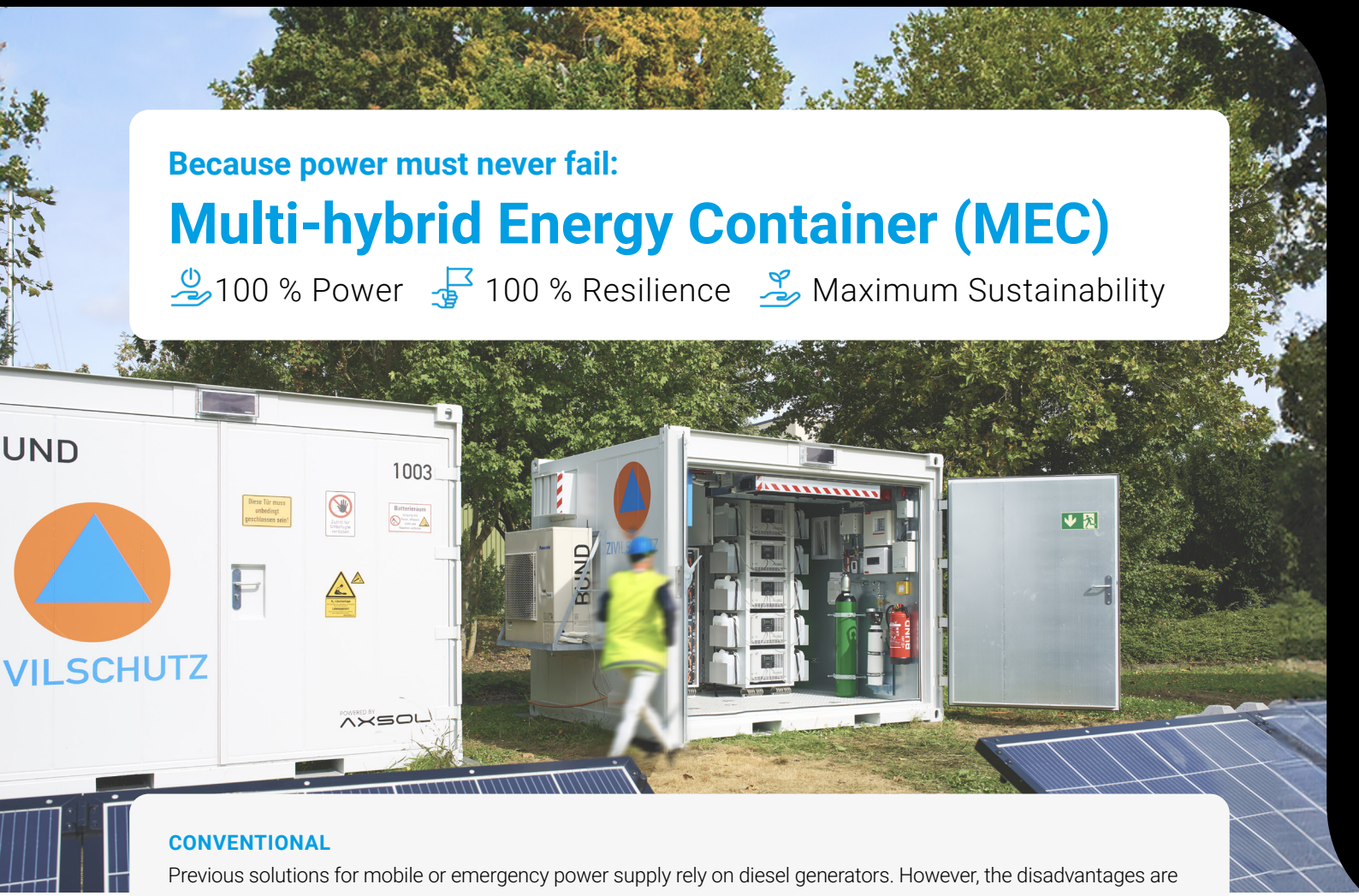
AXSOL
MOVING ENERGY



Because power must never fail:

Multi-hybrid Energy Container (MEC)

100 % Power | 100 % Resilience | Maximum Sustainability

CONVENTIONAL

Previous solutions for mobile or emergency power supply rely on diesel generators. However, the disadvantages are considerable: the generators produce noise and air pollution and cause high operating costs, even during downtimes. As they are only powered by a single fuel, they are also highly prone to failure.

INNOVATIVE

AXSOL Multi-hybrid Energy Containers (MEC)

Resilient power supply for critical infrastructure

The multi-hybrid energy container (MEC) from AXSOL combines several energy systems to secure the power supply. Different sources can be fed in, photovoltaics and methanol fuel cells contribute to CO_2 savings. The energy is stored in state-of-the-art lithium iron phosphate batteries (LFP batteries). The efficient use and load distribution is controlled by AXSOL's own cyber-secure energy management system AXOS.

The modular AXSOL MEC system is scalable and can be used as a mobile or stationary power supply for properties, buildings, municipal administrations, police stations, embassies and critical infrastructure facilities in general, depending on requirements.

The compact, easily transportable containers contain everything needed for power generation, storage and distribution. They are protected against unauthorized access, fire, wind and weather and are air-conditioned.

REFERENCE PROJECT: FEDERAL OFFICE FOR CIVIL PROTECTION AND DISASTER RELIEF (BBK)

Multi-hybrid Energy Containers (MEC) for sustainable power supply in civil defense and disaster control

Project requirement

Ensuring a permanent, sustainable power supply for vehicle halls, in refugee accommodation or during operations in civil defense and disaster control.

The solution

The Multi-hybrid Energy Containers (MEC) supplied by AXSOL ensure the power supply with a maximum total output of 19.2 kW. The majority of the power generation is provided by 5 clustered methanol fuel cells. The energy is temporarily stored in LFP batteries and the inverter system The inverter system then enables consumers to be supplied consumers with 230 / 400 V alternating voltage.

Energy generation with multiple safeguards

Mobile solar systems and a gasoline generator can also be connected to each energy container together or separately to create additional generation capacity and resilience. Alternatively, the battery storage system can also be also be charged via a household socket or high-voltage current.

Special system protection

The system is secured with special protective measures for use in crisis regions. In this case, the main surfaces of the 10-foot container (type 1D in accordance with ISO688) were designed to be bullet-proof in accordance with class FB2 (DIN EN 1522) - components and personnel inside are thus protected from light caliber bullets and „ricochets". In the containers, an active climate control system with ventilation function ensures a permanent operating temperature between 16° and 28 °C degrees Celsius. A fire detection and nitrogen extinguishing system is integrated into the container for fire protection.

The system consists of the following system components:

1

LFP battery storage system for aggregation, storage and distribution of energy:
+ intrinsically safe
+ 56.8 kWh storage capacity
+ durable

2

Intelligent and graphically programmed energy management system (AXOS):
+ automatic control and distribution of loads
+ Intuitive control panel
+ remote access possible
+ high cyber security

3

Fuel cell system with 5 direct methanol fuel cells:
+ 2500 W generation capacity
+ sustainable and independent power generation
+ energy-efficient
+ CO_2-efficient
+ reliable

4

Mobile and foldable solar system E-Fill X 2000:
+ Increased independence and security of supply
+ daily CO_2-free power generation
+ light and easy to transport

5

Standardized gasoline generator:
+ as a final emergency power source
+ protection of occurring loads
+ automatic system control
+ critical infrastrucure / authority certified
+ independent of temperature

We are also happy to help you with your individual application.
Get in touch with us! info@axsol.eu

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