Co-funded by
the European Union

Mission

WE Tech develops and delivers integrated innovative hybrid power and energy solutions that enhance efficiency, reduce emissions, and create lifetime support and value for maritime industry.

Visit us

Vaasanpuistikko 19,
FI 65100 Vaasa, Finland

Tel.: +358 20 786 1680
solutions@wetech.fi

WE Tech

WE CONTROL

Leading Marine Electrification

WE CONTROL

OPTIMISED POWER. MAXIMUM RELIABILITY. SMARTER OPERATIONS.

WE Control is WE Tech's integrated Power and Energy Management System (PEMS) that ensures efficient, reliable and safe vessel operations. It continuously optimises onboard power generation, ensuring efficient and stable electrical system operation. Operator's work load can be reduced. Regular and repeated manual test procedures can be automated.

When operating conditions become challenging, WE Control automatically protects critical vessel functions by intelligently managing available power and prioritising essential loads, helping to maintain operations and minimise the risk of blackout.

Ensure continuous vessel operation

Empower operators with real-time insights

Failure tolerant by design

Automated system checks before vessel mode transitions

ENERGY MANAGEMENT SYSTEM



ENERGY STORAGE MANAGEMENT

Full control of energy storage systems, e.g. BESS, and flywheel.

CONTROL STRATEGY

Smart control strategies for optimal fuel efficiency, emission reduction and operational flexibility across all vessel modes.

DESIGNED FOR THE REALITIES OF VESSEL OPERATION

POWER MANAGEMENT SYSTEM

GENSETS MANAGEMENT

start, stop, sync, loading, balancing, and unloading of gensets.

LOAD MANAGEMENT

Heavy consumer start management with power allocation based on available capacity and priority.

POWER SOURCING & PRIORITISATION

Intelligent selection of power producers based on priority, efficiency, availability and operating conditions.

FAULT MANAGEMENT & RELIABILITY

Failure tolerance groups, adaptive reconfiguration and automated power restoration.

CRITICAL LOAD PROTECTION

Automatically prioritising essential loads during critical situations to safeguard operations and prevent blackouts.

OPERATING MODES TAILORED

The system automatically manages internal operating states, power source selection, and transitions between modes to ensure optimal performance at all times.

NORMAL OPERATION
Balanced operation for efficiency

MANEUVERING
Ensured power availability with safety margin

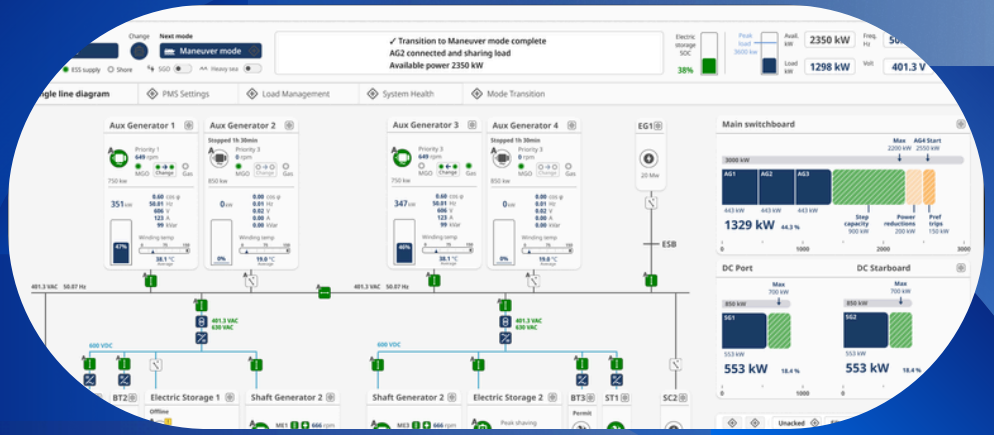
PORT/BERTHING
Low emissions operation with seamless shore power integration

ELECTRIC MODE
Enable zero-emission operations

EMERGENCY MODE
Power priority and load management

BLACKOUT START POWER SUPPLY
Automatic restoration of AC grid using BESS

COMPLEXITY SIMPLIFIED
CALM ON THE BRIDGE AND ECR



MAIN FEATURES

Integrated Control Across Power Production, Distribution and Consumption

Grid Management

- AC grid-forming capability, including black start from battery ESS
- AC frequency and voltage control and stabilisation
- Bus-tie breaker control and grid management
- Pre-charging when needed

Genset & Power Management

- Automatic gensets start, stop, and standby functions
- Automatic genset synchronization and connection management
- Variable and fixed speed genset control
- Balanced and biased load sharing
- AMP (shore power) connection and load transfer management
- Seamless power transfer between sources

Failure Tolerance

- WE Control enable a design of failure-tolerant vessel power system architecture
- Possible failures are isolated within a group to avoid propagation of the failure and ensure safe vessel operation

Auxiliary Load Management

- Heavy consumer control with optional power limitation functionality
- Critical load protection through intelligent AC feeder management