mjr Power & Automation

ELSYS MARINE AUTOMATION

CASE STUDY

E-LUV FERRY & SPSS

Vessel Automation & Machinery Operating System (VAMOS) supply.

The project led by Coastal Workboats in the United Kingdom involves the development of the **E-LUV (Electric-Landing Utility Vessel)**, a fully electric workboat designed to operate as the country's first commercial electric workboat. The vessel's propulsion and onboard energy system is based on a high-capacity marine battery solution supplied by EST-Floattech, engineered for zero-emission maritime applications.

The system is part of an integrated energy architecture that also includes a shore-based power supply system (SPSS) and containerised energy storage, enabling flexible charging strategies, rapid turnaround times, and potential onboard deployment to extend operational range. This configuration is designed to support operations in areas with limited electrical infrastructure while maintaining fully electric propulsion capabilities.

CASE STUDY

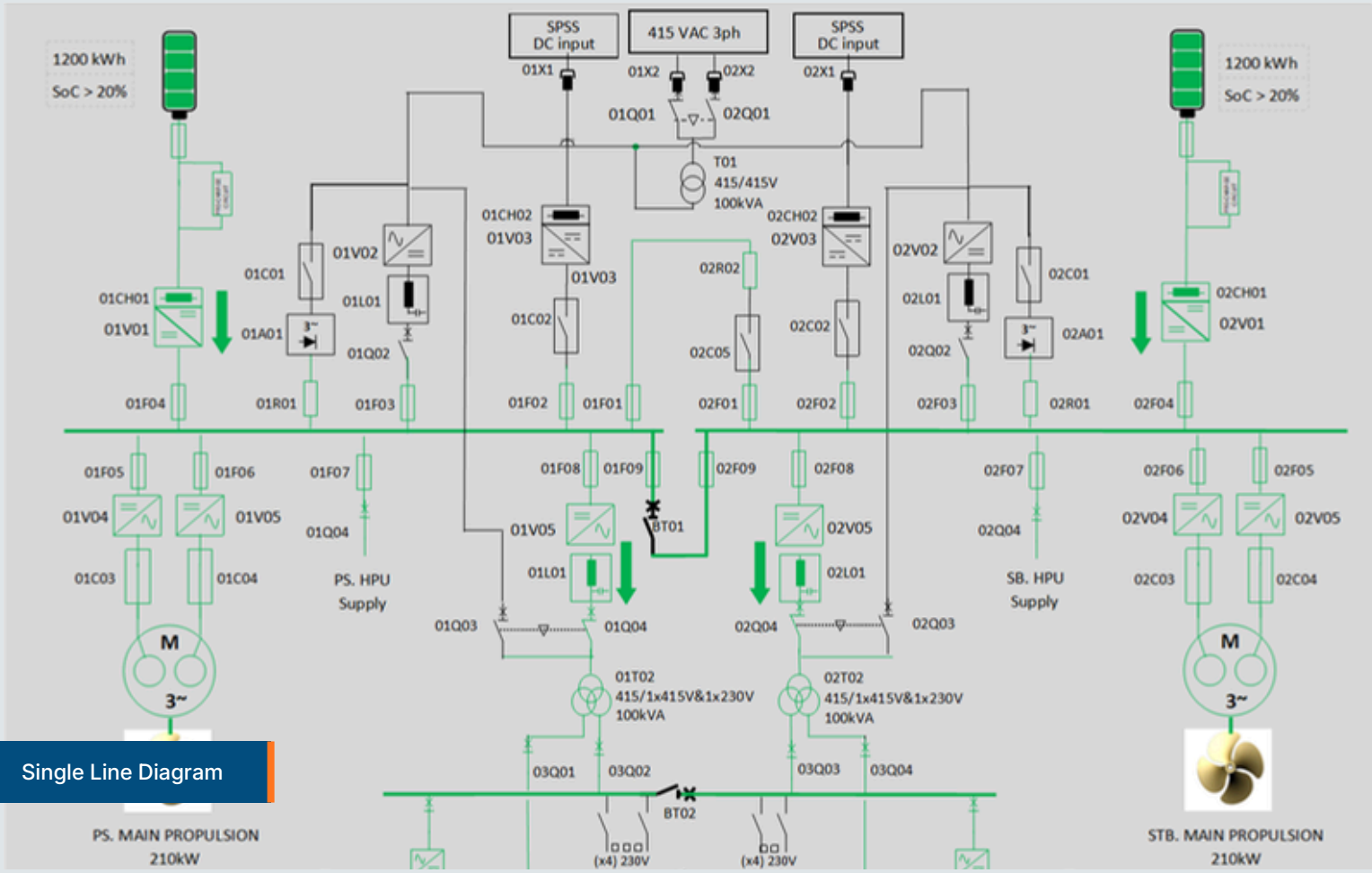
Electric-Landing Utility Vessel (E-LUV)

The project is part of the UK government-backed Clean Maritime Demonstration Competition (CMDC), aimed at accelerating the decarbonisation of maritime transport through the deployment of low- and zero-emission technologies in real commercial operations. Within this framework, MJR Power & Automation and ELSYS are responsible for the vessel's electrical integration and power management system, ensuring safe and efficient distribution of energy between the battery system, propulsion, and onboard consumers. The E-LUV is intended as a demonstration platform to validate the performance and viability of fully electric workboats in short-sea shipping and offshore support duties.

Digital render of the E-Luv vessel, which will carry vehicles and dry cargo

Switchboard

The selected system is a high-energy marine battery solution with a total capacity of approximately 2,400 kWh. It is arranged in modular units installed onboard to power both propulsion and auxiliary systems. In addition, the configuration includes a containerized energy storage unit to support shore-based charging and extend operational range, integrated with dedicated charging infrastructure.



Single Line Diagram

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CASE STUDY

Shore-based Power Supply System (SPSS)

Housed within a 30-foot container, this 1,200kWH battery system is designed for shore-side charging of electric vessels, even the most remote harbours or off-grid sites. It supports fast and trickle charging, accepts multi-source charging, and can be deployed as a mobile range extender (+50nm) when installed on workboats, enabling off-grid and remote marine operations.

By combining high-density energy storage with intelligent charge management, these systems provide unmatched power flexibility, system resilience and true off-grid capability, proving that clean maritime power can be practical, scalable, and operational today.

SPSS Switchboard

ELSYS

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