Advancing
Energy Tech

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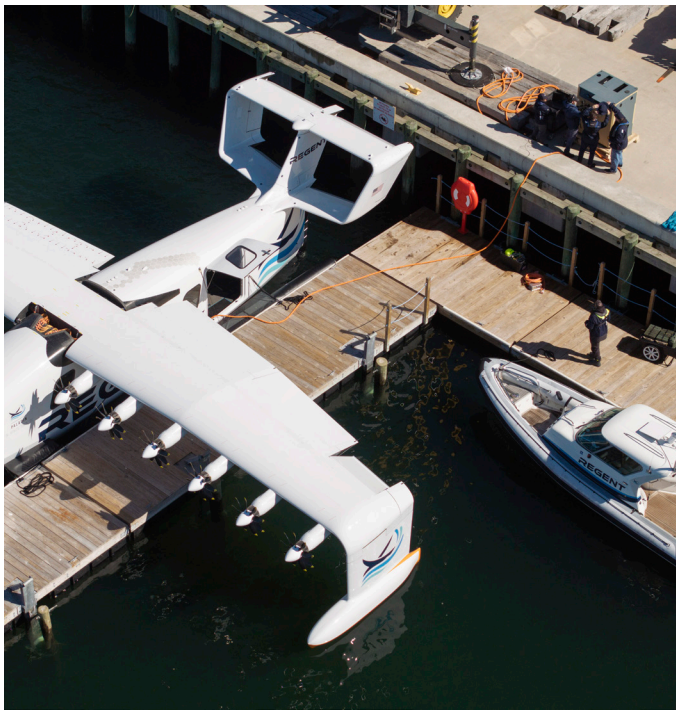
Powering the Future of Maritime Mobility



Schneider Electric and World4Solar collaborate to deliver flexible, sustainable charging for REGENT's all-electric Seaglider.

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Schneider Electric



Advancing Electric Maritime Transportation

Schneider Electric and World4Solar leveraged a first-of-its-kind mobile battery energy storage system (BESS) to provide sustainable charging for REGENT's all-electric Seaglider.

This partnership addresses the unique power needs of a novel electric vehicle, demonstrating a versatile application of mobile energy solutions to advance clean maritime transportation.

The Challenge: Powering a New Class of Electric Vessel

REGENT's Viceroy Seaglider is a revolutionary all-electric wing-in-ground effect vehicle designed to offer high-speed, zero-emission transportation between coastal destinations. It operates just a few meters above the water's surface, leveraging an aerodynamic principle called "ground effect" to achieve greater efficiency. To support its operation, the Seaglider requires a robust and flexible charging infrastructure. Traditional shore-based charging stations may not always be available or have the necessary power capacity, especially in remote or temporary locations.

The need for a portable, on-demand power source that is both clean and powerful is critical for the Seaglider's development and deployment. This is where Schneider Electric's expertise in energy management and mobile BESS comes in.

Goal

Provide flexible and sustainable charging for REGENT's all-electric Seaglider, addressing the unique power needs of a new electric vehicle while advancing clean maritime transportation.

Challenge

- The Seaglider requires high-power charging infrastructure that can be deployed wherever operations occur.
- Shore-based charging may be unavailable or lack sufficient capacity in remote or temporary locations.
- A clean, portable, on-demand power source is essential for deployment.

Solutions

- Mobile BESS with Schneider Electric Conversion, Protection, and Control components.
- **Conversion:** Efficiently converts stored Direct Current (DC) power to charge the Seaglider.
- **Protection:** Safeguards against faults, overcurrents, and short circuits.
- **Control:** Monitors charge, manages power flow, and optimizes charging.
- **Current/OS:** Compliant with DC power distribution guidelines.

Results

- Clean, flexible alternative to diesel generators.
- Can be charged from the grid or renewable sources.
- Deployable at remote docks, test sites, or emergencies.
- Supports **Temporary EV Charging, EV Charger Testing,** and **Disaster Relief**.

The Solution: A Mobile, Clean Energy Hub

Schneider Electric and World4Solar delivered a mobile battery energy storage system (BESS) designed for frequent relocation and fast interconnection. Schneider Electric provided the Conversion, Protection, and Control technologies, while World4Solar contributed mobile energy expertise to create a flexible charging solution for REGENT's all-electric Seaglider.

- **Conversion:** The system converts the DC power stored in the batteries to charge the Seaglider. Schneider Electric's components ensure this conversion is highly efficient, minimizing energy loss.
- **Protection:** Integrated solid state circuit protection will safeguard the system from electrical faults, overcurrents, and short circuits. This is a critical function, as it protects the valuable BESS and the Seaglider from damage during charging.
- **Control:** The energy management software and control systems provided by Schneider Electric are the brains of the operation. This technology allows operators to monitor the state of charge, manage power flow, and optimize the charging process for both speed and battery longevity. It also enables smart charging features, such as scheduling charges during off-peak hours to reduce costs.
- **Current/OS:** The entire system is Current/OS compliant, which provides guidelines for safety and operation of DC Power Distribution.

This mobile BESS provides a clean, flexible alternative to diesel generators. It can be charged from the electrical grid when available or from renewable sources, and then deployed wherever the Seaglider needs power, whether at a remote dock, a temporary test site, or during an emergency.





Beyond the Seaglider: Broader Applications

While the partnership with REGENT highlights a specific, innovative application, the mobile BESS solution is a versatile tool for advancing the electrification of transportation. Its core capabilities extend to a variety of other use cases:

- **Temporary EV Charging:** The system can be deployed at events, festivals, or in areas with temporary spikes in demand to provide emergency charging for electric cars and other EVs.
- **EV Charger Testing:** By providing a reliable and controlled power source, the mobile BESS allows for the testing and verification of new EV charging equipment prior to installation. This ensures that chargers are functioning correctly and will provide a reliable charging experience for consumers.
- **Disaster Relief:** In the event of a power outage, the mobile BESS can provide a rapid, on-site power supply for critical infrastructure and community needs.

By providing the foundational technology for such a flexible and clean power solution, Schneider Electric is a key enabler in the transition to an all-electric future, supporting innovations like the REGENT Seaglider and helping to build out the necessary infrastructure.

Schneider Electric

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