



## PATHION MARINE PHEB (PLUG-IN HYBRID-ELECTRIC BOAT) CONVERSIONS



### HIGH-PERFORMANCE, HIGH-EFFICIENCY PLUG-IN HYBRID-ELECTRIC BOAT (PHEB) CONVERSIONS

Commercial and government marine fleets are facing new rules limiting air, water, and noise pollution. Many marine fleet operators are seeking flexible solutions in which they can roll out new vessels designed with Plug-in Hybrid-Electric Boat (PHEB) propulsion systems, or convert their existing fleets to PHEB vessels at a smaller up-front cost that still provides all the ongoing fuel and maintenance cost benefits of a new electric fleet.

PATHION Marine's all-electric and hybrid-electric boats provide ports, government fleets, public transportation ferries, cargo, and patrol or military craft a clean, quiet, and efficient fleet solution. Our hybrid-electric boats are designed for vessels ranging from 20-300 feet in length, and provide the electric motors and Lithium-ion battery storage foundation, combined with onboard charging, inverters for onboard or off-board loads, a hybrid generator and hybrid control system, and propulsion drives. PATHION Marine can be paired with PATHION's Critical Infrastructure and DirectCore™ EMS to deliver clean, quiet, efficient marine fleets and charging to commercial, government, and military fleet customers.

#### **BENEFITS OF PHEB FLEETS:**

PATHION Marine PHEB fleet conversions provide an unmatched combination of enhanced vessel performance, increased fuel efficiency and vessel range, and operational flexibility, providing shore power with our battery storage module. Key benefits include:

- **Extended vessel range:** Increases vessel range (up to 50 nautical miles for some vessels), cleanly and quietly
- **Flexible operating modes:** Operates entirely on stored electricity, or as a hybrid, while also having the capability to provide power for shore (V2G) operations.
- **Easy integration:** Retrofits with traditional diesel engines to produce an all-electric or hybrid system that emits virtually no heat signature or noise - ideal for military or patrol operations

#### **ONLY PATHION SOLUTIONS CAN DO THIS:**

- **Build a complete transportation solution combining energy generation, storage and management, and our PATHION Marine PHEB fleet solutions**
- **Save fleet managers significant money and resources required for operations and maintenance, both on fuel and on service. PATHION Marine's electric motors require less maintenance than standard combustion motors**

### How can we help you?

PATHION works closely with our customers to define their critical problems and find the best solutions, including offering insight on operations and processes both before or as part of a critical water and/or energy system upgrade. We then continue to support our customers throughout the life of the facility. Visit <https://pathion.com/contact/> to schedule an evaluation.