

The Electric Launch Reimagined

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eCraft
Y A C H T S

Introducing the all new eCraft 20

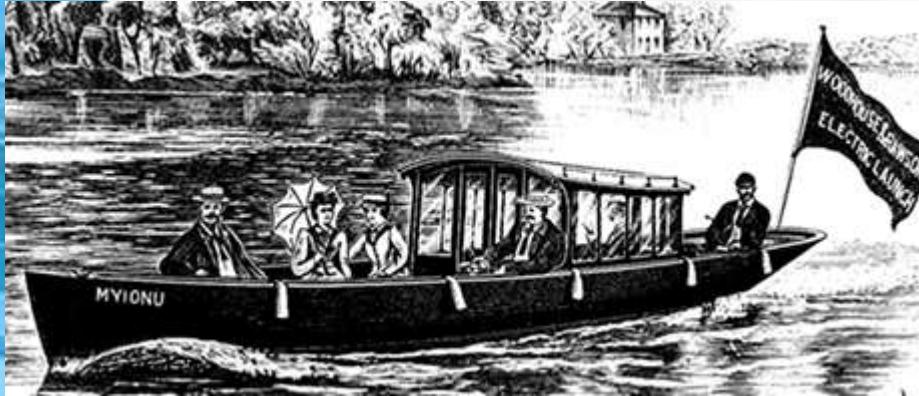


Clean

Quiet

Electric

History



Electric launch, circa 1897



Electric propulsion at
Chicago World's Fair, 1893



Electric launch by Duffy Boats, 1970

Modern Classics



Current models from Elco Motor Yachts

The Tesla Example



Tesla Motors: changing the public's attitude to electric vehicles

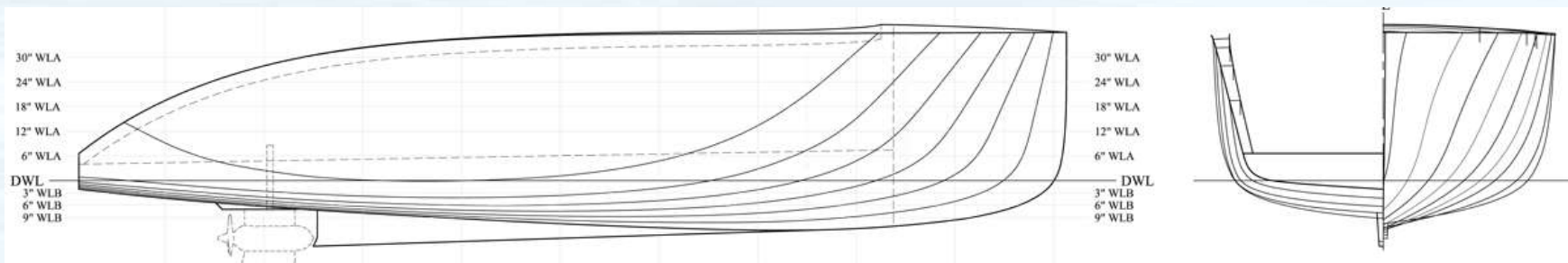
Design Objectives

- **To develop a recreational launch**
 - sightseeing
 - fishing
 - swimming
 - picnicking, cocktail cruise
- **Easy and fun to operate**
- **Sufficient range for day's boating**
- **Comfortable interior**
- **Showcase current technology**



Opportunities for Design Improvements

- **Hull Shape**
- **Storage Batteries**
- **Electric Motor**
- **Speed Control**
- **Steering**
- **Recharging**



Battery Options



Absorbed Glass Mat (AGM)



Lead Acid



Lithium

Propulsion Motor



Vintage motor

Pod drive with 48V, 6.5kW, permanent magnet synchronous motor



Motor Controller

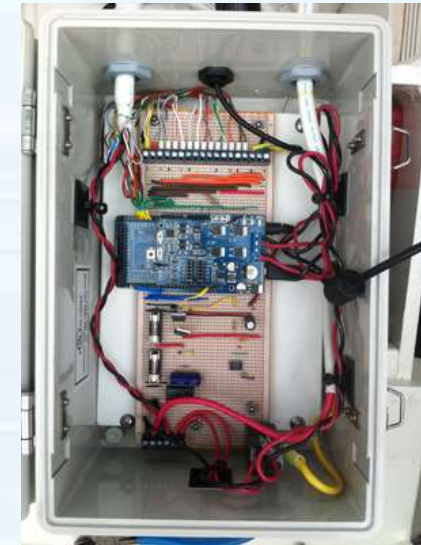


Solid state motor controller



Battery management display

Steering control



Steering processor



Rotating pod and skeg

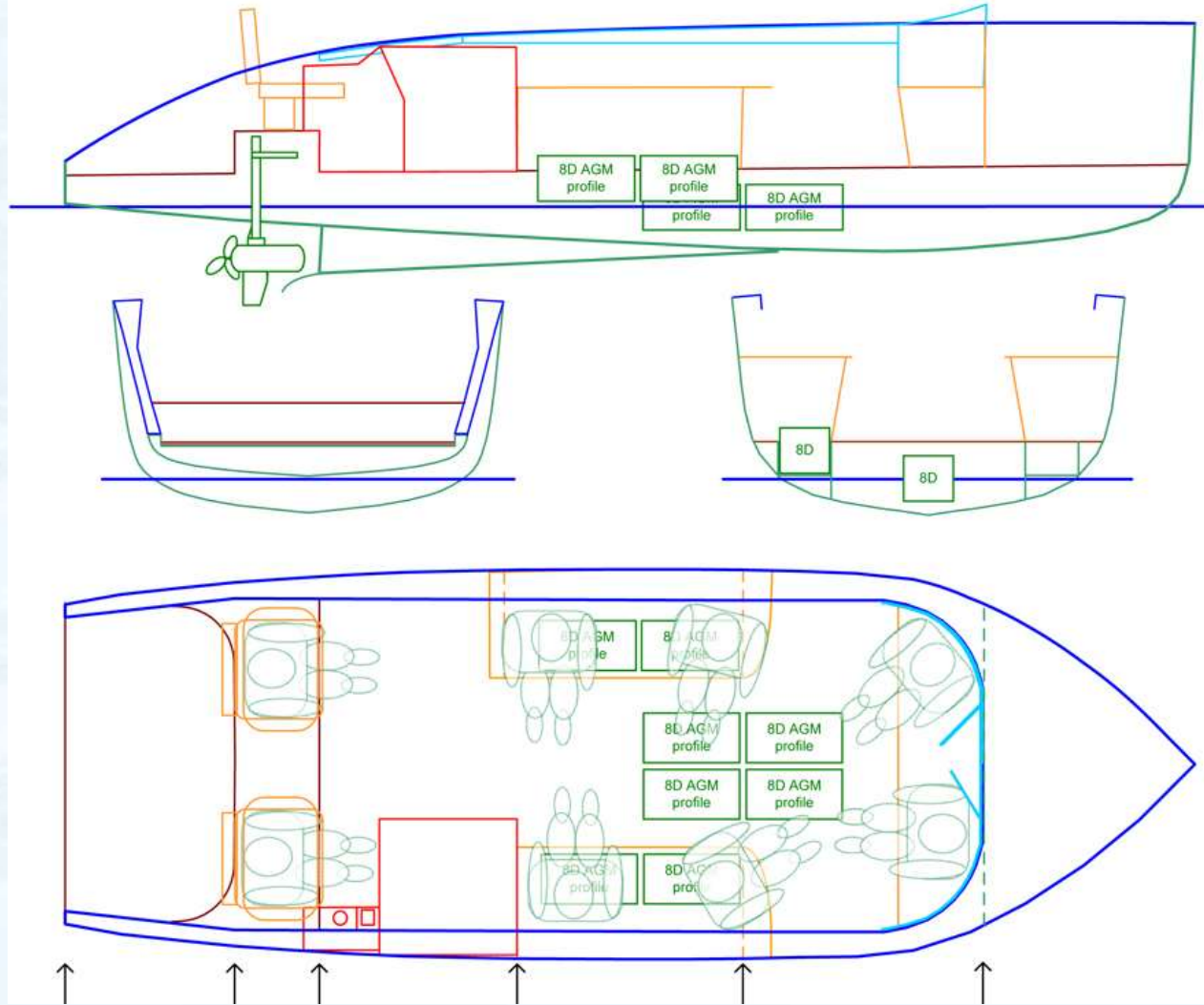


Joystick for throttle and steering

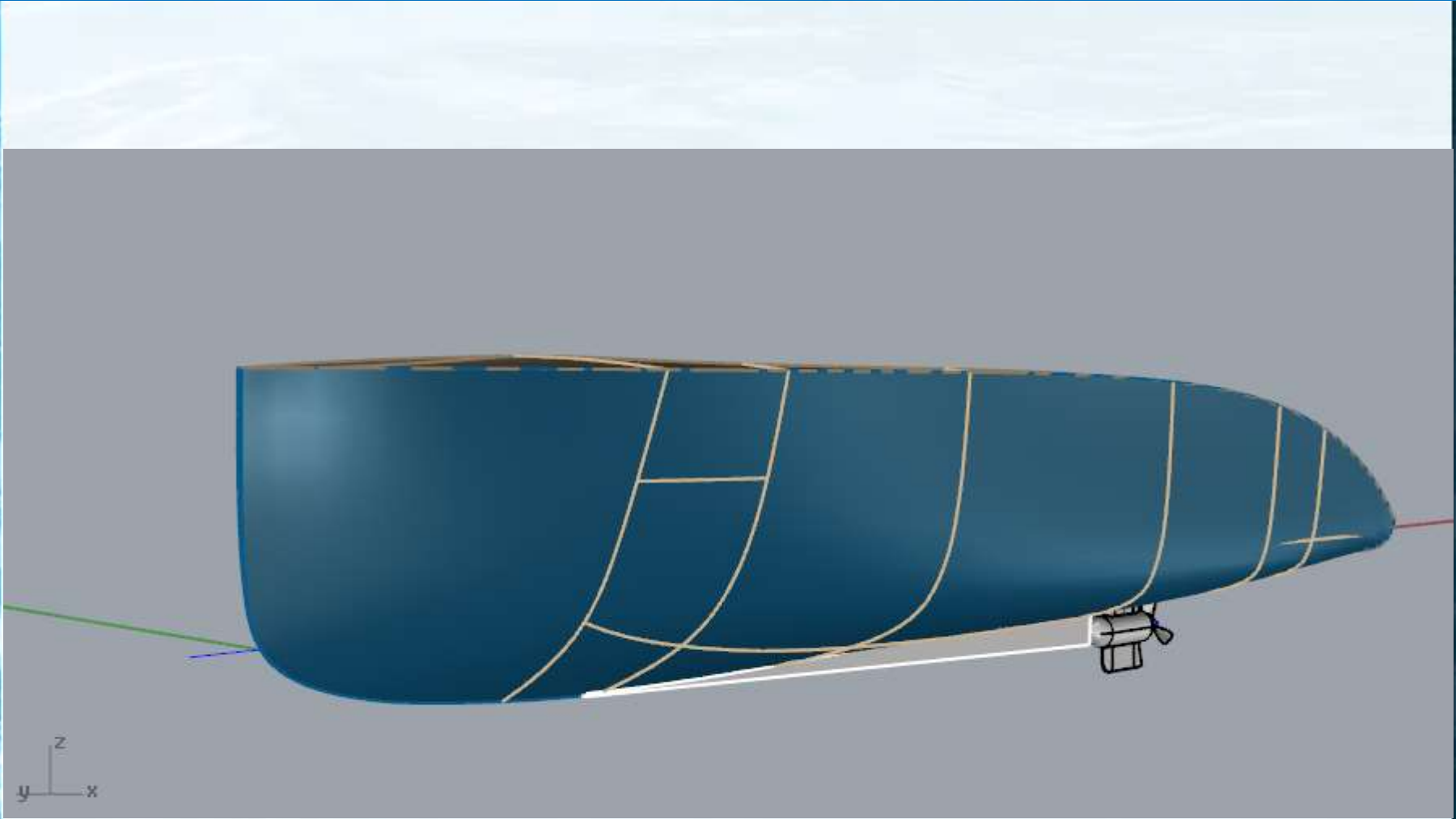
Design - First Sketch

Drawing 4a ii

Scale 1":1ft
0 1/2 1 2 3

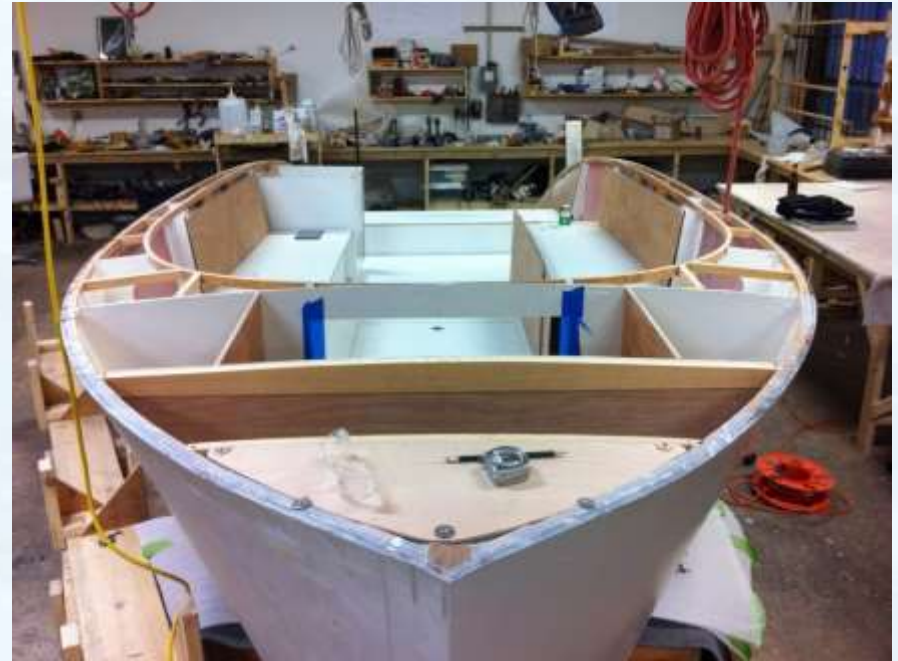


Design – Hull Forming



3D Hull model showing bulkheads, stringers and keel

Construction



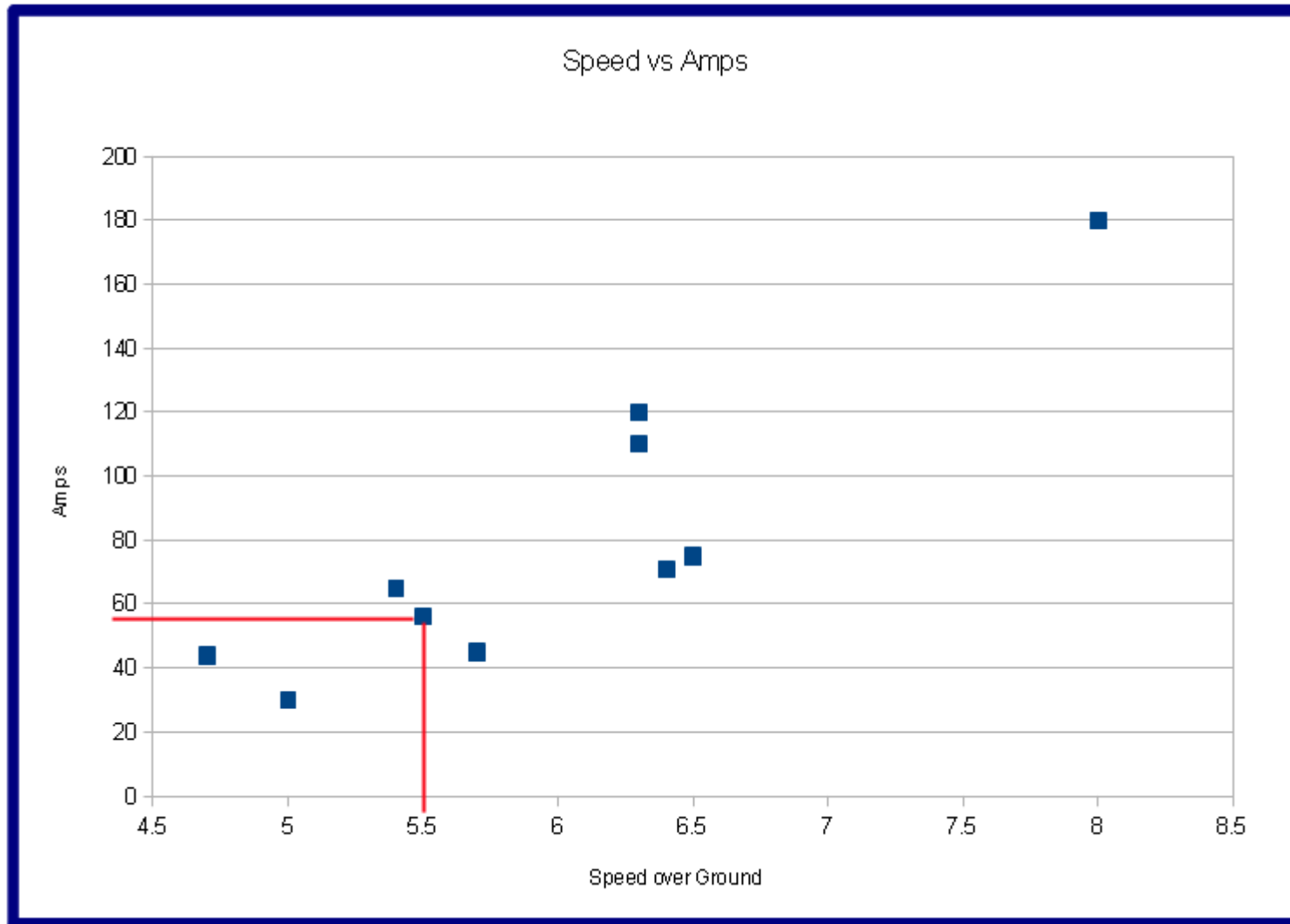
Fitting Out



Underway

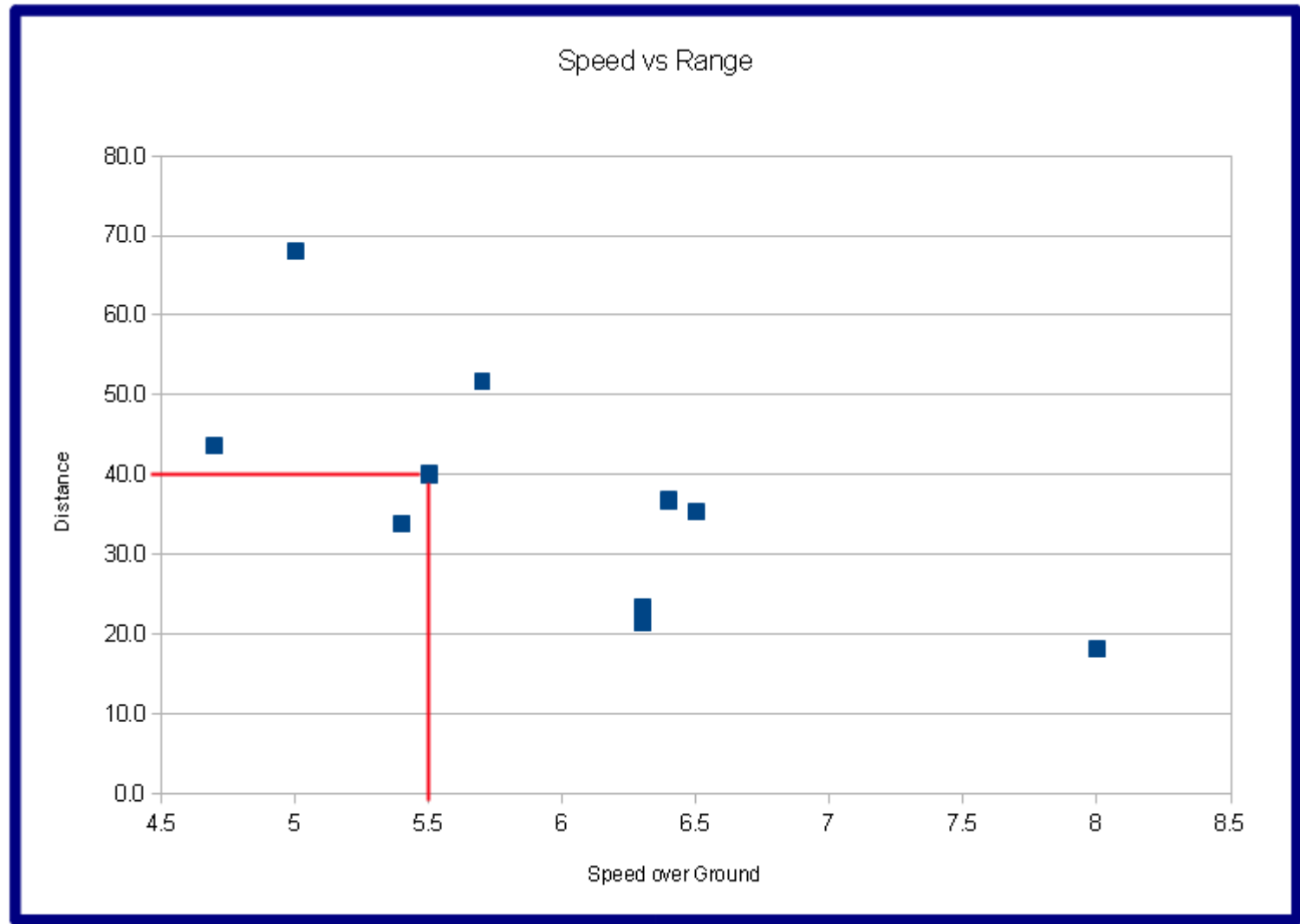


Motor Power



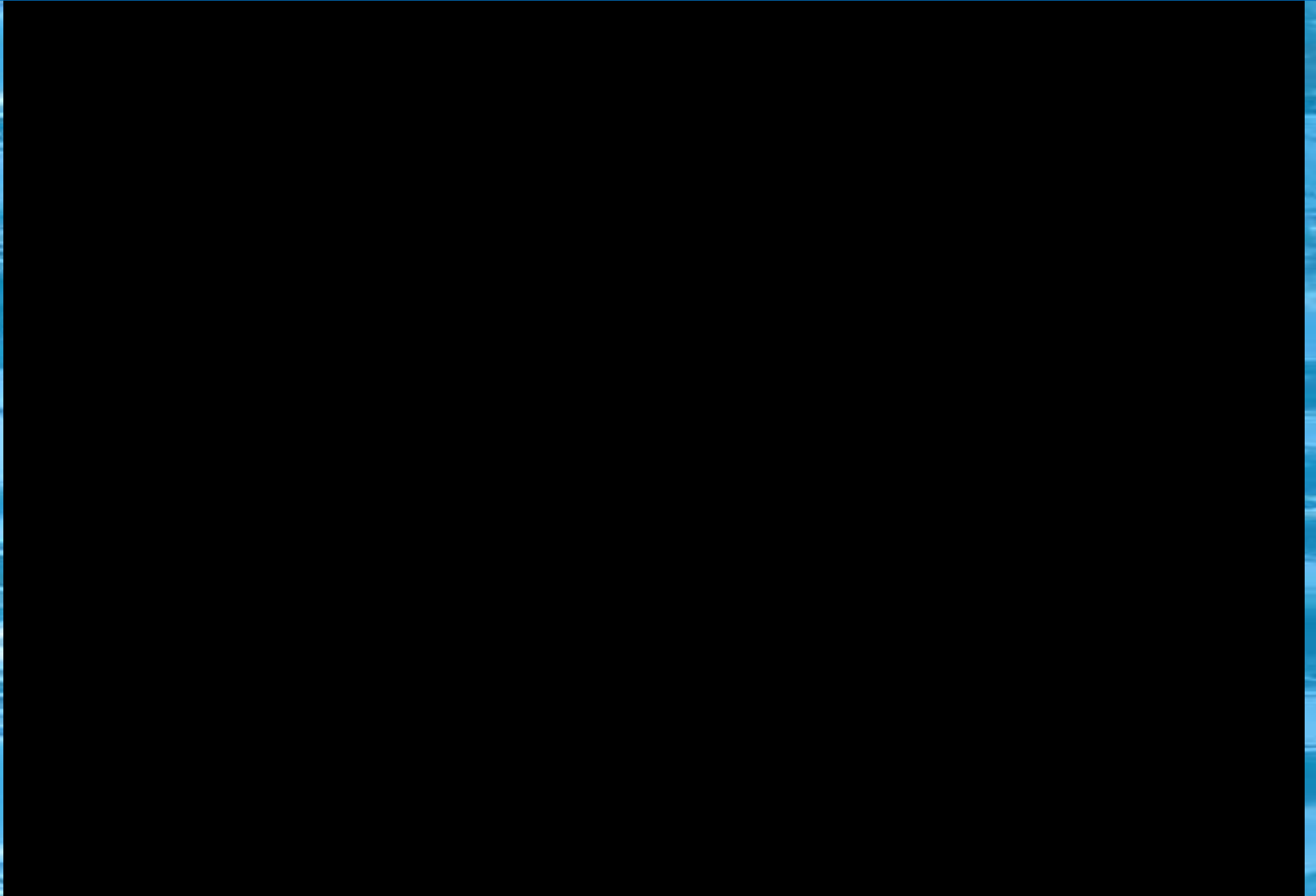
A speed of 5.5 knots requires approximately 55 Amps

Battery Duration



At 5.5 knots the batteries provide a range of 40 nautical miles

Seatrial Video



Battery Recharging



From any 115V, 15A
receptacle

From a marina shore power outlet



Further Development Opportunities

- **Solar Charging**
 - On board
 - Dockside
- **Yacht Club launch, hotel ferry**
- **Dual pod drive with auto positioning**
- **Inductive charging dockside**
- **Hydrogen fuel cell**



Conclusion

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Clean Quiet Electric

Questions?

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