



**50% to 80% cost savings when compared to conventional tow tanks.**

### Lowering the Cost of Discovery

The Rapid Empirical Innovation (REI) program by M Ship Co., literally takes testing “out of the box” of traditional tow tanks to quickly and accurately evaluate valuable design concepts that otherwise would lie dormant and unexplored. The REI process is a means for developing and refining innovative marine concepts in time- and cost-effective manners.

Hull models are evaluated on a self-powered, open-water tow testing platform that provides real-time force, trim and acceleration measurements to optimize performance and ride quality.

The platform is fully rough-water capable. High-frequency 6-DOF accelerometers are outfitted to each model yielding comprehensive motion and acceleration comparisons in identical as-tested wave conditions.

### Benefiting Designers, Naval Architects and Boat Builders

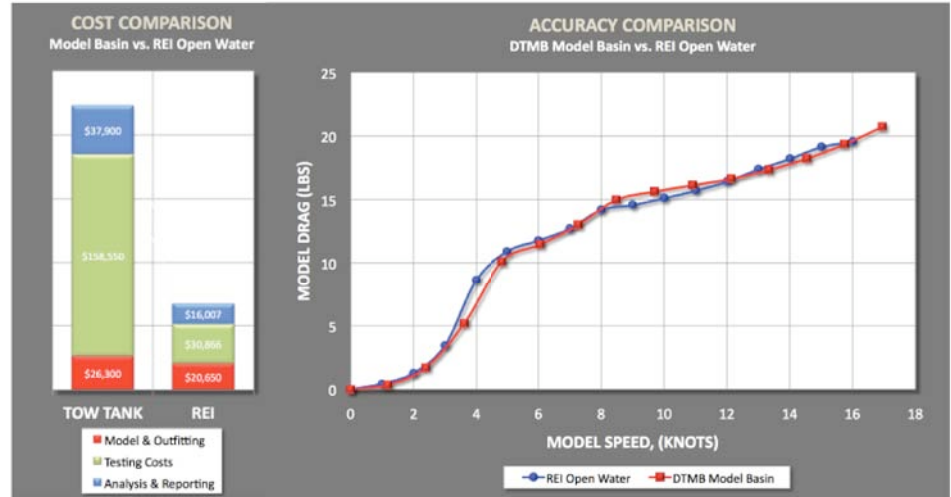
- Validate CFD and untested claims
- Optimize design for ride quality, speed and fuel efficiency
- Compare different designs with instant results
- Develop unique design for market differentiation
- Prove concepts for patentability and investment
- Offer your clients better products



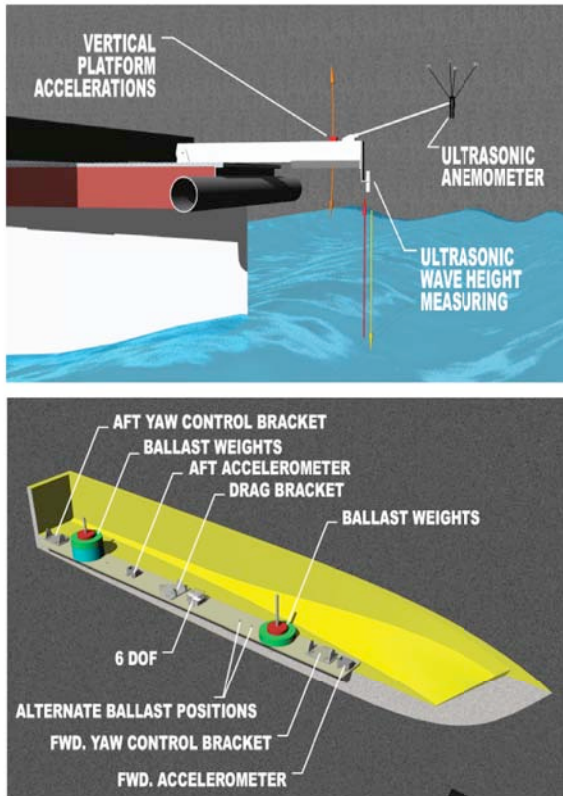
## RESULTS VALIDATED AT THE U.S. NAVY'S DAVID TAYLOR MODEL BASIN (DTMB):

Three (3) models (including the historically tested Series 62 model) were tested at DTMB for both smooth and rough water testing so comparison could be made between the towing tank data (DTMB) and the REI system.

The results were excellent for both calm and rough water, even exceeding our 95% threshold. The REI calm water resistance measurements have been shown to have an absolute accuracy of +/- 4% at 5 knots model scale, improving to +/- 3% at 15 knots model scale. Notably, when resistance differentials are normalized to a baseline test configuration, the resistance and performance trending across a spectrum of model flotation is improved further.



## Better than a tow tank at less than half the price - Save your time & money !



### 7 KEY FEATURES:

1. Two model testing capability for direct comparison and optimization
2. Rough water testing for ride quality and motion measurements
3. Highly accurate drag measurements for power, speed, payload and range studies
4. Ultrasonic wave measurements for added resistance and rough water analysis
5. Advanced array of high-frequency accelerometers for mapping shock loads
6. Hull models accurately fabricated using N/C-milled rapid prototyping techniques
7. Accuracy of the data has been validated through U.S. Government programs

The REI Research Platform and Testing Methodologies open a new and innovative door towards quantum improvements in the cost- and time- efficiencies associated with boat performance evaluation and hull form optimization. Per-model testing and analysis costs have been greatly reduced. Two models can be evaluated in tandem, providing immediate and direct hull-to-hull comparisons. Turn around times for multiple hull form systematic evaluation test series is rapid.