

Daily Subsea
Access through
Improved...

“Deployment Economy”



Reynolds Marion

Marion Hyper-Submersible Powerboat Design LLC.

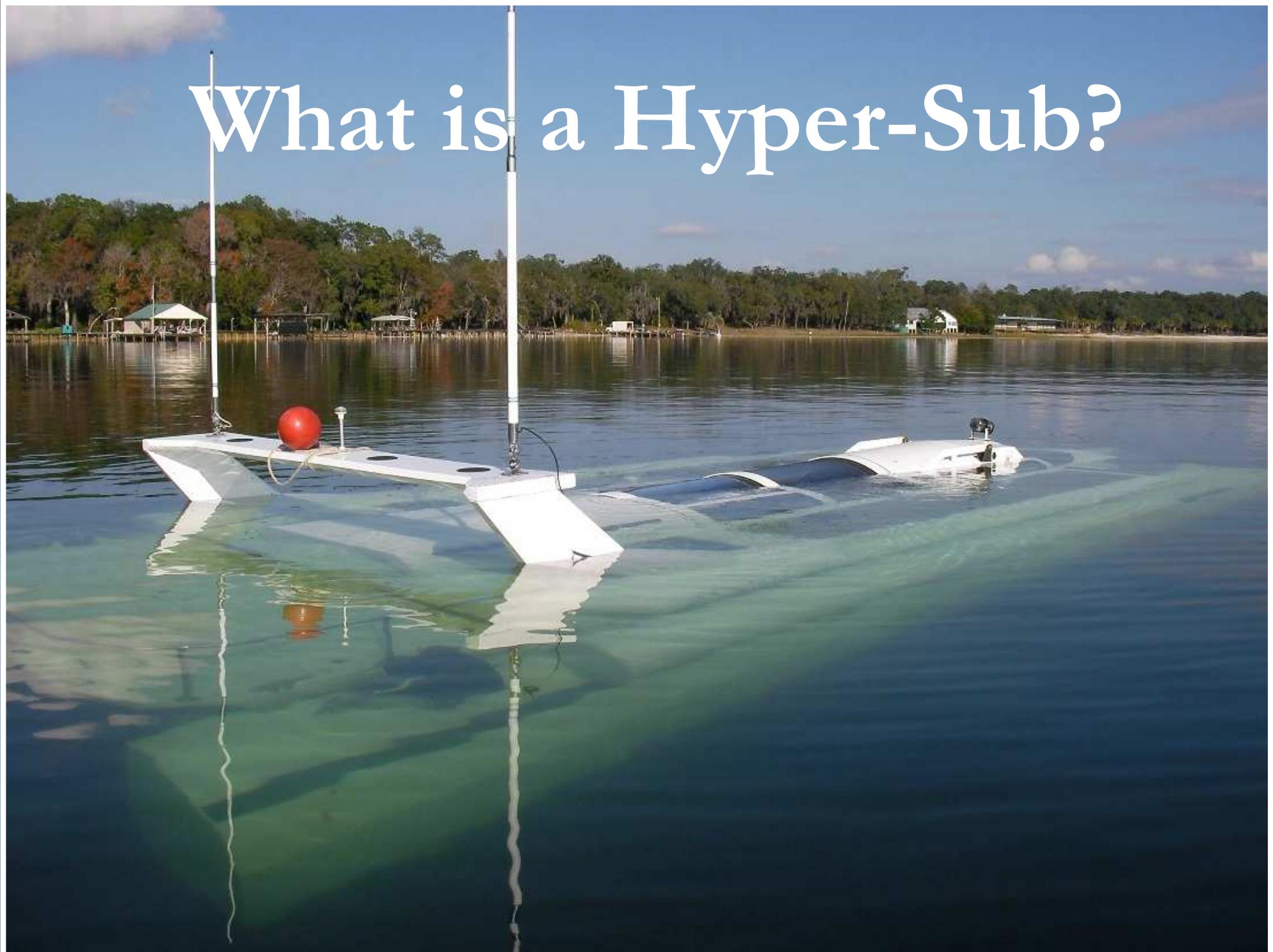


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Company Introduction

- Formed LLC in 2005
- Proof of concept vessel built and tested
- Production boat deliverables vetted by leading defense contractors and MIT naval architects
- 2- U.S. patents awarded, 1-international patent and patent pending in over 40 additional countries
- Potential sales funnel in excess of \$600 million in international coastal defense applications

What is a Hyper-Sub?

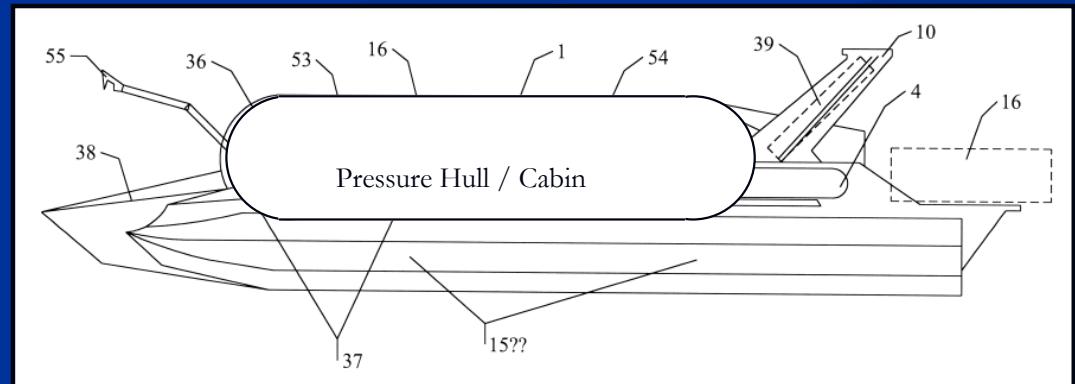


Hyper-Subs are difficult to quantify because they are a combination of multiple craft concepts



They are medium depth submersibles

- “Off the Shelf” certified design for their pressure hull (cabins)
- Small in size
- Transported
- Work in medium depth or very shallow waters (unlike their larger cousins)



They are high speed surface vessels

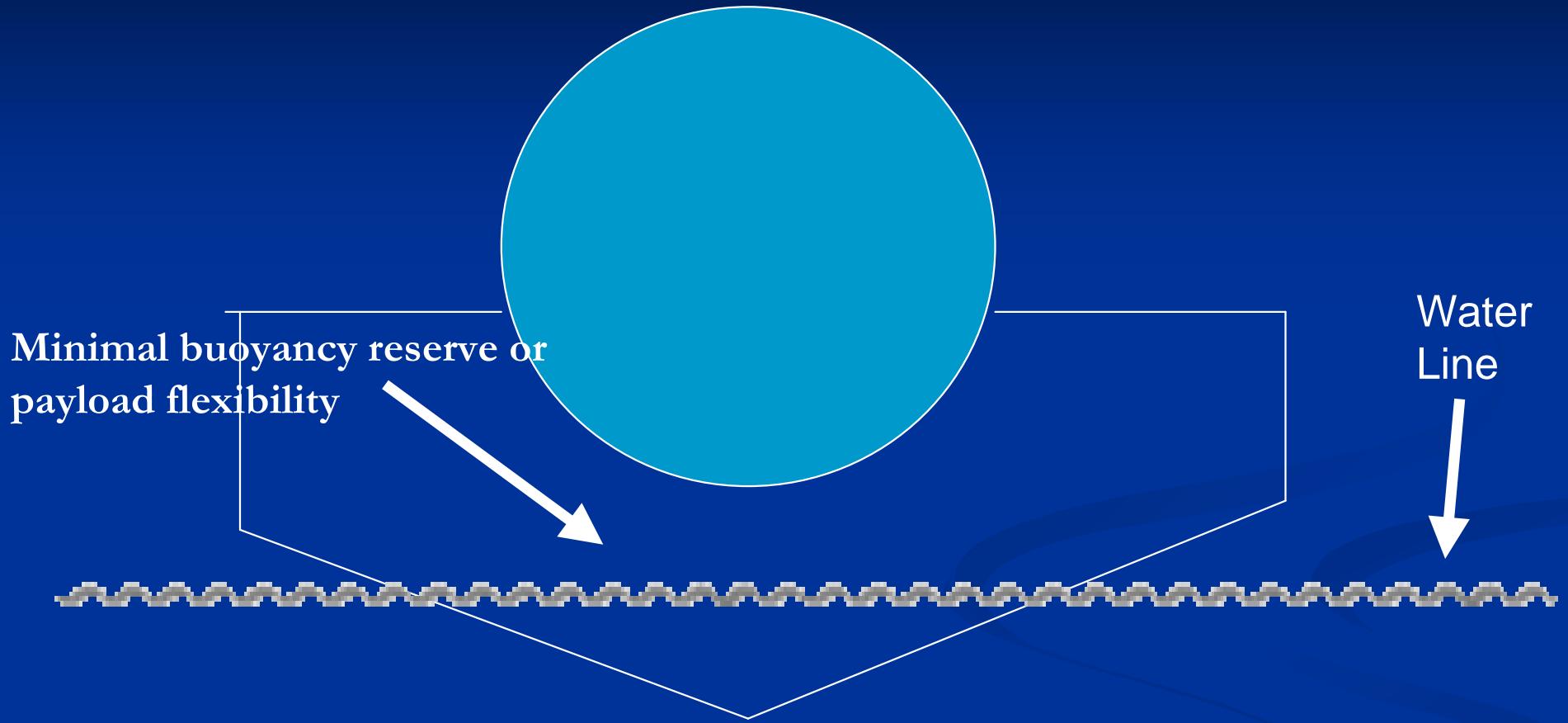
- Good fuel loads and range
- Speed
- Large variable cargo loads (6,000lbs)
- Operate autonomously in open sea states
.....AND with a range of over 500 miles...
- Deploy quickly and conveniently from the dock



Similar hourly life cycle “use” costs



The simplest explanation...



Improved safety, 400 times more energy, operational autonomy but most importantly, surface craft flexibility and ECONOMY

The Concept Vessel



- Diesel / Electric Design
- Over 21 dives
- 225 gal. fuel load
- Air recharged with twin 5,000psi compressors
- 45 degree pitch and roll controllability
- Dead Systems recovered



880 Horsepower

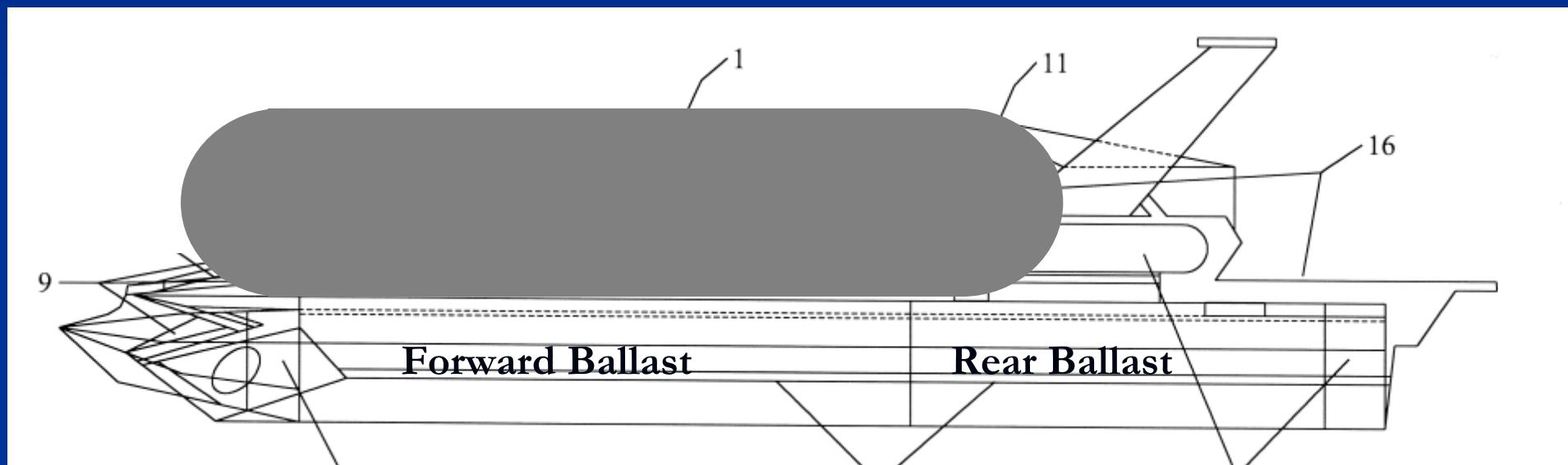


Designed for “Proof of Concept”

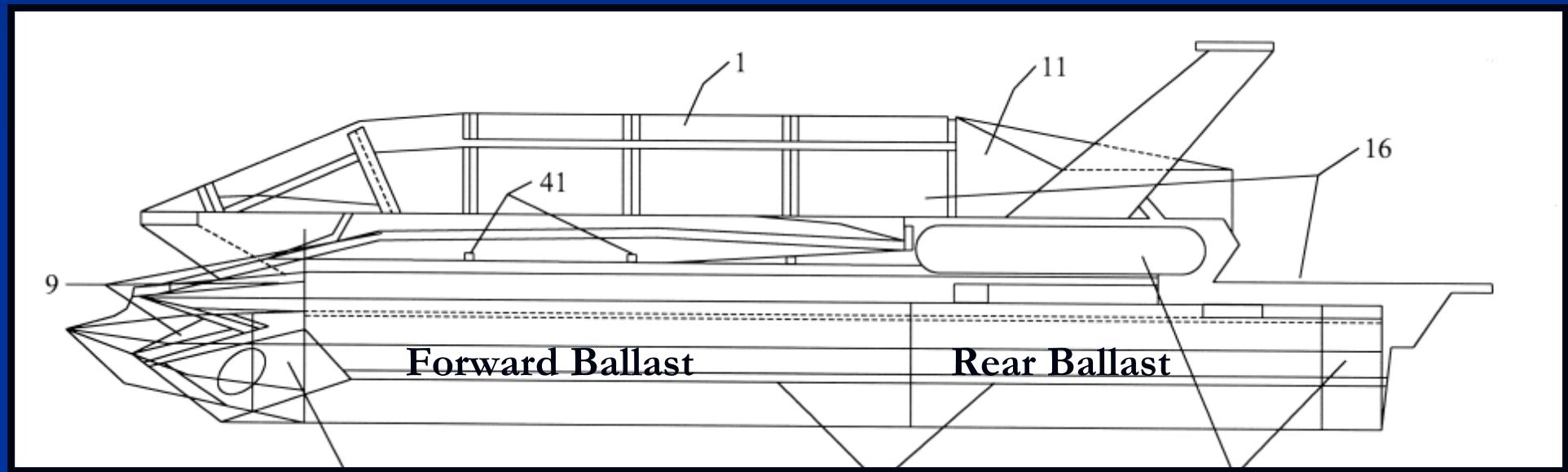
- Made of mild steel
- Flat surfaces for promotional purposes
- Design solutions and performance now possible



Depth Achieved



12,000lbs / 2 axis, Variable Cargo Control ...

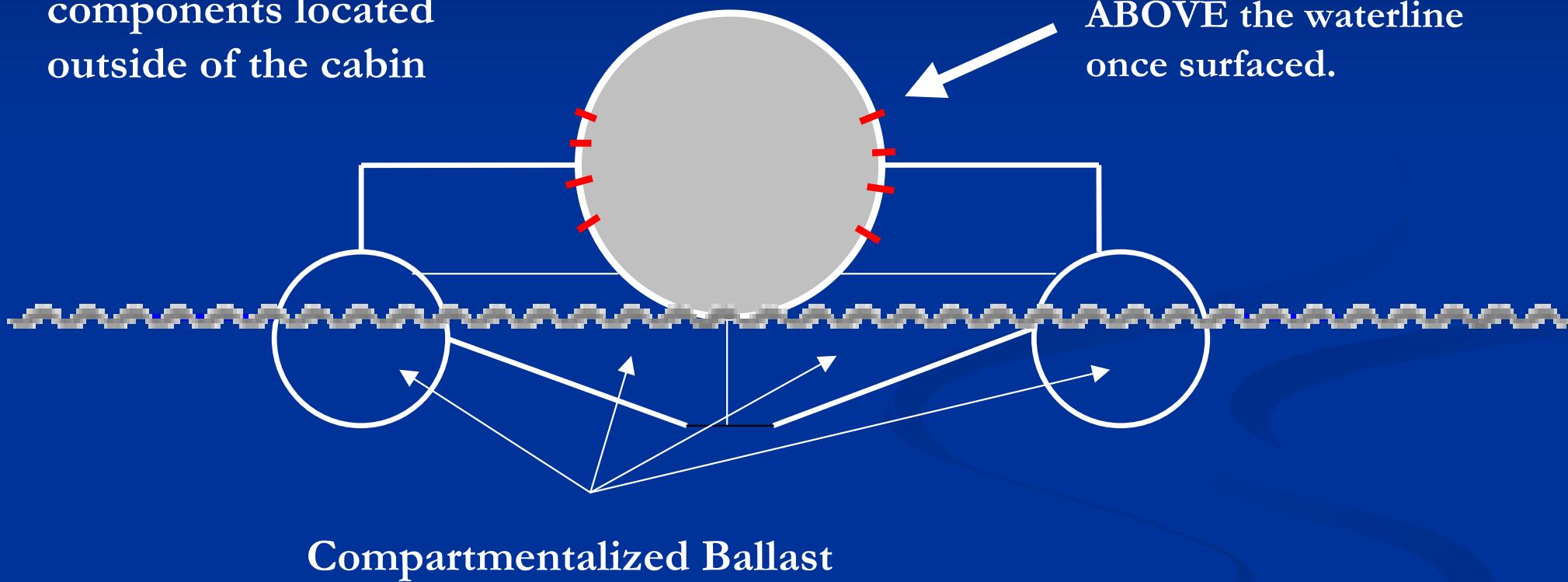


Safety Implications

Vastly Improved Safety from “Lift”

All harmful components located outside of the cabin

Thru-hull penetrations ABOVE the waterline once surfaced.



8 compartments with over 3,000lbs of lift per compartment

Ex: Oil and Gas Safety

- Do not require to be lifted in order to be deployed
- Are not “weight sensitive”
- Not sensitive to single point failures
- Massive life support
- “Hatch to Water line” / water ingress
- Designed to survive rough seas
- Open cabin (breathing circuit)
- Do not need to be retrieved
- Economy – Other Hyper-Subs in the area

Looking Forward

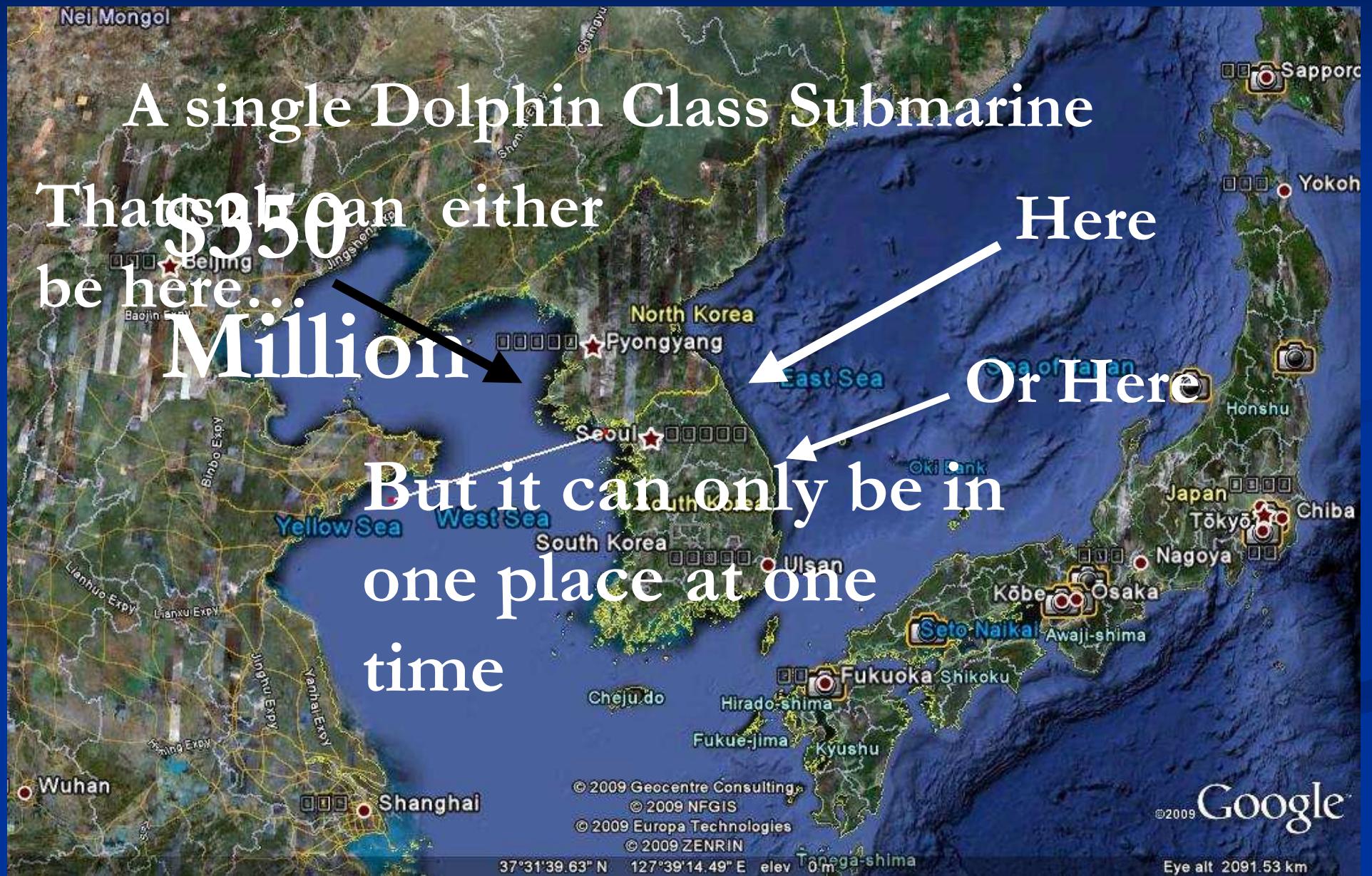
- 6 ton underwater lift and hover capability
- Manipulators and cranes
- Sensor packages, weapon systems
- Scalable
- Improved battery loads approaching 544kWr
- Acrylic pressure hull / steel pressure hull
- Different surface hull configurations
- Different “body work” materials

Economy / Commercial

- No lifting / carrying (low hourly cost)
- Less up front costs (saves large deployment vessel build costs)
- Lost opportunity costs / economic enough to be available
- Logistics costs

For defense however, it is about economy of size

Economy / Governments



Hyper-Subs however...



Economy and easy deployment means...

- ✓ Offshore oil & gas, “eyes first” & pipeline inspection
- ✓ Coastal security
- ✓ Technology development, deployment and maintenance platform
- ✓ Scientific research
- ✓ Salvage / Recovery
- ✓ Port entry / ship hull inspections
- ✓ Charter / Tourism
- ✓ Private retail
- ✓ Diver support for improved bottom time productivity
- ✓ Weapon and sensor platform



Deploys from a dock, just like any other
speed boat

Equaling unprecedented freedom
and...

Unprecedented
.....Economy





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