

NSRP – Product Design and Materials Technology

Developing a Boutique Shipyard

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Derecktor Shipyard
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Content

1. What is a Boutique Shipyard
2. Historical Background
3. Connecticut Shipyard Development
4. As Markets Change
5. Phase 2 of Development
6. Conclusion



1. What is a Boutique Shipyard?

“One that caters to an elite segment of the market”.

- Unique skills - broad skill set / cross trade
- Unique timing – quick to realize and respond
- Unique location – opportunity / exchange rate

Flexibility is the key to success.

2. Historical Background

- Founded in 1947 by Robert E. Derecktor
- Started with wooden yacht construction
- Pioneered aluminum boat building in the US in the 1950's



2. Historical Background

Stars and Strips – why unique

- Longitudinally framed
- Extreme weight control



2. Historical Background

Buquebus – why unique

- Fastest passenger only ferry in the world – today.
- Extensive use of aluminum extrusion
- Composite jet intakes
- Glue in windows



3. Connecticut Shipyard Development

- Able to continue philosophy to build lightweight, highly stressed structures on a bigger scale, for example:
 - Private Mega yachts, greater than 125’,
 - High speed passenger vehicle ferries, greater than 125’.
- Able to utilize Mamaroneck trained resources and facility capabilities to minimize startup costs and maximize space utilization,
- Captured unique strengths by securing the contract for:
 - Frers 150 foot sailing monohull,
 - AMHS High Speed Passenger Vehicle ferries, the first High Speed ferries (built to HSC Code) built in the United States,
 - Hemisphere- a 150’ sailing catamaran, the largest sailing catamaran in the world.
- Location: Bridgeport, CT USA
 - Deep water access for launch and repair,
 - Open site plan on 23 acres,
 - Only 40 minutes from other facility located in Mamaroneck, NY.



3. Connecticut Shipyard Development



3. Connecticut Shipyard Development

The facility was set up for large aluminum construction;

- Cutting shop Plasma
- Crainage inside shed 10 tons
- Material processing equipment Plastic shoes
 - Rolling,
 - Shearing,
 - Breaking,
- Sub-assembly construction Light weight planters
- Module assemblies
- Module transportation Light weight trailers
- Assembly building
- Launch 600 tonne travel lift
- Test and trials



3. Connecticut Shipyard Development

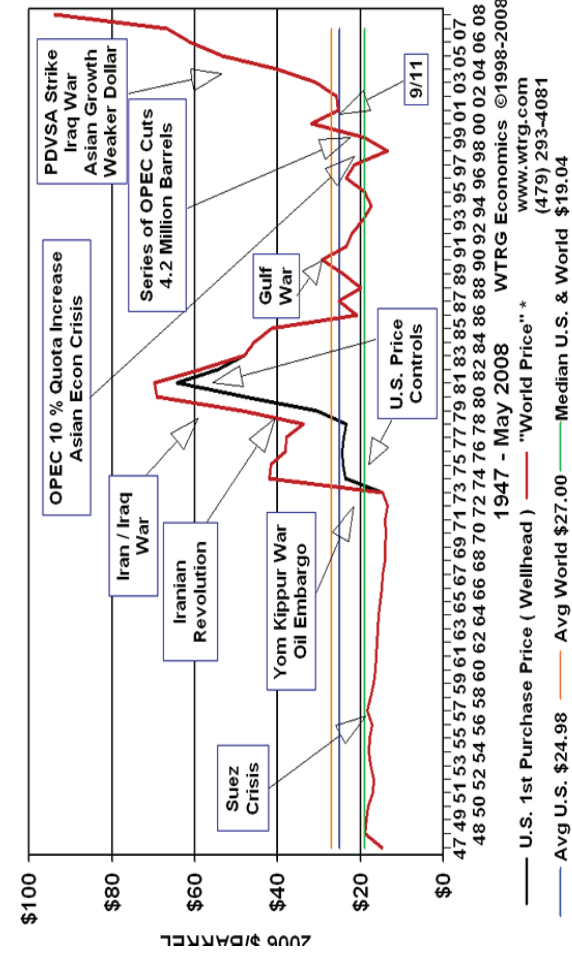
Result achieved



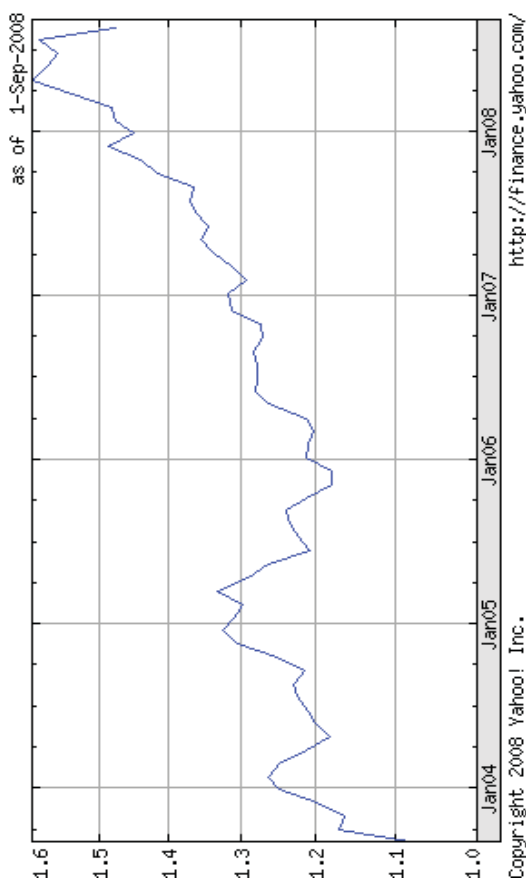
- Built for the Alaska Marine Highway Systems (2003, 2005)
- Catamaran design
- 72m LOA
- 18m Beam
- 43kt trials
- 38 knot service speed
- Aluminum hull and superstructure
- 259 passengers and 60 vehicles
- DNV HSC

4. As Markets Change

Oil

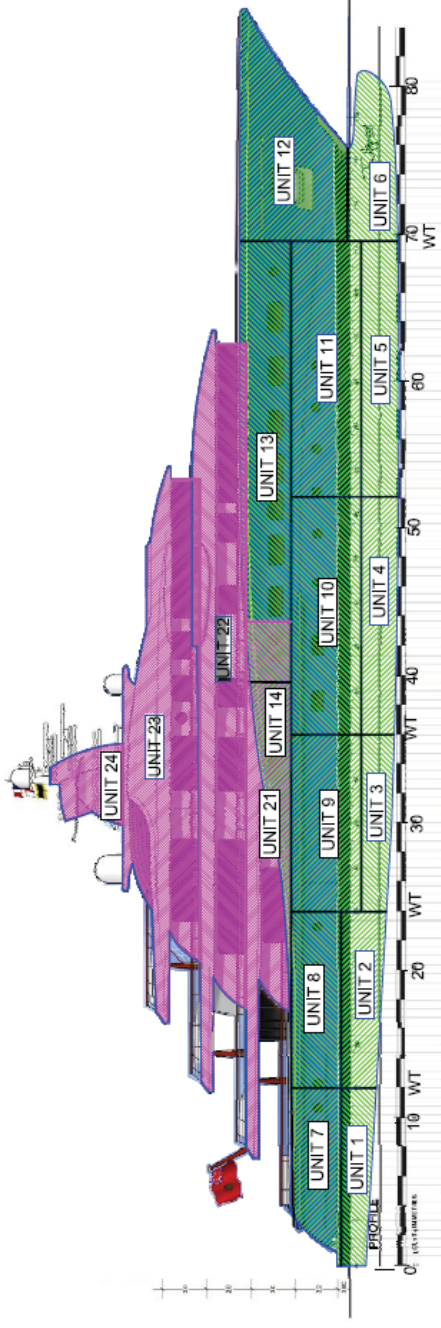


Dollar to Euro



4. As Markets Change

Shipyard keyed in on other unique, custom vessels – High end yachts



Principal Dimensions

LOA	285'
Beam	46'
Draft	12'
Lightship displacement	2000 Tonnes
Construction duration	36 months

5. Phase 2 of Development

Ship Building Construction Process

Design
 Plan
 Production Engineering
 Purchasing
 Pre-construction primers
 Cutting
 Parts moving
 Fitting
 Welding
 Pre-outfitting - mechanical/electrical
 Module assembly - moving
 Outfitting - mechanical/electrical/etc.
 Painting

Commercial - Aluminum	Yacht - Steel
Constant	Much Longer
Constant	Longer
Constant	Longer
Constant	Longer
None	Additional
Constant	Constant
Constant	Crain req.
Constant	Constant
Constant	Constant
Constant	More important
Constant	Heavier
Constant	Constant
Constant	Longer



5. Phase 2 of Development

Material handling – module movement



5. Phase 2 of Development

Material handling – module movement



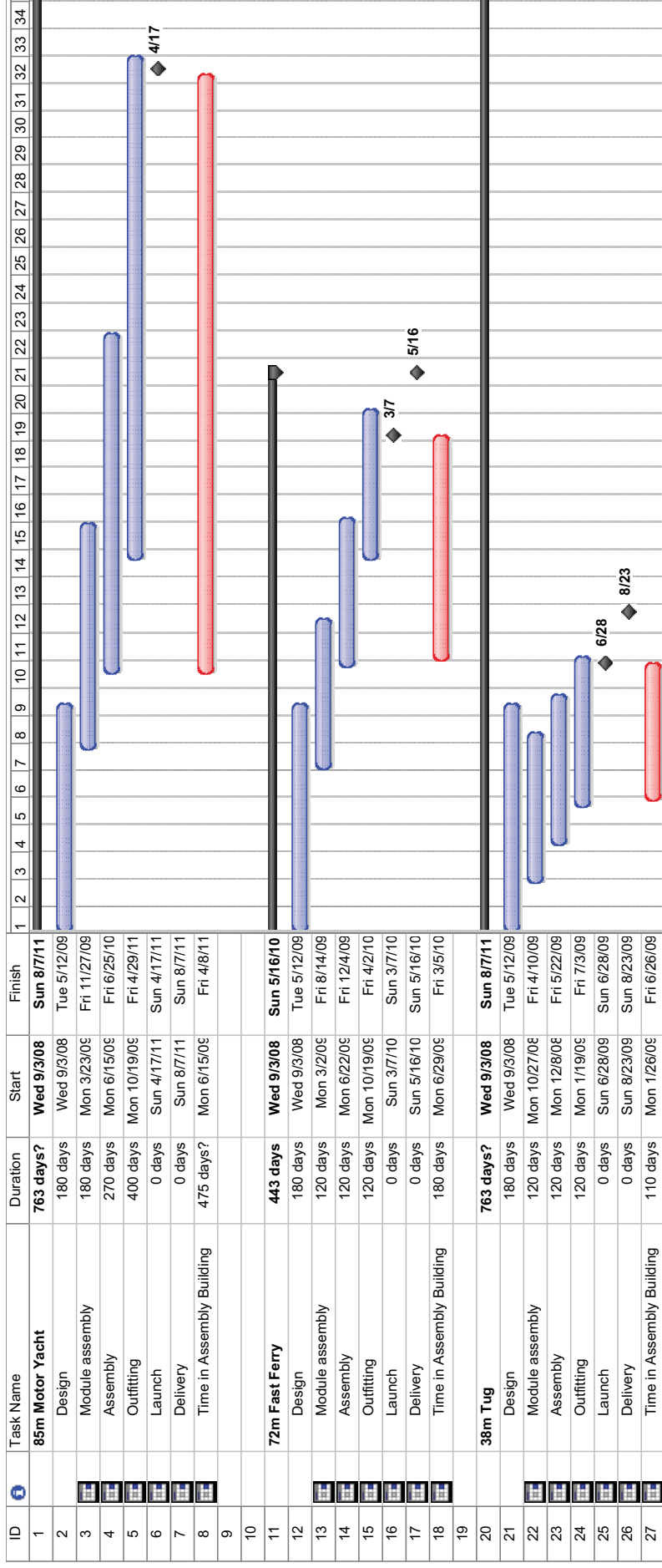
5. Phase 2 of Development

Painting / Material cross contamination



5. Phase 2 of Development

Construction duration



6. Conclusion

What remains consistent:

- Engineering/Planning
- Construction – training work force to be flexible
- Quality

Adjustments that were needed to be made to adapt:

- Material handling
- Painting / Material cross contamination
- Construction duration



Thank you

