

FutureShip



Cost-per-1000-Cargomiles

Mariehamn 2013



www.futureship.net

Agenda

Cost – per – 1,000 – Cargo-Miles in General

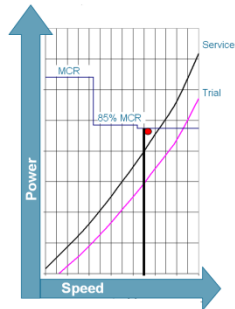
- Examples

Yesterday's Targets versus Today's Demands

The existing hull forms and outfitting philosophies do not match with today's demands

Vessels design is based on:

- a single point of contract



- low design / low building costs



- high speeds



Compare Vessel with market

Taking knowledge on transport efficiency and decide for:

- A) newbuilding
- B) retrofit

Demand on Retrofit

- Secure that hull form / bow form matches to new speeds
- Align the propeller design to new targets
- Check if PID could support the efficiency
- Upgrade the engine systems for lowering the auxiliary power demand.

Today's shipping demands

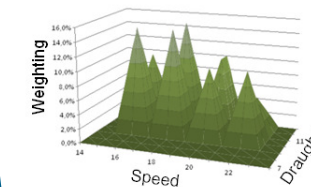
Fuel price has increased



Slow steaming became a standard



Change of target profile



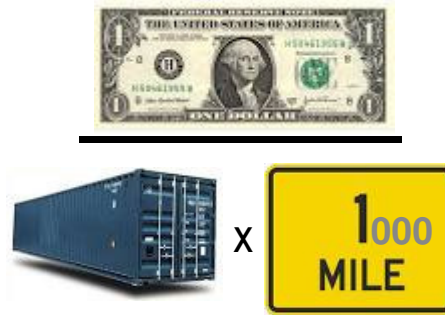
Cost per 1000 Cargo Miles

FutureShip's analysing approach to detect your position in the market

Costs are:

- Crewing and provision
- Maintenance and spares
- Luboil
- Drydock
- Insurance
- Freshwater, else
- Bunker
- Auxiliary energy
- Capital costs

Harbour, pilot, canal etc. are not taken into consideration.



1,000 Cargo Miles are:

- The transport work of one t payload doing 1,000 miles or
- The transport work of 1,000 t payload doing 1 mile.

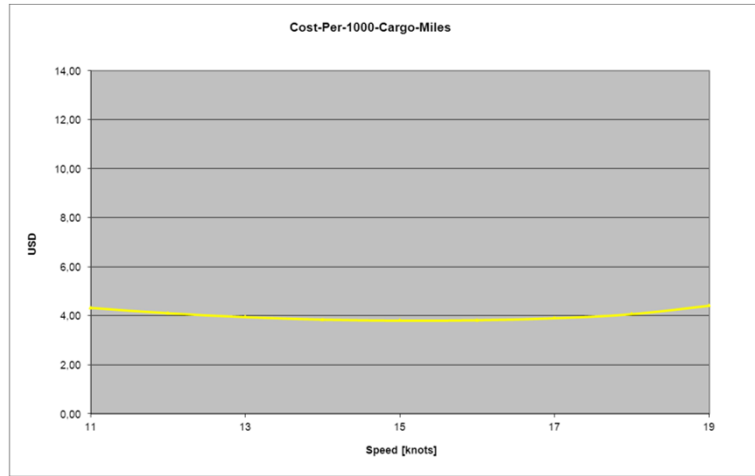
Cost per 1,000 Cargo Miles:

Incorporates all essential and allocated costs for a constant defined work load.

Cost per 1000 Cargo Miles (e.g.: 11,000 tdw MPV)

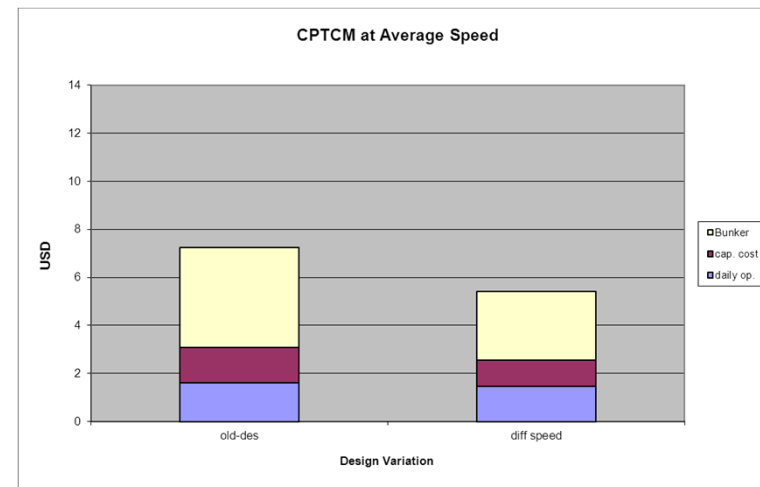
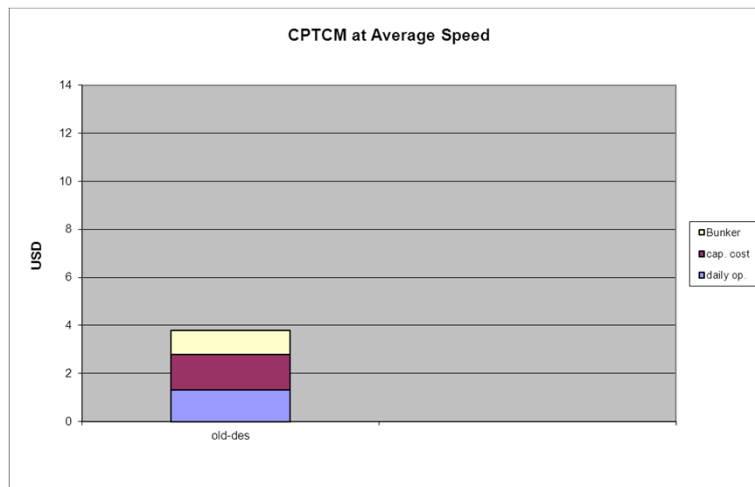
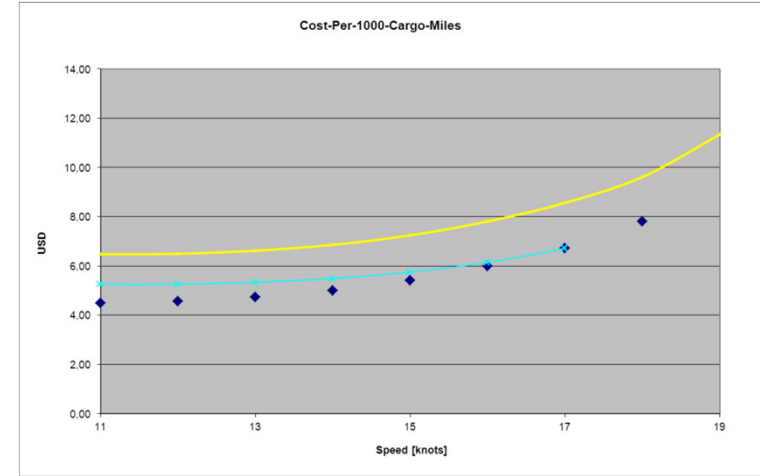
Markets and costs have changed with the change of fuel oil prices

2002 at 180 USD / t



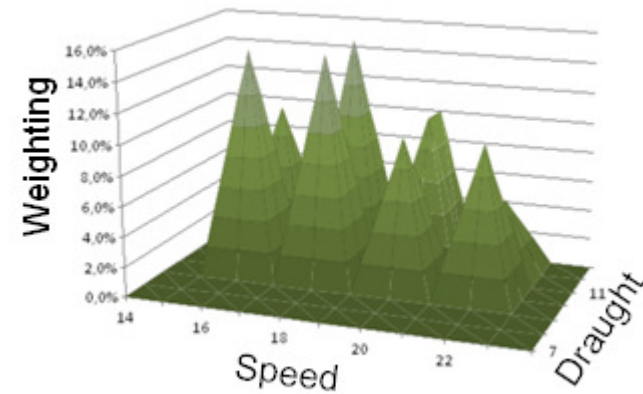
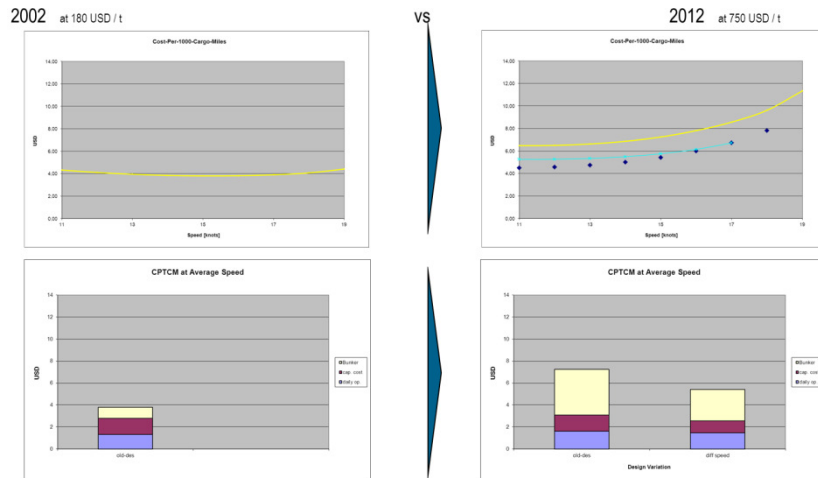
VS

2012 at 750 USD / t



Cost per 1000 Container Miles

Depending on vessel's size a huge difference between existing designs and new designs appears



Findings:

- The flat characteristic of the curve in 2002 said: 'Speed up for higher charter'
- The high share of capital costs in 2002 said: 'Save the newbuilding costs'
- The curvature of 2012 says: 'Slow down and design for slow speed'
- The different options say: 'Go for new concepts'
- The high share of fuel costs says: 'Go for high end optimization!'
- 'Go for new / differentiated targets!'

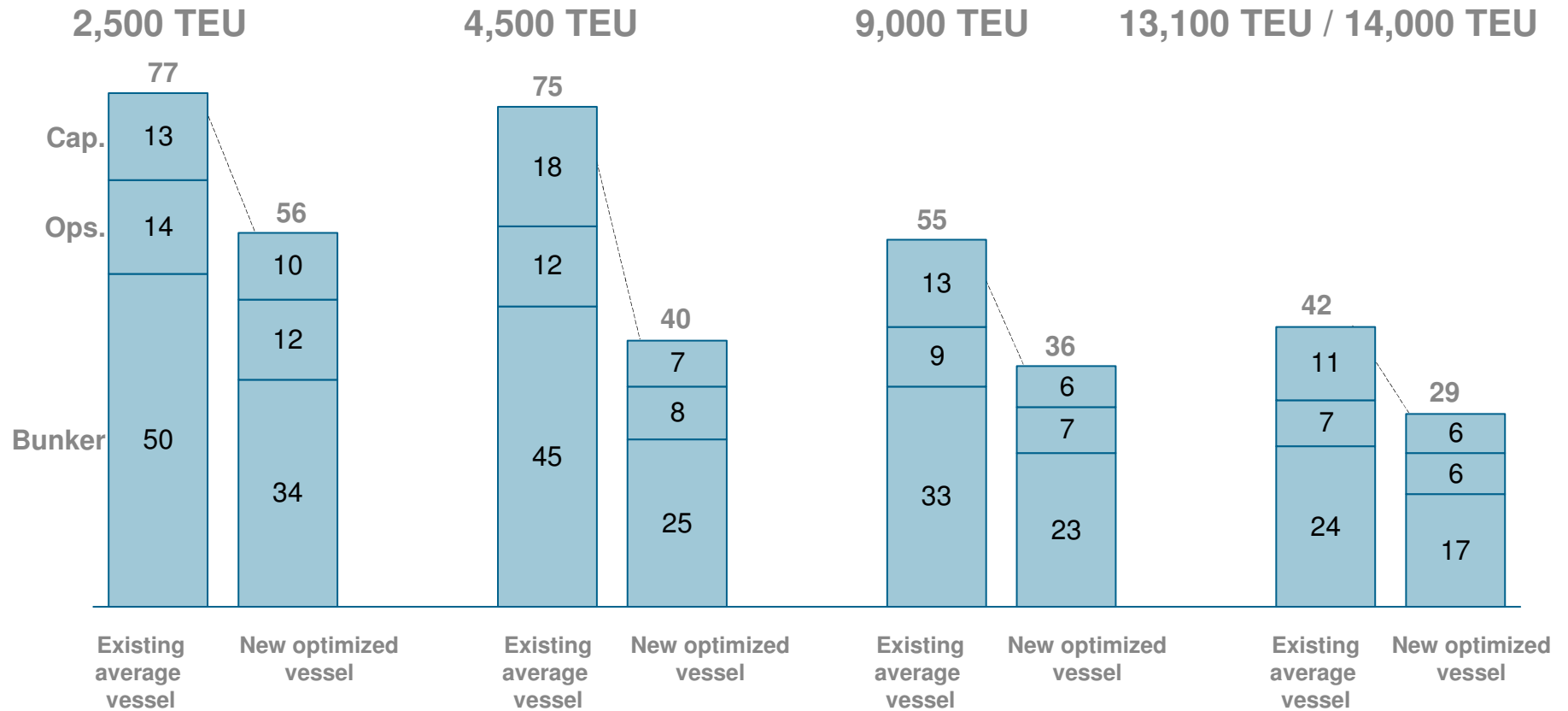
Agenda

- Cost – per – 1,000 – Cargo-Miles in General

Examples

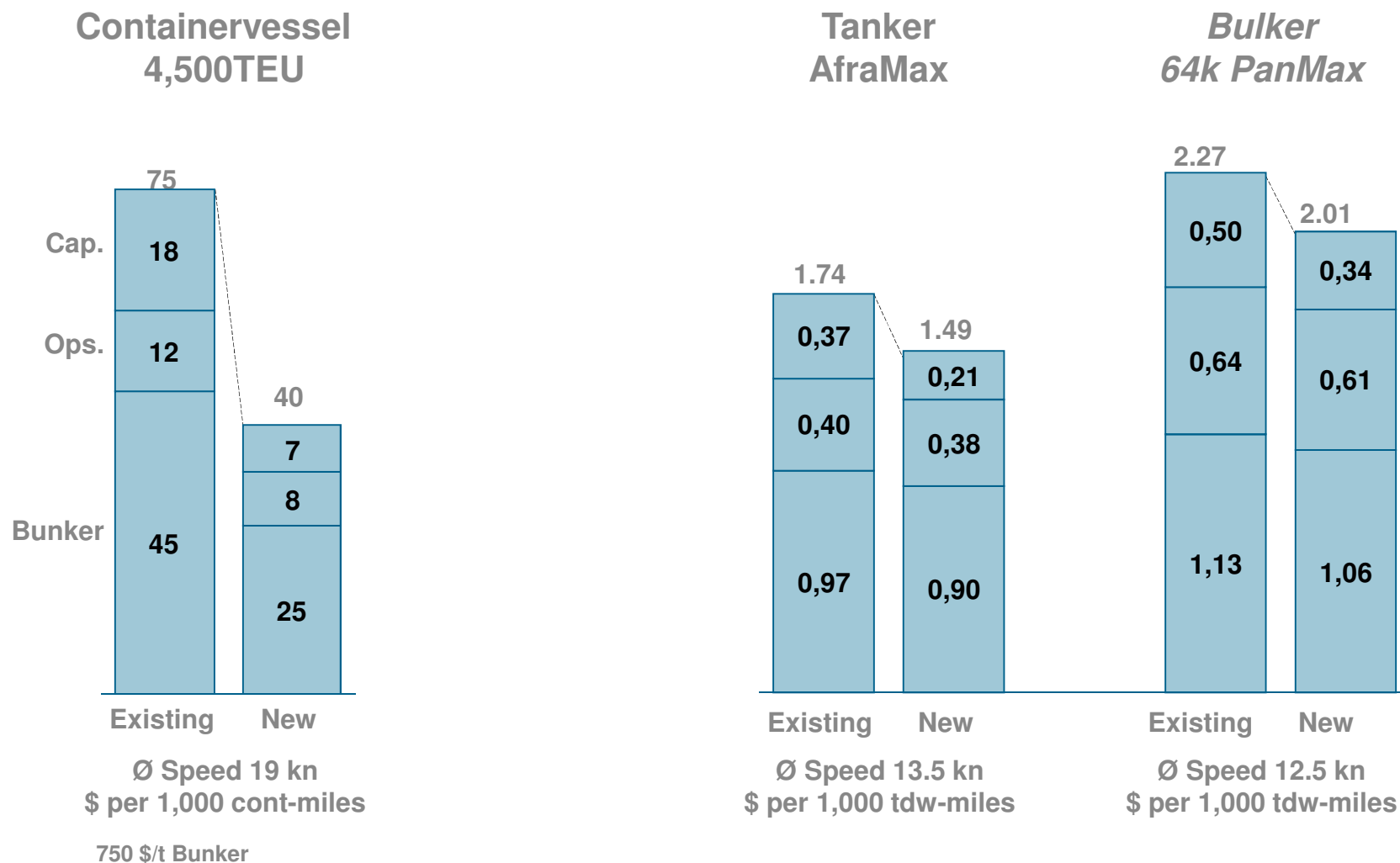
4,500 TEU vessels offer the most attractive opportunity

– \$ Cost per 1000 container miles –



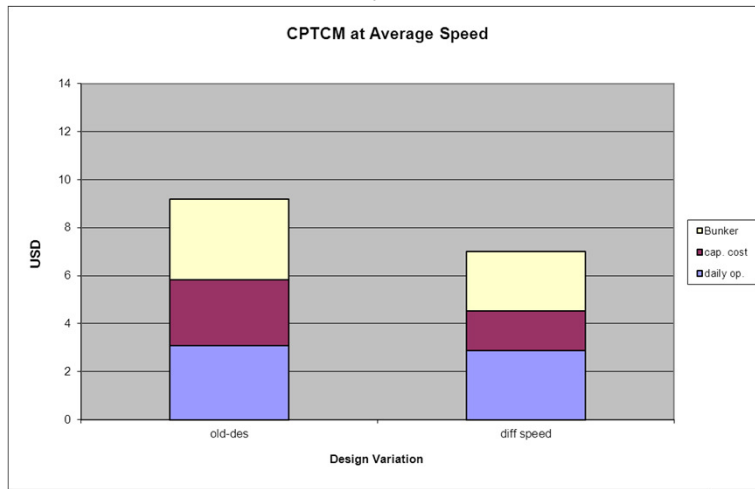
19 kts; bunker 750 \$/t; excluding port/canal cost

While tankers and bulkers benefit from “ECO Designs” as well, the effect is not as transformational

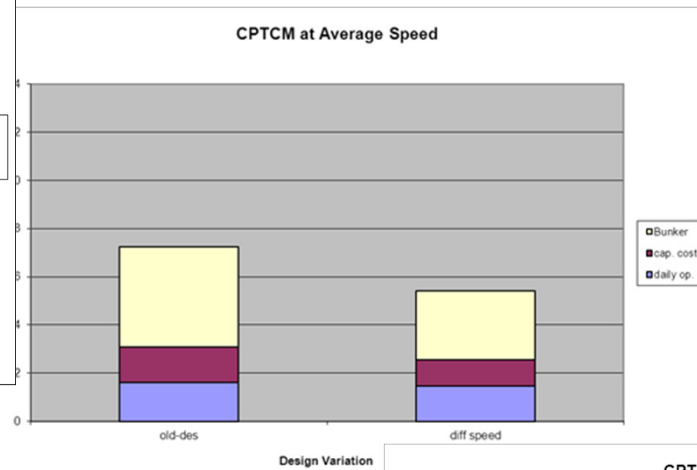


MPV Examples

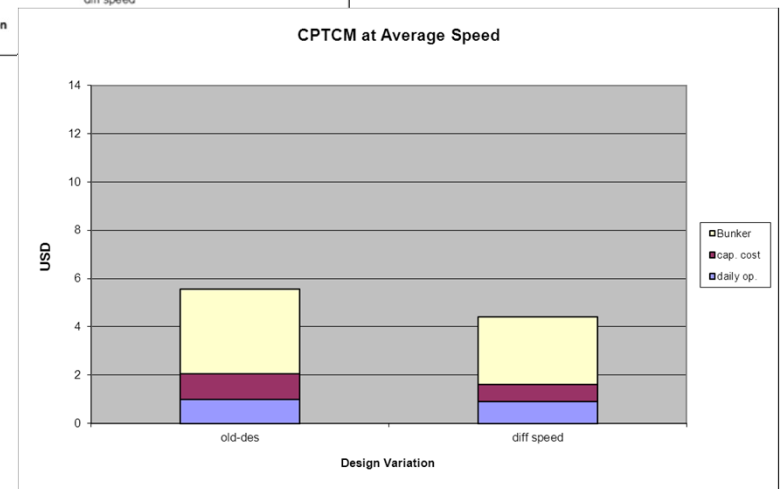
MPV 6,000 tdw



MPV 11,000 tdw



MPV 20,000 tdw

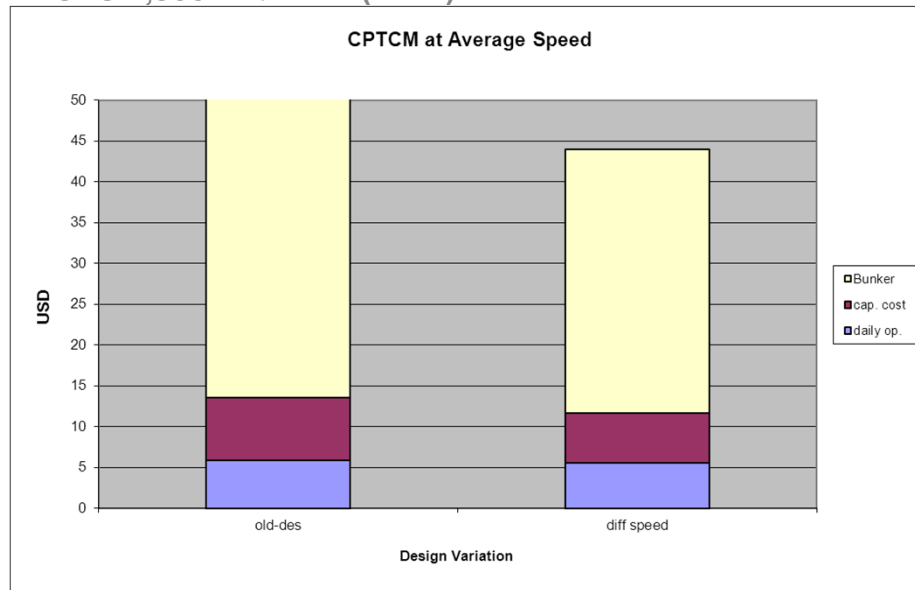


Findings:

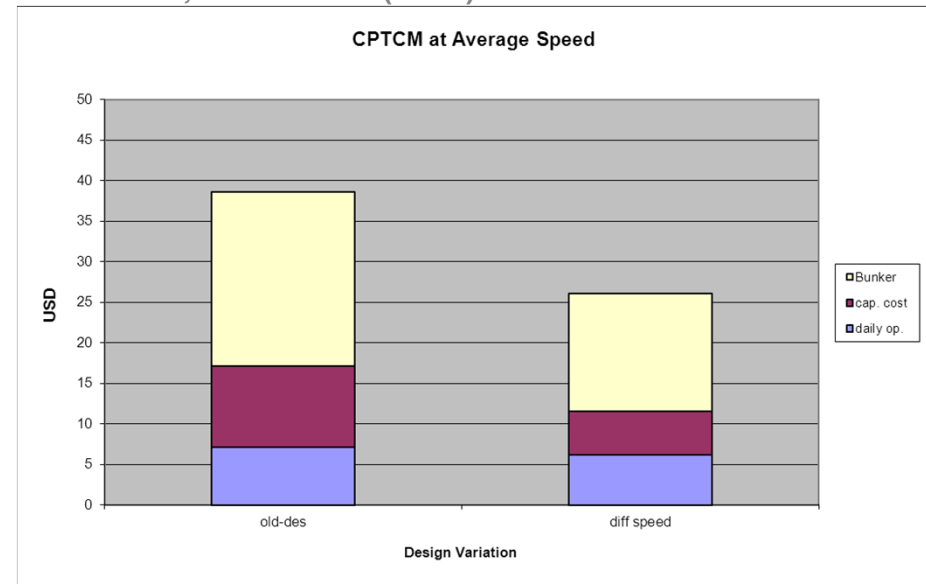
- Economy of scale
- Decreasing portion of CAPEX when increasing size
- Increasing relevance of bunker costs when increasing in size

RoRo Examples

RoRo 2,500 Im / 22kn (24kn)



RoRo 2,500 Im 17kn (24kn)



Findings:

- **Most fuel sensitive segment**
- **Huge / dramatically decrease when slow seaming**
- **Systems must be aligned with low speed profiles**
- **Trim can / should be optimized when regularly save fuel by slow seaming**

We are willing to support you



Naval Architecture

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