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NOVEL SHIP DESIGN

Maritime Cyprus 2017 - Evagoras Lanitis Centre, Limassol - 10 October 2017



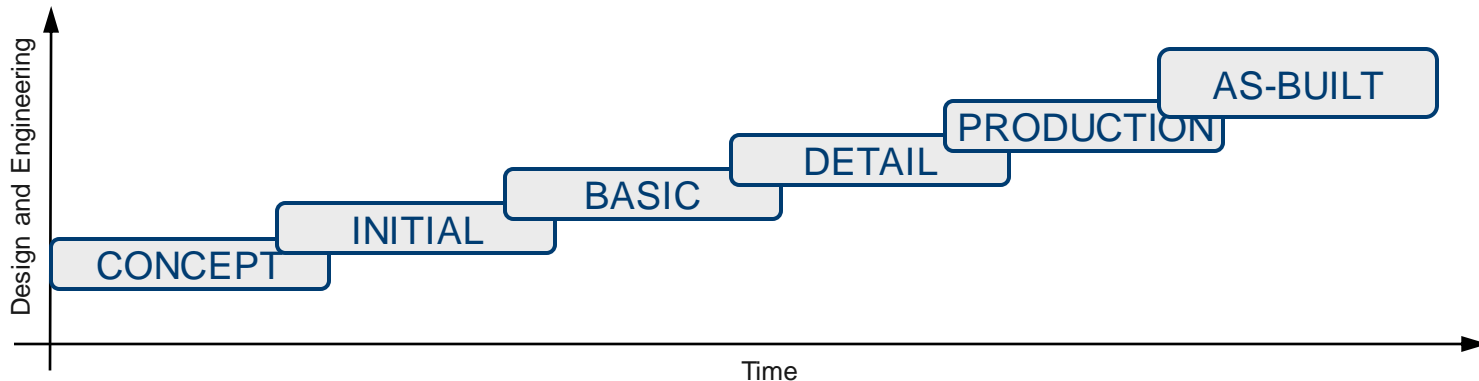
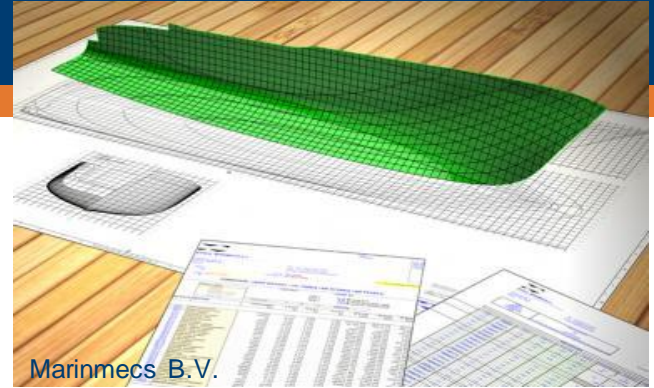
Definitions

- Novel - ['n(p)vəl]
 - adjective
 - original, new, sophisticated, stylish, ..
- Ship - [ʃɪp]
 - noun
 - boat, vessel, platform, ..
- Design - [di'zain]
 - noun
 - layout, sketch, drawing, diagram, pattern, ..
 - design process and stages



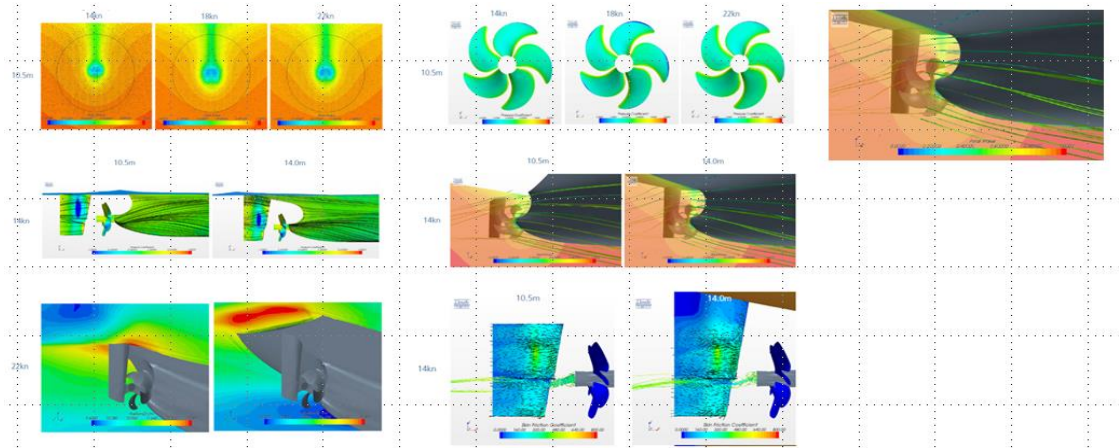
Ship Design Process

- General arrangements
- Weight distribution, hydrostatics, waterlines, hull form, compartmentation, ..
- Iterations and design loops
- Calculations, Computational Fluid Dynamics, Model tests, ..



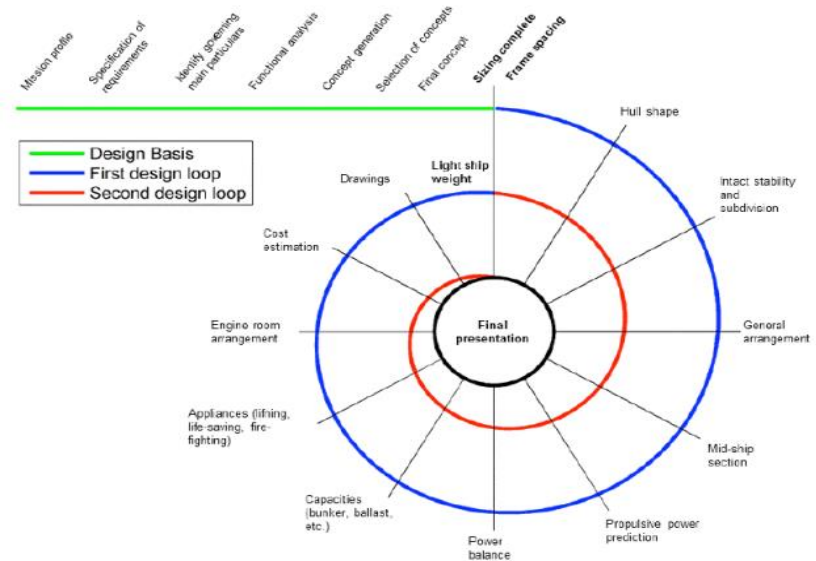
Ship Design - Categorisation

- Engineering approach
 - Enhance, refine
 - Expand, extrapolate
 - Develop, design
- Target
 - Cargo arrangements
 - Ship structures
 - Shipboard systems
 - Propulsion
 - Fuels
 - ..



Ship Design - Categorisation, con't.

- Application
 - Cargo Ships
 - Special Purpose
 - Projects
- Tasks
 - Current
 - Future
 - Upcoming requirements



de Vries, L.; Costa, N. et al.



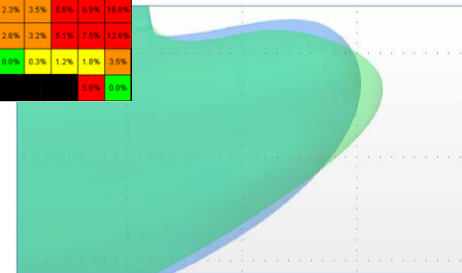
Enhance, refine

- Ballast A O
- (Bulbous) Bows A
- Ducts A
- Engine A O
- Fins A
- Fuels A O
- Propeller A
- Rudder A
- Speeds O
- Trim O

A - arrangements / O - operation



Speed Type	16.0 ton 16 [kts]								16.1 ton 16 [kts]							
	-1.00 0.50 [m/s]	-0.40 0.30 [m/s]	0 [m/s]	0.50 1.00 [m/s]	1.00 2.00 [m/s]	2.00 4.00 [m/s]	4.00 8.00 [m/s]	8.00 16.00 [m/s]	-1.00 0.50 [m/s]	-0.40 0.30 [m/s]	0 [m/s]	0.50 1.00 [m/s]	1.00 2.00 [m/s]	2.00 4.00 [m/s]	4.00 8.00 [m/s]	8.00 16.00 [m/s]
13.0 ton 16.0 [m/s]																
13.5 ton 16.4 [m/s]	0.0%	0.7%	1.7%	1.9%					0.0%	0.9%	1.9%					
14.0 ton 16.8 [m/s]	0.0%	1.0%	2.0%	2.0%	4.7%	6.4%			0.0%	1.4%	2.1%	3.0%	4.6%	6.2%		
14.5 ton 17.2 [m/s]	0.0%	1.3%	2.5%	3.7%	5.5%	8.4%	12.1%		0.0%	1.5%	2.3%	3.5%	5.0%	6.8%	11.0%	
15.0 ton 17.6 [m/s]	0.0%	1.6%	2.9%	3.6%	6.4%	10.0%	13.6%	15.5%	0.0%	1.5%	2.6%	3.2%	5.1%	7.5%	12.6%	
15.5 ton 18.0 [m/s]																
16.0 ton 18.4 [m/s]																
16.5 ton 18.8 [m/s]																
17.0 ton 19.2 [m/s]																
17.5 ton 19.6 [m/s]																



Expand, extrapolate

Ship type Container Ship

MOL TRIUMPH - IMO 9769271

- Length [m] 400.00
- Breadth [m] 58.80
- Draught [m] 16.00
- Tonnage [GT] 210,678
- Intake [TEU] 20,150

HANSA
INTERNATIONAL MARITIME JOURNAL



Start Schiffahrt Largest container ship named »MOL Triumph«

Schiffahrt

Largest container ship named »MOL Triumph«

LR No	Ship Name	Shiptype	GT	DWT	LR Class	St	YOB	Class
9769271	MOL TRIUMPH	CONTAINER SHIP	210,678	196,878		S	2017	LR

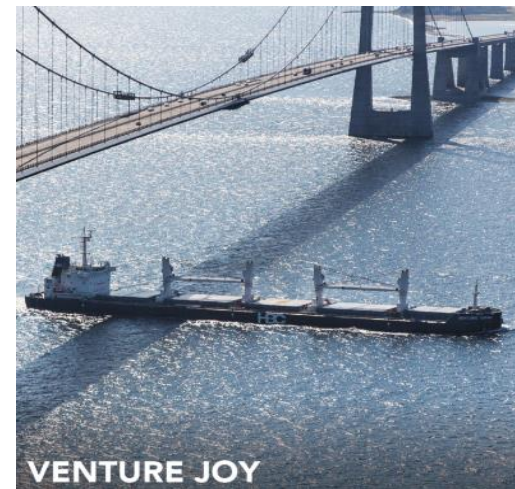
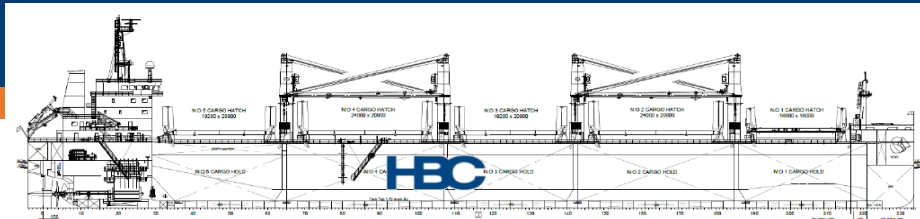


Develop, design

Ship type Bulk Carrier

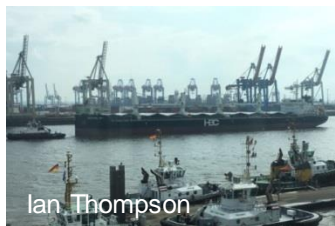
VENTURE JOY - IMO 9670781

- Tonnage [GT] 26,411
- Deadweight [t] 43,532
- Bow, hull form, lines, propulsion, rudder, ..
- Nor-Shipping 2017 Energy Efficiency Award



VENTURE JOY

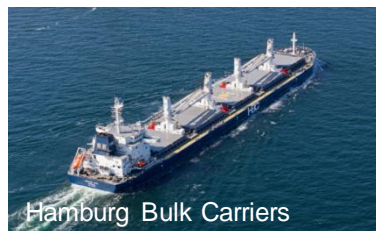
nor-shipping.com/press



Ian Thompson



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Hamburg Bulk Carriers



Thank you.

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