

Safety, Security, & Sustainability of The Maritime Supply Chain

RIGHTSHIP



Capt. Anuj Chopra

21st June 2016



... In a sentence!

RightShip is an **innovative** organization with a **social conscience**, best known for our work on **maritime safety**.

We also have a growing reputation for our work in **environmental sustainability**.



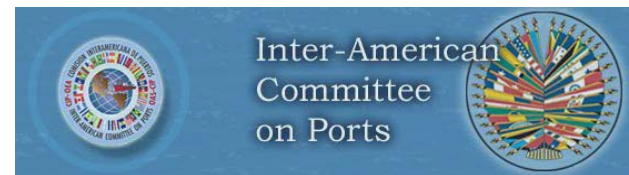


RightShip

- Independent company formed in 2001
- Ship vetting & risk management
- GHG Emissions Rating & Enviro Score



We support . . .



Organization of
American States | More rights
for more people





- ***The Freight Mismatch – OP Cost vs Charter hire***
- ***Sustainability Expectations – Trade Stakeholders vs Shipping***
- ***Does Efficiency Pay? Big Data & The first movers***
- *What can we do!*



- Vessel Running cost – OPEX + CAPEX
- Rates in recent past
- Is this Sustainable?

- ▶ Average Capesize demolition age at 21.4 years so far in 2016
- ▶ Dry bulk cargo market in 'pure survival mode,' Clarkson's says

<http://www.bloomberg.com/quote/BDIY:IND>



Commodity Shipping Costs Tumble Amid Slowing Demand

Baltic Dry Index falls to lowest in three decades

■ Baltic Dry Index





- COP21 – Dec'15 – 177 nations agreeing to reduce emissions
- Stakeholders Awareness & Societal Demand
- The Corporate & Political Dialogue – Emissions Trading
- *Are we on the same page?*

THE LINK . . .

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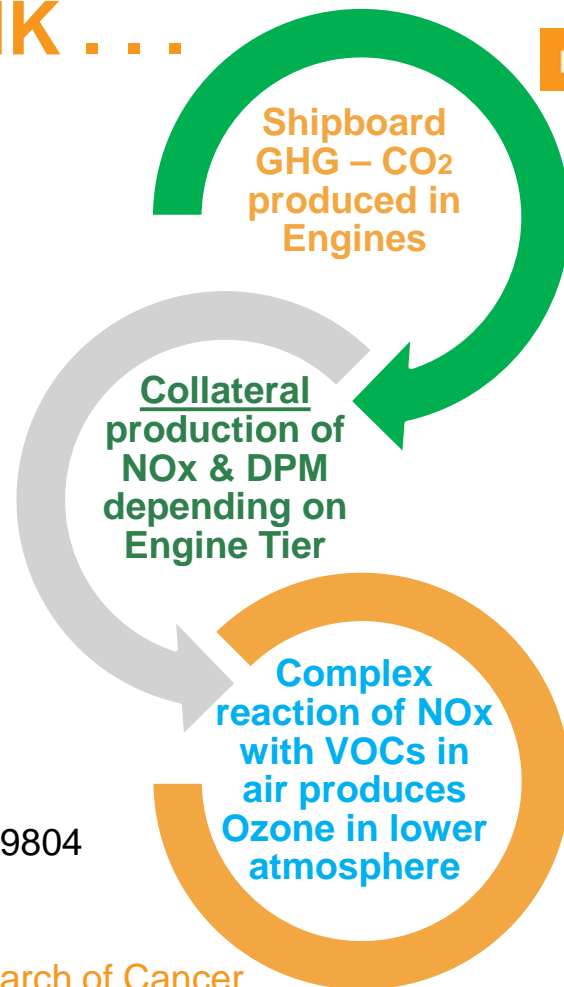
GHG to NO_x & DPM to VOC & Ozone

Lower level Ozone, NO₂
& DPM are directly related
to Cancer, breathing
difficulty & aggravation of
lung infections - NIH

Ozone & NO_x = <http://www.ncbi.nlm.nih.gov/pubmed/7489804>

DPM = <http://www.ncbi.nlm.nih.gov/pubmed/22126432>

DPM = carcinogenic – see [International Agency for Research of Cancer](#)





(U.S. President Barack Obama stands with Pope Francis (L) as the pontiff is welcomed to the White House during a ceremony in Washington September 23, 2015. REUTERS/Tony Gentile)

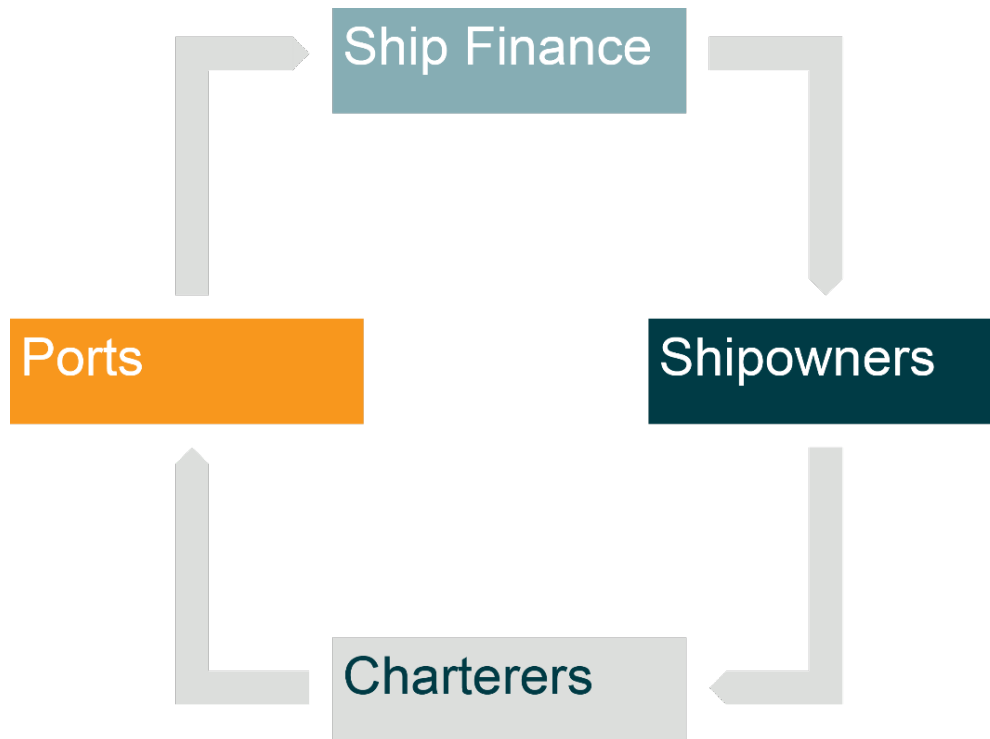
“It seems clear to me also that **climate change is a problem which can no longer be left to a future generation**. When it comes to the **care of our common home**, **we are living at a critical moment of history**,” the pope said at a welcoming ceremony.



DOES IT PAY TO BE GREEN?



The Shipping Cycle



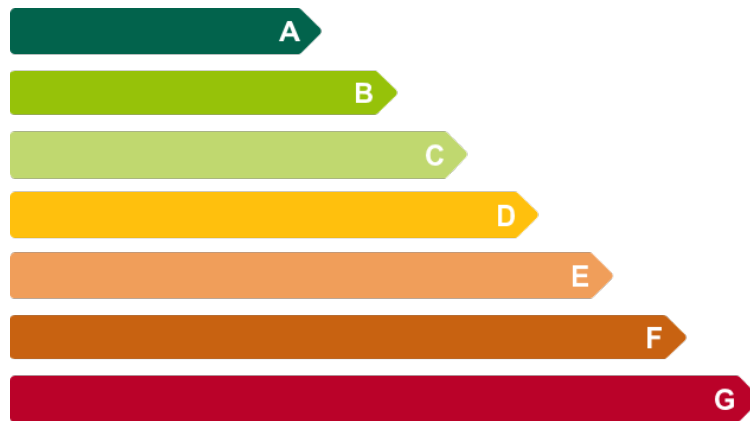


GHG Emissions Rating

- Individual vessel energy efficiency rating
- Based on industry standard (e.g. IMO EEDI)

$$EEDI = \frac{CO_2 \text{ emission}}{\text{transport work}}$$

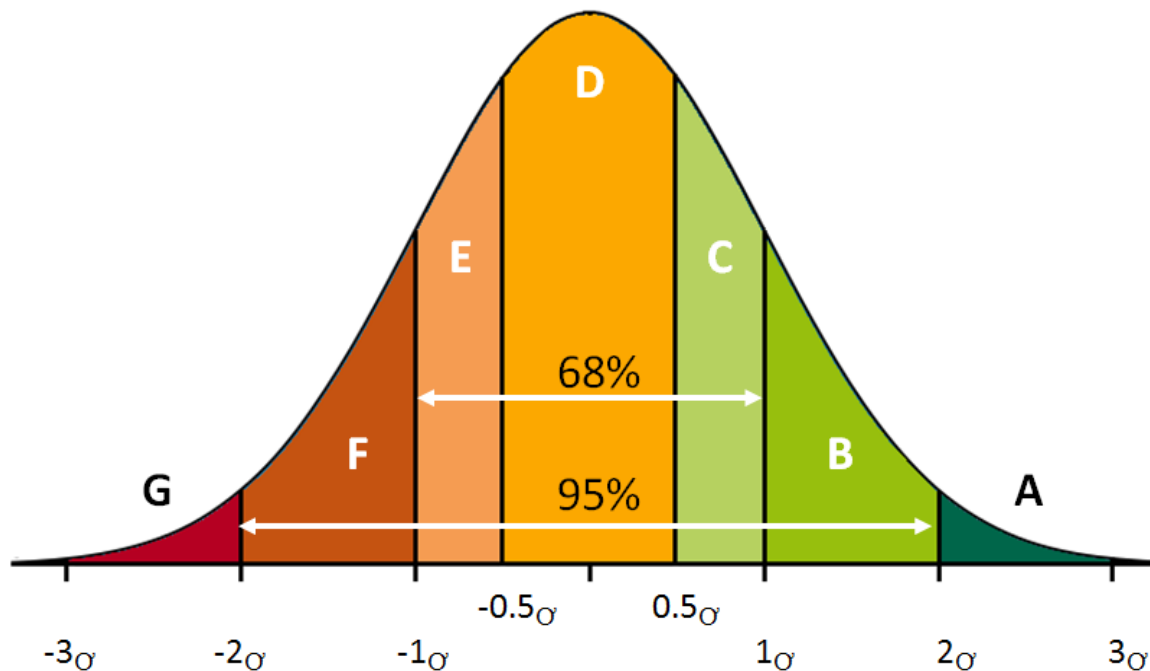
- Compares vessel design characteristics on like-for-like basis
- Applies to all ship types and sizes
- Easy-to-interpret European rating scale





Calculating The A-G GHG emissions rating

GHG Emissions Rating – Normal Peer Distribution



90,000 DWT
Bulkers

4.334



5

GHG
Emissions
Rating

110,000 DWT
Bulkers

3.742

4.401





GHG Emissions rating



Robust Methodology: DNV GL reviewed



Easy to use, understand



Corporate Social Responsibility, transparency



Reduces CO₂ & associated Emissions



Cheaper to run: Tyndall research



Free of charge: www.shippingefficiency.org

Market moves faster!

RIGHTSHIP



40 charterers factor in energy efficiency

- 2+ billion tons of cargo
- 25+% of global shipments
- 26,000 vessel movement per year

7 ship owners publicly endorse GHG emissions rating

Financial Institutions

- ABN Amro, HSH Nordbank, KfW
- Factor vessels' energy efficiency into underwriting process

Ports incentive programs

- Environmental ratings basis for port fee discounts
- PMV Vancouver, Port Prince Rupert



**5 ~ 9 % savings of the
Gross Freight Bill!**



Tyndall Center Study - Results

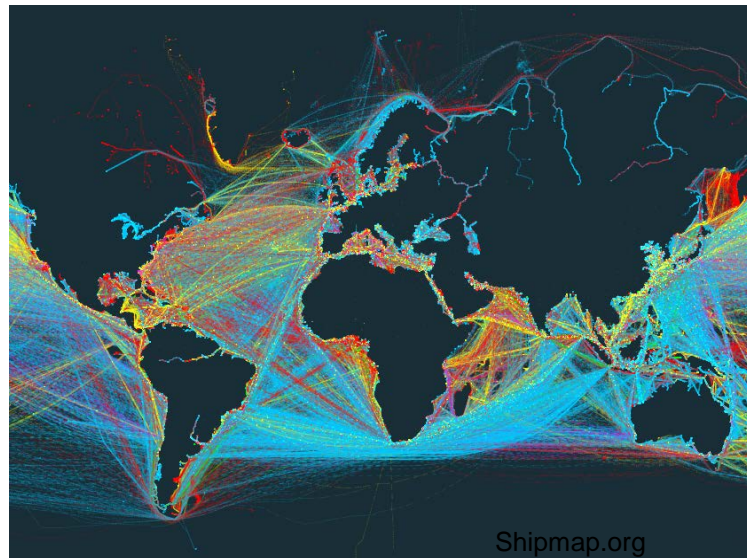
AVERAGE SAVINGS: 5.2% – 8.6%

Case-by-case assessment

- 247 cases assessed
- 136 cases suitable for comparison

Fuel Consumption and CO₂ Savings

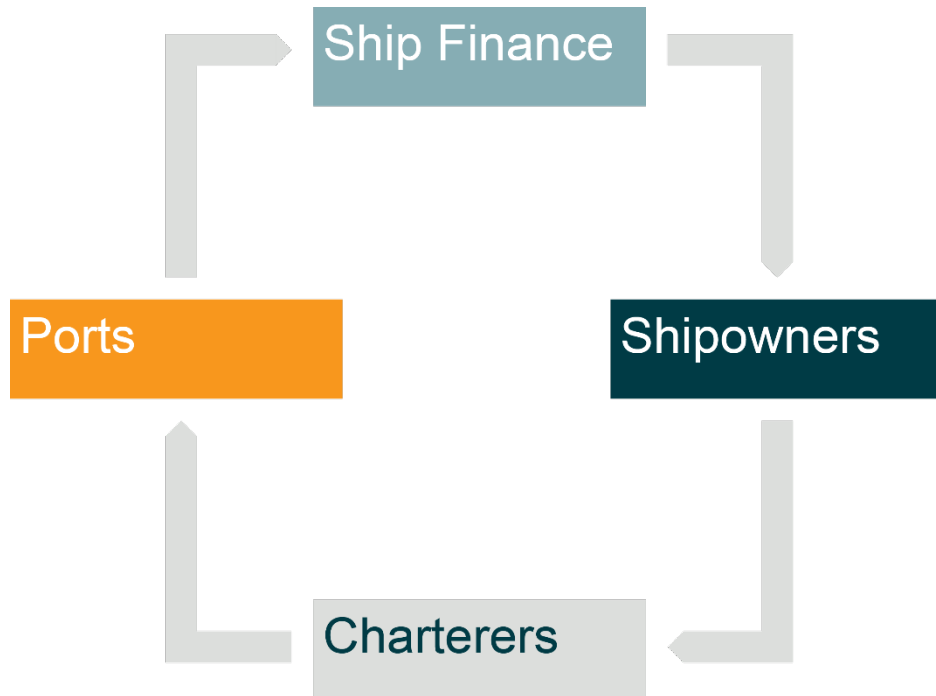
- Majority of individual cases achieved savings
- Charter party key factor:
 - Size / utilization
 - Speed (design speed)





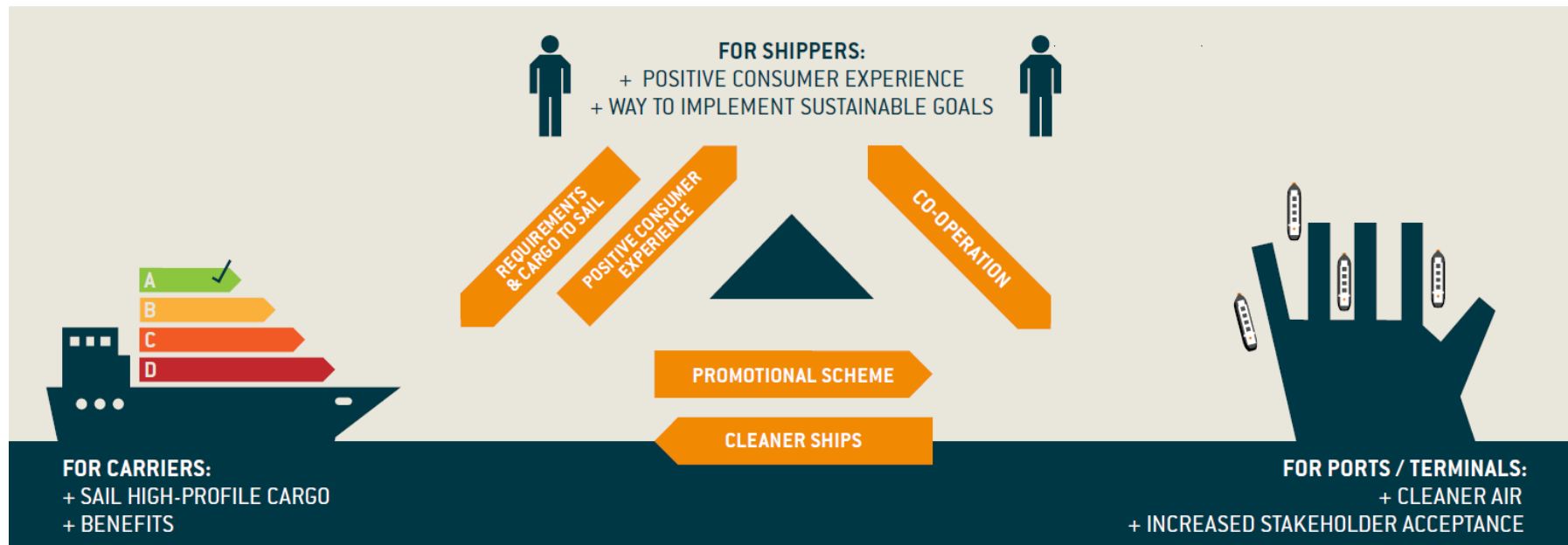
Conclusion

“Explicitly considering fuel efficiency in chartering decisions offers significant fuel, financial, and emissions savings”





Reducing Shipping's GHG Emissions Requires a Collaborative Approach





PORT PRINCE RUPERT

First years – 2014/2015

- Discounts \$113,872/\$140,246 to 140/133 vessels
- 116/7/5 calls qualified through RightShip's C/B/A

GHG Emissions Rating – Environmental Star Score

- Enviro Score 1 / 6 / 33 vessels with 5/4/3 Score
- Access to rating provided free to ports



A typical P I P

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GENERAL	SPECIFIC	TIER 1 (10%)	TIER 2 (20%)	TIER 3 (50%)
ENVIRONMENTAL PROGRAM	Green Marine	Level 3 GHG AND min Level 2 overall	Level 4 GHG AND min Level 2 overall	Level 5 GHG AND min Level 2 overall
	RightShip	GHG B,C OR Environmental 3+ (min GHG D)	GHG B AND Environmental 3+	GHG A
	Environmental Ship Index (ESI)	Scores 20-30	Scores >30-50	Scores >50
	Green Award	Award certificate		
	Clean Shipping Index	Score of Yellow	Score of Green	
	Energy Efficiency Design Index	EEDI 5% better than required	EEDI 10% better than required	

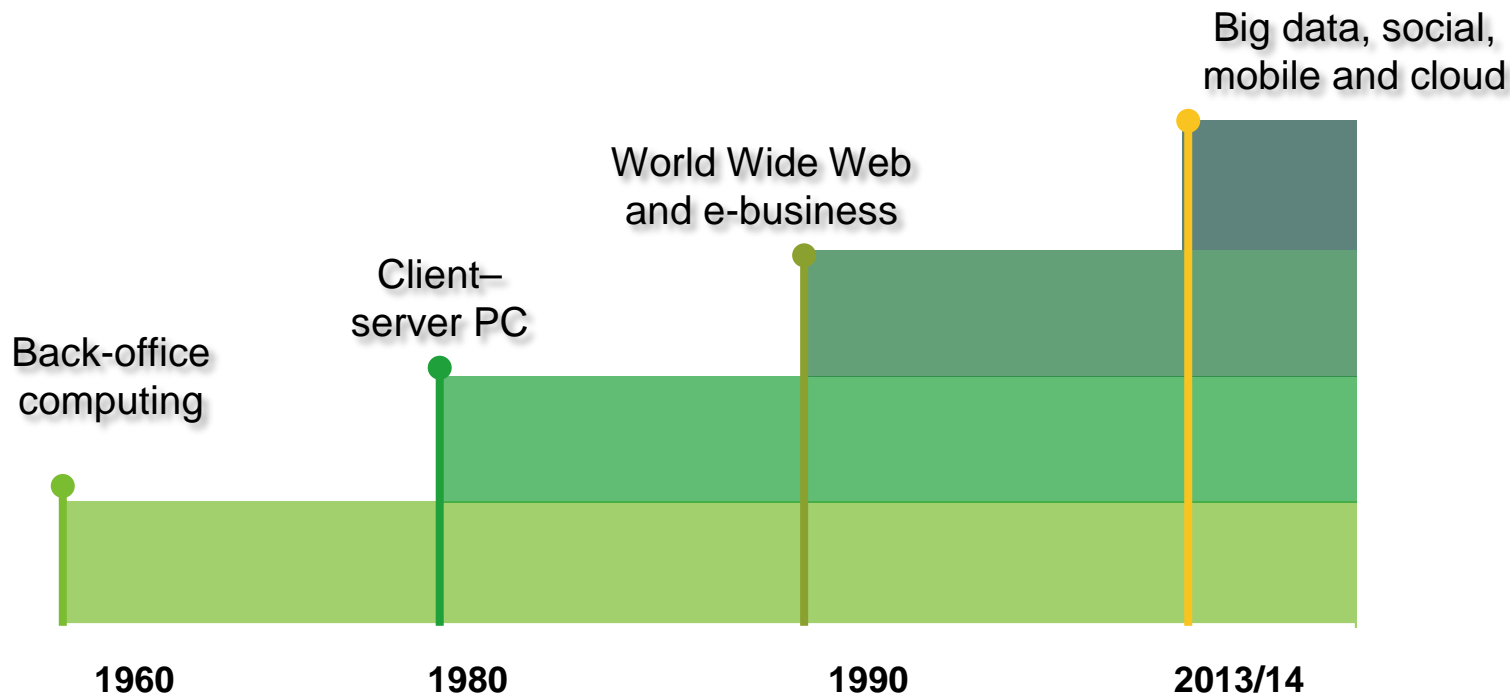


A reputed international flag

Apr 2014 – Mar 2015	A Rated Vessels	G Rated Vessels	Full Flag's Fleet	Global Fleet
Vessels	82	25	2,638	73,874
Inspections	128	50	5,744	75,232
Detentions	0	1	64	2,121
Deficiencies	74	98	8,189	172,401
Inspections with Deficiencies	31	23	2,435	39,702
Deficiencies per Inspection	0.58	1.96	1.43	2.29
% Inspections with Deficiencies	24.22%	46.00%	42.39%	52.77%
% Inspections with Detentions	0%	2.00%	1.11%	2.82%



The transformative power of computing



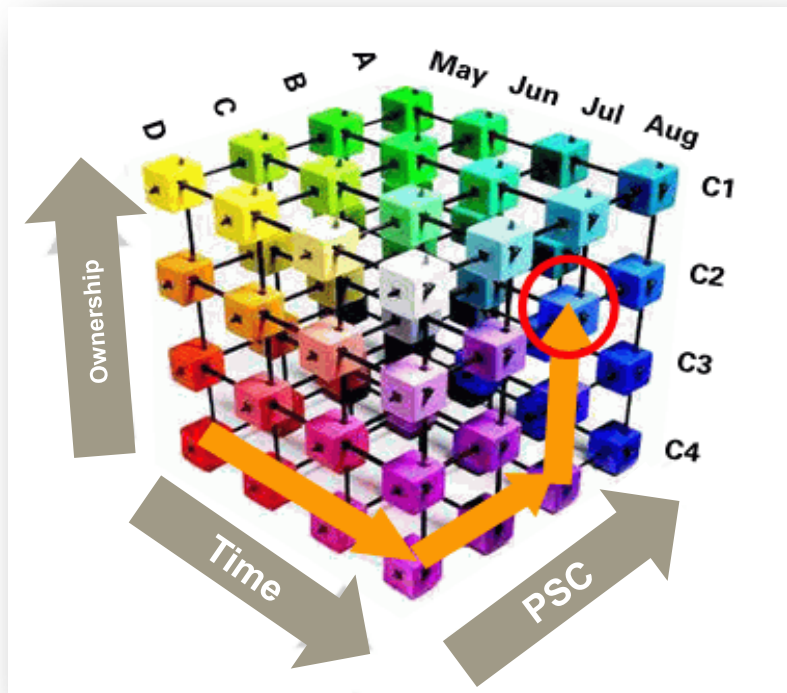


Big data





What to do with big data?



The core of big data programs is business analytics

Business analytics allow us to analyze the data we are collecting

- Look for anomalies
- Look for trends
- Compare intelligently

Cubing allows us to 'slice & dice' our data in multiple ways

Analytics can be linked to forecasting

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SUMMARY





Sustainable Vessel Selection Pays





DO YOUR PART

- Maritime Supply Chain - be Safe, Secure & Profitable
- Accelerate industry sustainability - ***working together***
- Opportunity to ***incentivize*** energy efficiency
- Environmentally Efficient Ship is a Sustainable Ship!

“Eco Vessels = Healthy / Profitable / Safer Vessels = Lower Risk”



THANK YOU!

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 [@RightShip_](https://twitter.com/RightShip_)

 [RightShip](https://www.linkedin.com/company/RightShip)



www.shippingefficiency.org

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