

## Making Money In A Tough Market

5th Tanker Operator Singapore conference, Thursday Oct 16, 2014

Suntec Conference Centre



Where Will The Money Come From?



**NYK**LINE

## MANAGING RISK – LOSS CONTROL IN SHIPPING BUSINESS

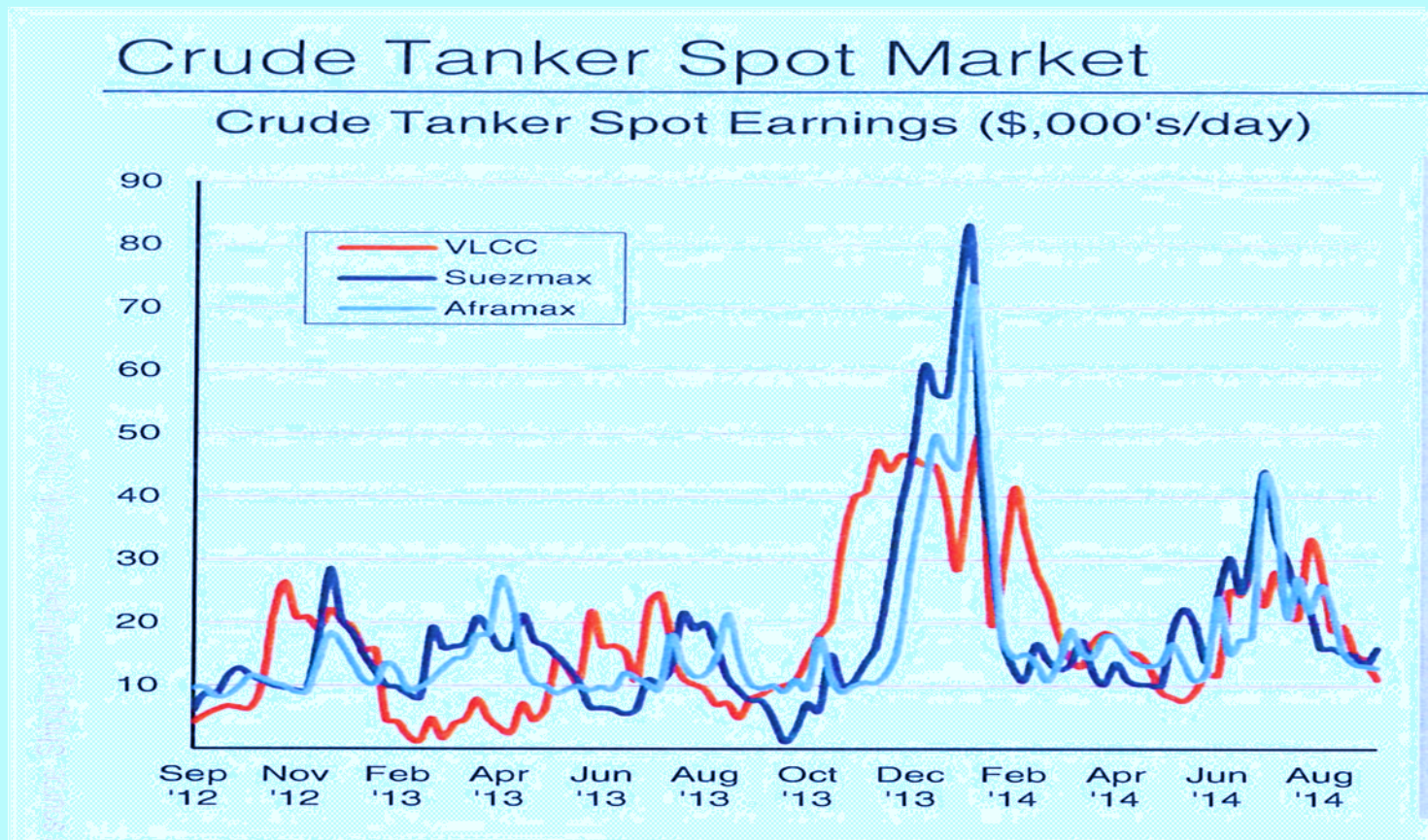
Can we manage the Shipping Business Risk ?  
Will The Money Come ?

**Particularly The Tanker Industry in an Increasingly Complex and Volatile World**

- ❖ Shipping can be said to belong to the industries that cannot distinguish between business risks and market risks. Financial results in shipping are directly affected by movements in the world's freight rate markets.

**Shipowners are in effect in the business of managing shipping risk affecting a portfolio of physical assets, rather than simply managing a fleet of vessels.**

## MANAGING RISK – LOSS CONTROL IN SHIPPING BUSINESS

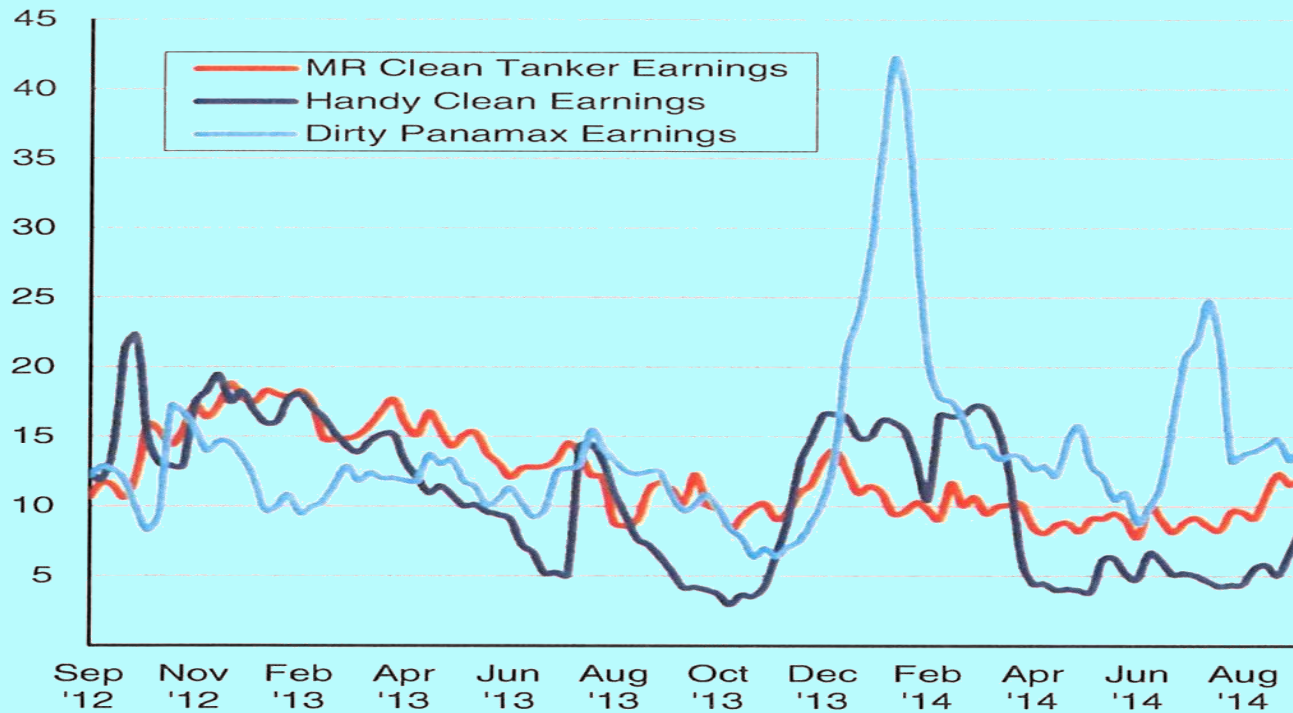


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## MANAGING RISK – LOSS CONTROL IN SHIPPING BUSINESS

### Product Tanker Spot Market

Product Tanker Spot Earnings (\$,000's/day)



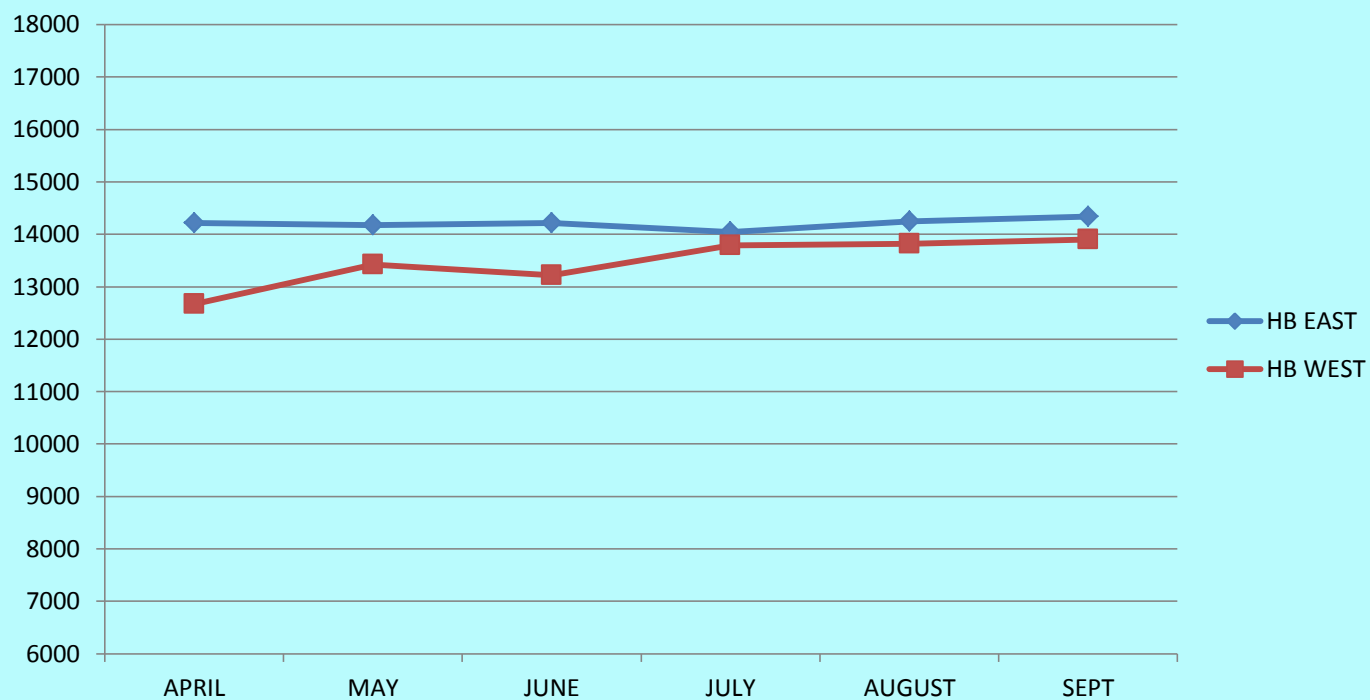
Source: Shipping Intelligence Centre, www.sic.com



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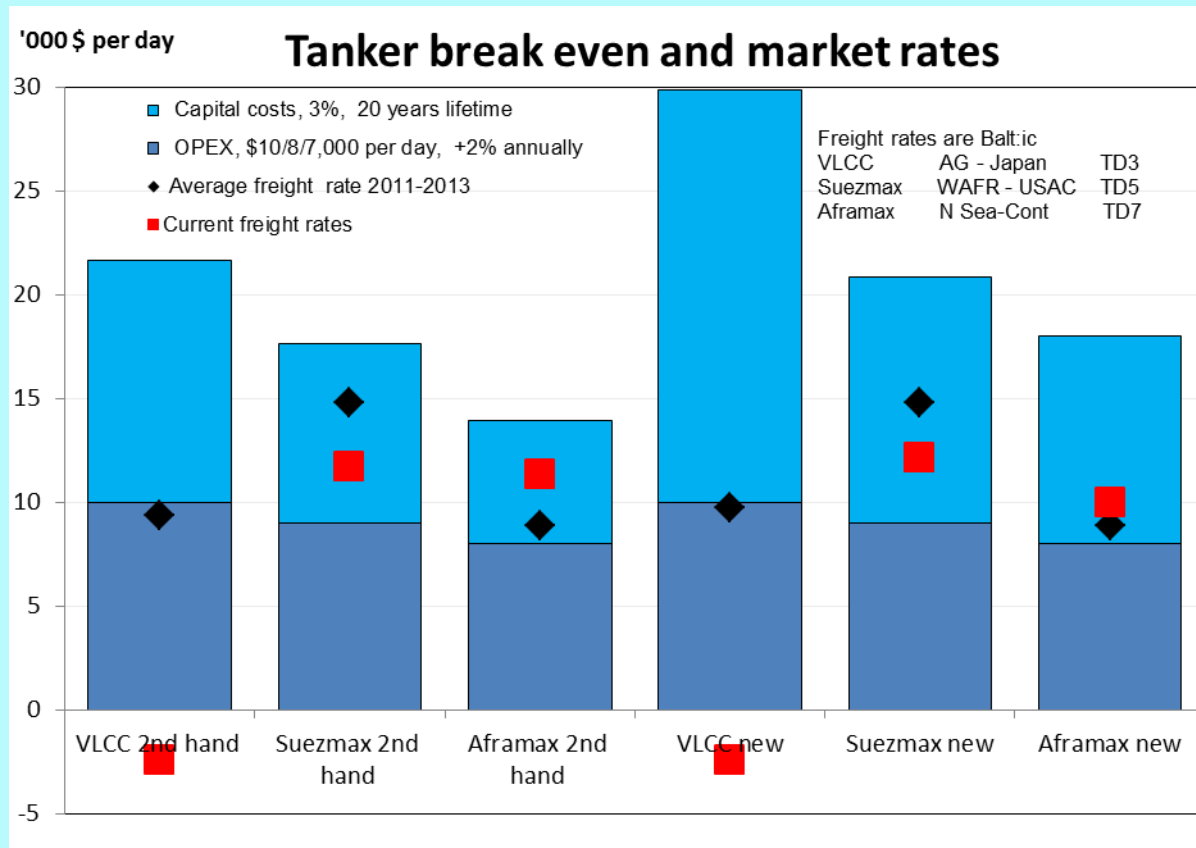
# MANAGING RISK – LOSS CONTROL IN SHIPPING BUSINESS

## HIREBASE OF MR TANKERS



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# MANAGING RISK – LOSS CONTROL IN SHIPPING BUSINESS





# MANAGING RISK – LOSS CONTROL IN SHIPPING BUSINESS

Clean Product Single Voyage...				WS 2014			Average earnings \$ per day				Clean Earnings		
				Sep 19	Sep 26	2014	2012	2013	2014	Sep 19	Sep 26	This Week ....	
26	75,000t	Gulf - Japan		109	105	92	14,172	13,683	15,060	22,548	21,243	SOFTER	-6%
27	55,000t	Gulf - Japan		125	117.5	108	12,890	12,951	13,046	18,707	16,753	WEAKER	-10%
28	37,000t	UKC - USAC *		100	110	111	9,062	10,469	6,710	5,410	7,492	FIRMER	38%
28	37/38kt	UKC-USAC-USG-UKC §		100/75	110/70	111/86	14,098	19,399	13,919	11,072	11,453	FIRM....	3%
28	37,000t	UKC- W. Africa *		140	135	131	13,027	16,660	10,493	13,245	12,219	SOFTER	-8%
28	38,000t	USG - ECSA *		107.5	112.5	126	12,422	16,574	11,185	8,139	9,261	FIRMER	14%
28	30,000t	Singapore-E Aus *		175	175	168	9,292	14,360	11,952	13,640	14,045	STEADY	3%
28	30,000t	Singapore-Japan		113	113	113	12,056	14,517	9,601	10,210	10,596	FIRM....	4%
28	35,000t	WC India - Japan *		125	125	110	10,156	10,760	8,800	12,867	13,279	FIRM....	3%
28	35,000t	Gulf - E.Africa		180	157.5	166	17,897	17,134	15,591	18,678	14,697	WEAKER	-21%
28	40,000t	Gulf-UKC * ^		1.75	1.75	1.45	9,576	10,840	9,094	16,181	16,312	STEADY	1%
29	30,000t	Med - Med #		122.5	130	135	11,527	11,354	8,862	6,881	8,837	FIRMER	28%
29	30,000t	Black Sea - Med #		122.5	130	138	9,657	9,981	8,748	6,506	7,982	FIRMER	23%
	Clean 'MR' Ave. Earnings *						10,589	13,277	9,706	11,580	12,101	FIRM....	4%
	Clean 'Hdy' Ave. Earnings #						10,592	10,668	8,805	6,693	8,409	FIRMER	26%

Dirty Product Single Voyage...				WS 2014			Average earnings \$ per day				Dirty Earnings		
				Sep 19	Sep 26	2014	2012	2013	2014	Sep 19	Sep 26	This Week ....	
31	55,000t	Med - US Gulf *		115.0	115.0	123	12,087	10,536	15,880	14,735	14,752	STEADY	0%
31	55,000t	UKC - US Gulf *		115.0	115.0	128	13,014	11,648	18,112	15,539	15,577	STEADY	0%
31	50,000t	Caribs - US Gulf *		105.0	117.5	143	9,912	11,197	18,753	9,489	13,093	FIRMER	38%
33	30,000t	Black Sea - Med		127.5	122.5	173	10,592	10,668	12,594	8,039	6,993	WEAKER	-13%
	Dirty Ave. Earnings *						11,671	11,127	17,582	13,255	14,474	FIRMER	9%

^ Lump Sum in \$million.

§ Earnings for a triangular voyage of UKC-USAC at WS 110, followed by USG-UKC at WS 70. See Sources & Methods.



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## MANAGING RISK – LOSS CONTROL IN SHIPPING BUSINESS

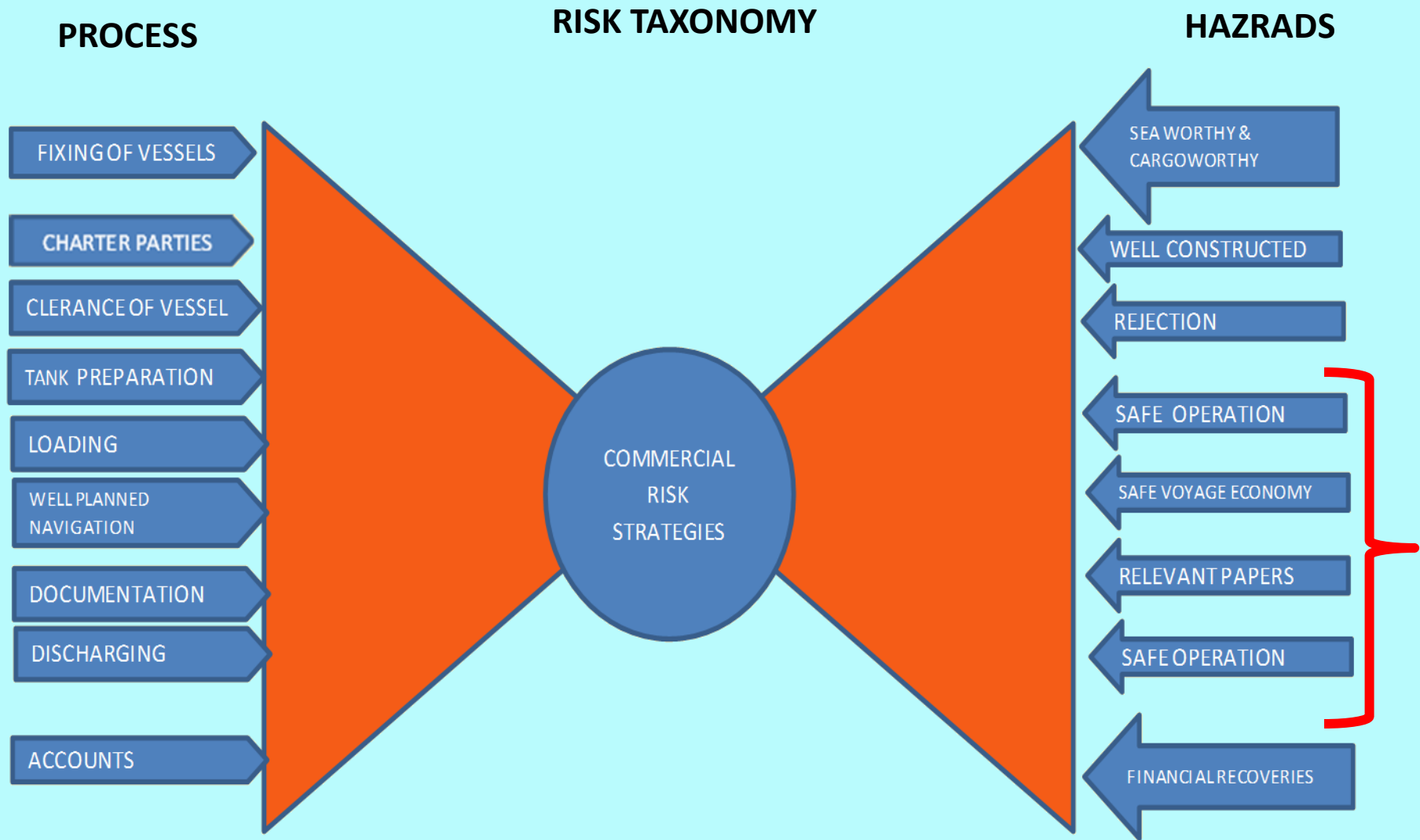
Create a risk taxonomy by naming your business processes

- Conduct a risk assessment in each of these business processes
- Connect your business metrics for each process to these mitigation activities
- Connect mitigation activities to each of the key risks in these processes
- Connect your process risks to performance management strategic objectives

**PLAN –DO- CHECK – ACT**



# MANAGING RISK – LOSS CONTROL IN SHIPPING BUSINESS



# MANAGING RISK – LOSS CONTROL IN SHIPPING BUSINESS

## KEEPING CLAIMS LOW-HOW ?

COMMERCIAL

SAFETY

SECURITY

ENVIRONMENTAL

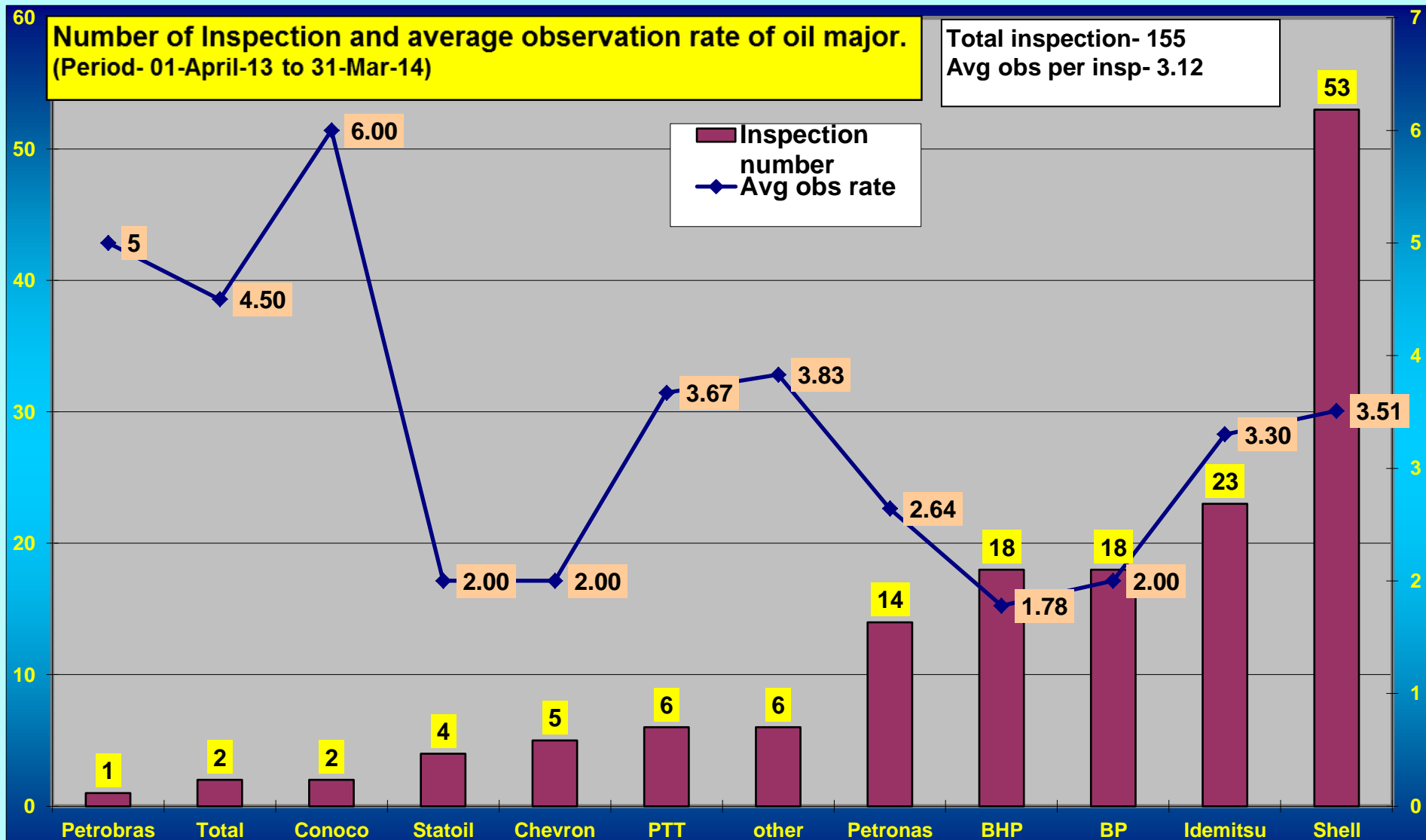
HARDWARE - SOFTWARE

# MANAGING RISK – LOSS CONTROL IN SHIPPING BUSINESS

## NO OF OIL MAJOR INSPECTIONS

Number of Inspection and average observation rate of oil major.  
(Period- 01-April-13 to 31-Mar-14)

Total inspection- 155  
Avg obs per insp- 3.12



## VOYAGE ECONOMY ?

- **FUEL EFFICIENT**
- **FUEL SAVING**

Fuel Efficient :

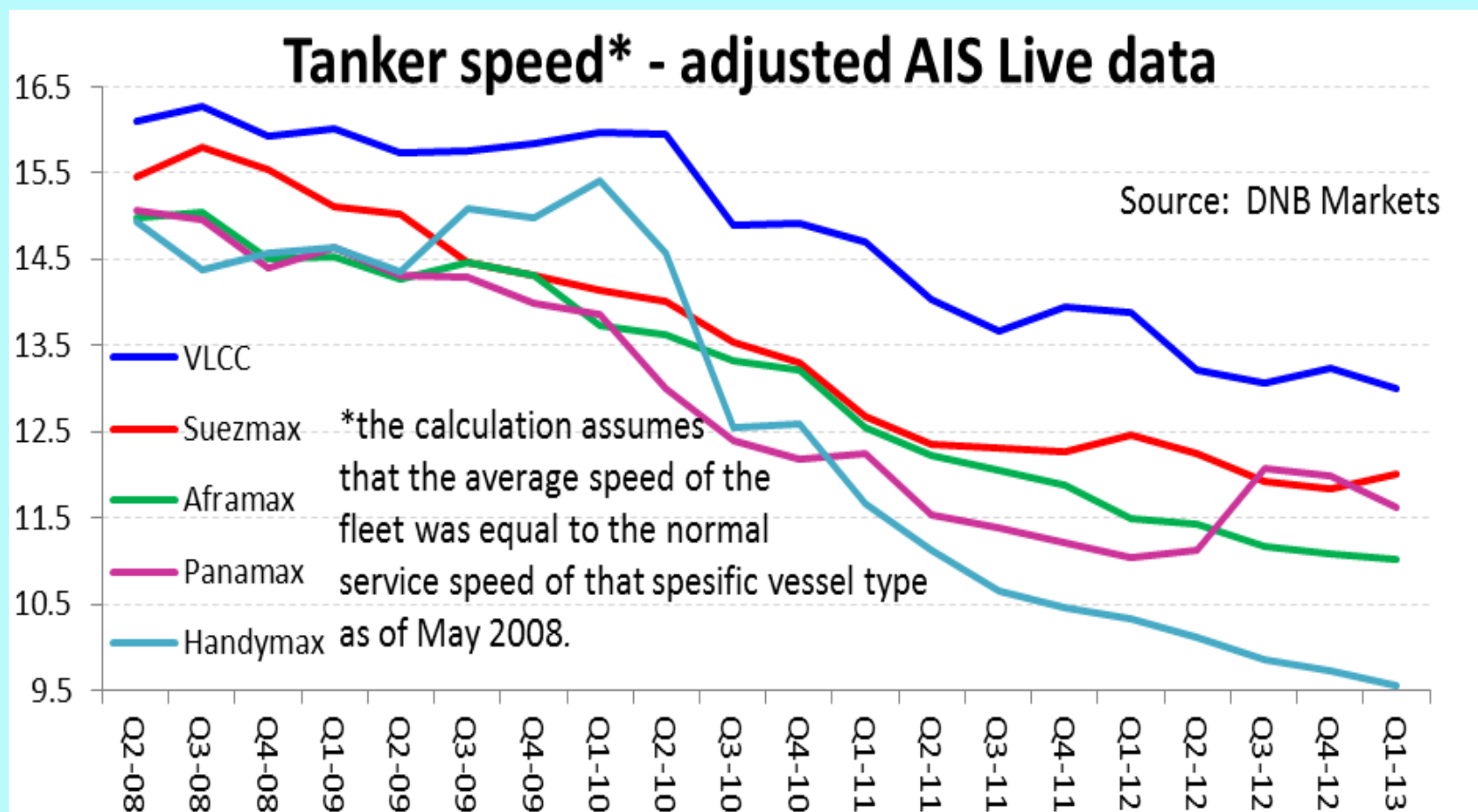
- New Technology /Design
- Innovation...../Eco

Fuel saving:

- Promotion of low load operation (SS /SSS)
- Fuel saving at port (Anchorage/Drifting)
- Effective Navigation

In fiscal 2012, we began the Innovative Bunker and Idle-time Saving (IBIS)

## MANAGING RISK – LOSS CONTROL IN SHIPPING BUSINESS





# MANAGING RISK – LOSS CONTROL IN SHIPPING BUSINESS

## WEATHER SOLUTIONS –ROUTE OPTIMISATION- ANALYSIS

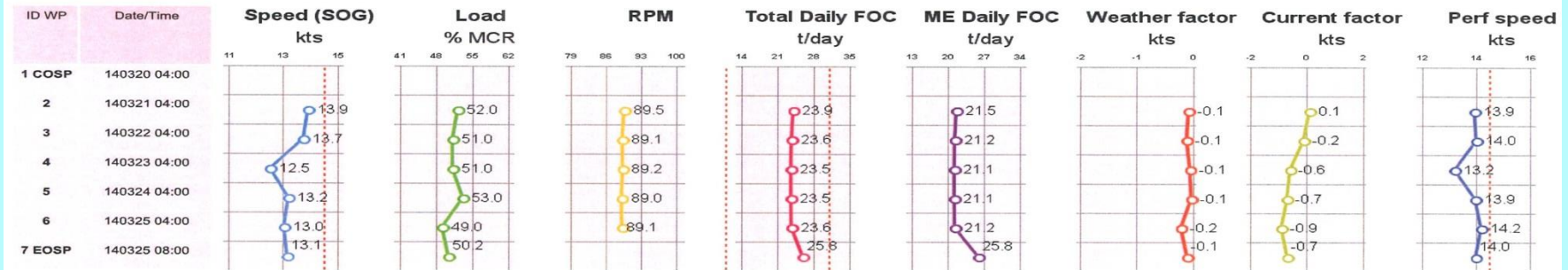
### Departure Condition

Voyage Id	75 B		
Type of Vessel	Tanker	GM (m)	-
Cargo Weight (tonnes)	0	Draft fwd (m)	5.8
C/P Warranted Speed (kts)	14.50	Draft aft (m)	7.2

M/E Particulars	MCR 9267 kw	NCR 7877 kw (85% of MCR)
	RPM 0	RPM 110.0

	TOTAL VOYAGE	GOOD WEATHER Up to and incl wind 5B and DSS 3
Distance (nm)	1642	1642
Reported Tot. Steaming Time (hrs/d)	124.0/5.2	124.0/5.2
Average RPM	89.2	89.2
Average ME/Load (%MCR)	51.2	51.2
Average Speed (kts)	13.24	13.24
Weather Factor WF (kts)	-0.12	-0.12
Current Factor CF (kts)	-0.48	-0.48
Performance Speed (kts)	13.84	13.84
CP Speed - 0.5 knots (kts)	14.00	
Time Allowed (hrs)	122.5	
Time Gained/Lost (hrs)	-1.5	-1.5

	FO	DO
Departure BROB (mt)	1186.7	49.7
Arrival BROB (mt)	1064.0	49.6
Rep. ME / (AE+Other) Cons. (mt)	110.4/12.0	-/-
Rep. Total (ME+AE+Other) Cons. (mt)	122.7	0.1
Cal. Total Cons. (C/P) (mt)	162.9	0.0
Diff Rep. Total Cons. - Warranted (mt)	-40.2	0.1
Rep. Daily ME / (AE+Other) Cons. (mt/d)	21.4/2.3	-/-
Rep. Daily Total (ME+AE+Other) Cons. (mt/d)	23.7	0.0
Warranted Consumption (mt/d)	31.0	0.0
Diff Rep. Daily Total Cons. - Warranted (mt/d)	-7.3	0.0
FOC Allowance (%)	3.0	-

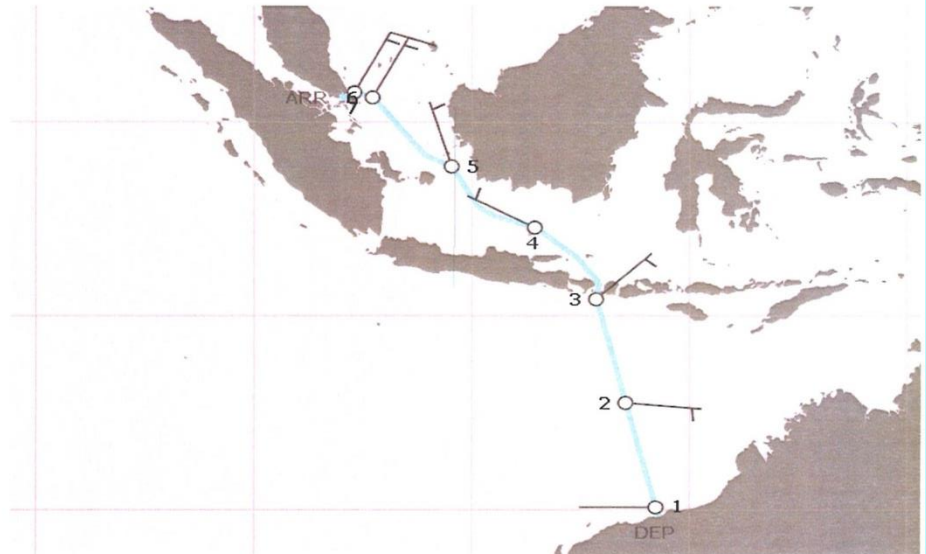
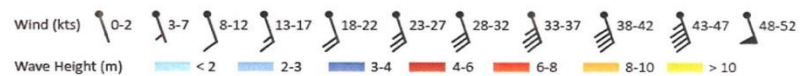


### PVA - Post Voyage Analysis 2014-03-27

Nothing special to report regarding the weather on this voyage.

Performance speed and fuel consumption were both lower than warranted.

Brgds,  
Anders Soderberg



## MANAGING RISK – LOSS CONTROL IN SHIPPING BUSINESS

### BUNKER SAVE

2012 205,964 MT

2013 200,000 MT approx.

CO2 emission data of NYK operation vessels is follows.  
(NYK not include group companies)

2011: 14,749,000 ton

2012: 14,695,000 ton

2013: 15,022,000 ton

Please refer NYK Report 2014

[http://www.nyk.com/english/ir/library/nyk/pdf/2014\\_nykreport\\_all.pdf](http://www.nyk.com/english/ir/library/nyk/pdf/2014_nykreport_all.pdf)

(P.136 Environmental Performance Data. > NYK Fleet)

# MANAGING RISK – LOSS CONTROL IN SHIPPING BUSINESS

## CREATIVE SOLUTIONS

- Adopting new technology



Cutting of Turbo Charger

AMP: Alternative Maritime Power

This refers to container units that reduce air pollutant emissions by enabling vessels to shut down onboard diesel power generators and receive electricity from shore



## MANAGING RISK – LOSS CONTROL IN SHIPPING BUSINESS

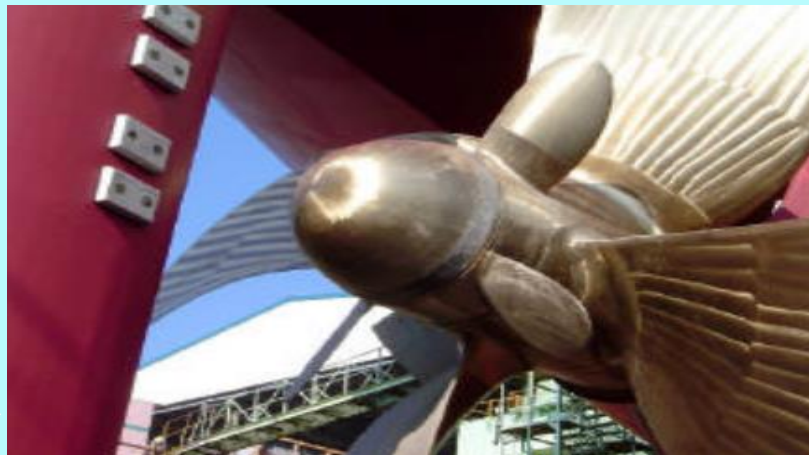
- New products High performance AF paint



Retrofit PBFC



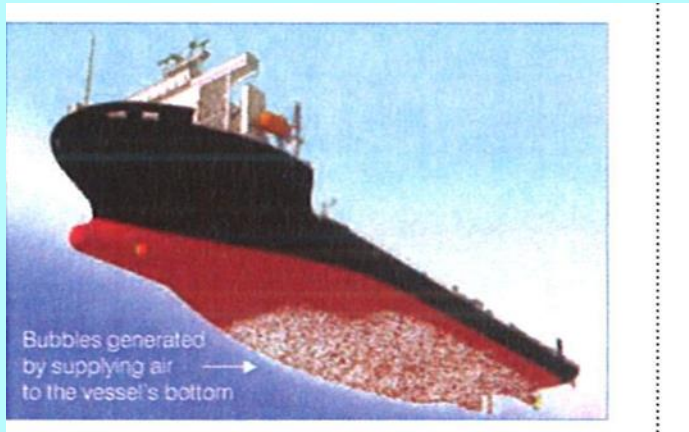
Retrofit LV-Fin



TURBO RING

## MANAGING RISK – LOSS CONTROL IN SHIPPING BUSINESS

- Appropriate Disclosure of Environmental Performance Data
- Fuel Save Governors



Saving Energy through  
'Bubbles'—Our Air-  
Lubrication System Wins  
Numerous Awards at Home  
and Abroad



NYK Super Eco Ship 2030—  
A Concept for Ships of the Future

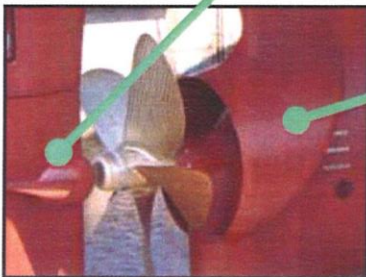
# MANAGING RISK – LOSS CONTROL IN SHIPPING BUSINESS



## CRP

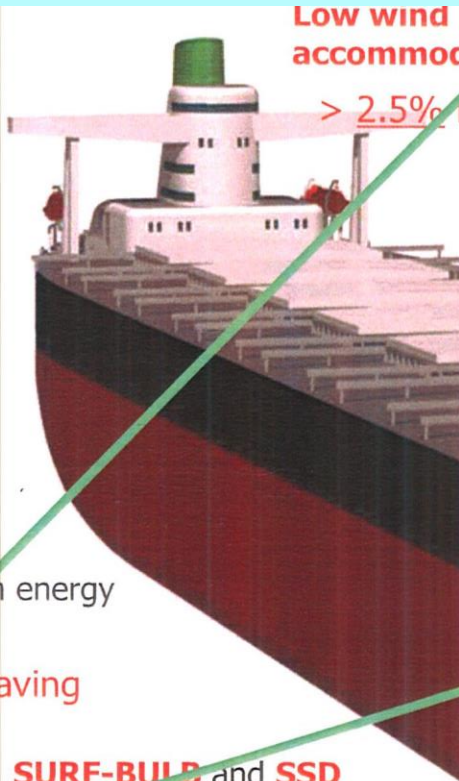
recovers rotational stream energy by aft propeller

> 10% more energy saving



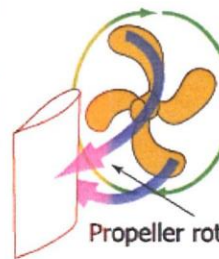
**SURF-BULB** and **SSD** improves the propulsive efficiency of hull

- Cost effective
- Reliable

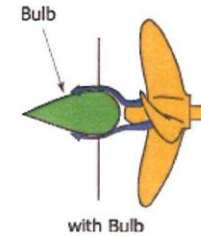


## SURF-BULB

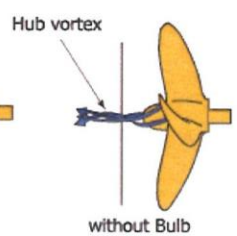
Swept-back Up-thrusting Rudder Fin with BULB



Propeller rotational stream

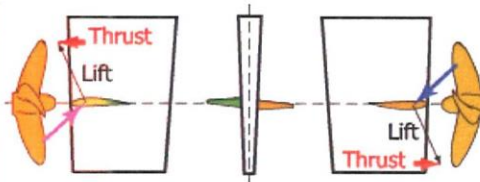


with Bulb



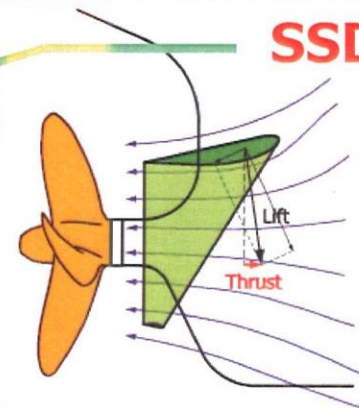
without Bulb

- Bulb smoothens hub vortex
- Fins generate thrust



> 3~5% energy saving

## SSD Super Stream Duct



- Duct of wing section generates thrust
- Duct stabilizes inlet flow to propeller

> 3~8% energy saving



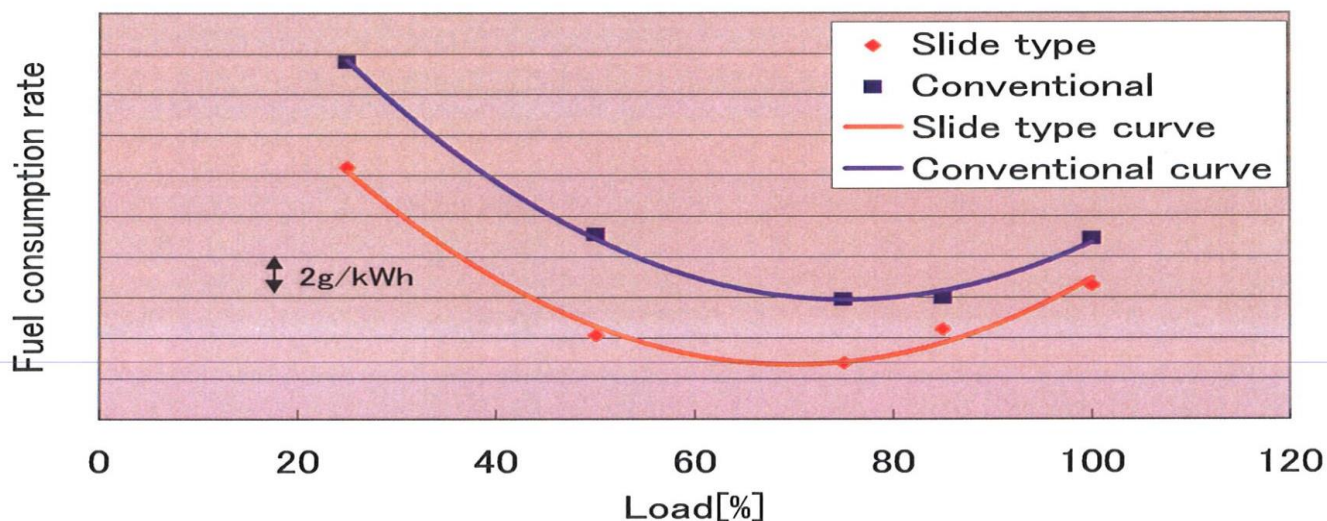
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## Economical gain calculation result with slide type fuel valve

		Unit	Value, result
Engine type			6S50MC-C
MCO		kW	9,480
Normal service load		%	50
		kW	4,740
SFOC	conventional	g/kWh	176.88
	save, rate	%	2.430
Running hours per year		hrs/year	7,000
FO price		\$/ton	625
Total cost for FO		\$/year	3,667,998
Cost merit		\$/year	89,132
Installation cost, slide fuel valve		\$	51,700
Pay back		Year	0.6

Fuel consumption rate comparison (for S50MC-C C7)



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# MANAGING RISK – LOSS CONTROL IN SHIPPING BUSINESS

## First Step towards Changing Fuel to LNG

### LNG fuelled ships in operation or on order

Ship type	In operation	On order	Total	Owners
Car/passenger ferry	22	8	30	Fjord 1, Torghatten, Norled, Tide Sjö, ....
Offshore support vessels	12	14	28	Solstad, Olympic Shipping, Island Offshore, ...
Container vessels	0	8	8	ToTe shipping, Crowley, Matson
RoRo vessels	0	6	6	Seacargo, NorLines, ToTe
Gas Carrier	0	5	5	SABIC, Evergas
Large cruise/RoPax ferries	3	1	4	Viking Line, Fjord Line, Brittany Ferries
Patrol vessel	3	1	4	Finnish goverment, Remoy
TUG	3	1	4	Buksér&Berging, CNOOC
General Cargo	2	2	4	Nordnorsk Shipping, Egil Ulvan rederi,
Product/chemical tanker	1	3	4	Tarbit Shipping, Terntank, Bergen tankers
Harbour vessel	1	0	1	Incheon Port Authority
High speed ferry	1	0	1	Buquebus
Icebreaker	0	1	1	Finnish Transport A.
<b>TOTAL</b>	<b>48</b>	<b>50</b>	<b>98</b>	



**Rolls-Royce**



**NYK LINE**

# MANAGING RISK – LOSS CONTROL IN SHIPPING BUSINESS

## IN A NUTSHELL –CREATIVE INNOVATIONS

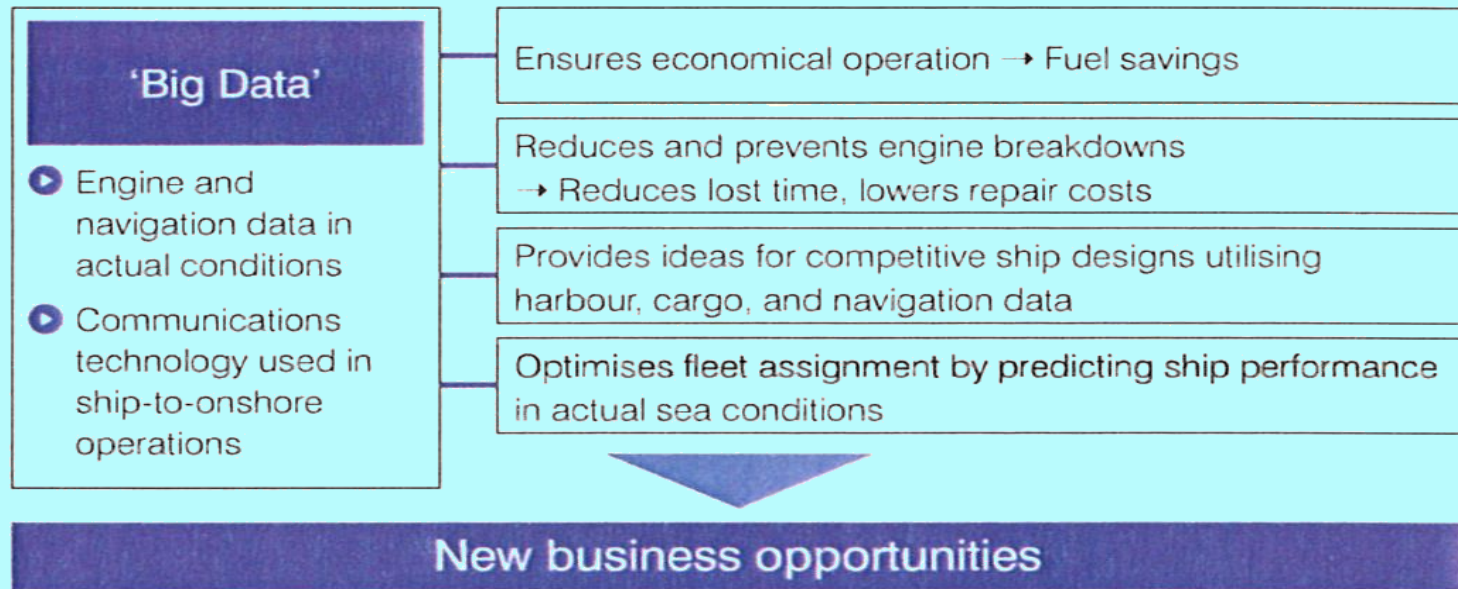
- Slow steaming/  
Super Slow  
Steaming
- Fuel Save  
Governor
- Air Lubrication
- Waste Heat Recovery System
- New Type of  
Engines -  
Electronic Engine
- Surf Bulb
- LNG Fuel
- Additive
- Auto Tuning
- Solar Cell
- Power Management System
- High Quality AF  
Paint
- Wind sail
- PBCF
- Emulsion Fuel
- L-V Fin
- Route Optimisation
- Hybrid Turbo  
Charger
- Mewis Duct or  
similar
- Managing weight on vessel
- .Alternative  
Maritime Power
- Route Optimisation
- Frequency  
controller
- Emulsion Fuel
- Hull Form/Bow

# MANAGING RISK – LOSS CONTROL IN SHIPPING BUSINESS

## Focus 3 Differentiation through ‘Creative Solutions’

We will leverage technological capabilities and professional skills that we have cultivated and accumulated through front-line operations and which enable efficient transport and vessel operations.

Collect engine and navigation data under real weather and ocean conditions, which cannot be determined under test conditions (Use vital basic data to design best shape and optimise running of ships)



# MANAGING RISK – LOSS CONTROL IN SHIPPING BUSINESS

## CHALLENGES WITH NO OPTION

### Environmental Regulations

- Environmental regulations for the shipping industry are likely to become stricter.

	Period	Details
International Convention for the Control and Management of Ships' Ballast Water and Sediments	2015 (expected)	The fitting of ballast water management system will become mandatory.
Hong Kong Convention (Ship Recycling Convention)	The ratification period is undecided.	This is a convention on safe, environmentally appropriate vessel scrapping, which the IMO* has adopted.
MARPOL Annex, VI Tier III NOx emissions regulations	2016	This requires an 80% reduction versus currently permitted levels in emission control areas.
MARPOL Annex, VI SOx emissions regulations	2015	Sulphur content of vessel fuel used in emission control areas must not exceed 0.1%.

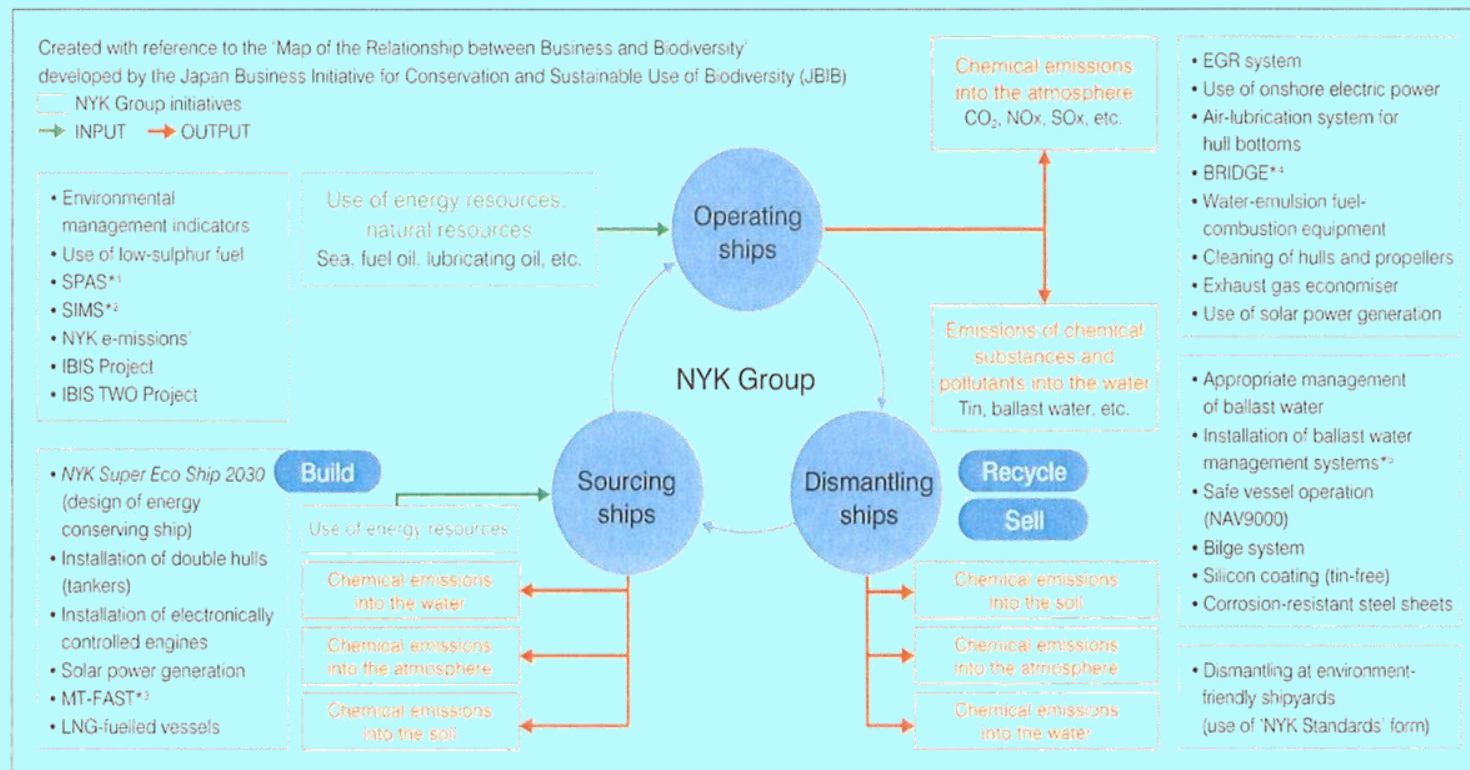
\* International Maritime Organization



# MANAGING RISK – LOSS CONTROL IN SHIPPING BUSINESS

## Preservation of Biodiversity

### Mapping the Relationship between the NYK Group and Biodiversity



\*1. SPAS: Ship Performance Analyzing System

\*2. SIMS: Ship Information Management System

\*3. MT-FAST

This is a multi-blade device that can be attached to a ship's hull just in front of its propeller to catch the lost energy from the swirl flow generated by propeller rotation, improving propulsion efficiency while also saving energy.

\*4. BRIDGE

Systems to provide ships with up-to-date weather and hydrographic forecasts

\*5. Ballast water management systems

These systems ensure that the marine life carried along with the ballast water does not upset other ecosystems. Ballast water is seawater carried by the vessels to maintain their balance. Normally, tanks at the bottom of vessels take on ballast water at unloading ports and release it at the loading port.



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## MANAGING RISK – LOSS CONTROL IN SHIPPING BUSINESS

Our Business Ethics is focused towards Corporate Social Responsibility

The Philosophy is Poised on :

### **3 I & 3 M**

**3 I**

- ✓ Innovation :Continually think of new ideas for improvement, even when conditions appear satisfactory.
- ✓ Integrity : Be respectful and considerate to your customers and colleagues.
- ✓ Intensity :Carry through with and accomplish your tasks. Never give up.

**3M**

On-going operations always give rise to the 3M.

- ✓ Muda: Non-value-adding activities
- ✓ Mura: Unevenness in production or work activities
- ✓ Muri: Excessive burdens

Overcome challenges. Remain Motivated



## MANAGING RISK – LOSS CONTROL IN SHIPPING BUSINESS

### KEEP THINGS SIMPLE

***"That's been one of my mantras—focus and simplicity. Simple can be harder than complex: You have to work hard to get your thinking clean to make it simple. But it's worth it in the end because once you get there, you can move mountains."—Steve Jobs***

***"Almost all quality improvement comes via simplification of design, manufacturing ... layout, processes, and procedures."—Tom Peters***

### ***Risk & Reality***

**Persistence of Wishful Thinking**

**"Wishful thinking can dominate much of the work of a profession for a decade, but not indefinitely."**

**--- Robert Shiller**



# OPTIMISTIC !



Source: Wulffmorgenthaler

Overcome challenges. Remain Motivated

THANK YOU

