

Safety Lessons from Tanker Operations

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moams Outline

- “ The 70's and 80's decades of shame
- “ Industry progress a matter of pride
- “ Where is the industry now ?
- “ Where is the industry going?
- “ What are the choices?
 - . Cost versus Risk
 - . Resilience-people or process
- “ Lessons from tanker quality

- 1970'S/80'S



“ Oil Shock

- . Recession
- . Overbuilding
- . Low rates

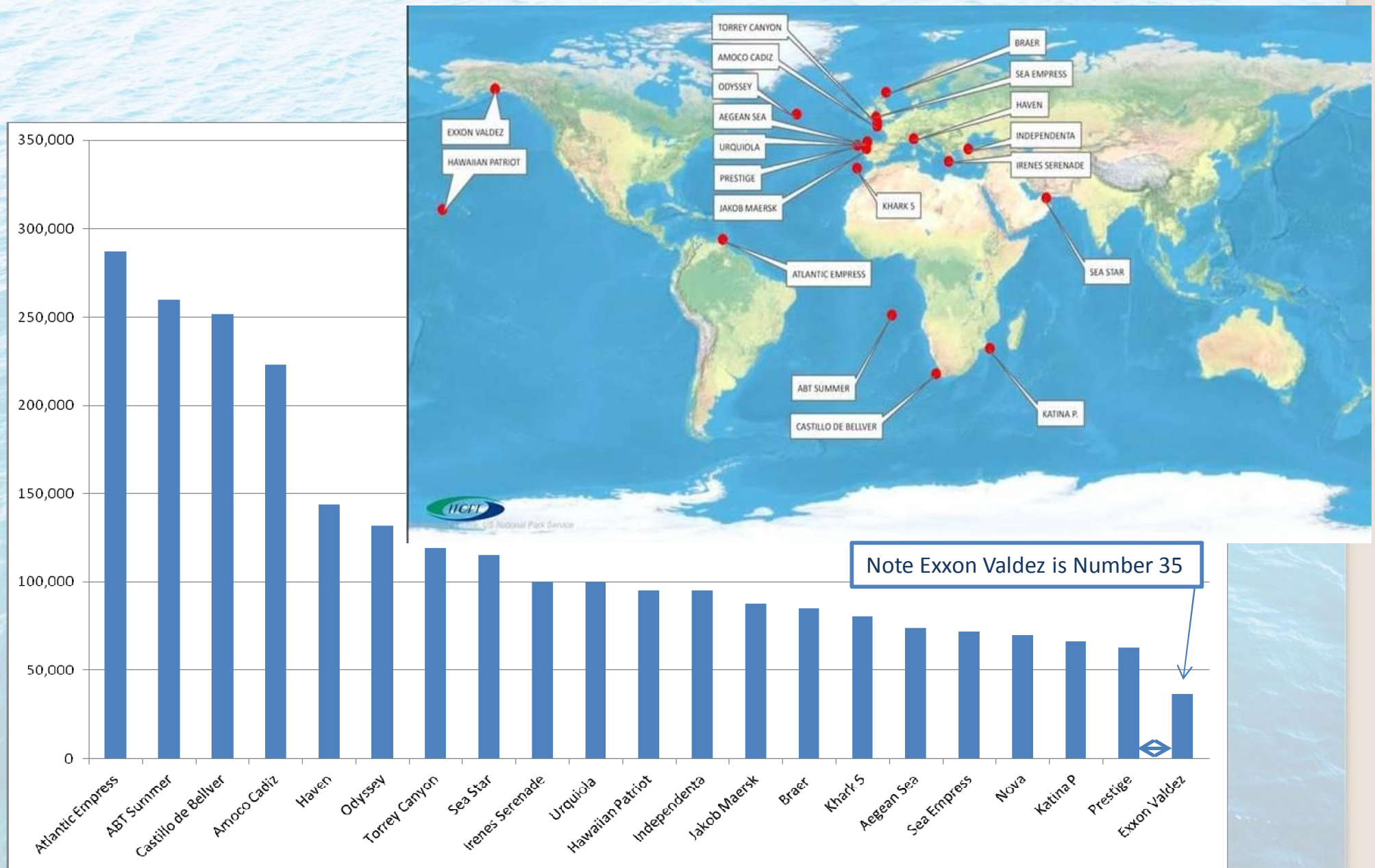
“ Industry Shift

- . Cost cutting
- . Change in structure
- . Block obsolescence

“ Compliance

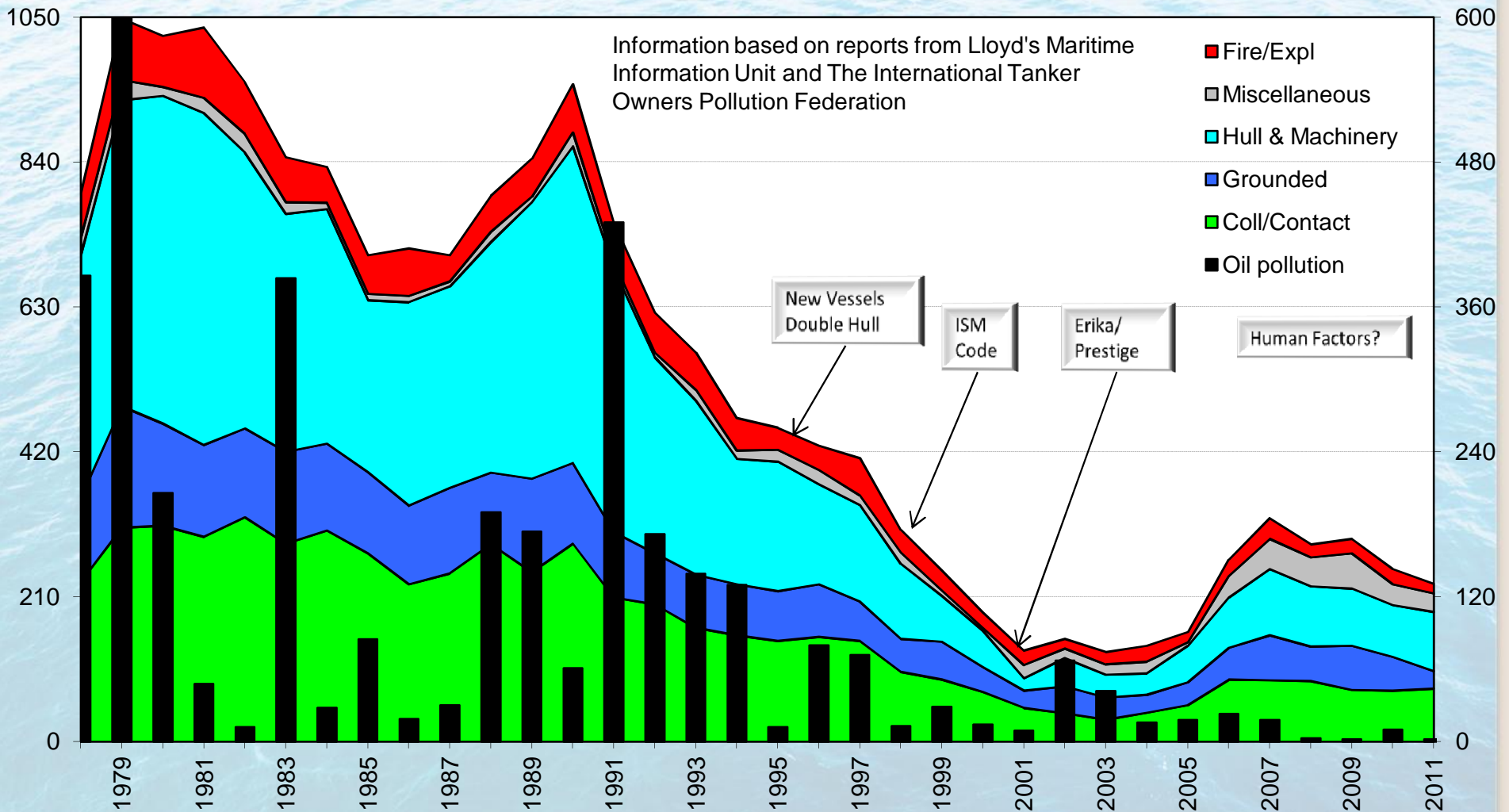
- . Flags of Convenience
- . Class Societies
- . Charterers

moams Largest Tanker Spills (ITOPF Data)



No. of incidents

1000 tons pollution



- “ Single Goal
 - . Oil Pollution
- “ Motivation
 - . Commercial incentive
- “ Global Standards
- “ Consensus
 - . Charterers, Legislators, Owners
- “ Strong compliance
 - . Vetting
 - . Port State

moams Why the recent increase?

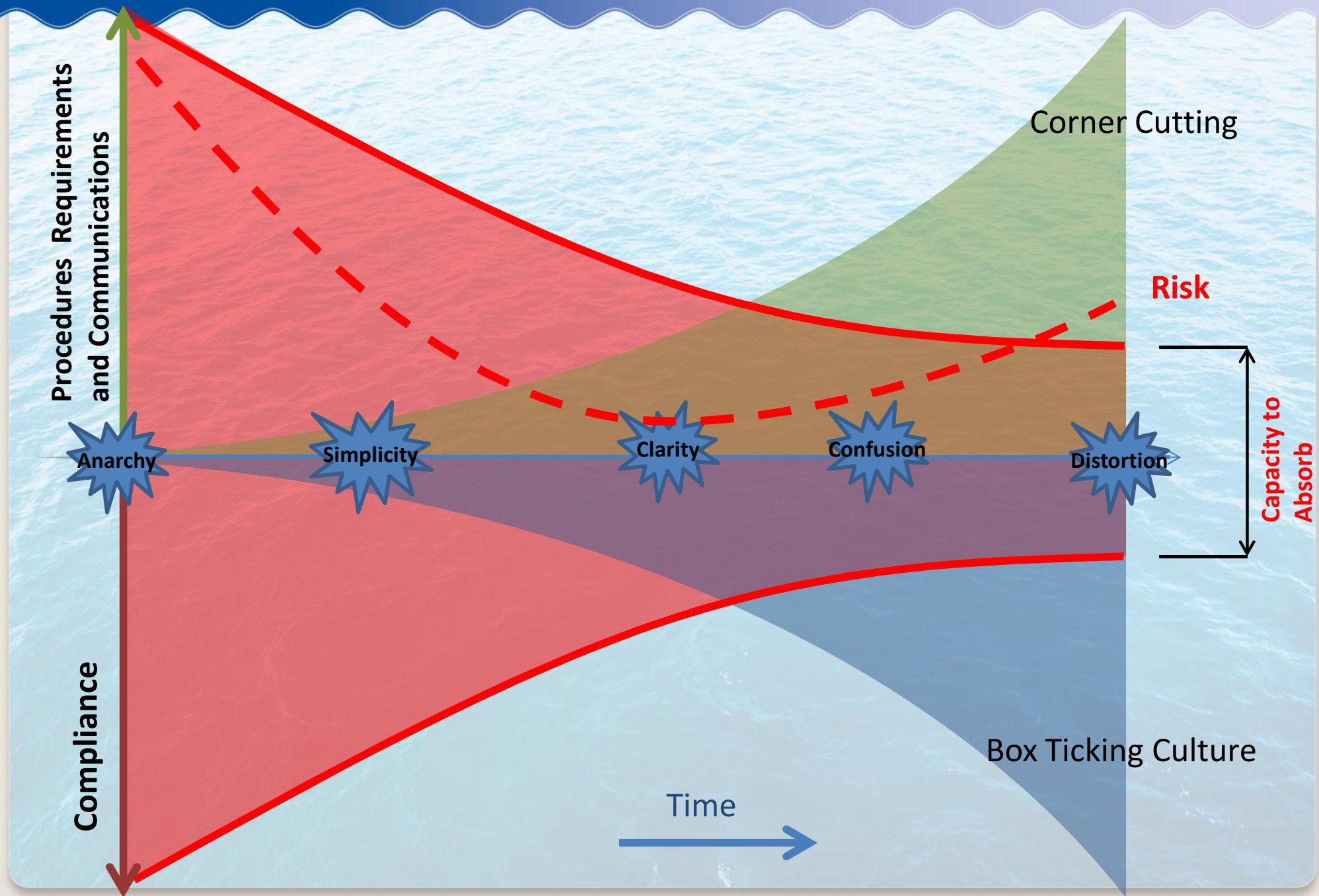
Macro

- “ Multiple (conflicting?) goals
 - . GHG/Air quality/Ballast Water
 - . Piracy
 - . 9/11 Security
- “ Motivation
 - . Freight rates
 - . Cost pressures
 - . Finance Costs
- “ More regional rules
- “ Consensus weakening (GHG)

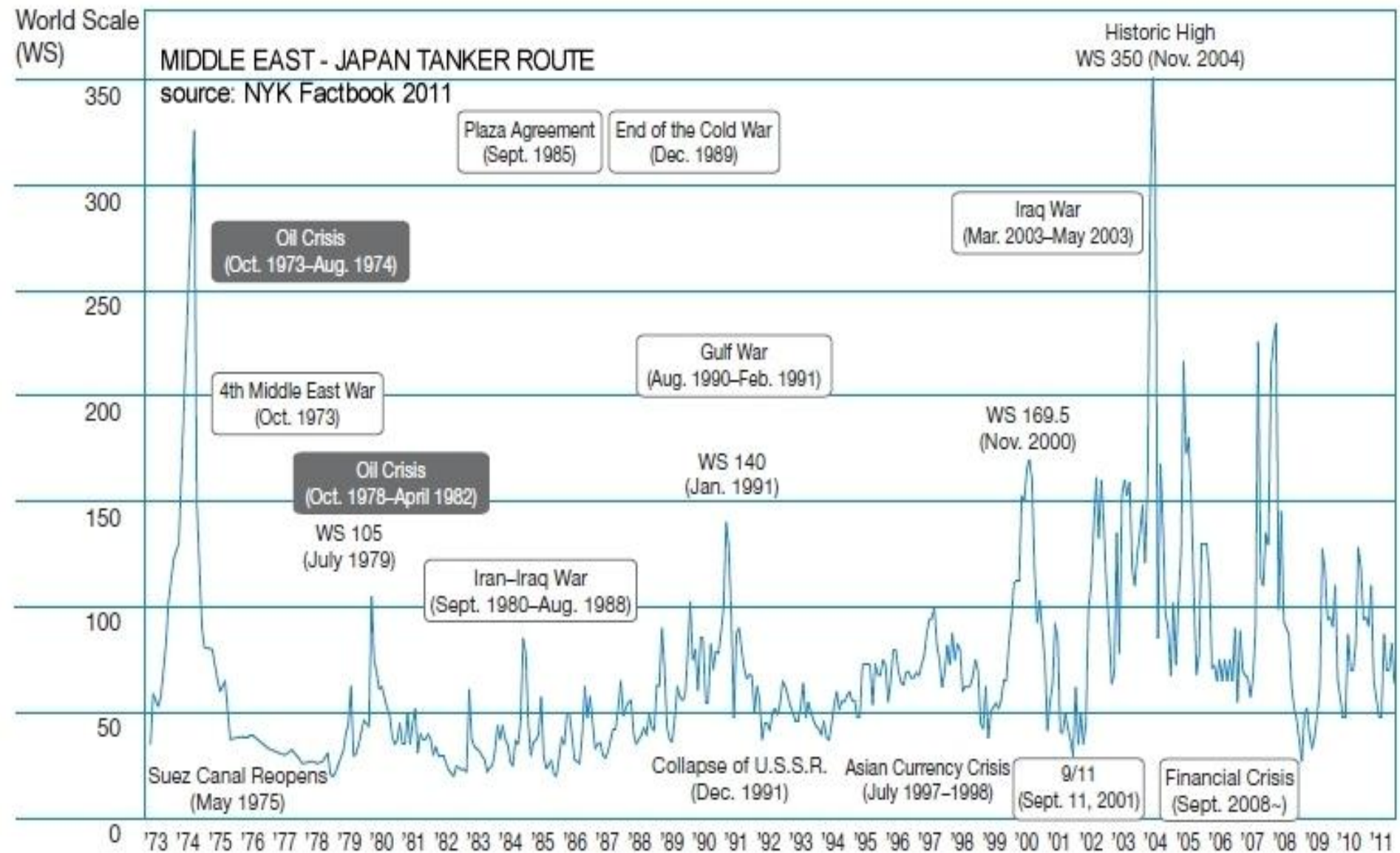
Micro

- “ More ships more accidents
- “ Better reporting due to TMSA
- “ New ships
 - . Teething problems
 - . Understanding of new technology)
- “ Experience gap from lost recruiting in the 80's and 90's
- “ Complexity

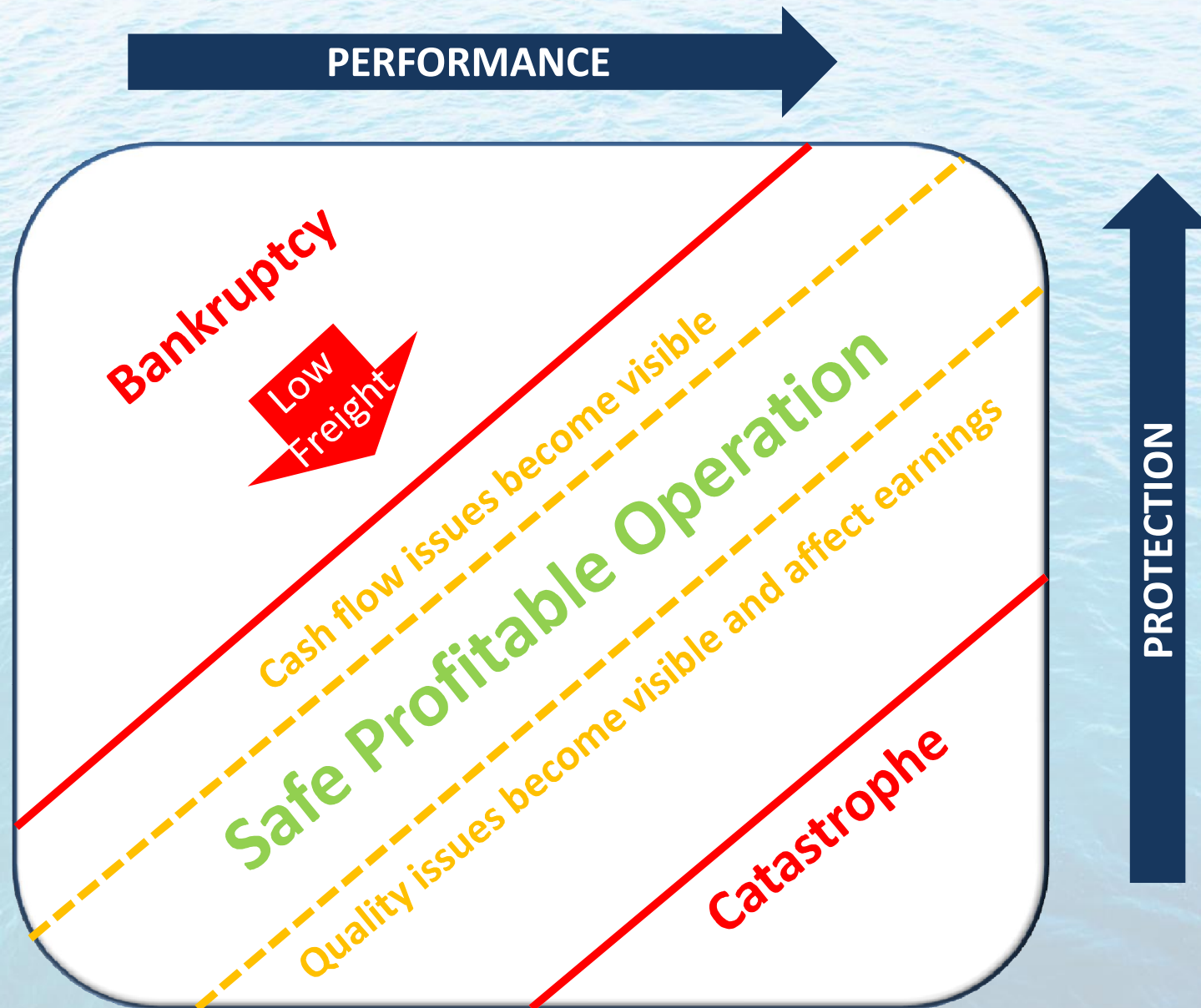
moams Issues 1Complexity



moams Issues2 –Markets and costs



moams Choices-Squeezing Operations



moams Choices



Source Scylla and Charybdis by ~EarthDefect on deviantART

To succeed owners will need to adapt and be resilient

moams Choices -- Resilience

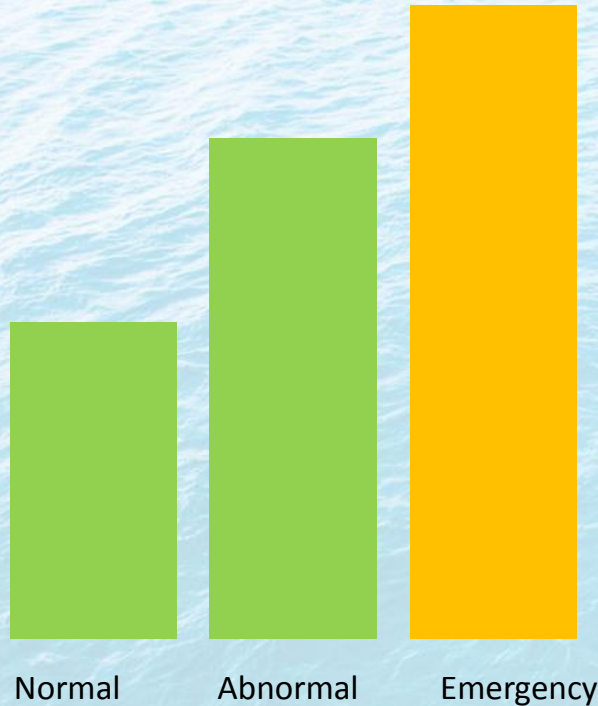
The ability of an organisation to **succeed** in changing circumstances --not just survive!

- “ Clarity and Agility
- “ Learns
- “ Anticipates
- “ Adapts
- “ Monitors

People who can think not just follow rules!

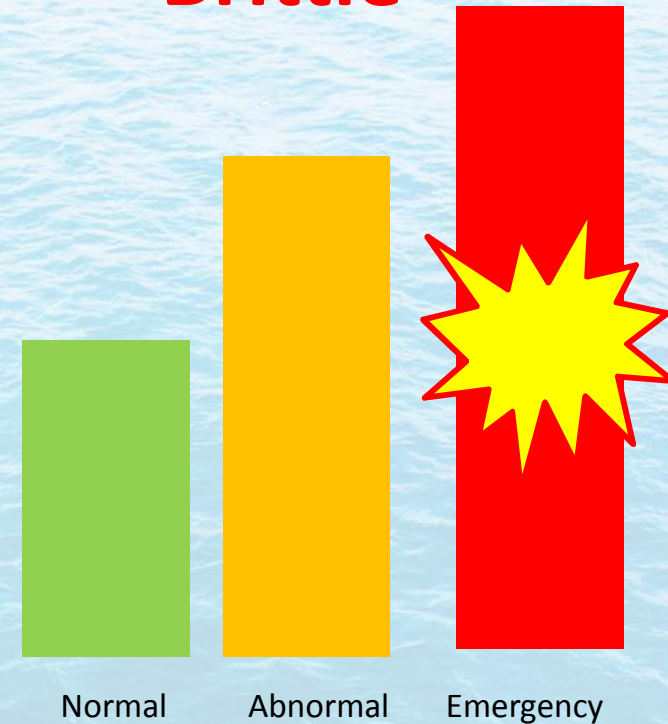
moams Coping with different Operating Modes

Resilient



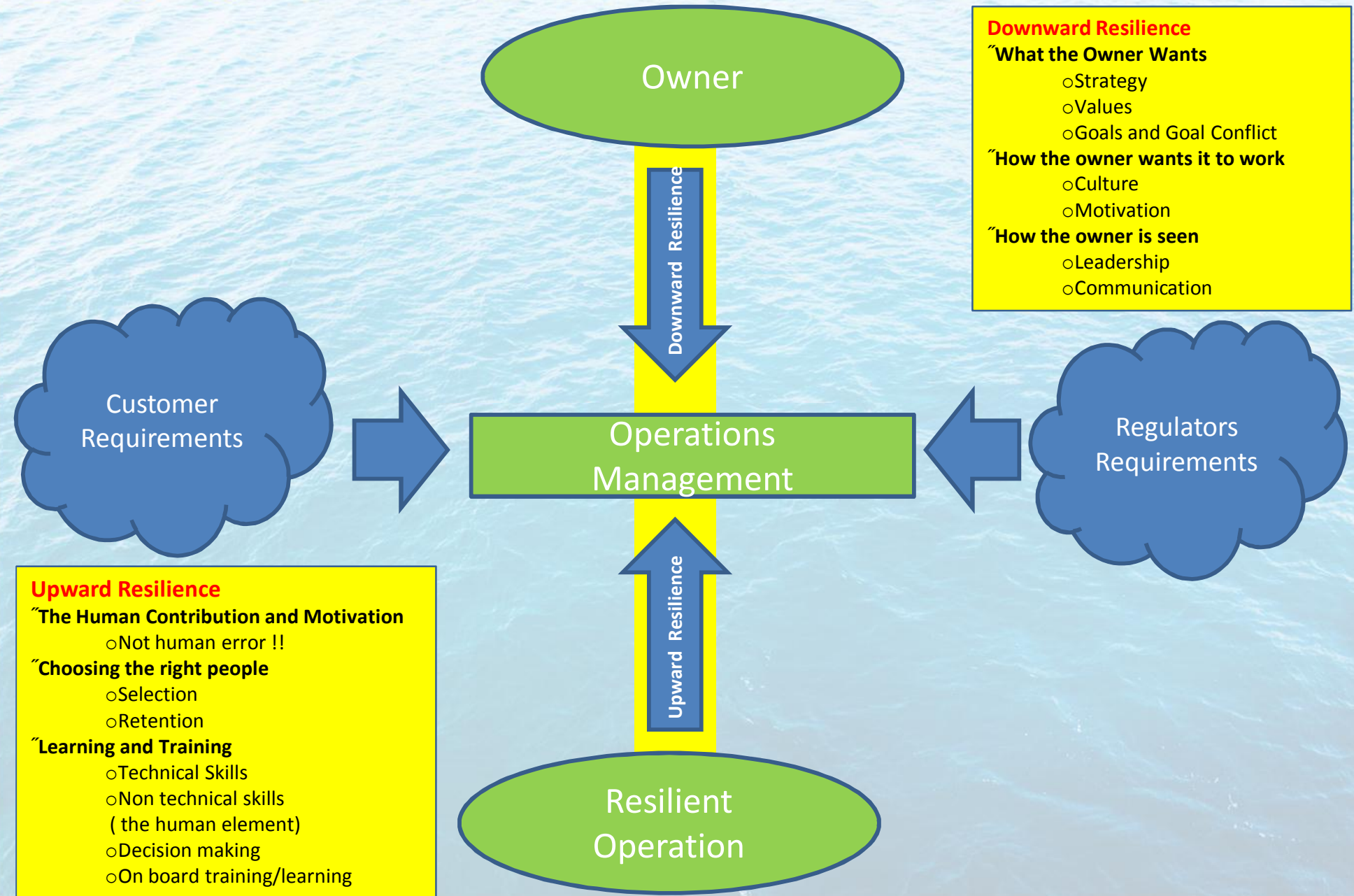
Resilient organisation will adapt from normal operation to abnormal operation and recover. In emergency resilient operation will be able to adapt further to avoid catastrophe

Brittle



Brittle organisation will need all its resources to maintain normal operation leaving limited capacity to deal with the abnormal. Rule based mentality will be unable to cope with novel emergencies and will fail.

moams Resilience –Its about People



- “ Global tanker trading
 - . Charterer Influence
 - . Vetting
- “ Regional, coastal and inland trades less controlled
- “ Offshore marine operations
 - . Regional
 - . Political issues
 - . Local Aspirations

moams Conclusion

- “ Tanker industry quality has radically improved quality since 1970's/1980's
- “ Much of improvement has been plant/process based
- “ Context is changing in tanker industry
 - . Complexity could undermine progress
 - . Low market
- “ Choices
 - . Cost versus risk
 - . Resilience depends on people
- “ Mechanisms are transferrable to other sectors but need to fit context of industry