



***Information axiology
A KPI for TMSA implementation***



Information Axiology : a KPI For MSA

tanker management and self assessment

A BEST-PRACTICE GUIDE FOR SHIP OPERATORS



Oil Companies International Marine Forum

ogy



Terminology and abbreviations

FSA, SSA, PSA, SSAS, e-NOAd, ROC
Hazard, Matrix table, organic security,
Accessibility, Assessment, Marcov

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Container Shipping security conference

Paul Valkeniers, P&O Ports Antwerp September 9,2003

Comprehensive security measures

Agreements to the International Convention
1974: 9 - 13 December 2002, London
ISPS Facility Security Code

Agreements of Contracting Governments



Measures to enhance maritime
conference

Risk@assessor

Methodology
Module
Software tool
Unified approach for
Safety, security,
environment
Operation

danaos

TANKERoperator TMSA and Continuous Improvement

TMSA 9A-STAGE 4

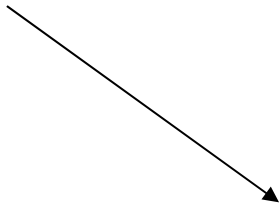
Shore based management collates on-board risk assessments to check that standards are Consistent.

Best Practice Guidance

The company identifies best practices for common Areas of risk assessments and ensures that these Are shared across the fleet.

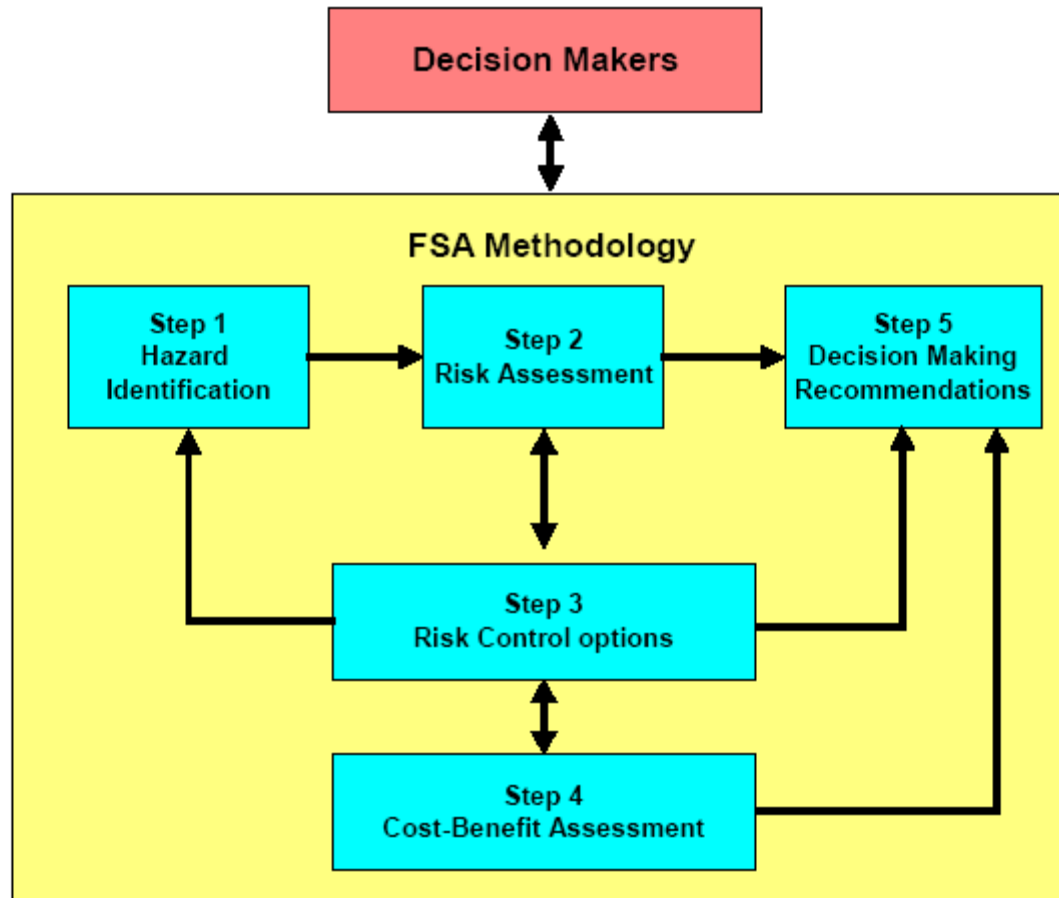
The company maintains a computerized of all ship generated and shore generated risk assessments.

TMSA-OCIMF



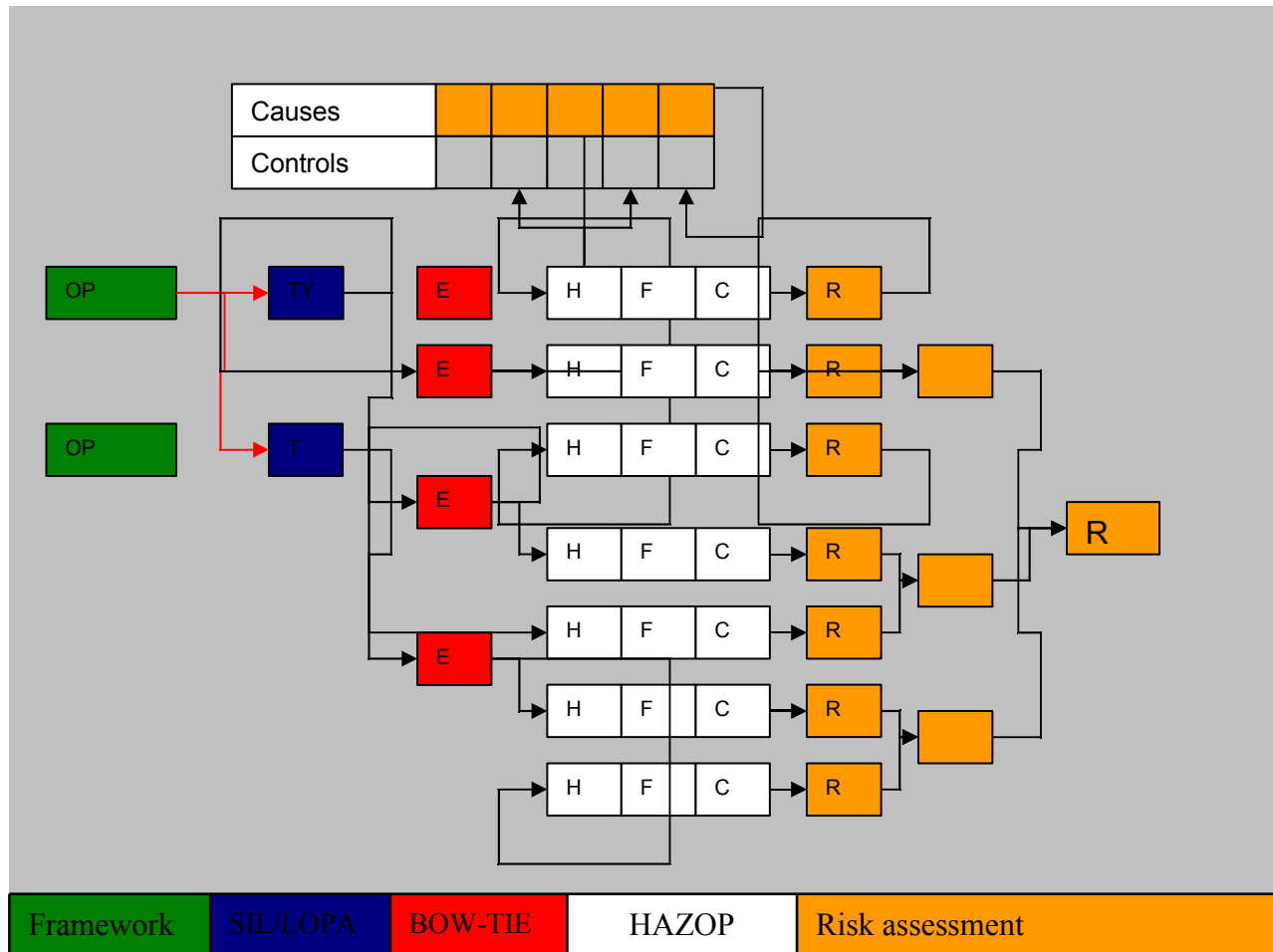
- ***Management System Dynamic Review***
- ***Computerized PMS***
- ***RISK ASSESSMENT - CONTROL MEASUREMENTS***
- ***Crew training***
- ***Management of Change***

FORMAL SAFETY ASSESMENT FSA



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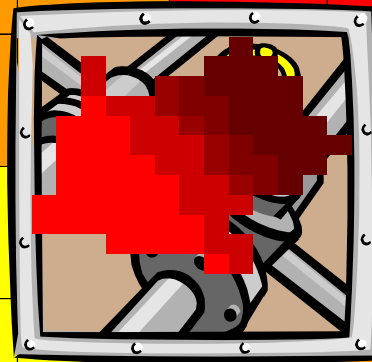
ASSESSMENT STAGE-1 (DATA BASE)



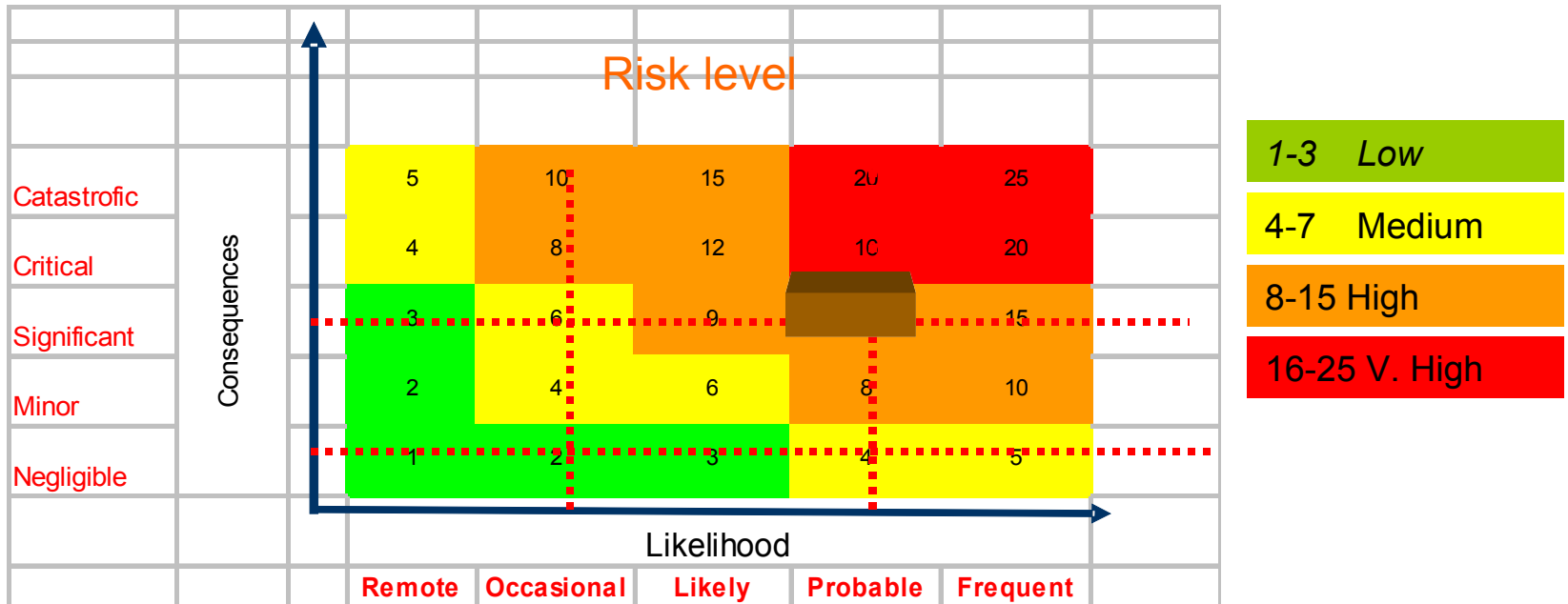
Module is published in the 17th Symposium of Operational research

RISK MATRIX:STAGE-1(KNOWLEDGE BASE)

Consequences						Increasing Likelihood (Frequency)					
		People	Property	Process	Environment	Reputation	Remote	Occasional	Likely	Probable	Frequent
							Might occur once in a lifetime	Might occur every 5 -10 yrs	Might occur every 1 - 5 yrs	Might occur yearly	Might occur more than once per year
							1	2	3	4	5
Catastrophic	5	Multiple Fatalities Loss Of Life	Extensive Damage	Loss Of Vessel	Extreme Environmental Impact	International Impact	5	10	15	20	25
Critical	4	PTD 1 to 3	Major	Major Operational Disruption Missed Voyages	Major Environmental Impact	National Impact	4	8			20
Significant	3	Major Health Effect / Injury	Localised Damage	Longer Operational Disruption or Financial Loss	Some Environmental Damage	Localise Impact	3	6			15
Minor	2	Minor Health Effect / Injury Requiring First Aid	Minor Damage	Minor Operational Disruption No Missed Voyages	No Environmental Impact	No Impact	2	4			10
Negligible	1	Slight Health Effect / Injury No First Aid Required	Slight Damage	No Missed Voyages	No Environmental Impact	No Impact	1	2	3	4	5



Risk Matrix table



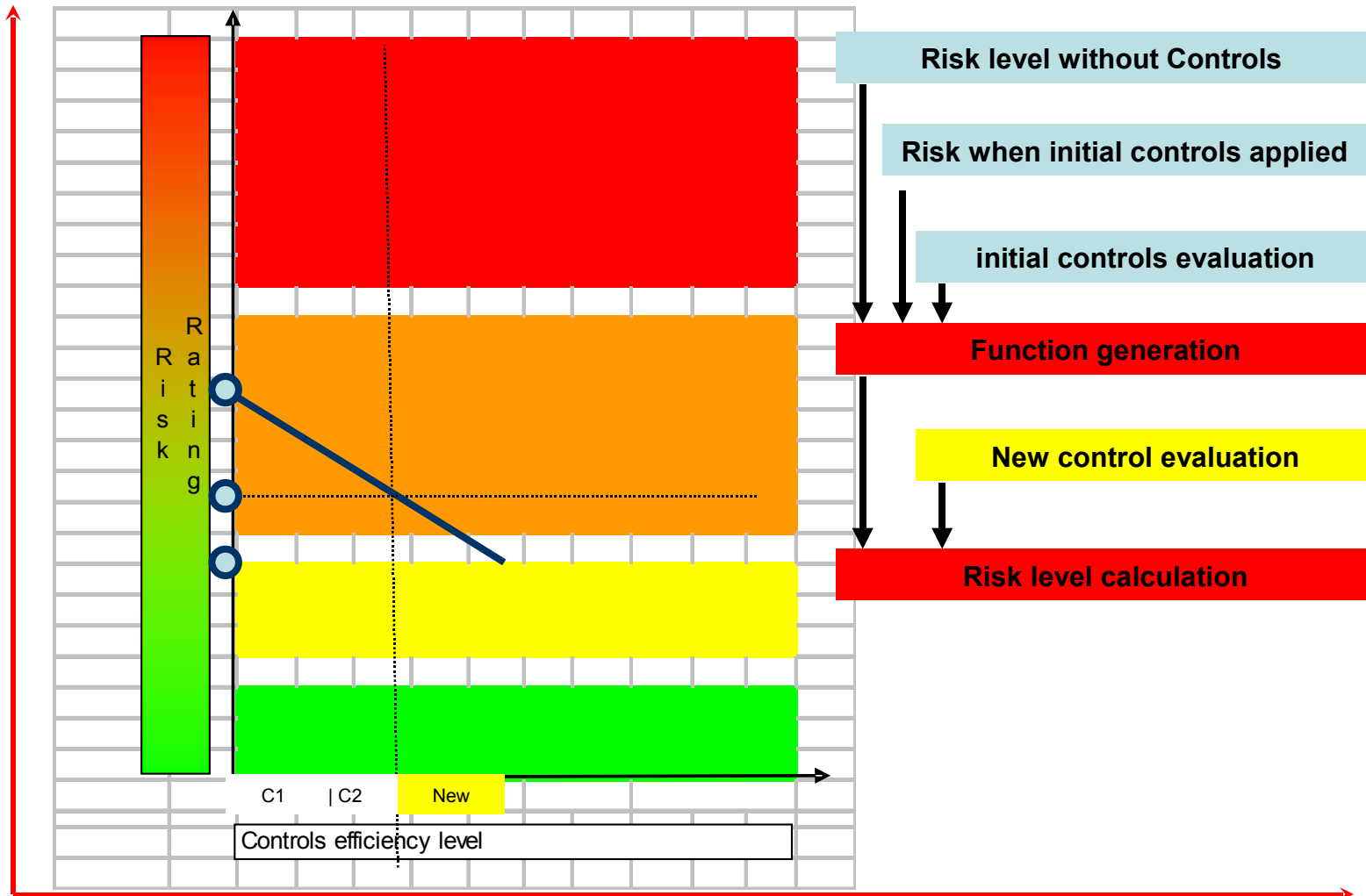
Controls measurements- STAGE 2

ASSESSMENT									
No	Type	Hazard	Without controls			Controls Applied			
			L	S	RR	L	S	RR	
1	JF	Slipery area	Remote	Significant	Medium	Impropable	Minor	Low	
2	UC	Broken pick-up rope	Likely	Significant	High	Posible	Negligible	Low	
3	UA	Accidental release of anchors	Likely	Minor	High	Likely	Negligible	Low	
					high			Low	

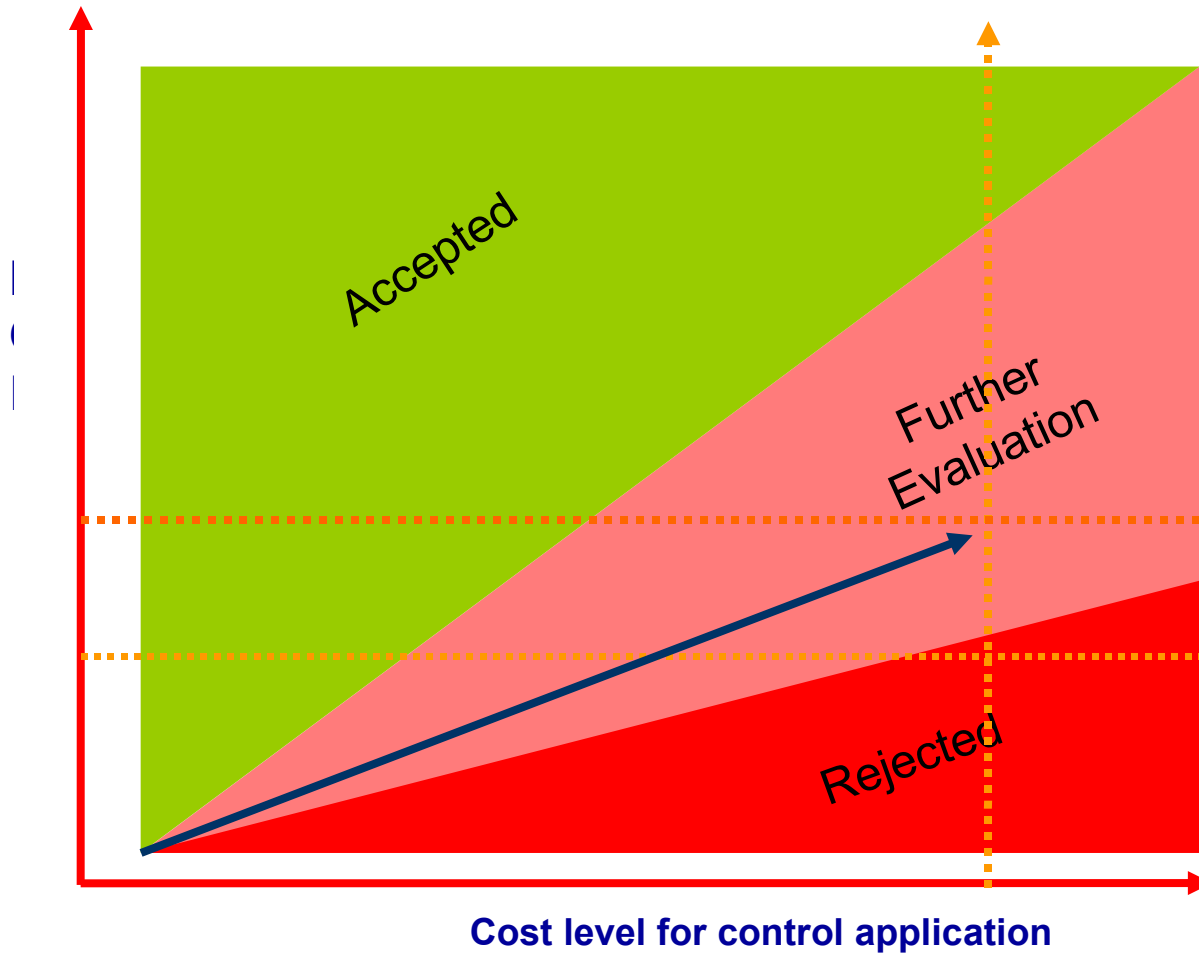
Controls											
Control			cost/benefit per control								
No	Category	Description	C	1	2	3	4	5	6	7	8
			b	b	b	b	b	b	b	b	b
1	JF	Use of PPE	1	3							
2	JF	Personnel training	2	2		1					
3	UC	Proper maintainenance	2	2	1						
4	UA	Use engine to bring vessel close to SBM									
5	UC	Good communication w ith rhe bridge	1	3		3					



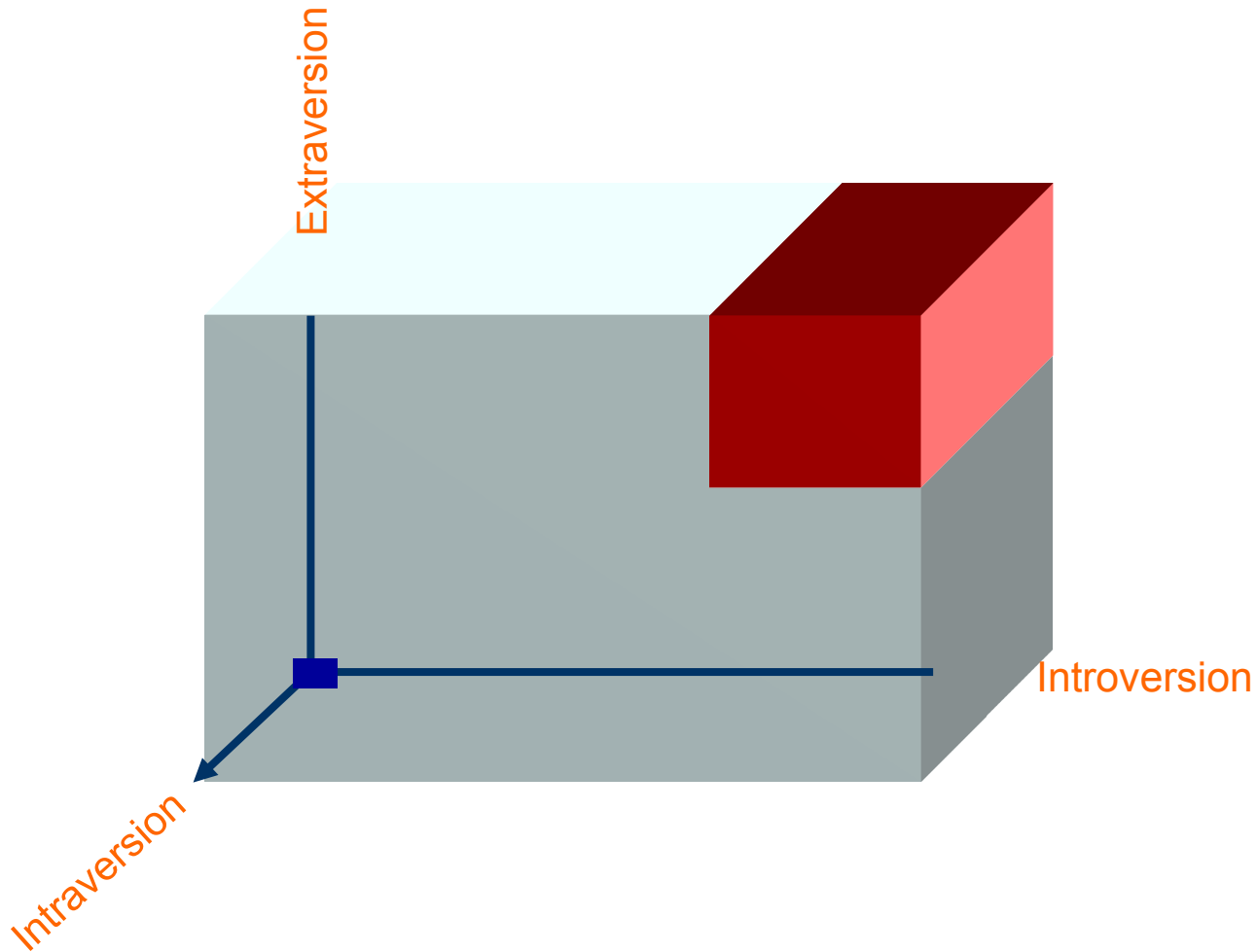
Decision support for risk assessment: STAGE-3



CBA : Cost Benefit Analysis: STAGE-3



Three dimensional position grid: Stage-4



KPI Function and properties definition

- Code, Functionality
- Daemon, Ad-hoc

y: TMSA/ 9.a/ on board RA
Daemon

Function arguments

- Data dictionary
- User defined
- constants
- existing KPIs

x₁: Risk_Level, x₂: updated-on, x₃: operation

c₁: Time interval c₂=“mooring”

c₂: System date, vn: Nr of vessels

f₁: Total number of reviewed operations

KPI logic

- domain
- conditions
- Return value

x₁ =“substantial”, x₃=c₃

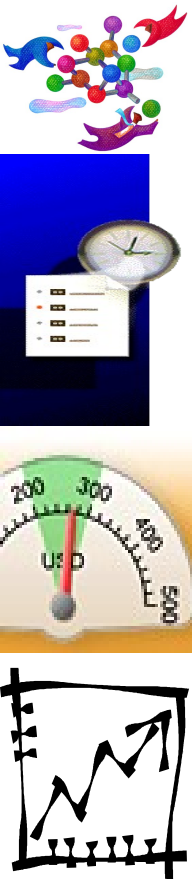
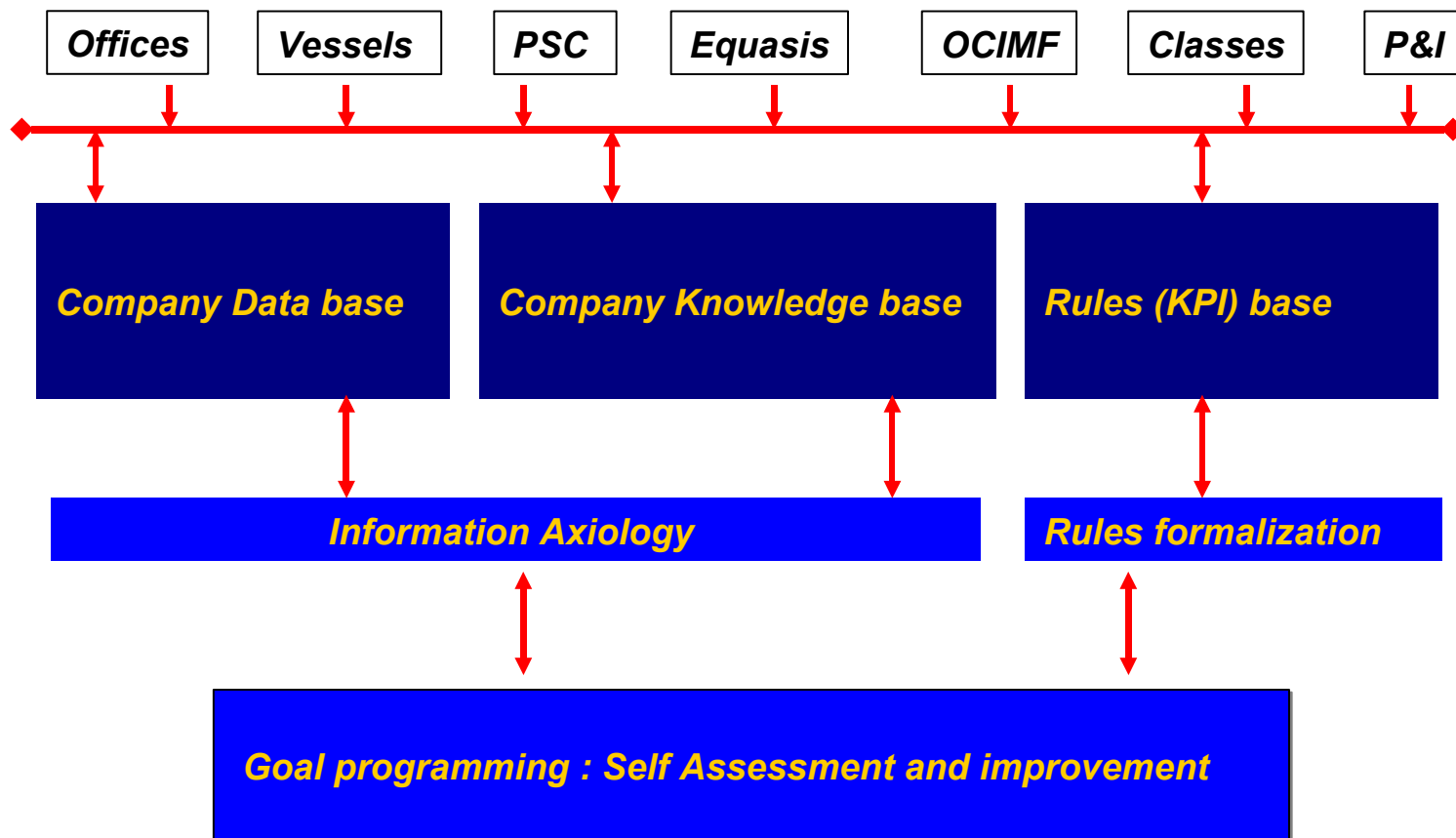
vn*f₁(c₂,c₁)>count(c₂>x₂>c₂-c₁)

Y=Number of events

When y>3

• Alert

MSA implementation



AXIOLOGY OF GNOSIS = AUTOPEISIS

**To be better and better among the others
you need to**

know who you are now (gnosis)

Know who they are (anagnosis)

know what is the better (epignosis)

danaos