

# Using Standards to Cost- Effectively Manage Risk

Georgia Logistics Summit  
Atlanta, Georgia  
May 2011

Steve O'Malley - ISO Ship & Supply Chain  
Security Standards Coordinator

# Motivators\*

- Fear
- Guilt
- Government regulation
  - Or, no choice but to do it!
- Greed – or return on investment

\*RADM Norm Saunders

# Motivators\*

- Fear
- Guilt
- Government regulation
  - Or, no choice but to do it!
- Greed – or return on investment

**IT'S ABOUT THE MONEY!**

\*RADM Norm Saunders

# In overall risk management you cannot separate safety and security

Hindi

- सुरक्षा Safety
- सुरक्षा Security

Chinese

- 安全 Safety
- 安全 Security

Japanese

- 安全な Safe
- 安全な Secure

English

1. Freedom from risk or danger; safety.

# Nor can you separate out Resiliency

**Resilience:** the adaptive capacity of an organization in a complex and changing environment [ISO Guide 73:2009]

- NOTE 1 Resilience is the ability of an organization to prevent or resist being affected by an event or the ability to return to an acceptable level of performance in an acceptable period of time after being affected by an event.
- NOTE 2 Resilience is the capability of a system to maintain its functions and structure in the face of internal and external change and to degrade gracefully when it must.

**DHS** defines resiliency as the ability to resist, absorb, recover from, or successfully adapt to adversity or changing conditions

**BSI** discusses Business Continuity, and describes processes to help businesses develop resilience and recovery strategies during challenging and exceptional circumstances

# High probability of supply chain disruption from low probability threats



Ladder54.com

**There's a 100 percent chance of an earthquake today.** Though millions of persons may never experience an earthquake, they are very common occurrences on this planet. So today -- somewhere -- an earthquake will occur.

U.S. Department of the Interior | U.S. Geological Survey

*Worldwide, each year there are about 18 earthquakes magnitude (M) 7.0 or larger.*

# Government Resiliency may differ from Corporate Resiliency

End goals:

- National Survival/Recovery- may include triaging - prioritization
- Corporate profitability and survival

# The making of a resilient supply chain

- Redundancy (limited)
- Flexibility
- **Corporate Culture**

\*Yossi Sheffi, MIT



# Corporate Culture

- Continuous communications among informed workers\*– (supply chain visibility, you cannot manage what you cannot see or measure)
- Distributed power to act\*-- (authority and willingness)
- Passion for work\*– (sees the Mega)
- Conditioned for disruption\*

\*Yossi Sheffi, MIT

# How do international industry standards help?

- Supply Chains are international, so you need internationally accepted/understood tools
- They help establish a common understanding of expected performance
- Allow for easier substitution
- To a certain degree, conformity determination can be made by qualified 3<sup>rd</sup> parties and those costs may not be directly passed on to you

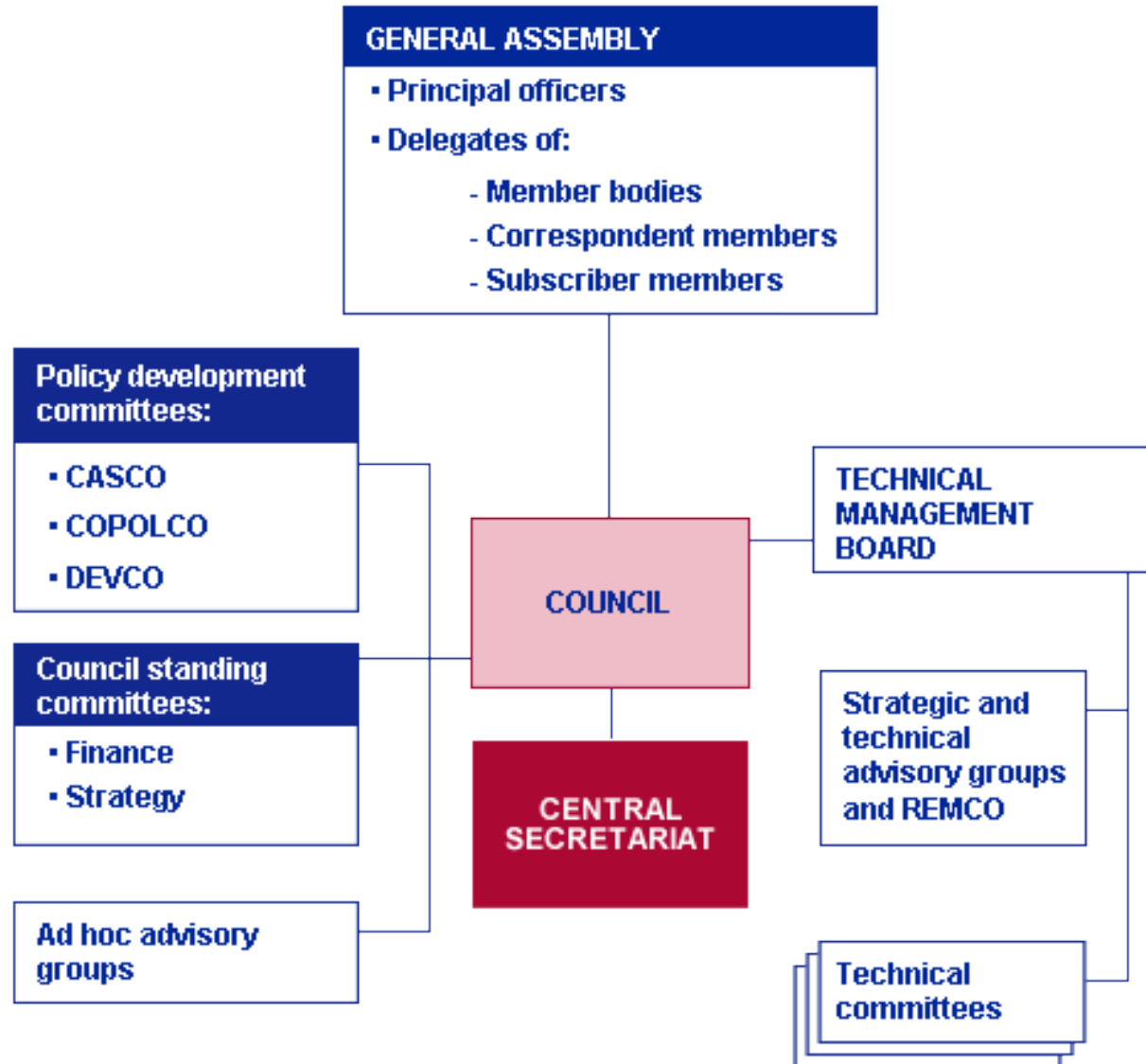
# A quick overview of standards

- Types of standards-
  - Management Standards
  - Technical Standards
- Types of requirements
  - Prescriptive
  - Performance based
- Conformity
  - 1<sup>st</sup> party
  - 2<sup>nd</sup> party
  - 3<sup>rd</sup> party

# Where do standards come from?

- International Standards- primarily the International Standardization Organization (ISO), International Electrotechnical Commission (IEC), and International Telecommunications Union (ITU)
- National Standards- governing body in U.S. is ANSI
- Foreign Standards- examples are BSI and CEN
- Industry specific organizations- examples are TAPA, IATA, ASIS, and others

# ANSI represents the U.S. at the ISO



# Two type of standards:

## 1. Prescriptive standards result in the measuring of things

- Height of fences
- Levels of illumination
- Size of openings
- Etc

Writer of the standard has predetermined what is adequate.

# Two type of standards:

## 2. Performance standards require processes be developed

Within limits, the organization adopting the standard determines what is needed to meet set performance requirements based on an assessment

Better standards include the requirement to establish feed-back loops and for the user to continually assess progress and make adjustments as needed

# Factors in selecting a standard

In regard to security and resilience

- What are your organization's goals?
- What are your customers' expectations of your performance?
- What are your business partners' expectations of your performance?
- What is expected of your organization by the courts and regulators?



# Factors in selection of a standard

- Does the user see added value in adopting that standard
- Is it compatible with the user's industry partners
- If certification is desired, are there adequate accredited auditors available at normal rates
- Will the standard be recognized as adding value by the customers

Note: Not all users of standards seek certification

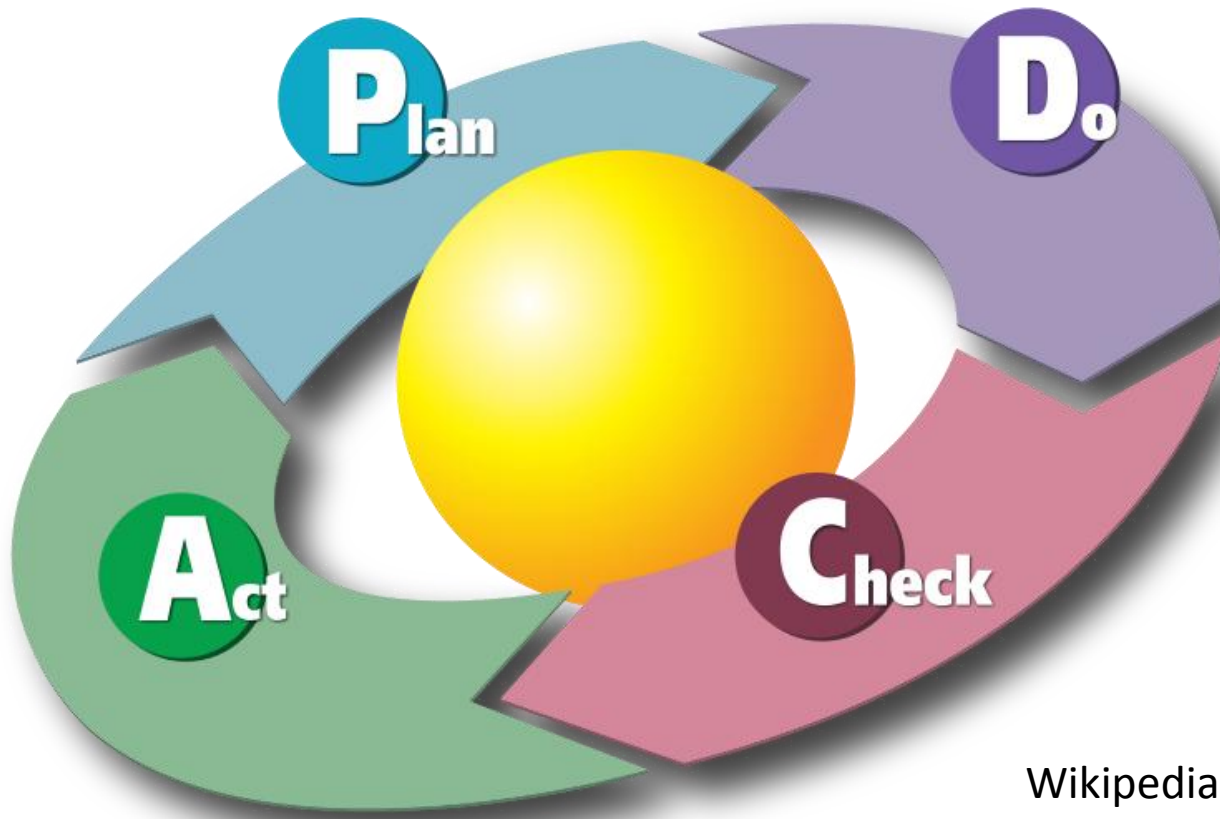
# Management Standards – Truth in advertizing

- The organization has the processes and equipment to deliver what they state in their corporate policy statements (corporate objectives)
- Better known ISO Management Standards include: ISO 9001 (Quality Management ), ISO 14001 (Environmental management), and ISO 28000 (Security Management System for the Supply Chain)

# ISO 28000

- Supply Chain Management Standard
  - Resiliency
  - Supply chain security (used in support of C-TPAT, Authorized Economic Programs, TAPA and others)
- The only certifiable standard (using accredited auditors)

# Management is a process not a stationary target



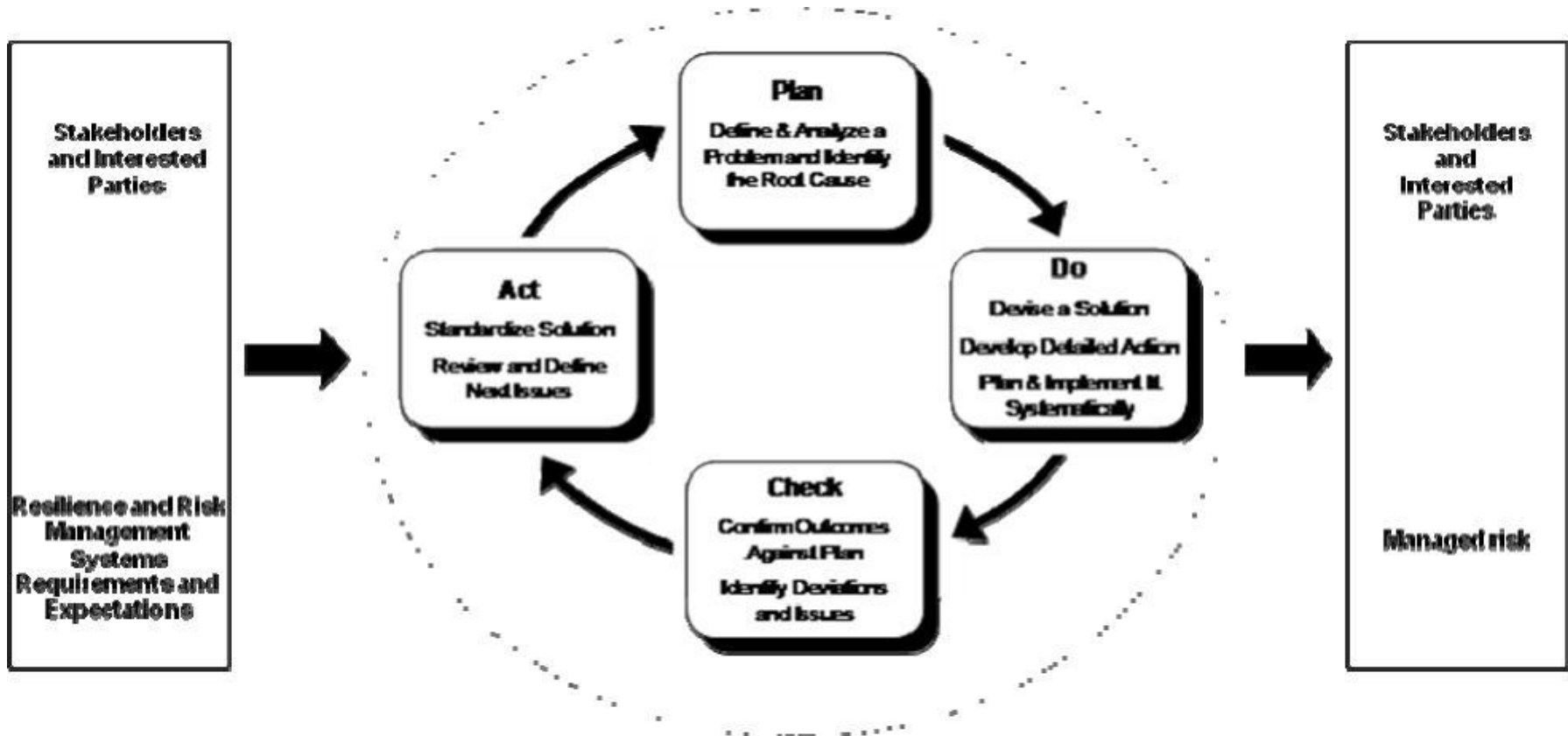
# **Corporate policy or objectives can include commitments to meet requirements contained in technical specifications, guides or regulations**

- ISO 28001 Security management systems for the supply chain -- Best practices for implementing supply chain security, assessments and plans -- Requirements and guidance
- ISO 28002 Security management systems for the supply chain - Development of resilience in the supply chain - Requirements with guidance for use
- ISO 28005 security management systems for the supply chain - Electronic port clearance (EPC) – Data Dictionary
- ISO 20585 Ships and marine technology -- Maritime port facility security assessments and security plan development
- ISO 31000:2009, Risk management – Principles and guidelines, and ISO Guide 73:2009, Risk management vocabulary

# This allows for a modular approach

- Adopt a management system
- Development/identify management objectives that will add value
- Determine if 3<sup>rd</sup> party certification is an objective in the short or long term, or not at all

# Management For Resiliency



# Resiliency

- Prevent, detect/mitigate, and recover
- Supply chains are generally more complex than their operators realize
- There are aspects of your supply chain that are outside your span of control
- Resiliency requires taking a more holistic approach (discreet evaluations of site specific risks using likelihood and consequence can lead to misleading conclusions)



# Risks, transnational, foreign, domestic

- Political intervention or instability
- Criminal (theft, smuggling, tampering)-  
(terrorism, turf battles, intimidation)
- Labor disruptions
- Business disruptions (suppliers, service providers,  
financial, business partners)
- Infrastructure failure (gas/electric/water,  
communication/Internet, transportation)
- Natural (earthquakes, storms, tsunamis, etc)
- Accidents, fires, disease
- Faulty designs/production/handling

# Measures

Housed within an effective management system  
and based on threat assessments:

- Harden the supply chain to the extent feasible, considering; threats, economics, sphere of influence or control, cost benefits
- Improve system transparency/visibility (track, detect, react)
- Develop some limited redundancy & lots of alternative/contingency plans

# Determining Conformity

- ISO 28003- Requirements for bodies providing audit and certification of supply chain security management systems
- ISO 28004- Security management systems for the supply chain - Requirements for bodies providing audit and certification of supply chain security management systems

# Additional guidance

- ISO 28004 now has two specialized addendums (third is in route):
  - Additional guidance for small and medium sized ports adopting ISO 28000 (approved)
  - *Additional guidance for small and mediums sized enterprises adopting ISO 28000 (being balloted)*
  - Additional guidance for organizations that which to include the requirements of ISO 28001 (security requirements for Authorized Economic Operators) as an organizational objective (approved)

# Auditing

- A first party audit is the self determination of conformance by the organization itself
- A second party audit is the determination or verification of an organization's conformance to agreed criteria by another organization, agency or body which has a vested interest in the organization's operations in the supply chain
- A third party audit is a determination or verification of conformance to agreed criteria by an organization independent of all parties
- Validation and certification by government or government agency

# Accredited 3<sup>rd</sup> Party

- If demonstration of compliance is sought through the third party audit process then the organization seeking certification should consider selecting a third party certification body accredited by a competent accreditation body, such as those which are members of the International Accreditation Forum Inc. (IAF) and subject to the IAF Multilateral Recognition Arrangement (MLA)

## The Role & Objectives of IAF

The primary objective of the IAF is to develop a single, worldwide program of conformity assessment, which reduces risk for business and end users by ensuring that accredited certificates and certifications may be relied upon.



(In the United States)

**ANAB is a signatory of the International Accreditation Forum (IAF)** multilateral recognition arrangements for quality management systems and environmental management systems.

ANAB accredits ISO/IEC 17021 certification bodies for numerous standards including:

- ISO 9001 quality management systems
- ISO/IEC 27001 information security management systems
- ISO 22000 food safety management systems
- **ISO 28000 supply chain security management systems**
- ISO/IEC 20000-1 information technology service management systems
- ASIS SPC.1, BS 25999-2, and NFPA 16000 Private Sector Preparedness Voluntary



Certification

Accredited certification bodies

# Is the certification body operating under its accreditation?

- Certification bodies that are accredited by an IAF member organization may also conduct audits and issue certifications of compliance with specialized industry programs or standards that they are not accredited to certify by their accreditation body. If they are operating under their accreditation body the seal/trademark of that body will appear on the certificate of compliance – 2 such examples





# Making standards work for you if you are the customer or the government

- Know what management objectives/policies that should be included
- Select standards that are readily available and can be used by all the business partners
- Determine what certifications/declarations of conformity that will be acceptable
- [If you are the government] Determine where standards can be used to meet government needs and where government needs to go it alone.

# How 28000 is being used



# Using ISO 28000 to manage Customs Requirements

ISO 28000 can be used to certify the AEO security requirements specified by the WCO. Although the validation of compliance remains the responsibility of the National Customs Departments, LRQA can certify ISO 28000 with the following SCOPE; **THE SCOPE of certification would read; XYZ (Activity, Location, limitations, etc) ... consistent with the requirements of ABC Customs Department AEO program (Or title of program. e.g. STP)**

With this approach, certification for ISO 28000, with the above scope, establishes the internationally consistent element that all countries are looking for to progress on Mutual Recognition

# Some ISO 28000 Users

- **YCH Group** the first end-to-end Supply Chain Management provider received the ISO 28000: 2007 Certification.
- **DP World was first to certify a marine terminal** and will complete ISO 28000 certifications throughout its network of 48 terminals in 31 countries worldwide by 2012. DP World is the only global marine terminal operator to have achieved simultaneous ISO 28000 certification and C-TPAT membership. Its European terminals were certified as Approved Economic Operator (AEO) by the European Union.

- **TNT Express'** Asia regional head office in Singapore is the first express integrator to achieve certification to ISO 28000.
- **YCH India** is also certified TAPA 'A-class' and ISO 28000-compliant for its security systems.
- **DB Schenker**, the world's second-largest forwarder, obtained ISO 28000 certification for its regional head office for the Asia-Pacific sector in Singapore last year, along with its local office and operations
- **Asian Terminals** (first marine terminal in Philippines),
- **CTS Logistics-China** (kitting assembly of turnkey management of consumer electronic, IT and telecommunication)
- **Banner Plasticard - Philippines** (design and printing of cards, personalization, embossing, encoding, thermal printing, wrapping crating and palletizing).

# Few last words about ISO 28002- Resiliency

- Resiliency is becoming an expected corporate policy (drivers are customer demands, codes of corporate governance, obtaining finance, and others)
- Countries tend to be more accepting of standards if they had an opportunity to participate in the development and approval of the standards

# This concludes my prepared remarks

- If there is time remaining let us discuss your questions and comments.
- If we are out of time, I will be staying for the entire summit and look forward to discussing the issue with you on the breaks.

Contact information

Steven O'Malley

[aninso.llc@gmail.com](mailto:aninso.llc@gmail.com)

Tel: 425 442 7521

Thank You!



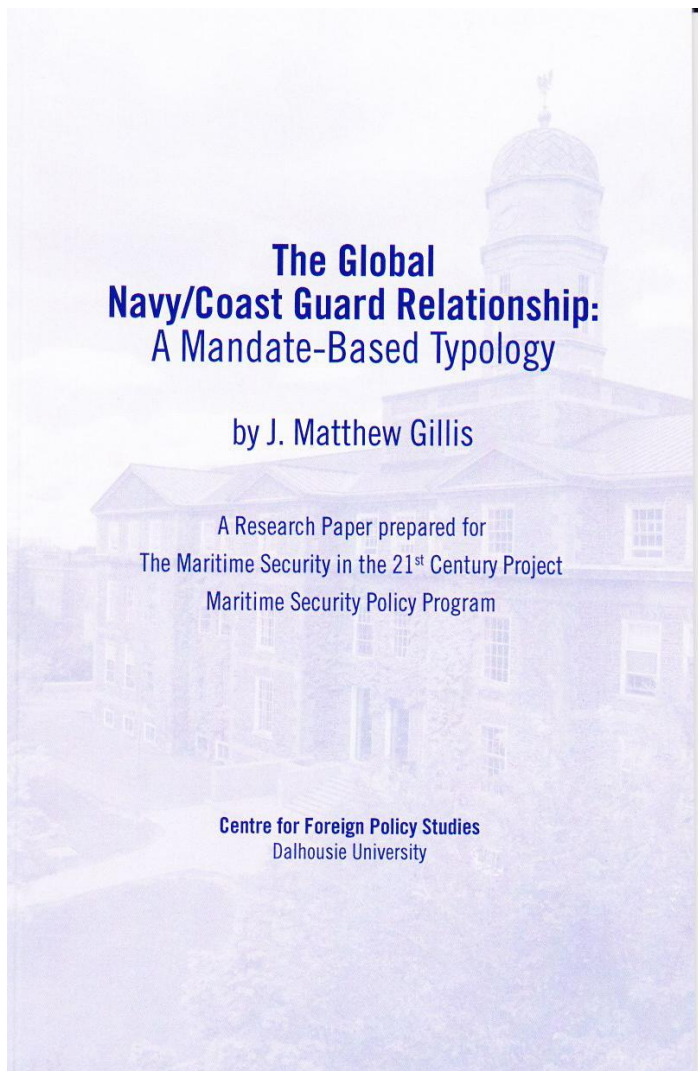
# Institutional Misalignment: A risk issue in Canada-U.S. Maritime Security?

Rutger's Maritime Risk Symposium  
International Perspectives Panel  
7 November 2011

[ken.hansen@dal.ca](mailto:ken.hansen@dal.ca), 902-494-6444

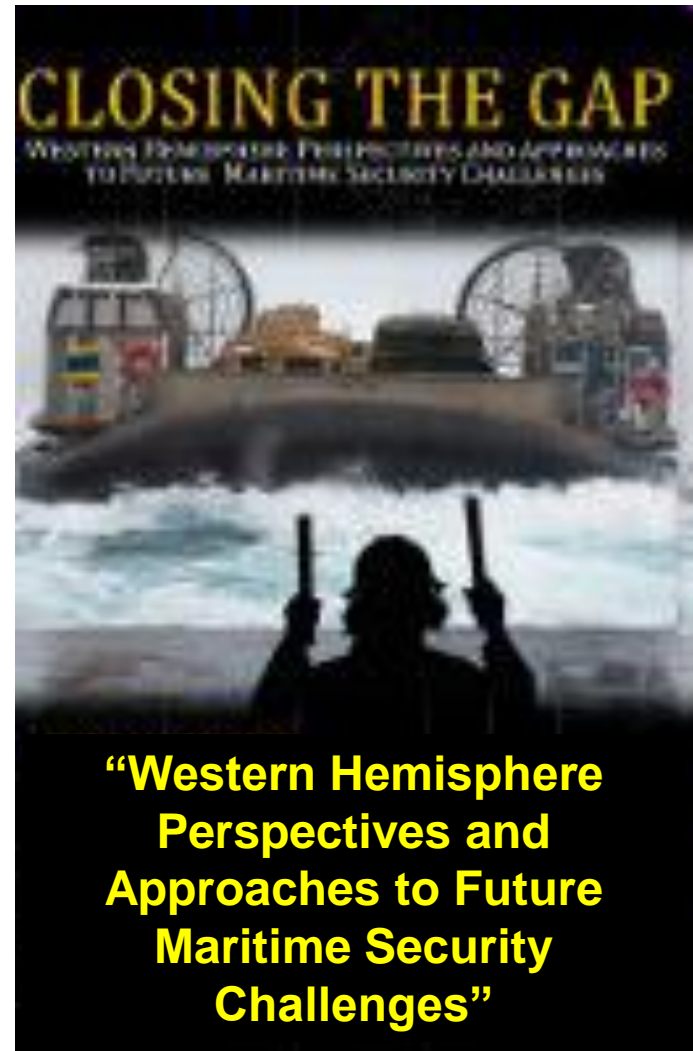


## CFPS Research Project



**Published: 22 June 2010**

## CFPS Research Workshop

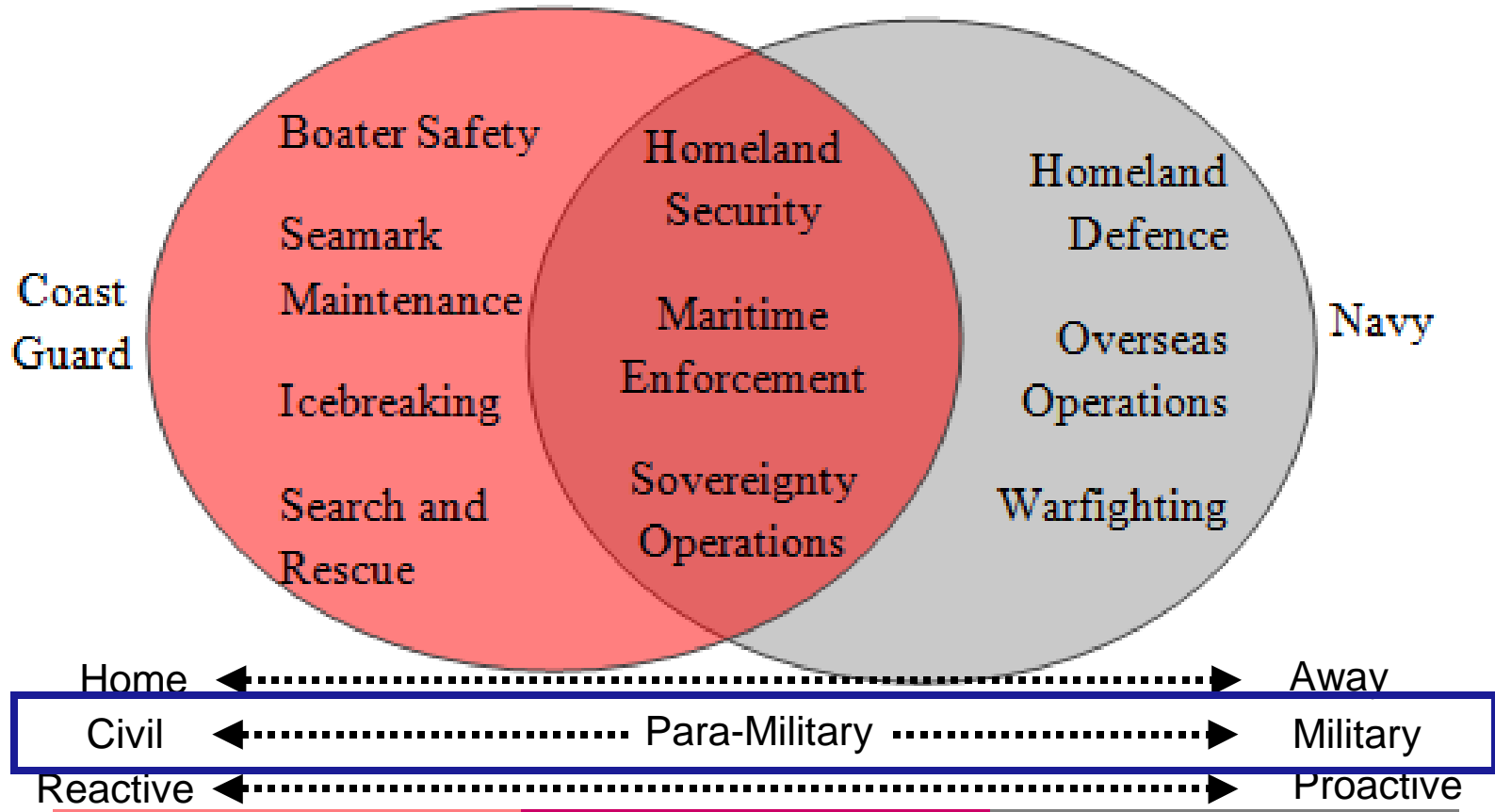


**Conducted: 27-29 October 2011**

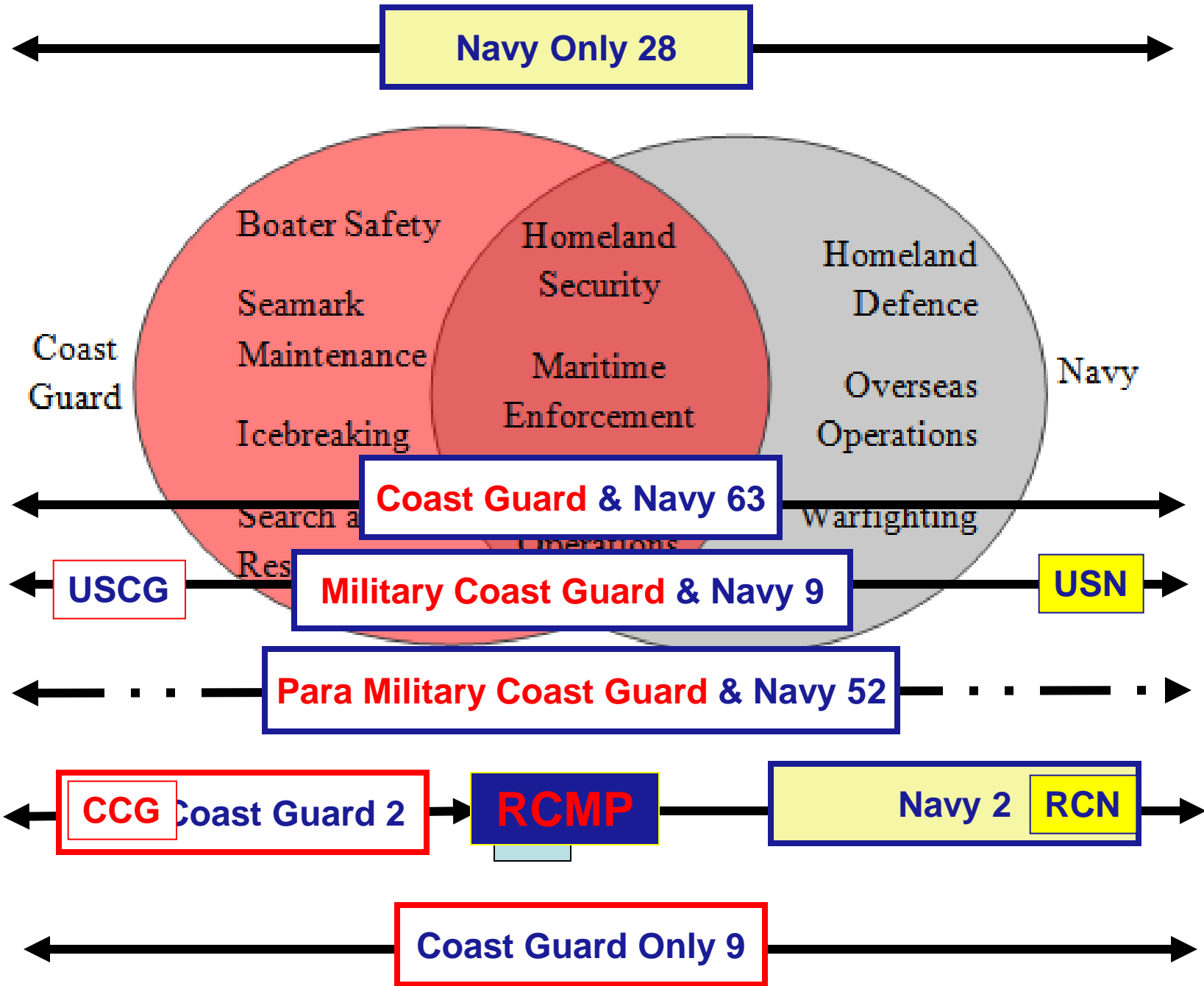
# CFPS Research Project

## Coast Guard-Navy Functions and Organizational Overlaps

150 states have coastlines – 72 have coast guards

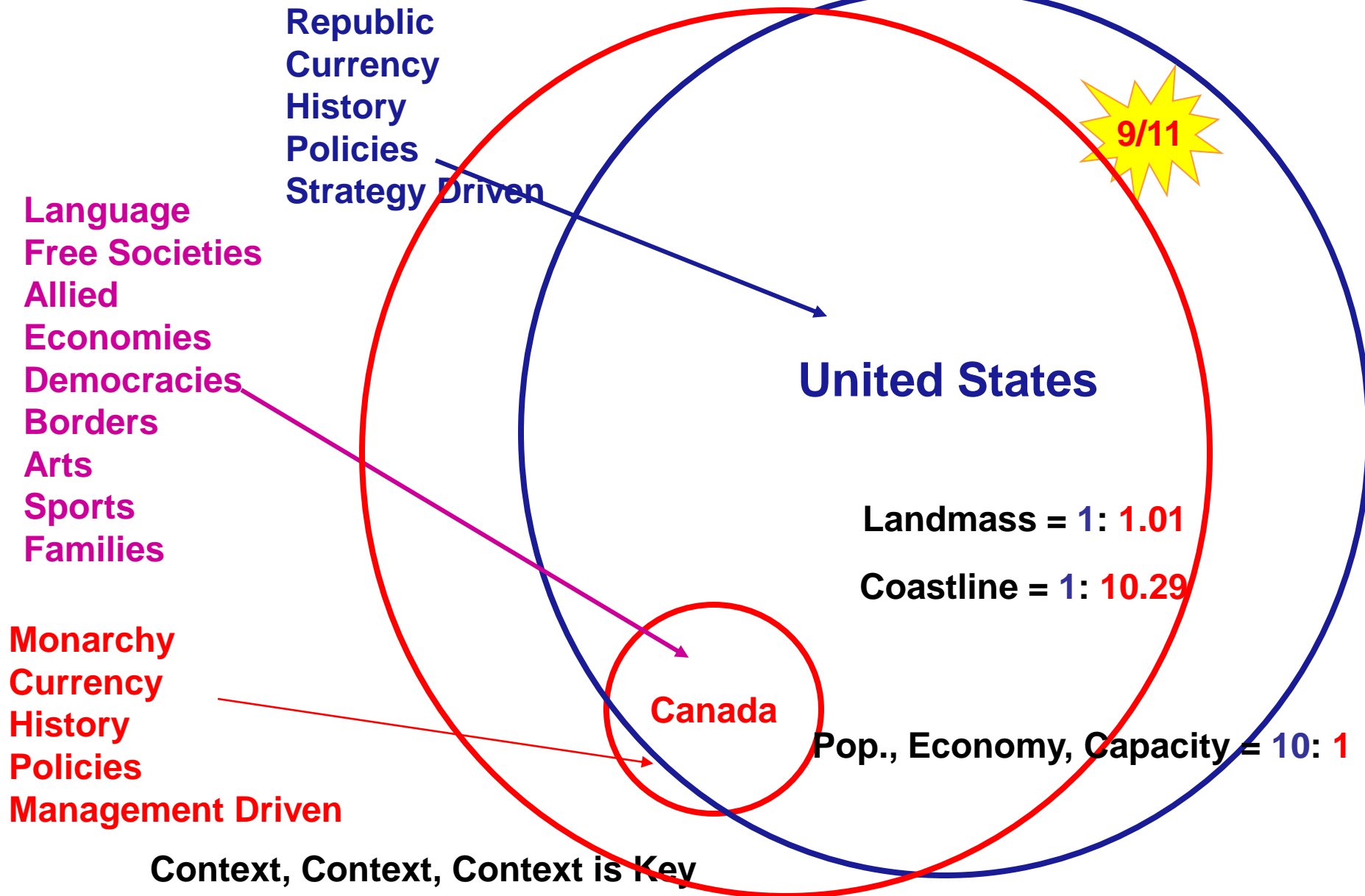


Source: J Matthew Gillis, *The Global Navy/Coast Guard Relationship*, CFPS, 2010



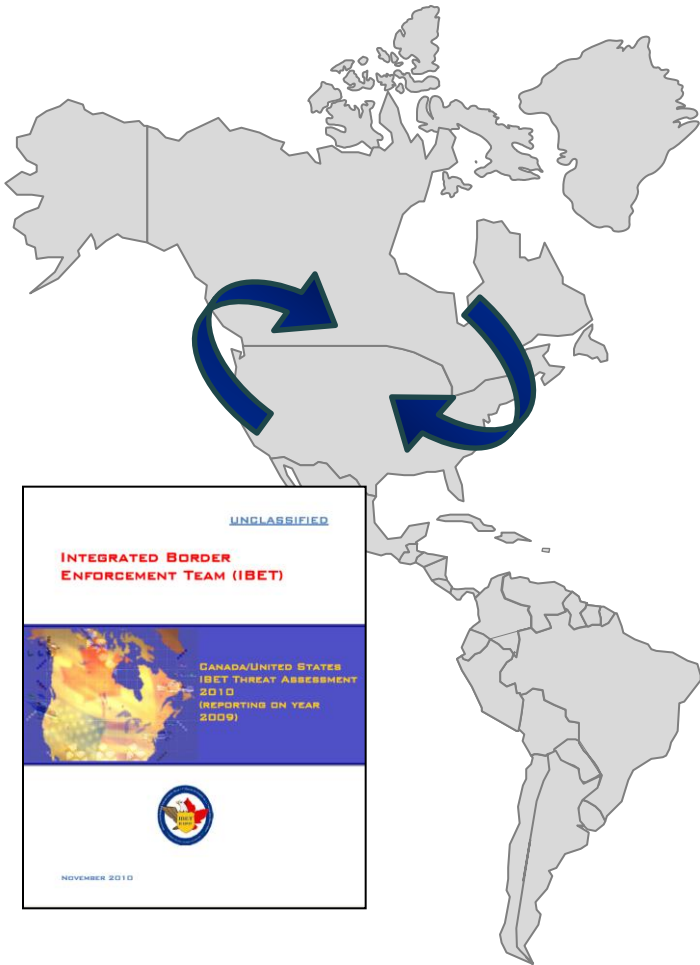
# CFPS Research Workshop

## Strategy Begins with Awareness – Similarities & Differences



# Cross-Border Crime

- Two-way problem
- Criminal organizations seek vulnerabilities in geography and enforcement
- Organized crime is the most prevalent threat encountered
- Over 100 crime groups and 90 criminal entrepreneurs involved in cross-border crime



Link: <http://www.rcmp-grc.gc.ca/ibet-eipf/reports-rapports/2010-threat-menace-eng.htm>

**“Crime moves swiftly to exploit ‘gap’ areas”**

# National Shipbuilding Strategy

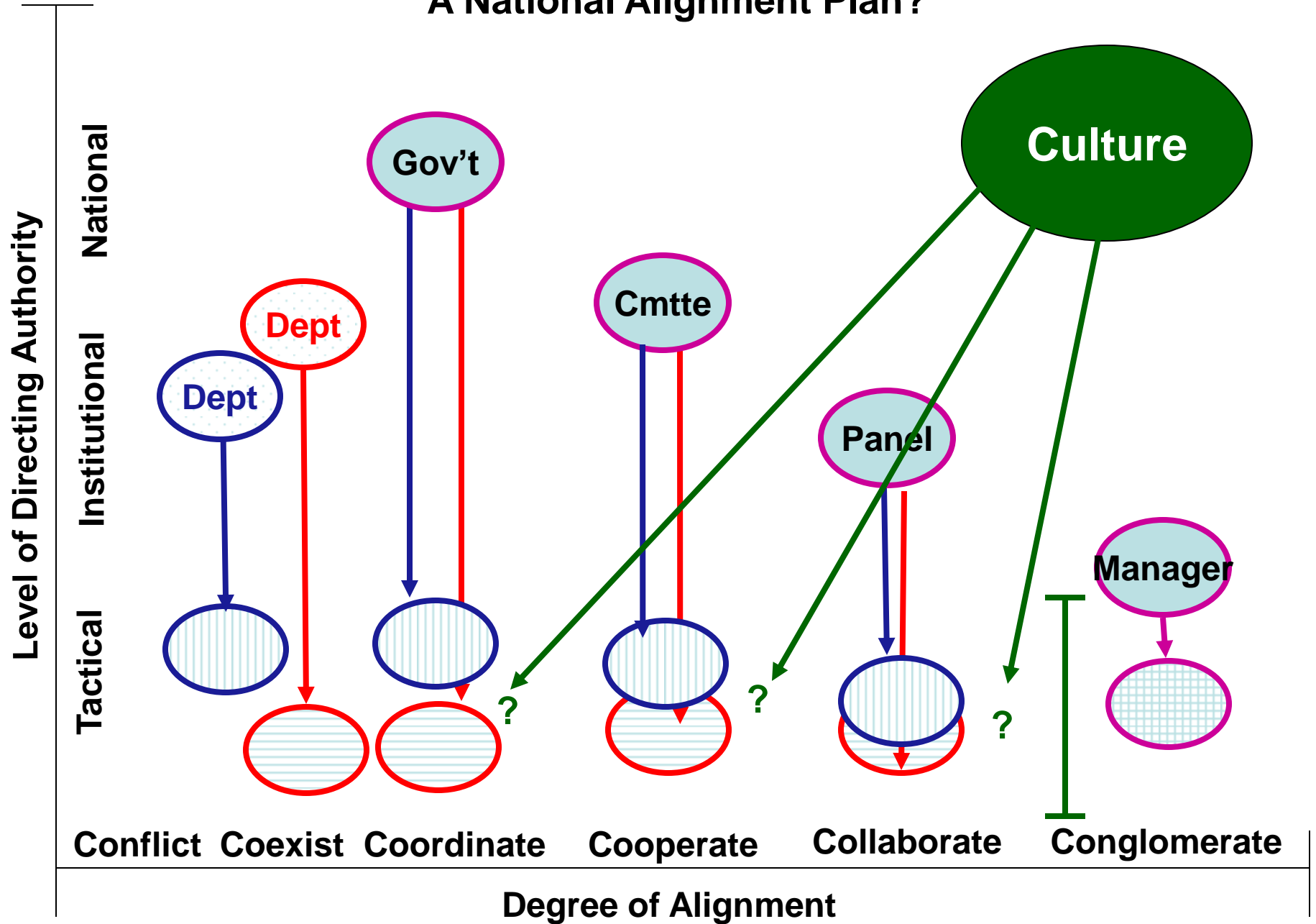
## 28 Large Vessels

- **Combat Ships:**
  - Arctic & Offshore Patrol Ships (6+2)
  - Canadian Surface Combatants (15)
- **Non-Combat Ships:**
  - CCG Science Vessels (4)
  - DND Joint Support Ships (2+1)
  - CCG Polar Icebreaker (1)



Source: NSPS Media Tech Briefing, 18 Oct 2011

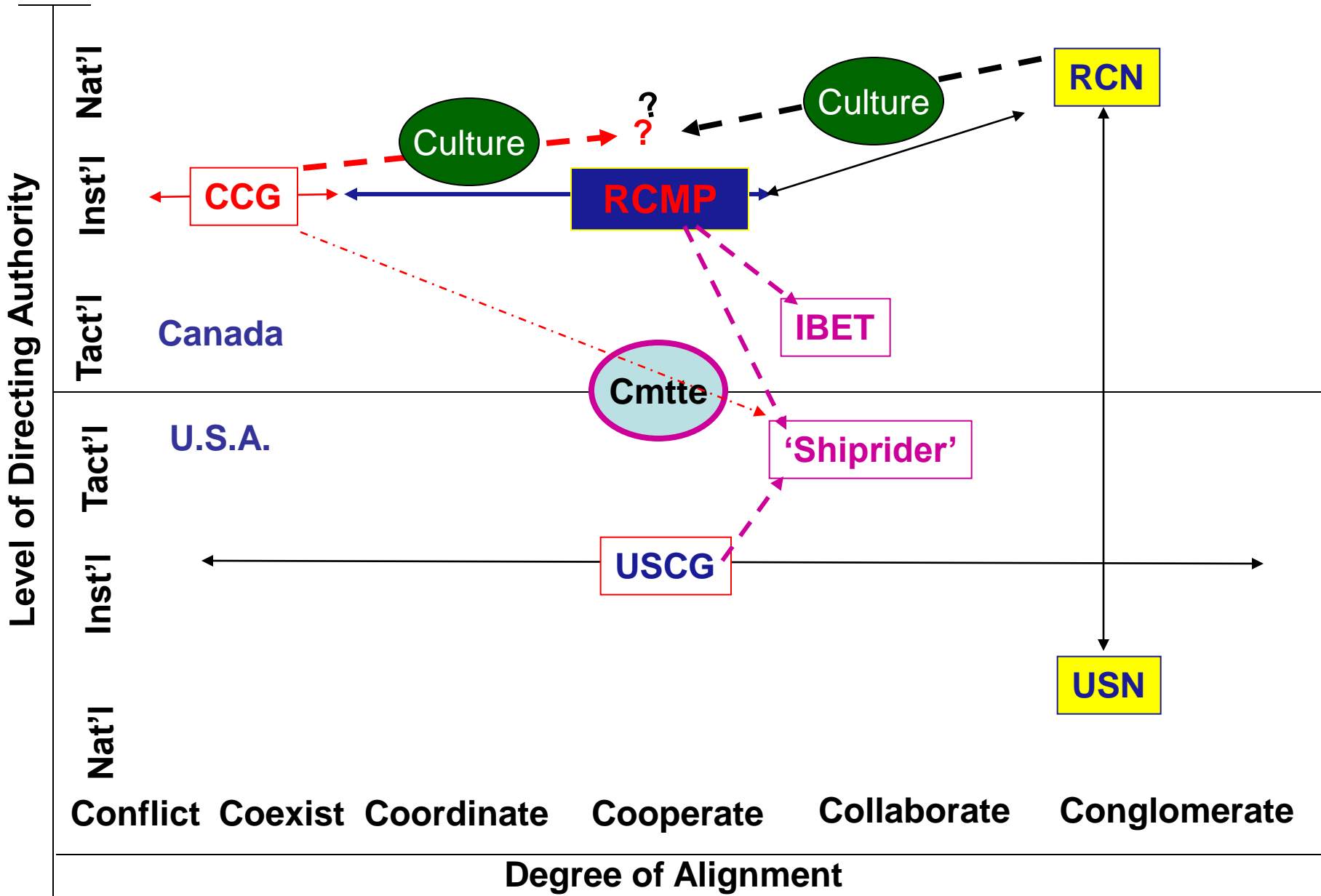
# A National Alignment Plan?





# Can-U.S. Alignment Situation?

← Civil ————— Paramilitary ————— Military →



# Conclusions

- Closing 'gaps' by institutional changes to RCN & CCG are encountering domestic cultural resistance – Government intent is not clear
- Resource limitations mean alignment processes that result in duplication of effort and redundancy are a bad idea (for Canada)
- At some point, international institutional alignment will encounter 'a cultural threshold of resistance', which will be determined by the context of the states in question
- Criminals (and others) will continue to exploit the 'gaps' until the desired degree of alignment is achieved, but risk will always exist



**WORLD MARITIME UNIVERSITY**

**Maritime Risk Symposium 2011**

**Contemporary Issues of Maritime  
Operational Risk**

**LCDR Mark Sawyer, USCG**

**RUTGERS**  
Center for Advanced Infrastructure  
and Transportation

**Rutgers University 8 Nov 2011**



# World Maritime University

- Chartered by IMO in 1983
- Located in Malmö, Sweden
- Graduated 3,200 students w/M.S.c degrees, representing 162 countries
- **Four specializations:**
  - Maritime Education and Training
  - Shipping/Port Management
  - Marine Safety and Environmental Administration
  - Maritime Law & Policy
- Professional Development Courses
- PhD and Research Program



## Principal Financial Supporters:

- Government of Sweden
- Nippon Foundation
- City of Malmö



# World Maritime University

## WMU Faculty

### Education

- Pinnacle of excellence in post-graduate maritime education
- M.Sc. and Ph.D. degrees
- Diplomas and certificates
- Maritime leadership training
- Education relevant to governments, NGOs, and maritime businesses

### Research

- Relevant maritime and ocean research
- Maritime solutions
- Grants and contracts
- Collaboration
- Interpretation of laws and IMO conventions
- Peer-reviewed books/journals
- *WMU Journal of Maritime Affairs*

### Capacity Building

- Global maritime competence through education & research
- Promotes seafarers' interests and supports STCW goals
- Promotes maritime leadership
- Unites governments, businesses, and seafarers as social partners for safe ships and clean oceans
- Development

**WMU**

**A Global University**

Established by IMO  
1983

### Engagement

- Network of > 3,000 alumni from 162 countries
- Global network of senior maritime public and private leaders
- Global maritime impact
- Aligned with IMO and UN actions and goals
- Responsive to maritime business needs

Government and the Public

Non-Government Organizations

WMU Alumni

Shipping and Business

Seafarers and Unions



# WMU International Conferences

- WMU Conference on Piracy at Sea (October 2011)
- WMU-IMO International Conference on Oil Spill Risk Management (6-9 March 2011)
- WMU-IMO Global R&D Forum on Emerging Ballast Water Management Systems (January 2010)
- 8th International Symposium on Maritime Security (November 2009)





# Maritime Risk: Maritime Piracy

- **Annual Cost: \$9-12 billion (Oceans Beyond Piracy, 2010)**

- **2011 Statistics: (Source: IMB-ICC):**

–Incidents Reported for Somalia:

Total Incidents: 194

Total Hijackings: 24

Total Hostages: 400

Total Killed: 15

–Current vessels held by Somali pirates:

Vessels: 15

Hostages: 277

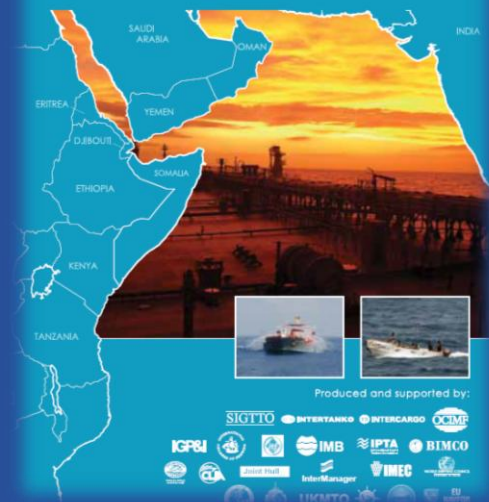


- **Solutions/Future:**

- Contact Group of Piracy Off the Coast of Somalia (CGPS)
- Local capacity building, comprehensive approach, root cause need to be addressed, pirates are adapting, humanitarian support for seafarers...ICOPAS: <http://icopas2011.wmu.se/>



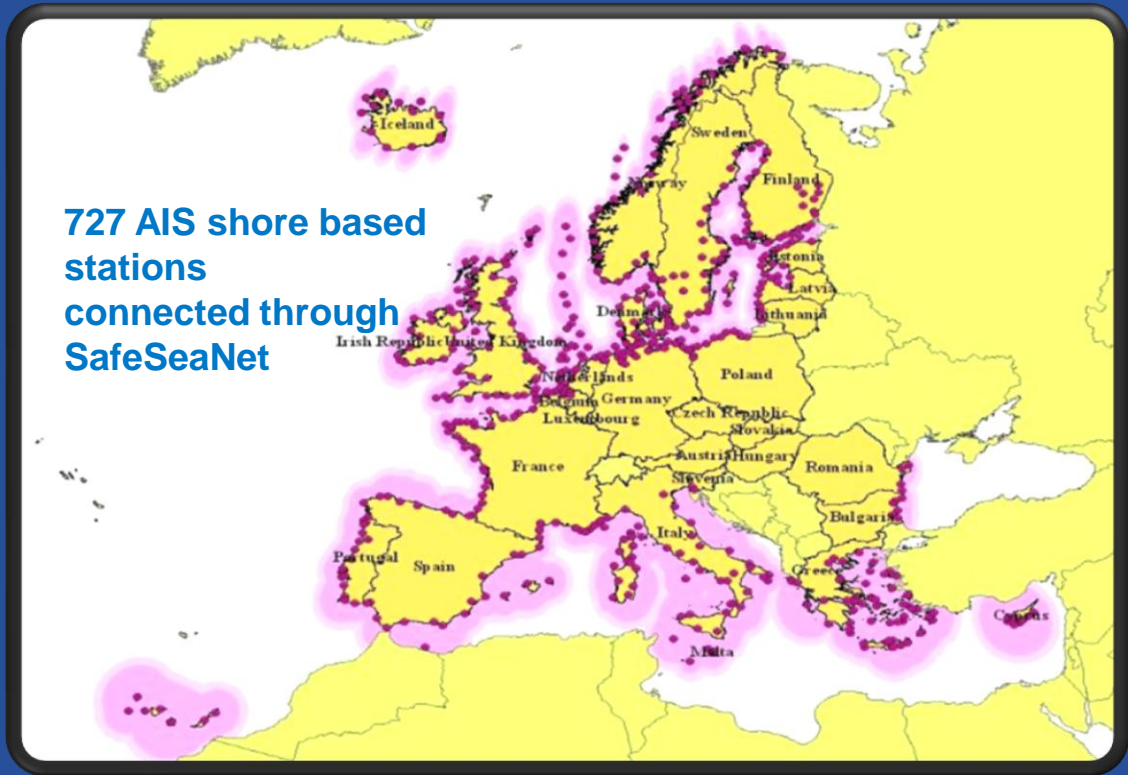
## BMP4 Best Management Practices for Protection against Somalia Based Piracy





# EU Risk Management Initiatives

- SafeMed II Project
- SafeSeaNet
- Frontex
- CleanSeaNet
- Port State Control
- EU Heads of Coast Guard Forum





# Baltic Master II: 47 organisations



**Baltic Master II:**  
Baltic Sea Strategy  
Flagship project

**Total Budget:**  
4 002 312,00 €

**Project Period:**  
25 January 2009  
to 24 January  
2012

Lead Partner:

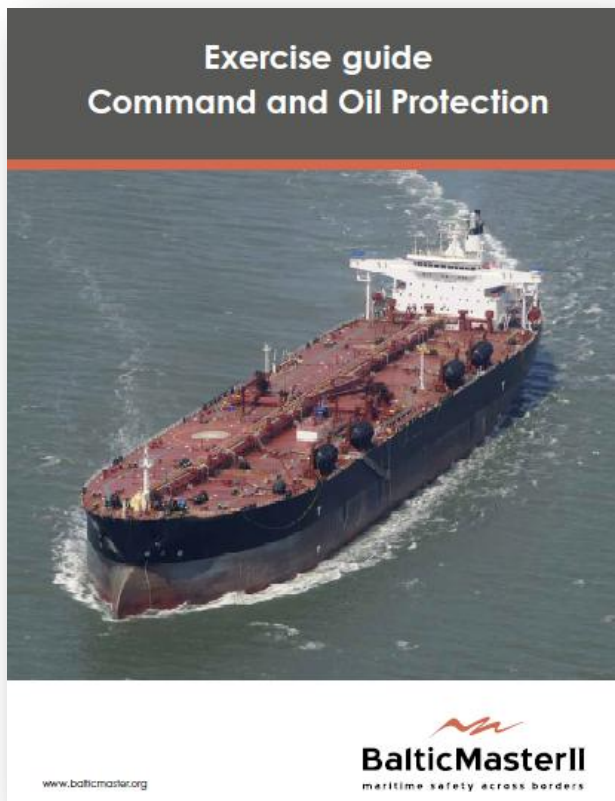


Part-financed by the European Union  
(European Regional Development Fund)



**BalticMasterII**  
maritime safety across borders

# Oil Spill Contingency Planning



Lead Partner:



Part-financed by the European Union  
(European Regional Development Fund)





## Maritime Risk and System Safety (MaRiSa) Research Group

### •Past Activities

- MarNIS,
- IMO SAR project
- HF in Engine Rooms

### •Current Activities

- ADOPTMAN, IMPACT
- On-going PhD work

### •Future Activities

- EU FP 7 project developments
- Participation in dedicated technical (e.g. MARTEC) and regional projects



# MarNIS

- **MarNIS** (Maritime Navigation Information Services)

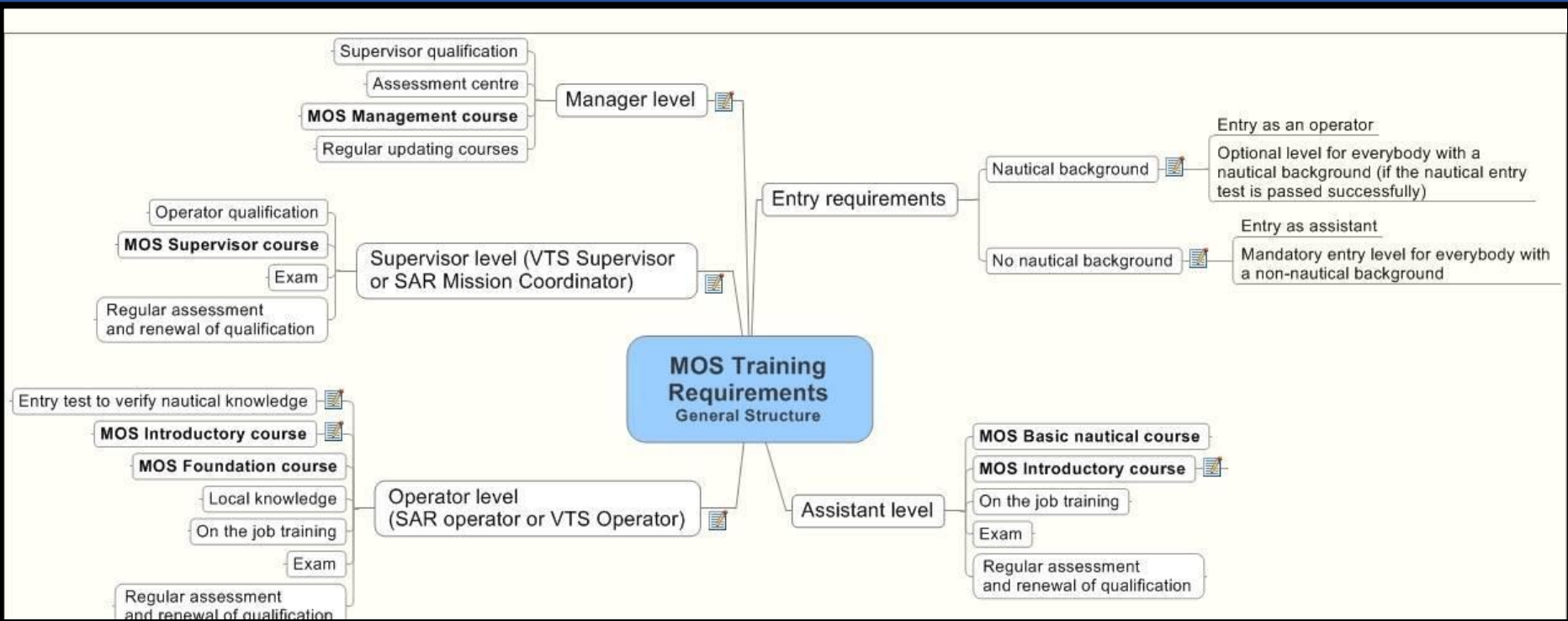
- Task / work of WMU

- To develop job profiles and training syllabi for personnel acting as MOS operators
- MOS (Maritime Operational Support Service) is a new concept combining traditional tasks of SAR, VTS and OPRC related tasks





## MarNIS training concept





# Activities from Present to Future

## •ADOPTMAN- (ADvanced Planning for OPTimised Conduction of Coordinated MANoeuvres in Emergency Situations)

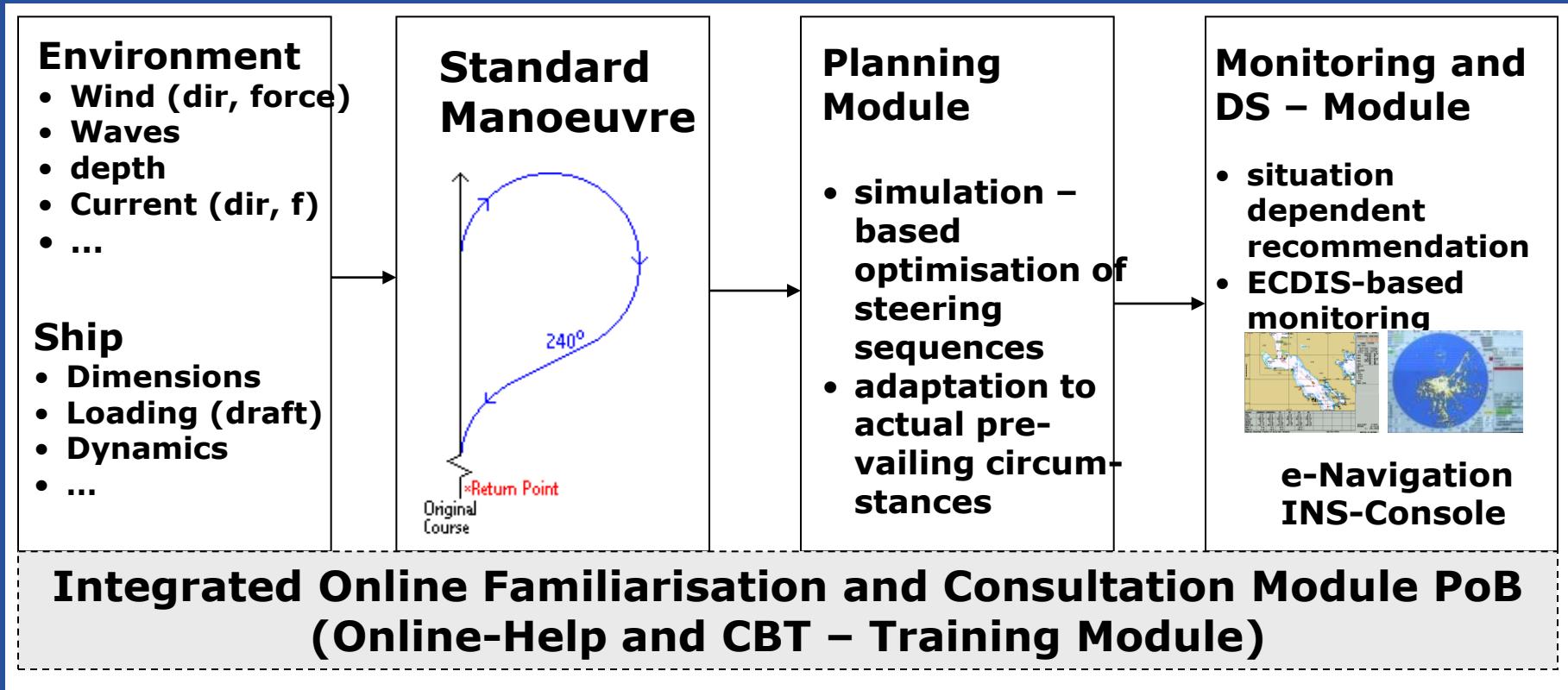
- MARTEC project (2010 – 2013)
- WMU coordinator, leader
- Increase the probability to successfully rescue a person overboard:
  - Concept for on-board application
  - Human centred presentation needs
  - Process analysis
  - Adaptation of manoeuvring assistance to prevailing conditions (ship and environment)
  - Impact on standardisation,
  - Training requirements, legislation of IMO-NAV
  - On-line HELP and CBT components





# ADOPTMAN

## ADvanced Planning for OPTimised Conduction of Coordinated MANoeuvres in Emergency Situations





# Activities from Present to Future

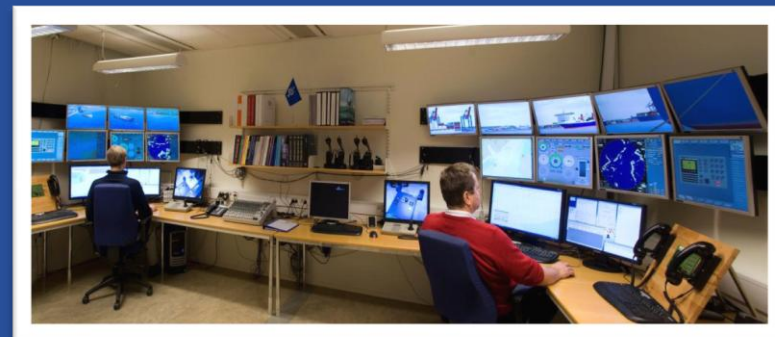
## •MARTEC – Project IMPACT



## •Integrated Maritime Progressive Assessment and Calibration Tool



- Project period 2010 – 2012
- WMU partner
- Collaboration with:
  - Chalmers University (project leader and coordinator)
  - VSL Systems AB
  - ARMINES (France)
- Use of Simulators







# TeamSafety: A simulation related project

## Consortium Partners

The Nautical Institute



[www.nautinst.org](http://www.nautinst.org)

World Maritime University

WORLD MARITIME UNIVERSITY

[www.wmu.se](http://www.wmu.se)

Bulgarian Maritime Training Centre

Bulgarian Maritime Training Centre

[www.bmtc-bg.com](http://www.bmtc-bg.com)

Danish Innovation Institute



[www.pera.com](http://www.pera.com)

ASK Safety



[www.ask-safety.net](http://www.ask-safety.net)

Sea & Shore Safety Services Ltd



[www.seaandshoresafety.com](http://www.seaandshoresafety.com)

Unity-studios

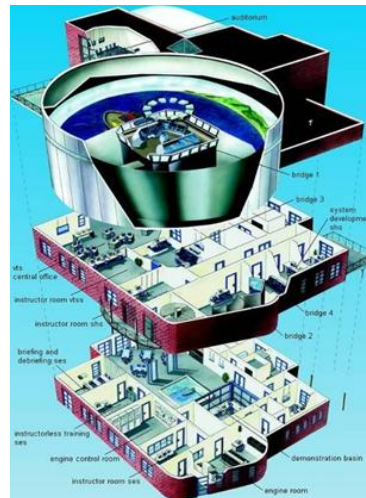
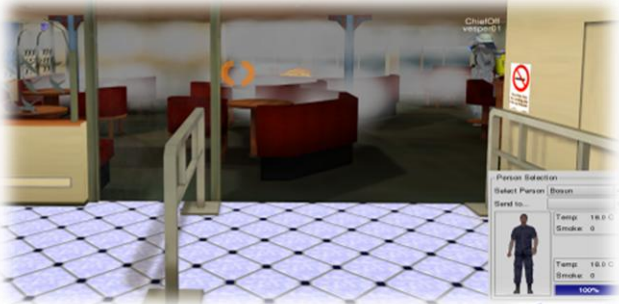


[www.unity-studios.com](http://www.unity-studios.com)

- Develop a 3-D interactive immersive computer based training system for the maritime sector
- Based upon a state of the art gaming engine with innovative extensions specifically tailored to the needs of maritime safety training.
- enabling the recreation of realistic maritime emergency response scenarios and the capture of human-human and human-machine interaction and
- allowing true cooperative interaction between multiple training participants.



# TeamSafety – Use of Simulators





# World Maritime University



**THANK YOU!!**

**For More Information:**

**Dr.-Ing. Michael Baldauf**

**E-Mail: [mbf@wmu.se](mailto:mbf@wmu.se)**

**[www.wmu.se](http://www.wmu.se)**

