Increased Competitiveness Through Effective Port Security Risk Management

A Commercial Business Case

November 7th, 2019

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Maritime Security Management

Organization of American States
More rights for more people

Inter-American Committee on Ports

Who We Are

HudsonAnalytix
Complexity made simple.

HudsonAnalytix is a US-based international business risk solutions company providing expertise and support to the world's leading commercial shipping, ports and terminals, insurance, and government sectors. Our clients include:

- Port Authorities and Terminal Operators
- National and Regional Port Systems
- Integrated Oil and Gas Companies
- National Oil Companies
- Global Maritime Transportation Companies
- Insurance Companies
- Governments

Key Facts:

- Established in 1986
- Worldwide Presence:
  - Philadelphia (Global HQ)
  - Washington, DC
  - San Diego, CA
  - Rome, Italy
  - Piraeus, Greece
  - London, UK

Operating Subsidiaries

Hudson Marine – Risk and Crisis Management

HudsonTrident – Physical and Cyber Security

HudsonTactix - Consequence Management

HudsonDynamix – Integrated Training Solutions

HudsonSystems – Management Systems Development and Improvement

Mike Edgerton

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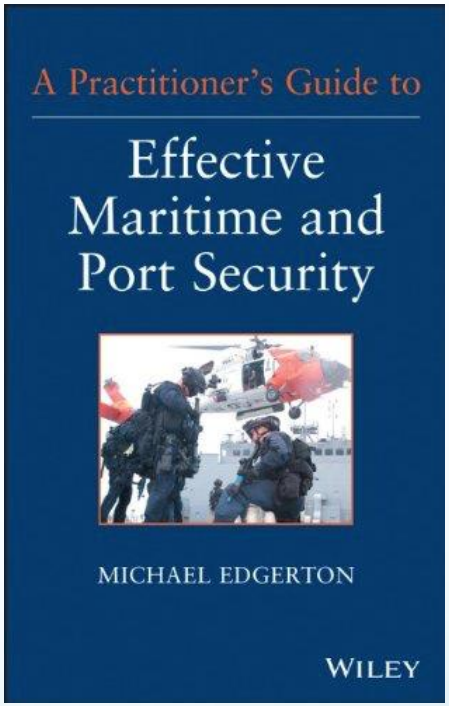
- Vice President, HudsonTrident;
- Certified Protection Professional (CPP);
- Certified Information Security Professional (CISM);
- Former Principal with an International Security consultancy in the Middle East:
  - Worked in over 40 countries.
- Retired from the US Coast Guard and US Navy:
  - Port Security;
  - Intelligence Operations;
  - Nuclear Weapons Security; and
  - Surface Warfare.

- Maritime and Port Security Experience:
  - Managed the Cruise Ship Foreign Port Assessment Program at USCG HQ;
  - Responsible for the development and implementation of the Navigation and Vessel Inspection Circular for Cruise Ship Security in the late 1990's;
  - Certified ISPS and ISO 28000 auditor; and
  - Former senior maritime security advisor to a UAE-government agency.



Key Point

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- Maritime Risk Management for Ports and their Supply Chains are essential components of port viability and competitiveness and are therefore of significant importance to both the public and private sectors. There is a compelling business case for port risk management and supply chain security. **Security Risk Management can serve as a business enabler.**
- Risk management is further complicated by the increased use of digital information and controls which must be included in overall Security Risk Management.

Key Point

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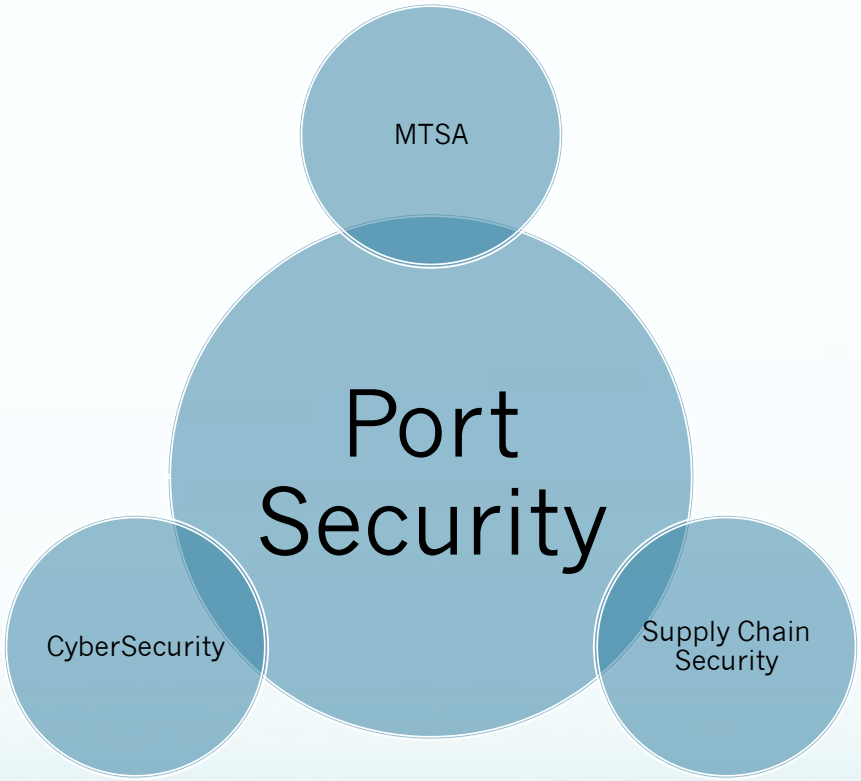

Current Standards, Initiatives, and Requirements

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ISPS Code

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- The ISPS Code is now over 10 years old and born of necessity after 9/11;
- The international shipping community has had time to implement the code and embed the code in ports and shipping companies;
- Lack of a converged approach;
- The ISPS Code focuses primarily on ports and ships as targets, not as focused on them as conduits of nefarious activity.
- Over the last 10 years, there has been a growing focus on port risk management and supply chain security and the development of associated guidelines and standards; and
- Incorporation of risk management and supply chain security measures into the security programs can create efficiencies in compliance as well as enhance security, resulting in commercial benefits

Current Supply Chain Security Initiatives

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- Over the last decade, there have been several important supply chain security initiatives. These include:
  - ISO 28000 (International Standard 28000:2007 - Specification for Security Management Systems for the Supply Chain);
  - Customs-Trade Partnership Against Terrorism;
  - World Customs Organization SAFE Framework; and
  - European Union's Authorized Economic Operator program.
- Key components of these programs include the Authorized Economic Operator (AEO) concept:
  - Certification of the commercial elements involved in manufacturing and shipping goods;
  - Integrity-based (with validation); and
  - Economic advantages to compliance and certification.

Supply Chain Security Fundamentals

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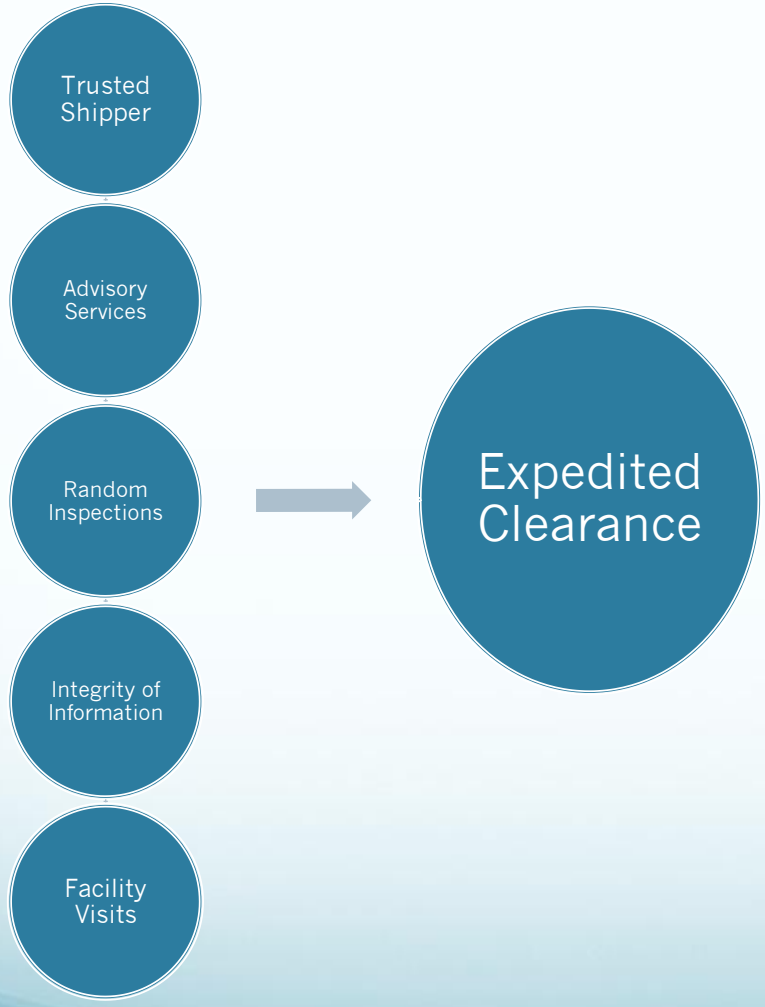

Supply Chain Security Management
ISO
28000:2007

WORLD CUSTOMS ORGANIZATION
ORGANISATION MONDIALE DES DOUANES

C-TPAT
Customs-Trade Partnership Against Terrorism

Supply Chain Security and Port Security – Compare and Contrast

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ISPS Code	Supply Chain Security
Mandated	Incentivized
Focused on System as Targets	Focused on System as Conduits
Single Code with National Implementing Legislation	Multiple Codes and Standards with Equivalency Agreements
Private Sector Implementation	Private Sector Implementation
Public Sector Oversight	Public Sector Oversight
No Competitive Advantage	Competitive Advantage

Cyber Security?

Cyber Security – What do we mean and what's important?

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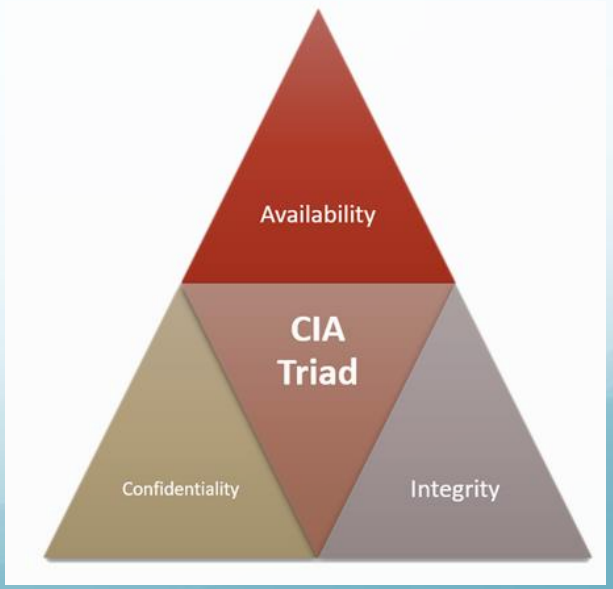
Cybersecurity ***IS:***

- The protection of information and property from theft, corruption, or natural disaster, while allowing the information and property to remain accessible and productive to its intended users.
- Safeguarding and maintaining of information *Confidentiality*, *Integrity* and *Availability* (the "CIA" Triad)
- A sustained risk management activity
- Cultural change
- The Balance Sheet
- A responsibility that starts at the top



Cyber Security – What do we mean and what's important?

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- Supervisory Control & Data Acquisition (SCADA) equipment and Industrial Control Systems (ICS) for loading / unloading of bulk / containerized cargo (e.g. ballast water, gas liquefaction)
- Engine governor and power management systems
- Positional Tracking Systems - GIS, VTS, RADAR, AIS, etc.
- ***Any* Business Software Application (e.g. email, financial, human resources, finance, logistics, business operations)**
- *Any* Security System - CCTV
- Communications Systems (VOIP, SATCOM)
- ***Any* Operating System (e.g. Microsoft, Linux)**
- *Any* Mobility device and platform (RFID)
- Safety Systems
- Employees and Contractors

Cyber Security Developments

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- Currently, cyber security governance in the maritime domain remains relatively nascent:
  - US Coast Guard policy letter provides reporting guidance to ships and ports that experience a TSI or BoS that have cyber components;
  - NVIC draft in circulation;
  - IMO has shipboard cyber security initiatives in progress; and
  - The insurance industry continues to address cyber insurance.
  - C-TPAT's revised Minimum Security Criteria include addressing cyber security.

The Business Case for Security and Resilience Planning

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Potential Impacts of Business Disruptions

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- Likelihood: A sampling of large multi-national firms shows that within any given five year period, there is an 80% likelihood of a major crisis occurring that will significantly impact their operations.

- Corporate Failure: Of all businesses that close down following a major disruption, more than 30 percent never reopen again.

- Negative Financials: Analyzing 800 incidents of supply chain disruption, it was assessed that companies that suffer supply chain disruptions experience between 33 to 40% lower stock returns relative to their benchmarks, an average of 13.5% increase in share price volatility, a 107% reduction in operating income, lower sales growth, and an average of an 11% increase in costs. This does not include the amount of time required to recover the losses, if recovery is possible.

Potential Effect of Port Closures on the U.S. West Coast

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Inforum (Interindustry Forecasting) Study:

	10 Days	20 Days
Employment Disruption	169,000 Jobs	405,000 Jobs
Reduced Economic Output (Measured by Loss to GDP)	$21.2 Billion (0.12% of GDP)	$49.9 Billion (0.29% of GDP)
Loss of Household Purchasing Power	$170 per household	$366 per household
Loss of exports	$3.3 Billion	$6.9 Billion
Loss of imports	$3.9 Billion	$8.3 Billion
Daily Cost of West Coast Port Disruption to U.S. Economy (Measured by Loss to GDP)	$2.1 Billion	$2.5 Billion

The Business Case for Security

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- The structure of supply chain security programs are designed to provide incentives for compliance with various programs:
  - Compliance with supply chain security programs leads to expedited entry of cargo to key markets; and
  - Provides a competitive advantage to port operators.
- Effective, **converged,** security and response planning can:
  - Result in better port resilience;
  - Minimize duplication of effort; and
  - Enhance the port's reputation.
- Further, there is a growing interest in the insurance industry in port and terminal security practices, including cyber.

Risk Management

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- Challenges the Ports are Facing
  - What is your risk tolerance?
  - How can you treat identified risks?
    - Accept/Retain?
    - Transfer?
    - Reduce?
    - Avoid?
    - Share?
  - Considerations:
    - Why incur unnecessary ongoing overhead costs?
    - Where can you improve?
    - When it is time to make changes?
    - What guidance is being used?
  - Change options to consider

Port Risk Management

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The Business Case at a Glance

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Business Case	Advantage
Competitiveness	• Supply chain security allows for expedited access to markets; and • Properly executed security programs can facilitate streamlined activity, thereby reducing delays across the enterprise.
Reliability	• Focused on System as Conduits
Insurance	• Reduction in claims; and • Potentially lower premiums.
Convergence	• Efficiencies in security planning; and • Reduction of vulnerabilities.

Challenges

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- Challenges:
  - Private sector concerns over costs and burdens of implementation;
  - Outdated management models in the digital age;
  - Funding for security improvements, especially in less wealthy countries;
  - Consistency of new requirements with existing national or international regulations; and
  - Bureaucratic infighting and workload challenges.

Opportunities

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- Opportunities
  - The Plan-Do-Check-Act process found in the ISO approach can be included in existing Safety Management Systems that are consistent with ISO 9001 and can accommodate emerging cybersecurity measures;
  - Increases the level of conformance across nations;
  - Increased transparency through out the system;
  - **Potential for a solid business case as evidenced by entities that already include supply chain security in their processes**; and
  - More comprehensive security and resilience in the maritime domain.

The Starting Point

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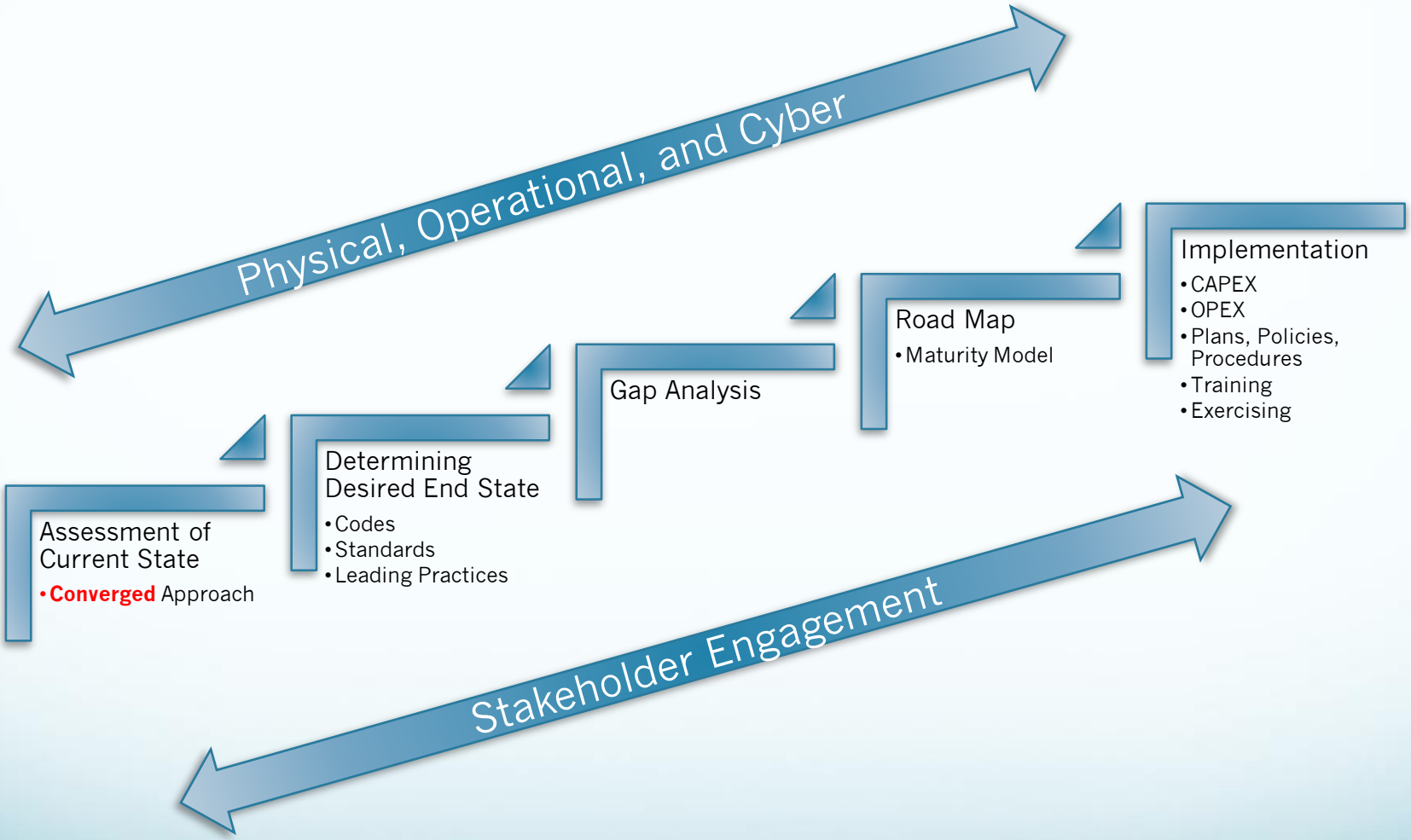

Thank You & Questions?