

**THE EFFECTS OF PORT SECURITY COMPLIANCE ON THE
COMPETITIVNESS
OF EUROPEAN UNION MARITIME INDUSTRY FIRMS**

An Undergraduate Research Scholars Thesis

By

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ABSTRACT

The Effects Of Port Security Compliance On The Competitiveness
Of European Union Maritime Industry Firms. (May 2013)

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Prior research has addressed European Union (EU) water transportation policy and its impact on firm strategy. We extend this research by attempting to measure the effect of port security regulation compliance implementation on the perceived competitiveness of maritime firms located in European Union ports. We ask the question: Can firm specific implementation of required port security compliance enhance or hinder a firm's competitive advantage?

Using Resource-Based Strategic Theory was used as a framework for evaluating competitiveness. Resource Based Theory purports that assets and systems can give a firm a competitive advantage if they follow the "VRIN" criteria of Valuable, Rare, Inimitable, and Not easily substitutable. We ask via email and United States Postal Service survey instrument whether certain security assets, resources and systems are "VRIN" and whether these assets, resources and systems give competitive advantage to the firm. The type of resources/assets/systems include physical assets such as fencing; ongoing management assets such as communication systems, planning and structuring management assets such as security planning systems; human assets such as employee knowledge; technological assets such as software protection; intangible assets such as a safety culture and financial assets such as cost

savings from security compliance. We administer the instrument to all firms operating in EU ports in 2011-2012. A list of firms is obtained from IHSfairplay Ports and Terminals Guide.

The results of the survey shows that most managers do not perceive a competitive advantage was gained in the way security assets/resources/management systems were implemented. However, a strong minority 34.12% of managers did perceive competitive advantage was gained from port security compliance where systems/assets/resources were not easily imitated or the “I.”

Furthermore, managers perceive where they were located within the port as an important advantage to security and competitiveness.

DEDICATION

*To Miss K,
My wonderful daughter and best friend*

ACKNOWLEDGEMENTS

I would like to thank Dr. Joan Mileski and Dr. Max Mejia, without their support and guidance none of this would have been possible. Financial support for this research was helped in part by Texas A&M University and the Texas Institute of Oceanography.

CHAPTER I

INTRODUCTION

Prior research has addressed European Union (EU) water transportation policy and its impact on firm strategy. We extend this research by attempting to measure the effect of port security regulation compliance implementation on the perceived competitiveness of maritime firms located in European Union ports. We ask the question: Can firm specific implementation of required port security compliance enhance or hinder a firm's competitive advantage?

Transporting raw materials and finished product safely and securely is essential to smooth trading across countries. Ninety-five percent of global trade is transported by ship. In the EU, roughly 35% of goods used are imported by ship. Furthermore, approximately 47% of the total world merchant fleet calls are in Europe. The Council on Foreign Relations reports that the security concerns of the international supply chains and transportation systems remain high. With elevated levels of terrorist and piracy attacks in recent years and the threat of war in many areas, ports are particularly attractive for attack due to the economic disruption closing a large port can have on a nation or region of nations.

The EU has several current and proposed regulations on the maritime industry. Many of these regulations address safety and security throughout the industry. Although it appears that much of port security to date has been focused on "gates, guards, gadgets and gizmos," regulations are now beginning to address better management systems. Compliance with security by firms within an EU port involves not only EU regulation but the global regulation of the International Maritime Organization and how these two levels of regulations fit together.

Resource-Based Strategic Theory was used as a framework for evaluating competitiveness. Resource based theory purports that assets and systems can give a firm a competitive advantage if they follow the “VRIN” criteria of Valuable, Rare, Inimitable, and Not easily substitutable. We ask via email and United States Postal Service survey instrument whether certain security assets, resources and systems are “VRIN” and whether these assets, resources and systems give competitive advantage to the firm. The type of resources/assets/systems include physical assets such as fencing; ongoing management assets such as communication systems, planning and structuring management assets such as security planning systems; human assets such as employee knowledge; technological assets such as software protection; intangible assets such as a safety culture and financial assets such as cost savings from security compliance. We administer the instrument to all firms operating in EU ports in 2011-2012. A list of firms is obtained from IHSfairplay Ports and Terminals Guide.

CHAPTER II

SURVEY OF LITERATURE

Measurement of port competitiveness is difficult. Port Authorities evaluate competitiveness differently from business entities. This different measure is due to the economic multiplier effect a port offers the local economy. A firm will ultimately choose whichever port it uses based on a variety of factors. Factors that play into this final decision are numerous, location being the most important (Brooks & Cullinane, 2007). Due to the relatively small land mass of Europe and the proximity of other potentially similar ports, location as a factor in port selection is of lesser importance. Other factors in port choice can be given more weight. For example weather conditions are a factor because ships would not select a port where weather conditions regularly limit the ports activity (United Nations 2002). Another factor is the duration of a ship's port of stay, because the less time it takes for a ship to be processed, the shorter they remain in port which reduces port time charges (United Nations 2002). Berth occupancy is another consideration, as this is a measurement of use of a berth facility in a given time period (Tongzon, 2002). The longer a ship stays at berth, the higher the cost a ship will have to pay, and these higher cost can be passed on to shippers in terms of high freight charges and longer cargo dwelling time. Dwelling Time which is the time cargo remains in a terminal's in-transit storage area while awaiting shipment by vessels in exports or evacuation by rail or road in imports. Actual port throughput is the number of crates, tons of cargo, etc. that actually pass through the port. This can also impact the time in port and increase cost (Brooks & Cullinane, 2007). Type of cargo handled can impact port efficiency and therefore time in port (United Nations 2002). Port fees are port charges and have been found to be a driving factor in port choice, but many shippers are willing to pay higher fees for better service. (Murphy, Daley & Dalenberg, 1991)

Shippers, as opposed to shipping companies, are often more concerned with indirect cost, such as loss of market share, loss of customer confidence, and inefficient service (Foster 1978). There is an economies of scale to cargo handling in a port making size of the port important in port selection. Some ports go as far to ship their cargo from a smaller port to a larger one before shipping overseas because it is more cost effective. Further, ports with a high variety of services such as Union and Non-Union labor, available freight repair companies, and easy access to land transportation can be very attractive to users (Maxwell, 2011) .

Security has been noted to be a top priority among users, however there has to be an acceptable balance between security and the risk of theft or damage (Marine Cargo Insurance, 2011). Ports will often try and add security features to make themselves more attractive to businesses. This must be done with balance so as not to become intrusive to the business or leading to inefficient port service that would cause delays in insurance claims to be processed. Ports are able to make themselves more competitive by picking security options that best fit the needs of their target customer base (Marine Cargo Insurance, 2011).

Competitiveness of port firm's will ultimately decide if business at that port is competitive. It is known that firms will look at security as an important part of choosing where they will ultimately do business (Maxwellsc, 2011). Firms have different needs and/or wants when identifying the impact port security has on competitiveness. Firms want the safest environment possible while not having a negative impact on port services. Ports enacting security measures such scanning all containers would only be more competitive if it does not negatively impact firm's earnings due to a slower processing time. Some firms will be forced to find ports that have higher security options if they are shipping to the United States (Bichou, 2004). Laws and regulations governing incoming cargo to the United States are stricter than most countries

This research applies the Resource Based Theory (RBT) as a framework on how to evaluate port competitiveness. RBT states that competitiveness is derived from an organization's combination of unique resources include assets, competencies and capabilities. The resource-based view is based on the idea that the effective and efficient applications of all useful resources that the company can muster helps determine its competitive advantage (Barney, 1991). Resources provide competitiveness if they are valuable, rare, in-imitable and substitutable (VRIN) because competitors cannot duplicate this mix of resources exactly.

Security measures for ports are required under the International Ship and Port Facility Security Code (ISPS), but how and what combination of security measures is not required for EU Ports. By using the VRIN method, this research will test whether it is possible for a port to become more competitive through the choice of security implementation resources. I hypothesize if the security implementation of a port is VRIN in its mix of resources, then it will be more competitive.

Competitiveness is generally measured by high financial performance over competitors, since each EU port measures its performance differently, i.e. various combinations of efficiency and financial performance, we rely on management's perception of whether the port possesses VRIN to determine competitiveness. However, if all ports have the same security measures and operating procedures, then they will lose their uniqueness.

Prior to ISPS ports had control over security; most standard operating procedures were produced at a local level (Coleman, 2002). After 9/11 attacks, the Inter National Maritime Organization amended the Safety of Life At Sea (SOLAS) act which came in to force in 2004, to include ISPS

code. Originally, this was very general with ports told to act but not what to do. This was given more direction leaning heavily on the U.S. Coast Guard's best practices (BMP4).

CHAPTER III

METHODS

In order to collect information on how EU port operators and firm decision makers deployed resource capabilities and competencies to comply with ISPS, two survey instruments were developed, one to Port Authority managers, and the other to business executives using Resource-based theory framework. The two surveys are attached in Appendix Two. Questions were developed to determine which security considered resources at the port were: Valuable, Rare, Inimitable, and/or Not easily substitutable by the respondent. All surveys conducted on human subjects comply with the 1981 U.S. Policy for the Protection of Human Subjects (Title 45, Part 56).

Failure to collect data from a high percentage of those surveyed can create bias in the information collected (Fowler, 1993). The groups who did not respond could be different and change the findings compared to those groups who had a higher response rate. The identification of both port managers and port firms is confidential. Past research shows that the response rate for emails surveys for industry surveys approximate 6% (Tse,1995). The response rate received for this survey was 5.52%.

The list of Port Authority managers and firm managers was obtained from the IHS Fairplay Ports and Terminals guide. This guide has contact information by port, both the Port Authority and the companies located at the port.

No sample was taken; the Port Authorities and companies contacted represent the entire population of EU ports. Recipients that did not respond or provided a bad email address were then contacted by USPS. If we failed to receive a reply we then followed up with a 2nd email

request. After the 2nd email request had been made, executives were then contacted by telephone. All telephone requests were made by the same person to ensure inter-rater reliability. Request made by telephone urged for executive to fill out online survey to ensure all data received was identical.

The surveys given in this study asked for factual information from the respondent. In order to increase the validity of the surveys, all surveys were identical and were tested by experts in the industry advising the project and wording of the questions was clarified. Further, a pilot test with two ports in Sweden was also conducted. All changes to the instrument confirmed with the test subjects to ensure that the information was understood.

To make sure that the surveys were reliable, the following steps were taken: First, all respondents were asked the exact same set of questions. Second, the survey was proofread in multiple languages to ensure that all questions meant the same thing to each respondent. Third, the appropriate type of response is communicated consistently to and from all respondents. Fourth, the meaning of the questions was reviewed with the experts to ensure the meaning was consistent to potential respondents. Finally, all responses were summarized. Summarized responses showed that the respondents consistently reported similar knowledge in the same manner.

Validity of questions asked was also tested by academic experts from the Mays School of Business. All feedback was checked for understanding and applied to survey. Survey questions were also tested with Teloar Transport to ensure viability and understanding.

CHAPTER IV

RESULTS

Results show that 34.12% of firms find a competitive advantage in the way they complied to competitive advantage over their peers. This is 8.12% higher than firms that found a competitive advantage in physical security assets. All countries with maritime firms were contacted and asked to respond in this survey. The only survey bias represented is a lack of responses from firms within Portugal. It is not possible to definitively state how this would change findings, but responses were comparable between individual countries.

CHAPTER V

CONCLUSION

This research shows that the methods port sand companies working in ports use to comply with security regulation can impact their competitive advantage. The survey results show that 74% managers do not perceive a competitive advantage was gained in the way security assets/resources/management systems were implemented. However, a strong minority 34.12% of managers did perceive competitive advantage was gained from their method of port security compliance. Furthermore, managers perceive where they were located within the port as an important advantage to security and competitiveness.

Using Resource Based Strategic Theory, this research shows that the perception managers had about their competitiveness was impacted by their mix of competences, capabilities and resources for security compliance.

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APPENDIX A

The following questions 3 through 9 list security compliance assets/resources by type. This list was obtained from the U.S. Coast Guard's best practices. Please check each box that applies for each asset. The headings mean:

Unique means the asset/resource is **unique from my competitors' assets/resources**

Valuable means the asset/resource is **more valuable than my competitors' assets/resources**

Not easily imitated means the asset/resource is **difficult for my competitors to imitate(replicate).**

Non sub means the asset/resource is not **easily substituted by other resources** (rather than exactly imitated)

Specific means the asset/resource is **specific to my company and cannot be easily acquired or used by my competitors**

No competitive advantage means you have the asset/resource but **you are not sure** it gives you a competitive advantage.

3. Physical Assets/Resources include the following,etc.:

	Unique	Valuable	Not Easily Imitated	Non sub	Specific	No Competitive Advantage
structures	<input type="radio"/> 3. Physical Assets/Resources include the following,etc.: structures Unique	<input type="radio"/> structures Valuable	<input type="radio"/> structures Not Easily Imitated	<input type="radio"/> structures Non sub	<input type="radio"/> structures Specific	<input type="radio"/> structures No Competitive Advantage
physical and perimeter barriers	<input type="radio"/> 3. Physical Assets/Resources include the following,etc.: physical and perimeter barriers Unique	<input type="radio"/> physical and perimeter barriers Valuable	<input type="radio"/> physical and perimeter barriers Not Easily Imitated	<input type="radio"/> physical and perimeter barriers Non sub	<input type="radio"/> physical and perimeter barriers Specific	<input type="radio"/> physical and perimeter barriers No Competitive Advantage
lighting	<input type="radio"/> 3. Physical Assets/Resources include the following,etc.: lighting Unique	<input type="radio"/> lighting Valuable	<input type="radio"/> lighting Not Easily Imitated	<input type="radio"/> lighting Non sub	<input type="radio"/> lighting Specific	<input type="radio"/> lighting No Competitive Advantage
screening and detection devices	<input type="radio"/> 3. Physical Assets/Resources include the following,etc.:	<input type="radio"/> screening and detection	<input type="radio"/> screening and detection	<input type="radio"/> screening and detection	<input type="radio"/> screening and detection	<input type="radio"/> screening and detection

	Unique	Valuable	Not Easily Imitated	Non sub	Specific	No Competitive Advantage
	screening and detection devices Unique	devices Valuable	devices Easily Imitated	Not devices Non sub	devices Specific	devices No Competitive Advantage
towers	<input type="radio"/> 3. Physical Assets/Resources include the following, etc.: towers Unique	<input type="radio"/> towers Valuable	<input type="radio"/> towers Not Easily Imitated	<input type="radio"/> towers Non sub	<input type="radio"/> towers Specific	<input type="radio"/> towers No Competitive Advantage
fencing	<input type="radio"/> 3. Physical Assets/Resources include the following, etc.: fencing Unique	<input type="radio"/> fencing Valuable	<input type="radio"/> fencing Not Easily Imitated	<input type="radio"/> fencing Non sub	<input type="radio"/> fencing Specific	<input type="radio"/> fencing No Competitive Advantage
turnstiles	<input type="radio"/> 3. Physical Assets/Resources include the following, etc.: turnstiles Unique	<input type="radio"/> turnstiles Valuable	<input type="radio"/> turnstiles Not Easily Imitated	<input type="radio"/> turnstiles Non sub	<input type="radio"/> turnstiles Specific	<input type="radio"/> turnstiles No Competitive Advantage
anti-vehicle barricades	<input type="radio"/> 3. Physical Assets/Resources include the following, etc.: anti-vehicle barricades Unique	<input type="radio"/> anti-vehicle barricades Valuable	<input type="radio"/> anti-vehicle barricades Not Easily Imitated	<input type="radio"/> anti-vehicle barricades Non sub	<input type="radio"/> anti-vehicle barricades Specific	<input type="radio"/> anti-vehicle barricades No Competitive Advantage
uniforms	<input type="radio"/> 3. Physical Assets/Resources include the following, etc.: uniforms Unique	<input type="radio"/> uniforms Valuable	<input type="radio"/> uniforms Not Easily Imitated	<input type="radio"/> uniforms Non sub	<input type="radio"/> uniforms Specific	<input type="radio"/> uniforms No Competitive Advantage

4. Ongoing Management Assets/Resources include the following, etc.:

	Unique	Valuable	Not Easily Imitated	Non sub	Specific	No Competitive Advantage
communication systems	<input type="radio"/> 4. Ongoing Management Assets/Resources include the following, etc.: communication systems Unique	<input type="radio"/> communication systems Valuable	<input type="radio"/> communication systems Not Easily Imitated	<input type="radio"/> communication systems Non sub	<input type="radio"/> communication systems Specific	<input type="radio"/> communication systems No Competitive Advantage
documentation	<input type="radio"/> 4. Ongoing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Unique	Valuable	Not Easily Imitated	Non sub	Specific	No Competitive Advantage
n and security reports systems	Management Assets/Resources include the following, etc.: documentation and security reports systems Unique	documentatio n and security reports systems Valuable	documentatio n and security reports systems Not Easily Imitated	documentatio n and security reports systems Non sub	documentatio n and security reports systems Specific	documentatio n and security reports systems No Competitive Advantage
patrolling systems	4. Ongoing Management Assets/Resources include the following, etc.: patrolling systems Unique	<input type="radio"/> patrolling systems Valuable	<input type="radio"/> patrolling systems Not Easily Imitated	<input type="radio"/> patrolling systems Non sub	<input type="radio"/> patrolling systems Specific	<input type="radio"/> patrolling systems No Competitive Advantage
access systems	4. Ongoing Management Assets/Resources include the following, etc.: access systems Unique	<input type="radio"/> access systems Valuable	<input type="radio"/> access systems Not Easily Imitated	<input type="radio"/> access systems Non sub	<input type="radio"/> access systems Specific	<input type="radio"/> access systems No Competitive Advantage
cargo tracking systems	4. Ongoing Management Assets/Resources include the following, etc.: cargo tracking systems Unique	<input type="radio"/> cargo tracking systems Valuable	<input type="radio"/> cargo tracking systems Not Easily Imitated	<input type="radio"/> cargo tracking systems Non sub	<input type="radio"/> cargo tracking systems Specific	<input type="radio"/> cargo tracking systems No Competitive Advantage
security and access procedures	4. Ongoing Management Assets/Resources include the following, etc.: security and access procedures Unique	<input type="radio"/> security and access procedures Valuable	<input type="radio"/> security and access procedures Not Easily Imitated	<input type="radio"/> security and access procedures Non sub	<input type="radio"/> security and access procedures Specific	<input type="radio"/> security and access procedures No Competitive Advantage
security incentive systems	4. Ongoing Management Assets/Resources include the following, etc.:	<input type="radio"/> security incentive systems Valuable	<input type="radio"/> security incentive systems Not Easily Imitated	<input type="radio"/> security incentive systems Non sub	<input type="radio"/> security incentive systems Specific	<input type="radio"/> security incentive systems No Competitive Advantage

	Unique	Valuable	Not Easily Imitated	Non sub	Specific	No Competitive Advantage
warning and alarm systems	security incentive systems Unique <input type="radio"/> 4. Ongoing Management Assets/Resources include the following, etc.: warning and alarm systems Unique	<input type="radio"/> warning and alarm systems Valuable	<input type="radio"/> warning and alarm systems Not Easily Imitated	<input type="radio"/> warning and alarm systems Non sub	<input type="radio"/> warning and alarm systems Specific	<input type="radio"/> warning and alarm systems No Competitive Advantage
checklists	<input type="radio"/> 4. Ongoing Management Assets/Resources include the following, etc.: checklists Unique	<input type="radio"/> checklists Valuable	<input type="radio"/> checklists Not Easily Imitated	<input type="radio"/> checklists Non sub	<input type="radio"/> checklists Specific	<input type="radio"/> checklists No Competitive Advantage

5. Planning and Structuring Management Assets/Resources include the following, etc.:

	Unique	Valuable	Not Easily Imitated	Non sub	Specific	No Competitive Advantage
security planning systems	<input type="radio"/> 5. Planning and Structuring Management Assets/Resources include the following, etc.: security planning systems Unique	<input type="radio"/> security planning systems Valuable	<input type="radio"/> security planning systems Not Easily Imitated	<input type="radio"/> security planning systems Non sub	<input type="radio"/> security planning systems Specific	<input type="radio"/> security planning systems No Competitive Advantage
assessment systems	<input type="radio"/> 5. Planning and Structuring Management Assets/Resources include the following, etc.: assessment systems Unique	<input type="radio"/> assessment systems Valuable	<input type="radio"/> assessment systems Not Easily Imitated	<input type="radio"/> assessment systems Non sub	<input type="radio"/> assessment systems Specific	<input type="radio"/> assessment systems No Competitive Advantage
dual usage asset plans	<input type="radio"/> 5. Planning and Structuring Management Assets/Resources include the	<input type="radio"/> dual usage asset plans Valuable	<input type="radio"/> dual usage asset plans Not Easily Imitated	<input type="radio"/> dual usage asset plans Non sub	<input type="radio"/> dual usage asset plans Specific	<input type="radio"/> dual usage asset plans No Competitive Advantage

	Unique	Valuable	Not Easily Imitated	Non sub	Specific	No Competitive Advantage
brainstorming session system	following, etc.: dual usage asset plans Unique					
	<input type="radio"/> 5. Planning and Structuring Management Assets/Resources include the following, etc.: brainstorming session system Unique <input type="radio"/> 5. Planning and Structuring Management Assets/Resources include the following, etc.: brainstorming session system Unique	<input type="radio"/> brainstorming session Valuable	<input type="radio"/> brainstorming session Not Easily Imitated	<input type="radio"/> brainstorming session Non sub	<input type="radio"/> brainstorming session Specific	<input type="radio"/> brainstorming session No Competitive Advantage
security logistics design	following, etc.: security logistics design Unique					
	<input type="radio"/> 5. Planning and Structuring Management Assets/Resources include the following, etc.: security logistics design Unique <input type="radio"/> 5. Planning and Structuring Management Assets/Resources include the following, etc.: security logistics design Unique	<input type="radio"/> security logistics design Valuable	<input type="radio"/> security logistics design Not Easily Imitated	<input type="radio"/> security design Non sub	<input type="radio"/> security logistics design Specific	<input type="radio"/> security logistics design No Competitive Advantage

6. Human Assets/Resources include the following, etc.:

	Unique	Valuable	Not Easily Imitated	Non sub	Specific	No Competitive Advantage
employee knowledge	<input type="radio"/> 6. Human Assets/Resources include the following, etc.: employee knowledge Unique	<input type="radio"/> employee knowledge Valuable	<input type="radio"/> employee knowledge Not Easily Imitated	<input type="radio"/> employee knowledge Non sub	<input type="radio"/> employee knowledge Specific	<input type="radio"/> employee knowledge No Competitive Advantage
	<input type="radio"/> 6. Human Assets/Resources include the following, etc.: employee experience Unique	<input type="radio"/> employee experience Valuable	<input type="radio"/> employee experience Not Easily Imitated	<input type="radio"/> employee experience Non sub	<input type="radio"/> employee experience Specific	<input type="radio"/> employee experience No Competitive Advantage
employee training systems	<input type="radio"/> 6. Human Assets/Resources include the following, etc.: employee training systems Unique	<input type="radio"/> employee training systems Valuable	<input type="radio"/> employee training systems Not Easily Imitated	<input type="radio"/> employee training systems Non sub	<input type="radio"/> employee training systems Specific	<input type="radio"/> employee training systems No Competitive Advantage

	Unique	Valuable	Not Easily Imitated	Non sub	Specific	No Competitive Advantage
guard forces	training systems Unique <input type="radio"/> 6. Human Assets/Resources include the following, etc.: guard forces Unique	<input type="radio"/> guard forces Valuable	<input type="radio"/> guard forces Not Easily Imitated	<input type="radio"/> guard forces Non sub	<input type="radio"/> guard forces Specific	<input type="radio"/> guard forces No Competitive Advantage
trained canine units	trained canine units Unique <input type="radio"/> 6. Human Assets/Resources include the following, etc.: trained canine units Unique	<input type="radio"/> trained canine units Valuable	<input type="radio"/> trained canine units Not Easily Imitated	<input type="radio"/> trained canine units Non sub	<input type="radio"/> trained canine units Specific	<input type="radio"/> trained canine units No Competitive Advantage
drills	drills Unique <input type="radio"/> 6. Human Assets/Resources include the following, etc.: drills Unique	<input type="radio"/> drills Valuable	<input type="radio"/> drills Not Easily Imitated	<input type="radio"/> drills Non sub	<input type="radio"/> drills Specific	<input type="radio"/> drills No Competitive Advantage
exercises	exercises Unique <input type="radio"/> 6. Human Assets/Resources include the following, etc.: exercises Unique	<input type="radio"/> exercises Valuable	<input type="radio"/> exercises Not Easily Imitated	<input type="radio"/> exercises Non sub	<input type="radio"/> exercises Specific	<input type="radio"/> exercises No Competitive Advantage
7. Technological Assets/Resources include the following, etc.:						
biometrics	<input type="radio"/> 7. Technological Assets/Resources include the following, etc.: biometrics Unique	<input type="radio"/> biometrics Valuable	<input type="radio"/> biometrics Not Easily Imitated	<input type="radio"/> biometrics Non sub	<input type="radio"/> biometrics Specific	<input type="radio"/> biometrics No Competitive Advantage
software protection	<input type="radio"/> 7. Technological Assets/Resources include the following, etc.: software protection Unique	<input type="radio"/> software protection Valuable	<input type="radio"/> software protection Not Easily Imitated	<input type="radio"/> software protection Non sub	<input type="radio"/> software protection Specific	<input type="radio"/> software protection No Competitive Advantage

	Unique	Valuable	Not Easily Imitated	Non sub	Specific	No Competitive Advantage
electronic access control	<input type="radio"/> 7. Technological Assets/Resources include the following, etc.: electronic access control Unique	<input type="radio"/> electronic access control Valuable	<input type="radio"/> electronic access control Not Easily Imitated	<input type="radio"/> electronic access control Non sub	<input type="radio"/> electronic access control Specific	<input type="radio"/> electronic access control No Competitive Advantage
electronic surveillance	<input type="radio"/> 7. Technological Assets/Resources include the following, etc.: electronic surveillance Unique	<input type="radio"/> electronic surveillance Valuable	<input type="radio"/> electronic surveillance Not Easily Imitated	<input type="radio"/> electronic surveillance Non sub	<input type="radio"/> electronic surveillance Specific	<input type="radio"/> electronic surveillance No Competitive Advantage
electronic and automatic tracking	<input type="radio"/> 7. Technological Assets/Resources include the following, etc.: electronic and automatic tracking Unique	<input type="radio"/> electronic and automatic tracking Valuable	<input type="radio"/> electronic and automatic tracking Not Easily Imitated	<input type="radio"/> electronic and automatic tracking Non sub	<input type="radio"/> electronic and automatic tracking Specific	<input type="radio"/> electronic and automatic tracking No Competitive Advantage
enterprise resource planning systems (ERP)	<input type="radio"/> 7. Technological Assets/Resources include the following, etc.: enterprise resource planning systems (ERP) Unique	<input type="radio"/> enterprise resource planning systems (ERP) Valuable	<input type="radio"/> enterprise resource planning systems (ERP) Not Easily Imitated	<input type="radio"/> enterprise resource planning systems (ERP) Non sub	<input type="radio"/> enterprise resource planning systems (ERP) Specific	<input type="radio"/> enterprise resource planning systems (ERP) No Competitive Advantage

8. Intangible Assets/Resources include the following, etc.:

	Unique	Valuable	Not Easily Imitated	Non sub	Specific	No Competitive Advantage
location	<input type="radio"/> 8. Intangible Assets/Resources include the following, etc.: location Unique	<input type="radio"/> location Valuable	<input type="radio"/> location Not Easily Imitated	<input type="radio"/> location Non sub	<input type="radio"/> location Specific	<input type="radio"/> location No Competitive Advantage

	Unique	Valuable	Not Easily Imitated	Non sub	Specific	No Competitive Advantage
capacity	<input type="radio"/> 8. Intangible Assets/Resources include the following, etc.: capacity Unique	<input type="radio"/> capacity Valuable	<input type="radio"/> capacity Not Easily Imitated	<input type="radio"/> capacity Non sub	<input type="radio"/> capacity Specific	<input type="radio"/> capacity No Competitive Advantage
complementary infrastructure (rail, roadways, pipeline, etc)	<input type="radio"/> 8. Intangible Assets/Resources include the following, etc.: complementary infrastructure (rail, roadways, pipeline, etc) Unique	<input type="radio"/> complementary infrastructure (rail, roadways, pipeline, etc) Valuable	<input type="radio"/> complementary infrastructure (rail, roadways, pipeline, etc) Not Easily Imitated	<input type="radio"/> complementary infrastructure (rail, roadways, pipeline, etc) Non sub	<input type="radio"/> complementary infrastructure (rail, roadways, pipeline, etc) Specific	<input type="radio"/> complementary infrastructure (rail, roadways, pipeline, etc) No Competitive Advantage
third-party security contracts	<input type="radio"/> 8. Intangible Assets/Resources include the following, etc.: third-party security contracts Unique	<input type="radio"/> third-party security contracts Valuable	<input type="radio"/> third-party security contracts Not Easily Imitated	<input type="radio"/> third-party security contracts Non sub	<input type="radio"/> third-party security contracts Specific	<input type="radio"/> third-party security contracts No Competitive Advantage
relationships with local fishermen	<input type="radio"/> 8. Intangible Assets/Resources include the following, etc.: relationships with local fishermen Unique	<input type="radio"/> relationships with local fishermen Valuable	<input type="radio"/> relationships with local fishermen Not Easily Imitated	<input type="radio"/> relationships with local fishermen Non sub	<input type="radio"/> relationships with local fishermen Specific	<input type="radio"/> relationships with local fishermen No Competitive Advantage
safety culture	<input type="radio"/> 8. Intangible Assets/Resources include the following, etc.: safety culture Unique	<input type="radio"/> safety culture Valuable	<input type="radio"/> safety culture Not Easily Imitated	<input type="radio"/> safety culture Non sub	<input type="radio"/> safety culture Specific	<input type="radio"/> safety culture No Competitive Advantage
union relationships	<input type="radio"/> 8.	<input type="radio"/> union	<input type="radio"/> union	<input type="radio"/> union	<input type="radio"/> union	<input type="radio"/> union

	Unique	Valuable	Not Easily Imitated	Non sub	Specific	No Competitive Advantage
	Intangible Assets/Resources include the following, etc.: union relationships Unique	relationships Valuable	relationships Not Easily Imitated	relationships Non sub	relationships Specific	relationships No Competitive Advantage
outreach relationships	8. Intangible Assets/Resources include the following, etc.: outreach relationships Unique	<input type="radio"/> outreach relationships Valuable	<input type="radio"/> outreach relationships Not Easily Imitated	<input type="radio"/> outreach relationships Non sub	<input type="radio"/> outreach relationships Specific	<input type="radio"/> outreach relationships No Competitive Advantage

9. Financial Assets/Resources include the following, etc.:

	Unique	Valuable	Not Easily Imitated	Non sub	Specific	No Competitive Advantage
port security fees	<input type="radio"/> 9. Financial Assets/Resources include the following, etc.: port security fees Unique	<input type="radio"/> port security fees Valuable	<input type="radio"/> port security fees Not Easily Imitated	<input type="radio"/> port security fees Non sub	<input type="radio"/> port security fees Specific	<input type="radio"/> port security fees No Competitive Advantage
other revenue generation for security and safety	<input type="radio"/> 9. Financial Assets/Resources include the following, etc.: other revenue generation for security and safety Unique	<input type="radio"/> other revenue generation for security and safety Valuable	<input type="radio"/> other revenue generation for security and safety Not Easily Imitated	<input type="radio"/> other revenue generation for security and safety Non sub	<input type="radio"/> other revenue generation for security and safety Specific	<input type="radio"/> other revenue generation for security and safety No Competitive Advantage
cost savings from security compliance	<input type="radio"/> 9. Financial Assets/Resources include the following, etc.: cost savings from security compliance Unique	<input type="radio"/> cost savings from security compliance Valuable	<input type="radio"/> cost savings from security compliance Not Easily Imitated	<input type="radio"/> cost savings from security compliance Non sub	<input type="radio"/> cost savings from security compliance Specific	<input type="radio"/>

The scale used in the following questions is as follows:

- 5 Strongly Agree
- 4 Agree
- 3 Neutral
- 2 Disagree
- 1 Strongly Disagree

10. We have cooperated with other ports to share resources for security.

- 5
- 4
- 3
- 2
- 1

11. My ability to select or develop resources for security at this port is influenced by local laws and local community standards.

- 5
- 4
- 3
- 2
- 1

12. My ability to select or develop resources for security at this port is influenced by engineering and union professional standards.

- 5
- 4
- 3
- 2
- 1

13. My relationships with other organizations (ESPO) or other ports influence my ability to select or develop resources for security.

- 5
- 4
- 3
- 2
- 1

14. My ability to select or develop resources for security at this port is influenced by how other ports handle security compliance.

- 5
- 4
- 3
- 2
- 1

15. The resources acquired or developed for security have the support of top management.

- 5
- 4
- 3
- 2
- 1

16. The resources acquired or developed for security align with the organization's culture.

- 5
- 4
- 3
- 2
- 1

17. Employees are more vigilant about security than before July 1, 2004.

- 5
- 4
- 3
- 2
- 1

18. The security investments changed which types of customers we serve.

- 5
- 4
- 3
- 2
- 1

19. The mix of companies that work in the port and their security assets provide a competitive advantage to the port over my competitors.

- 5
- 4
- 3
- 2
- 1

20. The overall security compliance benefits have exceeded security compliance costs.

- 5
- 4
- 3
- 2
- 1

21. Indicate the number of industry organizations memberships (that share security information such as ESPO, etc.) your port has.

- 0
- 1-5
- 6-10
- 11-15
- 16 or more

22. What is your investment in security compliance resources for the port as compared to your competitors

- Lower
- Higher
- About the same

23. Has your port been privatized?

- Wholly
- Partially
- Not at all

24. Does your company have ISO 28000 certification?

- Yes
- No

25. If so, on what date did you adopt?

- 2004
- 2005
- 2006
- 2007
- 2008
- 2009
- 2010
- 2011

26. Estimate the total cargo that passed through (throughput) the port for the last closed fiscal year.

Containers (numbers of containers TEUs)

- 0
- 1-100
- 101-1.000
- 1.001-10.000
- 10.001-100.000
- 100.001-1.000.000

Over 1.000.000

Oil (Tons)

0

1-100

101-1.000

1.001-10.000

10.001-100.000

100.001-1.000.000

Over 1.000.000

Dry Bulk (Tons)

0

1-100

101-1.000

1.001-10.000

10.001-100.000

100.001-1.000.000

Over 1.000.000

Passengers in total including ferries and cruises but not in automobiles (numbers of passengers)

0

1-100

101-1.000

1.001-10.000

10.001-100.000

100.001-1.000.000

Over 1.000.000

Ro-ro (Number of trucks)

0

1-100

101-1.000

1.001-10.000

10.001-100.000

100.001-1.000.000

Over 1.000.000

Ro-ro (Number automobiles in transit)

0

1-100

- 101-1.000
- 1.001-10.000
- 10.001-100.000
- 100.001-1.000.000
- Over 1.000.000

Ro-ro (Number of railcars)

- 0
- 1-100
- 101-1.000
- 1.001-10.000
- 10.001-100.000
- 100.001-1.000.000
- Over 1.000.000

Other

- Please indicate
- 0
- 1-100
- 101-1.000
- 1.001-10.000
- 10.001-100.000
- 100.001-1.000.000
- Over 1.000.000

27. Estimate, if possible, the total security infrastructure value (historical costs) as a percentage of total infrastructure value (historical costs)?

- 0
- 1-4%
- 5-9%
- 10-14%
- 15-19%
- 20-24%
- 25% and over

28. What are the total annual security compliance maintenance costs as a percentage of total annual costs?

- 0
- 1-4%
- 5-9%

- 10-14%
- 15-19%
- 20-24%
- 25% and over

29. Estimated profit for last fiscal year as percentage of historical cost of assets.

- Less than 0
- 0
- 1-4%
- 5-9%
- 10-14%
- 15-19%
- 20-24%
- 25% and over

30. Estimate your earnings before interest and taxes (EBIT) for last closed fiscal year as a percentage of total revenue

- Less than 0
- 0
- 1-4%
- 5-9%
- 10-14%
- 15-19%
- 20-24%
- 25% and over

31. Estimate your long-term liabilities for last closed fiscal year as a percentage of own capital (equity)

- Less than 0
- 0
- 1-4%
- 5-9%
- 10-14%
- 15-19%
- 20-24%
- 25% and over

32. Estimated return on investment (ROI) from your company's activities in this port.

- Less than 0
- 0
- 1-4%

- 5-9%
- 10-14%
- 15-19%
- 20-24%
- 25% and over

33. Berth occupancy Percentage (number of hours a berth is occupied divided by the number of hours the berth is available)

- 100%
- 90-99%
- 80-89%
- 70-79%
- 60-69%
- 50-59%
- Under 50%

34. Average\ship's turn around time (in hours) upon arrival in port (berth occupancy time) including waiting time to berth (vessel turn time),time at berth, operational time at berth, leave berth, leave port confidential

Tankers

- Under 3 hours
- 3 to 10 hours
- 10 to 15 hours
- 16 to 24 hours
- 25 to 48 hours
- Over 48 hours

Bulk Carriers

- Under 3 hours
- 3 to 10 hours
- 10 to 15 hours
- 16 to 24 hours
- 25 to 48 hours
- Over 48 hours

Container vessels

- Under 3 hours
- 3 to 10 hours
- 10 to 15 hours
- 16 to 24 hours

- 25 to 48 hours
- Over 48 hours

General cargo

- Under 3 hours
- 3 to 10 hours
- 10 to 15 hours
- 16 to 24 hours
- 25 to 48 hours
- Over 48 hours

35. Estimated time cargo moves from ship to outside of port (gate) or warehousing (throughput) by type of cargo (also known as dwell time) in number of days.

Containers

- Under 3 hours
- 3 to 10 hours
- 10 to 15 hours
- 16 to 24 hours
- 25 to 48 hours
- Over 48 hours
- Over one week
- Not applicable

Oil

- Under 3 hours
- 3 to 10 hours
- 10 to 15 hours
- 16 to 24 hours
- 25 to 48 hours
- Over 48 hours
- Over one week
- Not applicable

Dry Bulk

- Under 3 hours
- 3 to 10 hours
- 10 to 15 hours
- 16 to 24 hours
- 25 to 48 hours

- Over 48 hours
- Over one week
- Not applicable

Passengers in total including ferries and cruises but not in automobiles

- Under 3 hours
- 3 to 10 hours
- 10 to 15 hours
- 16 to 24 hours
- 25 to 48 hours
- Over 48 hours
- Over one week
- Not applicable

Ro-ro (trucks)

- Under 3 hours
- 3 to 10 hours
- 10 to 15 hours
- 16 to 24 hours
- 25 to 48 hours
- Over 48 hours
- Over one week
- Not applicable

Ro-ro(Automobiles)

- Under 3 hours
- 3 to 10 hours
- 10 to 15 hours
- 16 to 24 hours
- 25 to 48 hours
- Over 48 hours
- Over one week
- Not applicable

Ro-ro (Railcars)

- Under 3 hours
- 3 to 10 hours
- 10 to 15 hours
- 16 to 24 hours
- 25 to 48 hours

- Over 48 hours
- Over one week
- Not applicable

Other

- Please indicate
- Under 3 hours
- 3 to 10 hours
- 10 to 15 hours
- 16 to 24 hours
- 25 to 48 hours
- Over 48 hours
- Over one week
- Not applicable

36. Estimated time cargo moves from outside of port (gate) or warehousing (throughput) by type of cargo (also known as receiving time) in number of days to ship.

Containers

- Under 3 hours
- 3 to 10 hours
- 10 to 15 hours
- 16 to 24 hours
- 25 to 48 hours
- Over 48 hours
- Over one week
- Not applicable

Oil

- Under 3 hours
- 3 to 10 hours
- 10 to 15 hours
- 16 to 24 hours
- 25 to 48 hours
- Over 48 hours
- Over one week
- Not applicable

Dry Bulk

- Under 3 hours

- 3 to 10 hours
- 10 to 15 hours
- 16 to 24 hours
- 25 to 48 hours
- Over 48 hours
- Over one week
- Not applicable

Passengers in total including ferries and cruises but not in automobiles

- Under 3 hours
- 3 to 10 hours
- 10 to 15 hours
- 16 to 24 hours
- 25 to 48 hours
- Over 48 hours
- Over one week
- Not applicable

Ro-ro (Trucks)

- Under 3 hours
- 3 to 10 hours
- 10 to 15 hours
- 16 to 24 hours
- 25 to 48 hours
- Over 48 hours
- Over one week
- Not applicable

Ro-ro(Automobiles)

- Under 3 hours
- 3 to 10 hours
- 10 to 15 hours
- 16 to 24 hours
- 25 to 48 hours
- Over 48 hours
- Over one week
- Not applicable

Ro-ro (Railcars)

- Under 3 hours

- 3 to 10 hours
- 10 to 15 hours
- 16 to 24 hours
- 25 to 48 hours
- Over 48 hours
- Over one week
- Not applicable

Other

- Please indicate
- Under 3 hours
- 3 to 10 hours
- 10 to 15 hours
- 16 to 24 hours
- 25 to 48 hours
- Over 48 hours
- Over one week
- Not applicable

37. Indicate your port's storage capacity

Containers (numbers of containers TEUs)

- 0
- 1-100
- 101-1.000
- 1.001-10.000
- 10.001-100.000
- 100.001-1.000.000
- Over 1.000.000

Oil (Tons)

- 0
- 1-100
- 101-1.000
- 1.001-10.000
- 10.001-100.000
- 100.001-1.000.000
- Over 1.000.000

Dry Bulk (Tons)

- 0
- 1-100
- 101-1.000
- 1.001-10.000
- 10.001-100.000
- 100.001-1.000.000
- Over 1.000.000

Passengers in total including ferries and cruises but not in automobiles (numbers of passengers)

- 0
- 1-100
- 101-1.000
- 1.001-10.000
- 10.001-100.000
- 100.001-1.000.000
- Over 1.000.000

Ro-ro (Number of trucks)

- 0
- 1-100
- 101-1.000
- 1.001-10.000
- 10.001-100.000
- 100.001-1.000.000
- Over 1.000.000

Ro-ro (Number of automobiles in transit)

- 0
- 1-100
- 101-1.000
- 1.001-10.000
- 10.001-100.000
- 100.001-1.000.000
- Over 1.000.000

Ro-ro (Number of railcars)

- 0
- 1-100
- 101-1.000
- 1.001-10.000

- 10.001-100.000
- 100.001-1.000.000
- Over 1.000.000

Other

- Please indicate
- 0
- 1-100
- 101-1.000
- 1.001-10.000
- 10.001-100.000
- 100.001-1.000.000
- Over 1.000.000

38. Indicate the total square metres at this port

- 0
- 1-100
- 101-1.000
- 1.001-10.000
- Over 10.000

39. Total number of port personnel employed by port authority.

- 0
- 1-10
- 11-50
- 51-100
- 101-250
- 251-500
- Over 500

40. Indicate the total number of berths at this port.

- 0-10
- 11-20
- 21-35
- 35-50
- Over 50

41. Indicate the port's length of quay

- Small (250 to 500 metres of continuous quayline)
- Medium (500 to 1000 metres of continuous quayline)
- Large (more than 1000 metres of continuous quayline)

42. Number of vessels (by type of vessel) handled annually/vessel calls for this port

Inland waterways vessels

- 0-10
- 11-100
- 101-500
- 501-1.000
- Over 1.000

Sea going vessels

- 0-10
- 11-100
- 101-500
- 501-1.000
- Over 1.000

Other non commercial vessels

- 0-10
- 11-100
- 101-500
- 501-1.000
- Over 1.000

43. Indicate the total number of cranes at this port

- 0-10
- 11-25
- 26-50
- Over 50

44. Indicate the annual growth rate percentage for this port.

- Less than 0
- 0
- 1-4%
- 5-9%
- 10-14%
- 15-19%
- 20-24%
- 25% and over

46. Please add your email address.

Email

Appendix B

WHY YOU SHOULD COMPLETE THIS SURVEY

We are trying to determine if EU port-based companies can receive a competitive advantage from their methods and processes of security compliance with ISPS and EU regulation.

BENEFITS TO YOU

This research should provide companies with information on the management practices that help you beat your competition and make better security compliance decisions. The knowledge gained will be freely shared with you in final tabulator form. We will not reveal the nature of any individual response to any outside source.

WHY YOU

You are a manager in a company working in an EU port. The EU controls over one third of the world's shipping.

WHO WE ARE

We are non profit university research professors from the World Maritime University (Malmo, Sweden) and Texas A & M University at Galveston (Galveston, Texas, USA)

TIME TO COMPLETE

The time to complete is approximately 15 minutes. We know you are busy and will appreciate your help with this voluntary survey.

Two Points

When we refer to **Assets/Resources** we mean only assets/resources acquired **after July 1,2004**.

When we refer to **Competitive Advantage or Competitiveness** we mean that which makes your company perform at a higher level than others in your same industry or market. Your competitors may include companies in other ports.

1. Please fill in the information below:

Your Company Name

Your title

The EU port in which your company does business and for which you are responding

2. Area of port operations in which your company is involved (Select all that apply)

- Port/Terminal Operator
- Pilotage Authority
- Port Agent
- Stevedore
- Chandler

- Bunkerer
- Port Towage
- Shipyard
- Other

3. What kind of cargo does your company handle? Indicate all cargo you handle.

- Containers
- Oil
- Dry Bulk
- Passengers
- Ro-ro
- Other. Please indicate

The following questions 1 through 7 list security compliance assets/resources by type. This list was obtained from the U.S. Coast Guard's best practices. Please check each box that applies for each asset. The headings mean:

Unique means the asset/resource is **unique from my competitors' assets/resources**

Valuable means the asset/resource is **more valuable than my competitors' assets/resources**

Not easily imitated means the asset/resource is **difficult for my competitors to imitate (replicate)**.

Non sub means the asset/resource is not **easily substituted by other resources** (rather than exactly imitated)

Specific means the asset/resource is **specific to my company and cannot be easily acquired or used by my competitors**

No competitive advantage means you have the asset/resource but **you are not sure** it gives you a competitive advantage.

4. Physical Assets/Resources include the following, etc.:

	Unique	Valuable	Not Easily Imitated	Non sub	Specific	No Competitive Advantage
structures	<input type="radio"/> 4. Physical Assets/Resources include the following, etc.: <input type="radio"/> Unique structures	<input type="radio"/> structures Valuable	<input type="radio"/> structures Not Easily Imitated	<input type="radio"/> structures Non sub	<input type="radio"/> structures Specific	<input type="radio"/> structures No Competitive Advantage
physical and perimeter barriers	<input type="radio"/> 4. Physical Assets/Resources include the following, etc.:	<input type="radio"/> physical and perimeter	<input type="radio"/> physical and perimeter	<input type="radio"/> physical and perimeter	<input type="radio"/> physical and perimeter	<input type="radio"/> physical and perimeter barriers No

	Unique	Valuable	Not Easily Imitated	Non sub	Specific	No Competitive Advantage
	physical and perimeter barriers Unique	barriers Valuable	barriers Not Easily Imitated	barriers Non sub	barriers Specific	Competitive Advantage
lighting	<input type="radio"/> 4. Physical Assets/Resources include the following, etc.: lighting Unique	<input type="radio"/> lighting Valuable	<input type="radio"/> lighting Not Easily Imitated	<input type="radio"/> lighting Non sub	<input type="radio"/> lighting Specific	<input type="radio"/> lighting No Competitive Advantage
screening and detection devices	<input type="radio"/> 4. Physical Assets/Resources include the following, etc.: screening and detection devices Unique	<input type="radio"/> screening and detection devices Valuable	<input type="radio"/> screening and detection devices Not Easily Imitated	<input type="radio"/> screening and detection devices Non sub	<input type="radio"/> screening and detection devices Specific	<input type="radio"/> screening and detection devices No Competitive Advantage
towers	<input type="radio"/> 4. Physical Assets/Resources include the following, etc.: towers Unique	<input type="radio"/> towers Valuable	<input type="radio"/> towers Not Easily Imitated	<input type="radio"/> towers Non sub	<input type="radio"/> towers Specific	<input type="radio"/> towers No Competitive Advantage
fencing	<input type="radio"/> 4. Physical Assets/Resources include the following, etc.: fencing Unique	<input type="radio"/> fencing Valuable	<input type="radio"/> fencing Not Easily Imitated	<input type="radio"/> fencing Non sub	<input type="radio"/> fencing Specific	<input type="radio"/> fencing No Competitive Advantage
turnstiles	<input type="radio"/> 4. Physical Assets/Resources include the following, etc.: turnstiles Unique	<input type="radio"/> turnstiles Valuable	<input type="radio"/> turnstiles Not Easily Imitated	<input type="radio"/> turnstiles Non sub	<input type="radio"/> turnstiles Specific	<input type="radio"/> turnstiles No Competitive Advantage
anti-vehicle barricades	<input type="radio"/> 4. Physical Assets/Resources include the following, etc.: anti-vehicle barricades Unique	<input type="radio"/> anti-vehicle barricades Valuable	<input type="radio"/> anti-vehicle barricades Not Easily Imitated	<input type="radio"/> anti-vehicle barricades Non sub	<input type="radio"/> anti-vehicle barricades Specific	<input type="radio"/> anti-vehicle barricades No Competitive Advantage
uniforms	<input type="radio"/> 4. Physical Assets/Resources include the following, etc.: uniforms Unique	<input type="radio"/> uniforms Valuable	<input type="radio"/> uniforms Not Easily Imitated	<input type="radio"/> uniforms Non sub	<input type="radio"/> uniforms Specific	<input type="radio"/> uniforms No Competitive Advantage

5. Ongoing Management Assets/Resources include the following, etc.:

	Unique	Valuable	Not Easily Imitated	Non sub	Specific	No Competitive Advantage
communication systems	<input type="radio"/> 5. Ongoing Management Assets/Resources include the following, etc.: communication systems Unique	<input type="radio"/> communication systems Valuable	<input type="radio"/> communication systems Easily Imitated	<input type="radio"/> communication systems Not sub	<input type="radio"/> communication systems Specific	<input type="radio"/> communication systems No Competitive Advantage
documentation and security reports systems	<input type="radio"/> 5. Ongoing Management Assets/Resources include the following, etc.: documentation and security reports systems Unique	<input type="radio"/> documentation and security reports systems Valuable	<input type="radio"/> documentation and security reports systems Easily Imitated	<input type="radio"/> documentation and security reports systems Non sub	<input type="radio"/> documentation and security reports systems Specific	<input type="radio"/> documentation and security reports systems No Competitive Advantage
patrolling systems	<input type="radio"/> 5. Ongoing Management Assets/Resources include the following, etc.: patrolling systems Unique	<input type="radio"/> patrolling systems Valuable	<input type="radio"/> patrolling systems Easily Imitated	<input type="radio"/> patrolling systems Non sub	<input type="radio"/> patrolling systems Specific	<input type="radio"/> patrolling systems No Competitive Advantage
access systems	<input type="radio"/> 5. Ongoing Management Assets/Resources include the following, etc.: access systems Unique	<input type="radio"/> access systems Valuable	<input type="radio"/> access systems Easily Imitated	<input type="radio"/> access systems Non sub	<input type="radio"/> access systems Specific	<input type="radio"/> access systems No Competitive Advantage
cargo tracking systems	<input type="radio"/> 5. Ongoing Management Assets/Resources include the following, etc.: cargo tracking systems Unique	<input type="radio"/> cargo tracking systems Valuable	<input type="radio"/> cargo tracking systems Easily Imitated	<input type="radio"/> cargo tracking systems Non sub	<input type="radio"/> cargo tracking systems Specific	<input type="radio"/> cargo tracking systems No Competitive Advantage
security and access procedures	<input type="radio"/> 5. Ongoing Management Assets/Resources include the	<input type="radio"/> security and access procedures Valuable	<input type="radio"/> security and access procedures Not Easily	<input type="radio"/> security and access procedures Non sub	<input type="radio"/> security and access procedures Specific	<input type="radio"/> security and access procedures No Competitive

	Unique	Valuable	Not Easily Imitated	Non sub	Specific	No Competitive Advantage
security incentive systems	following, etc.: security and access procedures Unique <input type="radio"/> 5. Ongoing Management Assets/Resources include the following, etc.: security incentive systems Unique	<input type="radio"/> security incentive Valuable	<input type="radio"/> security incentive systems Not Easily Imitated	<input type="radio"/> security incentive systems Non sub	<input type="radio"/> security incentive systems Specific	<input type="radio"/> security incentive systems No Competitive Advantage
warning and alarm systems	following, etc.: warning and alarm systems Unique <input type="radio"/> 5. Ongoing Management Assets/Resources include the following, etc.: warning and alarm systems Unique	<input type="radio"/> warning and alarm systems Valuable	<input type="radio"/> warning and alarm systems Not Easily Imitated	<input type="radio"/> warning and alarm systems Non sub	<input type="radio"/> warning and alarm systems Specific	<input type="radio"/> warning and alarm systems No Competitive Advantage
checklists	checklists Unique <input type="radio"/> 5. Ongoing Management Assets/Resources include the following, etc.: checklists Unique	<input type="radio"/> checklists Valuable	<input type="radio"/> checklists Not Easily Imitated	<input type="radio"/> checklists Non sub	<input type="radio"/> checklists Specific	<input type="radio"/> checklists No Competitive Advantage

6. Planning and Structuring Management Assets/Resources include the following, etc.:

	Unique	Valuable	Not Easily Imitated	Non sub	Specific	No Competitive Advantage
security planning systems	<input type="radio"/> 6. Planning and Structuring Management Assets/Resources include the following, etc.: security planning systems Unique	<input type="radio"/> security planning systems Valuable	<input type="radio"/> security planning systems Not Easily Imitated	<input type="radio"/> security planning systems Non sub	<input type="radio"/> security planning systems Specific	<input type="radio"/> security planning systems No Competitive Advantage
assessment systems	<input type="radio"/> 6. Planning and Structuring Management Assets/Resources include the following, etc.: assessment systems Unique	<input type="radio"/> assessment systems Valuable	<input type="radio"/> assessment systems Not Easily Imitated	<input type="radio"/> assessment systems Non sub	<input type="radio"/> assessment systems Specific	<input type="radio"/> assessment systems No Competitive Advantage

	Unique	Valuable	Not Easily Imitated	Non sub	Specific	No Competitive Advantage
	Assets/Resources include the following, etc.: assessment systems Unique	Valuable	Easily Imitated	sub	Specific	Competitive Advantage
dual usage asset plans	6. Planning and Structuring Management Assets/Resources include the following, etc.: dual usage asset plans Unique	<input type="radio"/> dual usage asset plans Valuable	<input type="radio"/> dual usage asset plans Not Easily Imitated	<input type="radio"/> dual usage asset plans Non sub	<input type="radio"/> dual usage asset plans Specific	<input type="radio"/> dual usage asset plans No Competitive Advantage
brainstorming session system	6. Planning and Structuring Management Assets/Resources include the following, etc.: brainstorming session system Unique	<input type="radio"/> brainstorming session Valuable	<input type="radio"/> brainstorming session Not Easily Imitated	<input type="radio"/> brainstorming session Non sub	<input type="radio"/> brainstorming session Specific	<input type="radio"/> brainstorming session No Competitive Advantage
security logistics design	6. Planning and Structuring Management Assets/Resources include the following, etc.: security logistics design Unique	<input type="radio"/> security logistics design Valuable	<input type="radio"/> security logistics design Not Easily Imitated	<input type="radio"/> security logistics design Non sub	<input type="radio"/> security logistics design Specific	<input type="radio"/> security logistics design No Competitive Advantage

7. Human Assets/Resources include the following, etc.:

	Unique	Valuable	Not Easily Imitated	Non sub	Specific	No Competitive Advantage
employee knowledge	7. Human Assets/Resources include the following, etc.: employee knowledge Unique	<input type="radio"/> employee knowledge Valuable	<input type="radio"/> employee knowledge Not Easily Imitated	<input type="radio"/> employee knowledge Non sub	<input type="radio"/> employee knowledge Specific	<input type="radio"/> employee knowledge No Competitive Advantage
employee experience	7. Human Assets/Resources	<input type="radio"/> employee	<input type="radio"/> employee	<input type="radio"/> employee	<input type="radio"/> employee	<input type="radio"/> employee

	Unique	Valuable	Not Easily Imitated	Non sub	Specific	No Competitive Advantage
	include the following, etc.: employee experience Unique	experience Valuable	experience Not Easily Imitated	experience Non sub	experience Specific	experience No Competitive Advantage
employee training systems	<input type="radio"/> 7. Human Assets/Resources include the following, etc.: employee training systems Unique	<input type="radio"/> employee training systems Valuable	<input type="radio"/> employee training systems Not Easily Imitated	<input type="radio"/> employee training systems Non sub	<input type="radio"/> employee training systems Specific	<input type="radio"/> employee training systems No Competitive Advantage
guard forces	<input type="radio"/> 7. Human Assets/Resources include the following, etc.: guard forces Unique	<input type="radio"/> guard forces Valuable	<input type="radio"/> guard forces Not Easily Imitated	<input type="radio"/> guard forces Non sub	<input type="radio"/> guard forces Specific	<input type="radio"/> guard forces No Competitive Advantage
trained canine units	<input type="radio"/> 7. Human Assets/Resources include the following, etc.: trained canine units Unique	<input type="radio"/> trained canine units Valuable	<input type="radio"/> trained canine units Not Easily Imitated	<input type="radio"/> trained canine units Non sub	<input type="radio"/> trained canine units Specific	<input type="radio"/> trained canine units No Competitive Advantage
drills	<input type="radio"/> 7. Human Assets/Resources include the following, etc.: drills Unique	<input type="radio"/> drills Valuable	<input type="radio"/> drills Not Easily Imitated	<input type="radio"/> drills Non sub	<input type="radio"/> drills Specific	<input type="radio"/> drills No Competitive Advantage
exercises	<input type="radio"/> 7. Human Assets/Resources include the following, etc.: exercises Unique	<input type="radio"/> exercises Valuable	<input type="radio"/> exercises Not Easily Imitated	<input type="radio"/> exercises Non sub	<input type="radio"/> exercises Specific	<input type="radio"/> exercises No Competitive Advantage
8. Technological Assets/Resources include the following, etc.:						
	Unique	Valuable	Not Easily Imitated	Non sub	Specific	No Competitive Advantage
biometrics	<input type="radio"/> 8. Technological Assets/Resources include the	<input type="radio"/> biometrics Valuable	<input type="radio"/> biometrics Not Easily Imitated	<input type="radio"/> biometrics Non sub	<input type="radio"/> biometrics Specific	<input type="radio"/> biometrics No Competitive Advantage

	Unique	Valuable	Not Easily Imitated	Non sub	Specific	No Competitive Advantage
software protection	<p>following, etc.: biometrics Unique</p> <p><input type="radio"/> 8. Technological Assets/Resources include the following, etc.: software protection Unique</p>	<p><input type="radio"/> software protection Valuable</p>	<p><input type="radio"/> software protection Not Easily Imitated</p>	<p><input type="radio"/> software protection Non sub</p>	<p><input type="radio"/> software protection Specific</p>	<p><input type="radio"/> software protection No Competitive Advantage</p>
electronic access control	<p>following, etc.: electronic access control Unique</p> <p><input type="radio"/> 8. Technological Assets/Resources include the following, etc.: electronic access control Unique</p>	<p><input type="radio"/> electronic access control Valuable</p>	<p><input type="radio"/> electronic access control Not Easily Imitated</p>	<p><input type="radio"/> electronic access control Non sub</p>	<p><input type="radio"/> electronic access control Specific</p>	<p><input type="radio"/> electronic access control No Competitive Advantage</p>
electronic surveillance	<p>following, etc.: electronic surveillance Unique</p> <p><input type="radio"/> 8. Technological Assets/Resources include the following, etc.: electronic surveillance Unique</p>	<p><input type="radio"/> electronic surveillance Valuable</p>	<p><input type="radio"/> electronic surveillance Not Easily Imitated</p>	<p><input type="radio"/> electronic surveillance Non sub</p>	<p><input type="radio"/> electronic surveillance Specific</p>	<p><input type="radio"/> electronic surveillance No Competitive Advantage</p>
electronic and automatic tracking	<p>following, etc.: electronic and automatic tracking Unique</p> <p><input type="radio"/> 8. Technological Assets/Resources include the following, etc.: electronic and automatic tracking Unique</p>	<p><input type="radio"/> electronic and automatic tracking Valuable</p>	<p><input type="radio"/> electronic and automatic tracking Not Easily Imitated</p>	<p><input type="radio"/> electronic and automatic tracking Non sub</p>	<p><input type="radio"/> electronic and automatic tracking Specific</p>	<p><input type="radio"/> electronic and automatic tracking No Competitive Advantage</p>
enterprise resource planning systems (ERP)	<p>following, etc.: enterprise resource planning systems Unique</p> <p><input type="radio"/> 8. Technological Assets/Resources include the following, etc.: enterprise resource planning systems Unique</p>	<p><input type="radio"/> enterprise resource planning systems (ERP) Valuable</p>	<p><input type="radio"/> enterprise resource planning systems (ERP) Not Easily Imitated</p>	<p><input type="radio"/> enterprise resource planning systems (ERP) Non sub</p>	<p><input type="radio"/> enterprise resource planning systems (ERP) Specific</p>	<p><input type="radio"/> enterprise resource planning systems (ERP) No Competitive Advantage</p>

9. Intangible Assets/Resources include the following, etc.:

	Unique	Valuable	Not Easily Imitated	Non sub	Specific	No Competitive Advantage
location	<input type="radio"/> 9. Intangible Assets/Resources include the following, etc.: location Unique	<input type="radio"/> location Valuable	<input type="radio"/> location Not Easily Imitated	<input type="radio"/> location Non sub	<input type="radio"/> location Specific	<input type="radio"/> location No Competitive Advantage
capacity	<input type="radio"/> 9. Intangible Assets/Resources include the following, etc.: capacity Unique	<input type="radio"/> capacity Valuable	<input type="radio"/> capacity Not Easily Imitated	<input type="radio"/> capacity Non sub	<input type="radio"/> capacity Specific	<input type="radio"/> capacity No Competitive Advantage
complementary infrastructure (rail, roadways, pipeline, etc)	<input type="radio"/> 9. Intangible Assets/Resources include the following, etc.: complementary infrastructure (rail, roadways, pipeline, etc) Unique	<input type="radio"/> complementary infrastructure (rail, roadways, pipeline, etc) Valuable	<input type="radio"/> complementary infrastructure (rail, roadways, pipeline, etc) Not Easily Imitated	<input type="radio"/> complementary infrastructure (rail, roadways, pipeline, etc) Non sub	<input type="radio"/> complementary infrastructure (rail, roadways, pipeline, etc) Specific	<input type="radio"/> complementary infrastructure (rail, roadways, pipeline, etc) No Competitive Advantage
third-party security contracts	<input type="radio"/> 9. Intangible Assets/Resources include the following, etc.: third-party security contracts Unique	<input type="radio"/> third-party security contracts Valuable	<input type="radio"/> third-party security contracts Not Easily Imitated	<input type="radio"/> third-party security contracts Non sub	<input type="radio"/> third-party security contracts Specific	<input type="radio"/> third-party security contracts No Competitive Advantage
relationships with local fishermen	<input type="radio"/> 9. Intangible Assets/Resources include the following, etc.: relationships with local fishermen Unique	<input type="radio"/> relationships with local fishermen Valuable	<input type="radio"/> relationships with local fishermen Not Easily Imitated	<input type="radio"/> relationships with local fishermen Non sub	<input type="radio"/> relationships with local fishermen Specific	<input type="radio"/> relationships with local fishermen No Competitive Advantage
safety culture	<input type="radio"/> 9. Intangible Assets/Resources include the following, etc.: safety culture Unique	<input type="radio"/> safety culture Valuable	<input type="radio"/> safety culture Not Easily Imitated	<input type="radio"/> safety culture Non sub	<input type="radio"/> safety culture Specific	<input type="radio"/> safety culture No Competitive Advantage

	Unique	Valuable	Not Easily Imitated	Non sub	Specific	No Competitive Advantage
union relationships	<input type="radio"/> 9. Intangible Assets/Resources include the following, etc.: union relationships Unique	<input type="radio"/> union relationships Valuable	<input type="radio"/> union relationships Not Easily Imitated	<input type="radio"/> union relationships Non sub	<input type="radio"/> union relationships Specific	<input type="radio"/> union relationships No Competitive Advantage
outreach relationships	<input type="radio"/> 9. Intangible Assets/Resources include the following, etc.: outreach relationships Unique	<input type="radio"/> outreach relationships Valuable	<input type="radio"/> outreach relationships Not Easily Imitated	<input type="radio"/> outreach relationships Non sub	<input type="radio"/> outreach relationships Specific	<input type="radio"/> outreach relationships No Competitive Advantage

10. Financial Assets/Resources include the following, etc.:

	Unique	Valuable	Not Easily Imitated	Non sub	Specific	No Competitive Advantage
port security fees	<input type="radio"/> 10. Financial Assets/Resources include the following, etc.: port security fees Unique	<input type="radio"/> port security fees Valuable	<input type="radio"/> port security fees Not Easily Imitated	<input type="radio"/> port security fees Non sub	<input type="radio"/> port security fees Specific	<input type="radio"/> port security fees No Competitive Advantage
other revenue generation for security and safety	<input type="radio"/> 10. Financial Assets/Resources include the following, etc.: other revenue generation for security and safety Unique	<input type="radio"/> other revenue generation for security and safety Valuable	<input type="radio"/> other revenue generation for security and safety Not Easily Imitated	<input type="radio"/> other revenue generation for security and safety Non sub	<input type="radio"/> other revenue generation for security and safety Specific	<input type="radio"/> other revenue generation for security and safety No Competitive Advantage
cost savings from security compliance	<input type="radio"/> 10. Financial Assets/Resources include the following, etc.: cost savings from security compliance Unique	<input type="radio"/> cost savings from security compliance Valuable	<input type="radio"/> cost savings from security compliance Not Easily Imitated	<input type="radio"/> cost savings from security compliance Non sub	<input type="radio"/> cost savings from security compliance Specific	<input type="radio"/>

the scale used in the following questions is as follows:

5 Strongly Agree

- 4 Agree
- 3 Neutral
- 2 Disagree
- 1 Strongly Disagree

11. We have cooperated with other companies in this port to share resources for security.

- 5
- 4
- 3
- 2
- 1

12. My ability to select or develop resources for security at this port is influenced by local laws and local community standards

- 5
- 4
- 3
- 2
- 1

13. My ability to select or develop resources for security at this port is influenced by engineering and union professional standards

- 5
- 4
- 3
- 2
- 1

14. My relationships with other organizations (eg. BIMCO, etc.) influence my ability to select or develop resources for security

- 5
- 4
- 3
- 2
- 1

15. My ability to select or develop resources for security at this port is influenced by how other companies handle security compliance.

- 5
- 4
- 3
- 2
- 1

16. The resources acquired or developed for security have the support of top management

- 5
- 4
- 3
- 2
- 1

17. The resources acquired or developed for security align with the organization's culture

- 5
- 4
- 3
- 2
- 1

18. Employees are more vigilant about security than before July 1, 2004.

- 5
- 4
- 3
- 2
- 1

19. The security investments changed which types of customers we serve

- 5
- 4
- 3
- 2
- 1

20. The mix of companies that work in the port and their security assets provide a competitive advantage to my company over my competitors.

- 5
- 4
- 3
- 2
- 1

21. The overall security compliance benefits have exceeded security compliance costs.

- 5
- 4
- 3
- 2

1

22. Indicate the number of industry organizations memberships (that share security information such as BIMCO, etc.) your company has

0

1-5

6-10

11-15

16 or more

23. What is your investment in security compliance resources in this port as compared to your competitors

Lower

Higher

About the same

24. Does your company have ISO 28000 certification?

Yes

No

25. If so, on what date did you adopt?

2004

2005

2006

2007

2008

2009

2010

2011

26. Estimate the total cargo that your company handled at this port for the last closed fiscal year.

Containers (numbers of containers TEUs)

0

1-100

101-1.000

1.001-10.000

10.001-100.000

100.001-1.000.000

Over 1.000.000

Oil (Tons)

0

- 1-100
- 101-1.000
- 1.001-10.000
- 10.001-100.000
- 100.001-1.000.000
- Over 1.000.000

Dry Bulk (Tons)

- 0
- 1-100
- 101-1.000
- 1.001-10.000
- 10.001-100.000
- 100.001-1.000.000
- Over 1.000.000

Passengers in total including ferries and cruises but not in automobiles (numbers of passengers)

- 0
- 1-100
- 101-1.000
- 1.001-10.000
- 10.001-100.000
- 100.001-1.000.000
- Over 1.000.000

Ro-ro (Number of trucks)

- 0
- 1-100
- 101-1.000
- 1.001-10.000
- 10.001-100.000
- 100.001-1.000.000
- Over 1.000.000

Ro-ro (Number of automobiles in transit)

- 0
- 1-100
- 101-1.000
- 1.001-10.000
- 10.001-100.000

100.001-1.000.000

Over 1.000.000

Ro-ro (Number of railcars)

0

1-100

101-1.000

1.001-10.000

10.001-100.000

100.001-1.000.000

Over 1.000.000

Other

Please indicate

0

1-100

101-1.000

1.001-10.000

10.001-100.000

100.001-1.000.000

Over 1.000.000

27. Estimated profit for last closed fiscal year as percentage of historical cost of assets from your company's activities in this port (ROA).

Less than 0

0

1-4%

5-9%

10-14%

15-19%

20-24%

25% and over

28. Estimate your earnings before interest and taxes(EBIT) for last closed fiscal year as a percentage of total revenue

Less than 0

0

1-4%

5-9%

10-14%

- 15-19%
- 20-24%
- 25% and over

29. Estimate your long-term liabilities for last closed fiscal year as a percentage of own capital (equity)

- Less than 0
- 0
- 1-4%
- 5-9%
- 10-14%
- 15-19%
- 20-24%
- 25% and over

30. Estimated return on investment (ROI) from your company's activities in this port.

- Less than 0
- 0
- 1-4%
- 5-9%
- 10-14%
- 15-19%
- 20-24%
- 25% and over

31. Estimate, if possible, the total security infrastructure value (historical costs) for your operations at this port as a percentage of total infrastructure value (historical costs)?

- Less than 0
- 0
- 1-4%
- 5-9%
- 10-14%
- 15-19%
- 20-24%
- 25% and over

32. What are the total annual security compliance maintenance costs for your operations at this port as a percentage of total annual costs?

- Less than 0
- 0
- 1-4%

- 5-9%
- 10-14%
- 15-19%
- 20-24%
- 25% and over

33. For the berths you control at this port indicate the average number of hours a berth is occupied as a percentage of the average number of hours the berth is available.

- 100%
- 90-99%
- 80-89%
- 70-79%
- 60-69%
- 50-59%
- Under 50%

34. Indicate your company's square metres at this port

- 0
- 1-100
- 101-1.000
- 1.001-10.000
- Over 10.000

35. Total number of your company's personnel employed by this port

- 0
- 1-10
- 11-50
- 51-100
- 101-250
- 251-500
- Over 500

36. Total number of berths that your company controls at this port

- 0
- 1-10
- 11-20
- 21-35
- 35-50
- Over 50

37. Number of vessels (by type of vessel) handled annually/vessel calls by your company at this port

Inland waterways vessels

- 0
- 1-10
- 11-100
- 101-500
- 501-1.000
- Over 1.000

Sea going vessels

- 0
- 1-10
- 11-100
- 101-500
- 501-1.000
- Over 1.000

Other non commercial vessels

- 0
- 1-10
- 11-100
- 101-500
- 501-1.000
- Over 1.000

38. Indicate the number of cranes your company controls at this port

- 0
- 1-10
- 11-25
- 26-50
- 50

39. Indicate your company's storage capacity at this port.

TEUs (containers)

- 0
- 1-10
- 11-100
- 101-1.000
- 1.001-10.000

10.001-100.000

Over 100.000

Dry bulk tonnage

0

1-10

11-100

101-1.000

1.001-10.000

10.001-100.000

Over 100.000

Oil tonnage

0

1-10

11-100

101-1.000

1.001-10.000

10.001-100.000

Over 100.000

Ro-ro (Number of trucks)

0

1-100

101-1.000

1.001-10.000

10.001-100.000

100.001-1.000.000

Over 1.000.000

Ro-ro (Number of automobiles in transit)

0

1-100

101-1.000

1.001-10.000

10.001-100.000

100.001-1.000.000

Over 1.000.000

Ro-ro (Number of railcars)

Other

Please indicate

0

1-10

11-100

101-1.000

1.001-10.000

10.001-100.000

Over 100.000

40. Indicate the growth rate percentage of your company within this port.

Less than 0

0

1-4%

5-9%

10-14%

15-19%

20-24%

25% and over

41. Please add your email address

Email