SUPPLY CHAIN SECURITY

An Introduction to the Supply Chain Security Guide of The World Bank

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SUPPLY CHAIN SECURITY GUIDE

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Introduction

- A supply chain is a system of resources, organizations, people, technologies, activities and information involved in the act of transporting goods from producer/exporter to consumer/importer

- Threats to the supply chain can come from
  - Outside the supply chain, threatening to disrupt the chain
  - Inside the supply chain, when it is used to perform and cover illegal activities, like contraband, terrorism, or piracy

Introduction (cont'd)

- Supply Chain Security (SCS) is the concept which encompasses the programs, systems, procedures, technologies and solutions applied to address threats to the supply chain and the consequent threats to the economic, social and physical well-being of citizens and organized society

Purpose of the SCS Guide

- To make concerned trade and transport-related officials, managers and personnel in developing countries acquainted with, and aware of, the many initiatives mushrooming in the field of supply chain security
- To explain what these will mean for their respective organizations, and
- To advise as to how to tackle the inlaid challenges

Purpose of the SCS Guide (contd)

- The main avenues presently explored in the pursuit of security in the supply chain are

  - Layered Approach
  - Programs
  - Technology

Layered approach

- The five elements (on the next slide) form what is being called a **multi-layered approach**
- This approach is the one supported by the most active SCS drivers: the US Department of Homeland Security (DHS) and the World Customs Organization (WCO)
- The respective layers focus on different segments of the supply chain, providing multi-angle assessments of the cargo and ensuring that security does not rely on any single point that could be compromised
- The idea is that the layers complement each other and reinforce the total

Layered approach elements

- The ***early detection*** of threats
- The ***certification or credentialing of the actors***
- The ***use of appropriate, sustainable technology***
- The ***improvement of cargo and container integrity*** during the whole transport cycle
- A **set of international regulations**

Layered approach elements (2)

- The ***early detection*** of threats through the timely acquisition, analysis and validation of cargo information by the relevant Government Agencies, using ***advance cargo information*** broadcast and a consistent ***risk management*** system

- The ***certification or credentialing of the actors*** of the supply chain, to ensure that only legitimate, bona fide entities or individuals with an adequate security awareness and self-discipline actively participate to the supply chain. This ideally implies that mechanisms are in place for the mutual recognition by Governments of their respective certification programs

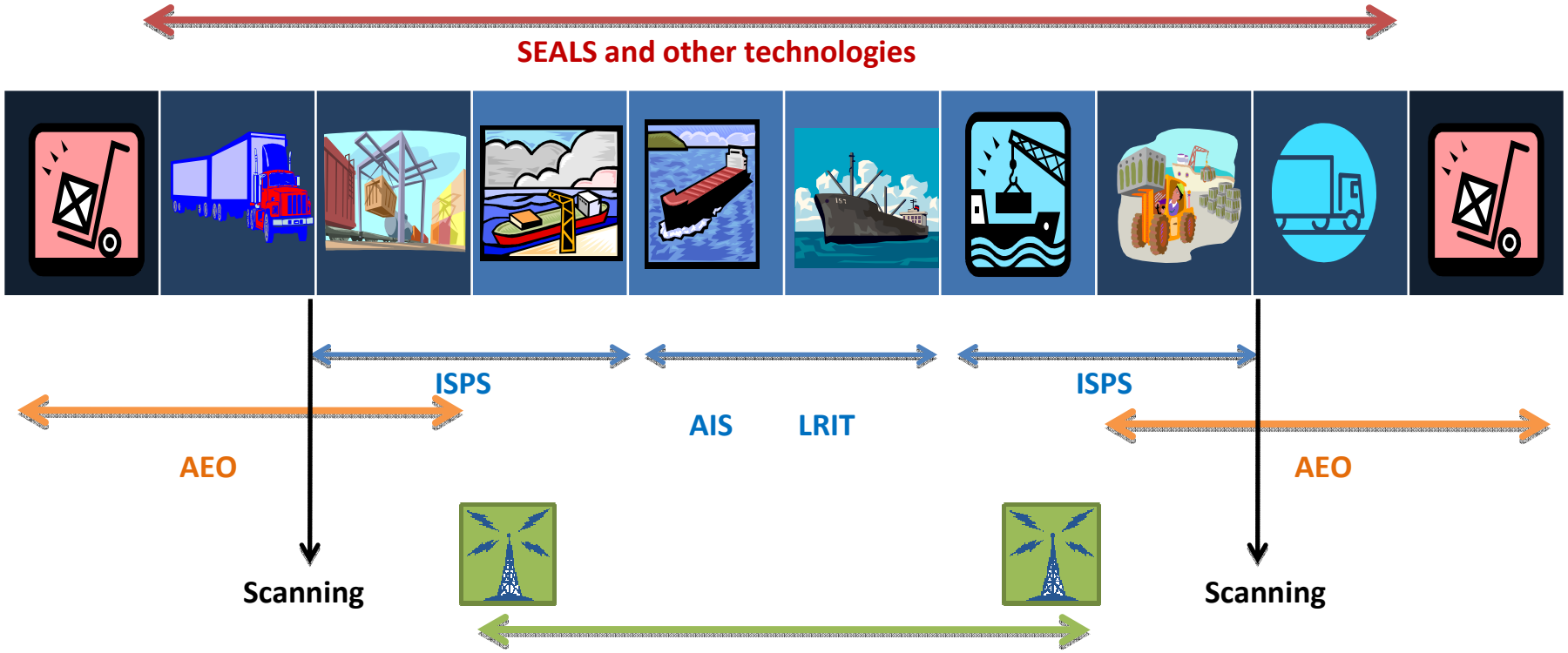
Layered approach elements (3)

- The ***use of appropriate, sustainable technology*** to enable enforcement agencies to timely and speedily screen or examine a larger portion of the commercial flows, while facilitating the flows of legitimate trade

- The ***improvement of cargo and container integrity*** during the whole transport cycle, centered on seals, track and trace, positioning and scanning technologies

- A set of international regulations covering the ***tracking of vessels at sea***, the interface between merchant vessels and ports and the ***security of the port facilities***

LAYERED APPROACH



1) Early detection
2) Certification and credentialing
3) Scanning technology
4) Container integrity
5) ISPS International Ship and Port Security Code, vessel tracking at sea AIS/LRIT

AEO = Authorized Economic Operator

AIS and LRIT are Vessel Tracking Systems

Programs and Technology

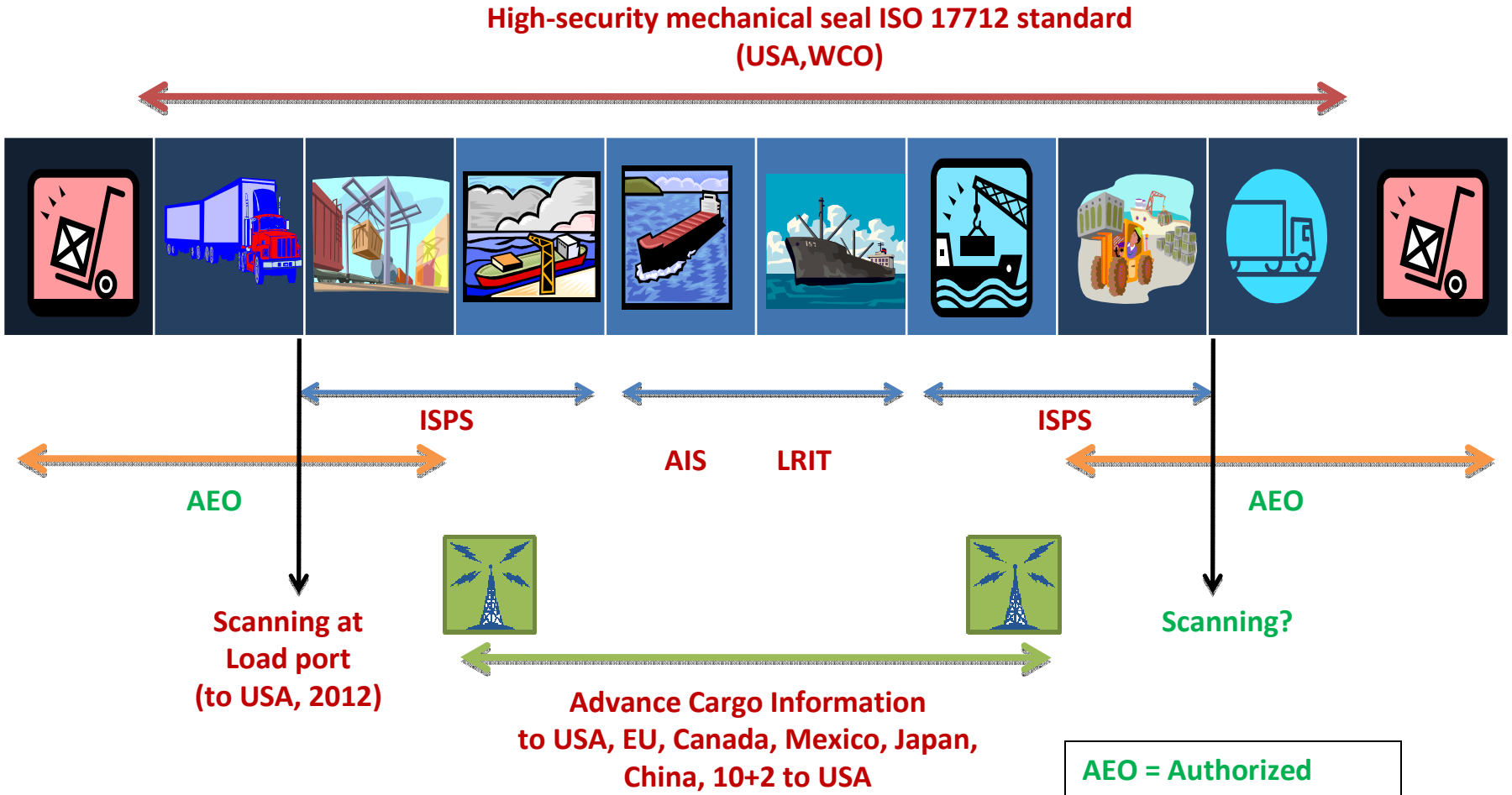
➢ Supply Chain Security Programs

- Major *compulsory programs affecting the actors of the Supply Chain*
- *Main voluntary programs (those that are likely to become compulsory either by law or by market pressure)*
- *Other significant* programs

➢ Technology

- Container integrity device technologies
- Track and trace and positioning technologies
- Non Intrusive Inspection technologies (scanning)

Compulsory programs



AEO = Authorized Economic Operator

AIS and LRIT are Vessel Tracking Systems

1) Compulsory today
2) Compulsory soon

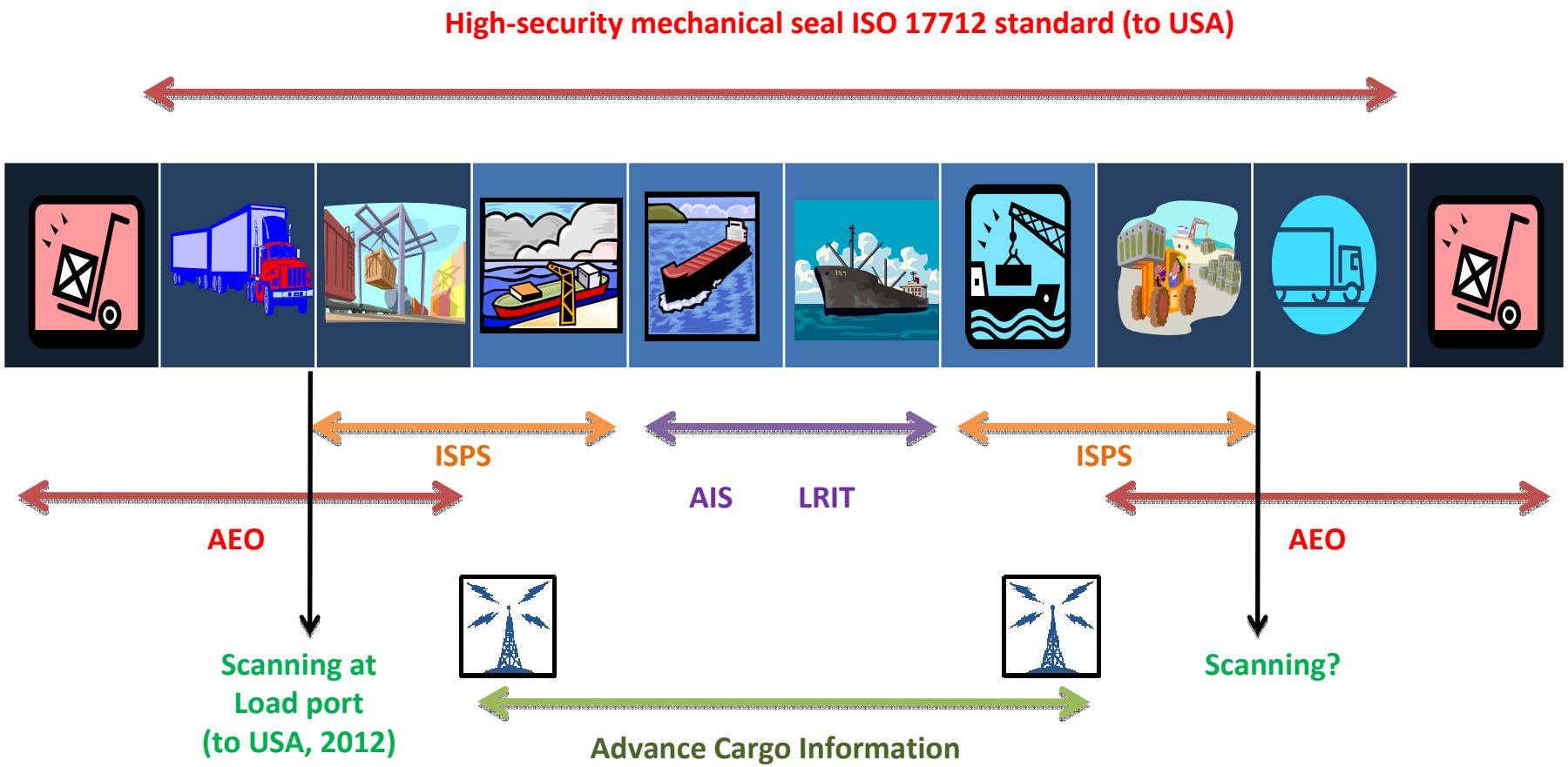
Compulsory Supply Chain Security Programs

- Advance Cargo Information (ACI)
- 24 Hour Rule (USA) (2003)
- International Ship and Port Facility Security (ISPS) Code (2004)
- Pre-arrival and Pre-departure (EU) (2009-2011)
- Japan ACI (2007)
- Mexico 24-hour rule (2007)
- 10 + 2 (2009-2010)
- China 24-hour Advance Manifest Rule (2009)
- 100% scanning (2012)
- LRIT (Long-Range Identification and Tracking of ships)
- AIS (Automatic Identification System)

Major Voluntary Supply Chain Security Programs

- Transported Asset Protection Association (TAPA) (1997)
- Customs-Trade Partnership Against Terrorism (C-TPAT) (2001)
- Container Security Initiative (CSI) (2002)
- World Customs Organization SAFE Framework of Standards (2005)
- ISO 28000 series (2005)
- EU Authorized Economic Operator (AEO) (2008)

Who is concerned ?



1) Shippers/consignees/forwarders
2) Port /Customs
3) Government/port/shipowner
4) Shipping line/nvocc
5) Shipowner/flag state

AEO = Authorized Economic Operator

AIS and LRIT are Vessel Tracking Systems

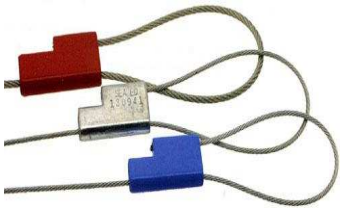
Supply Chain Security Technologies

- Emerging trends in technology
- Existing technologies
- Container security devices and seals
  - Mechanical seals
  - Electronic seals
- Track/trace positioning technologies
- Advanced Inspection Technologies (AIT) - Scanning and Fast Scanning

Examples of seals

Padlock seal

Cable seal



Bolt seal

Barrier seal

Security seals

Examples of seals (contd)

Indicatives seals

E-seals

Examples of scanners

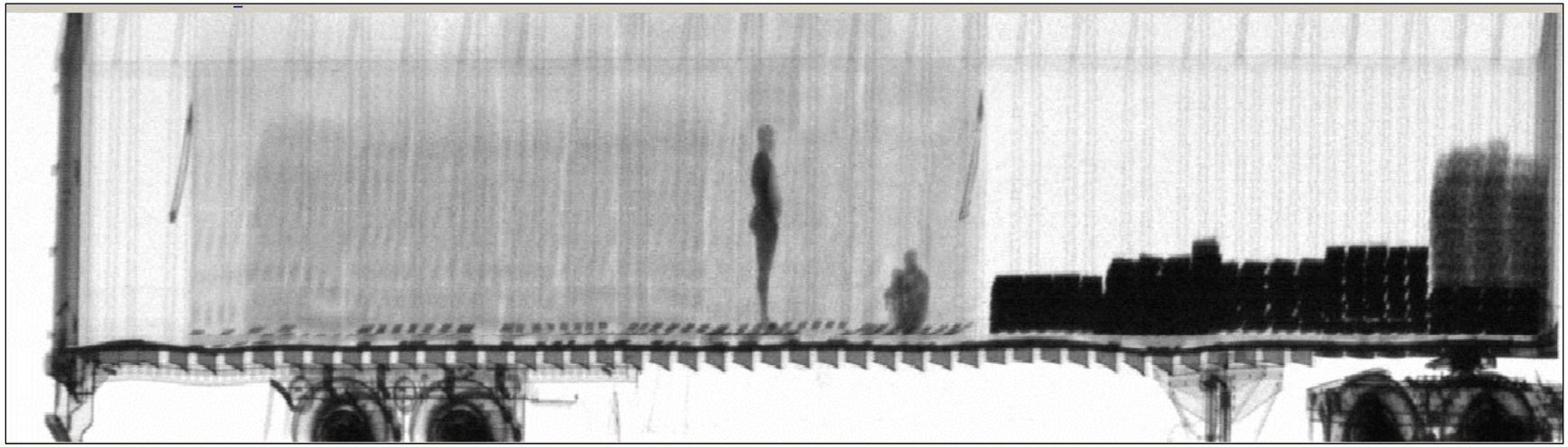
- **Fixed**

- **Mobile**

(Courtesy Port of Rotterdam)

- **Radiation Portal Monitors**

Examples of a Gamma ray image



Rotterdam Automated Container Inspection Lane
Joint study of Customs, Port Authority and Port Business

Four main issues currently requiring sustained attention

- Mutual Recognition of “Authorized Economic Operator” SCS certification programs
- Capacity building
- The US 100% scanning law
- Cautious and sustainable use of emerging technology

Mutual recognition

- Many national SCS programs are being implemented or will be implemented in the coming years
- This then begs the question of mutual recognition of AEO programs and the issue of the multiple SCS layers which will be encountered by the business and trade community
- National administrations will have to make efforts to address this, with the main beneficiaries being the companies that operate in multiple countries with different SCS certification programs

Capacity building

- One notable initiative conducted by WCO is the **Columbus Program** which is dedicated to the capacity building of Customs Administrations in support of the implementation of the Framework of Standards
- This major effort might have been partly inspired by the difficulties met in many countries during the implementation of the ISPS code, and should contribute greatly to the implementation of the WCO Framework of Standards (FoS) world-wide

The US 100% scanning law

- There remain many difficulties to implement this requirement and it is now being envisaged that due to logistical concerns expressed by shippers and carriers and diplomatic concerns expressed by foreign governments, the US Department of Homeland Security (DHS) may not meet the 2012 deadline to scan all cargo bound for US seaports
- As far as can be predicted today, the law is there to stay, and the stakeholders need to keep an eye on how a possible compromise will be reached, if any, and what the end product will look like

Cautious and sustainable use of emerging technology

- While private technology vendors might develop appealing high-tech solutions, it is the task of Governments and International Organizations to verify that such solutions actually do address -and solve- real problems, and that they do so in an affordable and cost-efficient manner, with due regard to their global interoperability
- Technology development must also be coordinated with market requirements to produce devices with low development and deployment costs that contribute to attend real needs of the port and transport industry without disrupting their efficiency

Conclusion - Affordability for all nations engaged in international trade

- Great care and broad consultation must be exercised by lawmakers when pondering the sustainability of incorporating high-tech components in the SCS programs which have a global vocation
- The economic viability and the institutional capacity aspects are central to the analysis of a program's affordability for all nations engaged in international trade

The SCS Guide can be downloaded from the following website:

http://siteresources.worldbank.org/INTPRAL/Resources/SCS_Guide_Final.pdf

Thank you for your attention