



EUROPEAN ORGANISATION FOR SECURITY

**SUPPLY CHAIN SECURITY & RESILIENCE  
PRACTICAL APPLICATION & EXPERIENCE**

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# Why Supply Chain Security and Resilience? – Economic Impact!!!!

**Table 1-1**

## **Deaths and Damages of a Nuclear Terrorist Attack on a Major Seaport or Washington DC**

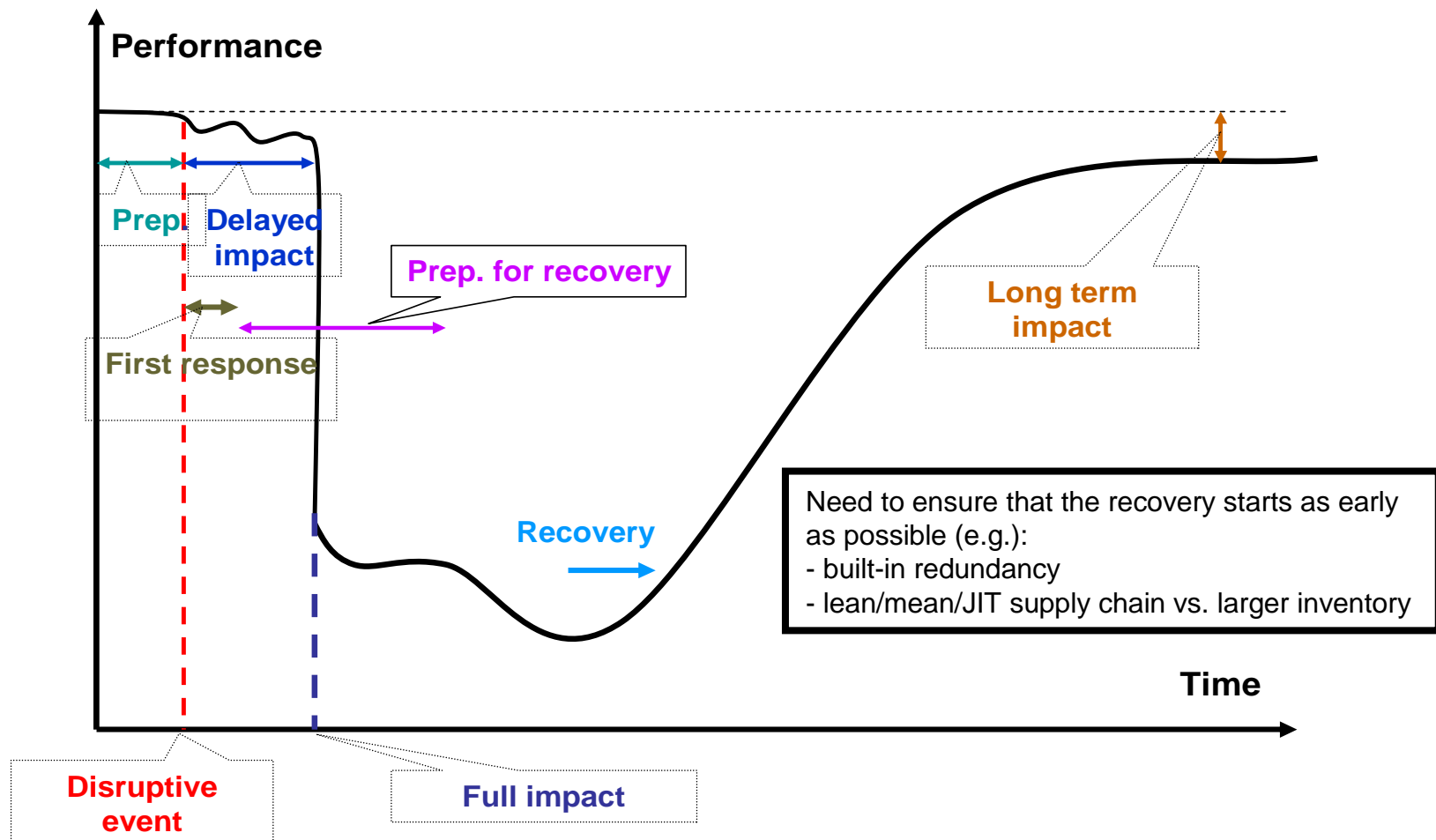
Deaths	50,000 (Port Elizabeth) – 1,000,000 (Manhattan)
Value Statistical Lives Lost @ \$3 million each	\$150 Billion - \$ 3 Trillion (30% of US GDP)
Property Damage – Direct	\$50 – 500 Billion
Trade Disruption	\$100 – 200 Billion
Indirect Costs (Direct times multiplier of 2)	\$300 – 1,400 Billion (1.4 Trillion)
Total First Year Costs	Hundreds of Billions to Trillions (not including cost of lives lost)

*\*Table excerpted from: The Economic Impact of Nuclear Terrorist Attacks on Freight Transport Systems in an Age of Seaport Vulnerability, Abt Associates, April 30, 2003*



# Crisis Recovery – Supply Chain

Disruption impact profile (adapted from *The resilient enterprise*, Yossi Sheffi, MIT Press, 2005, p 64)



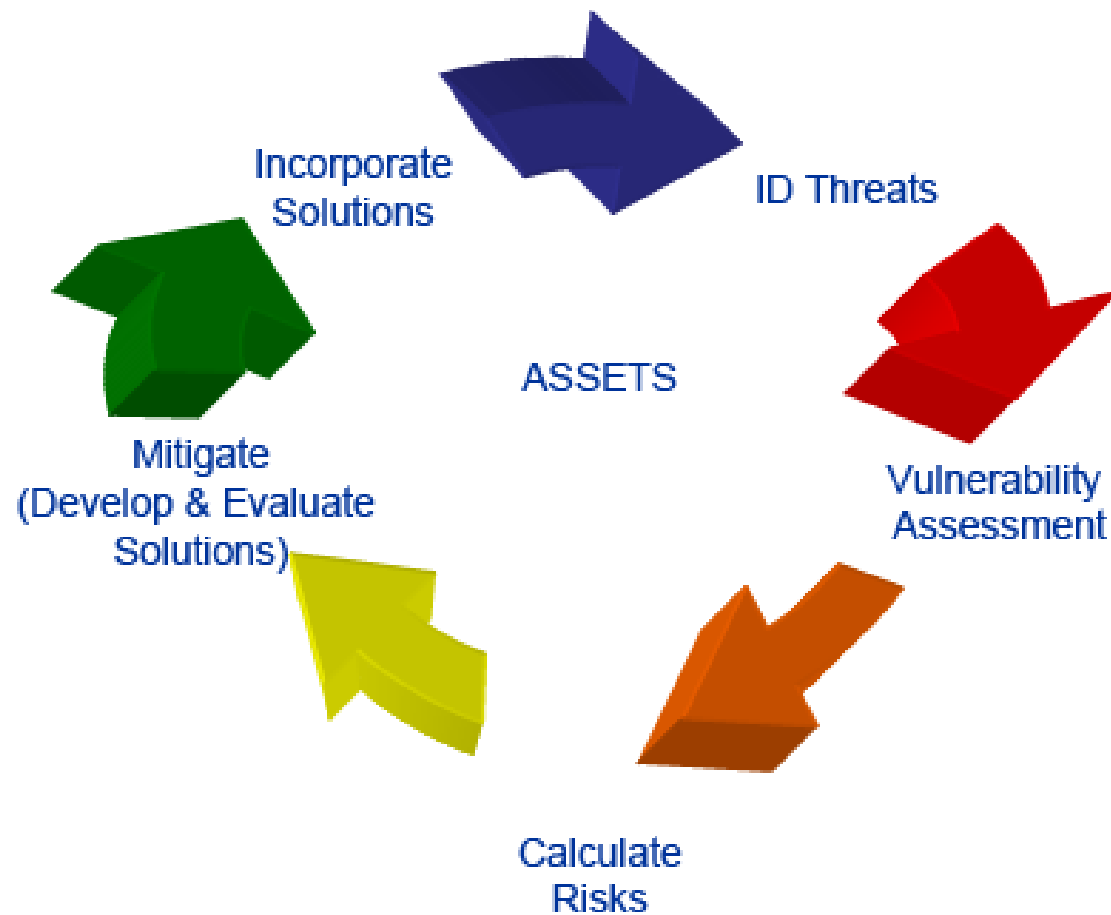


# Practical Supply Chain Resilience Examples

- Ericsson => Sony Ericsson
  - Slow Reaction to Crisis (2001 – US chip manufacturer fire)
  - No Built-In Redundancy (long, thin supply chain)
  - Aggressive, Prepared Competitor Absorbed All Available Manufacturing Capacity (Nokia)
- Positive Supply Chain Resilience Examples
  - Regional – Transport Mode Redundancy – EAC example
  - Multi-supplier Strategy with Option to Ramp-up
  - Switzerland Example – Military Vehicles Manufacturing



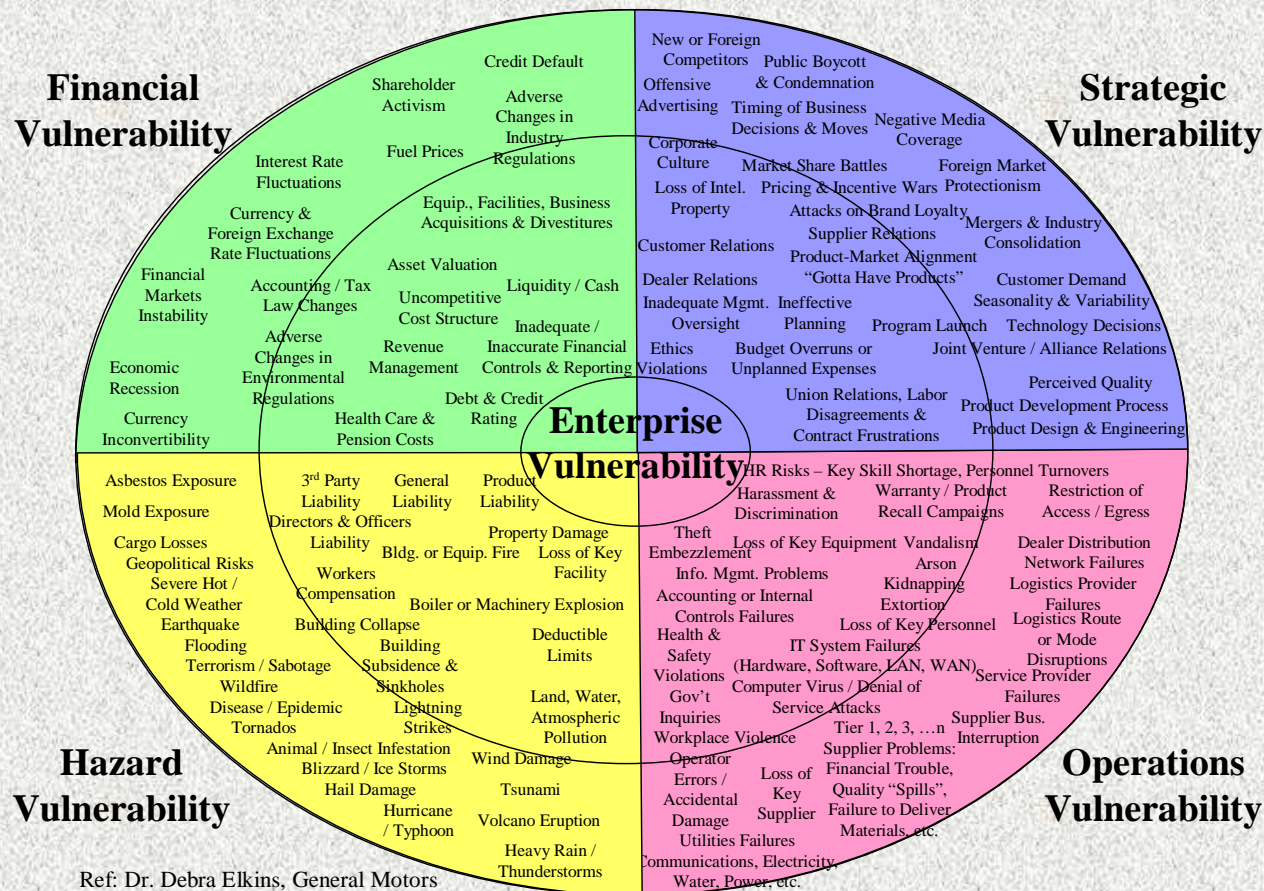
# Classic Threat Assessment & Risk Mitigation





# Example Threat Portfolio

## Firm Risk Portfolio

























# Vulnerability Assessment & Prioritizing Risk Mitigation





Severity class	Severity name	Description of the relevant types of consequences
I	<b>Catastrophic</b>	events that can result in fatality or system loss, very serious injury for personnel or for the environment, economy
II	<b>Critical</b>	events that can result in serious personal injury, ill health or serious system failure, serious injury to the environment, economy
III	<b>Marginal</b>	events that can result in personal injury, ill health, system failure
IV	<b>Negligible</b>	events that can result in minor personal injury, ill health, minor system failure, minor injury to the environment

Frequency class	Frequency name	Comment on the relevant meanings
A	<b>Often</b>	events that will occur frequently during the life of the system
B	<b>Possible</b>	events that will occur several times during the life of the system
C	<b>Occasional</b>	events that will probably occur some time during the life of the system
D	<b>Small</b>	events that are unlikely but may occur during the life of the system
E	<b>Unlikely</b>	events where it could be assumed that an incident will not occur during the life of the system

## Consequence (Severity)

Probability (Frequency)

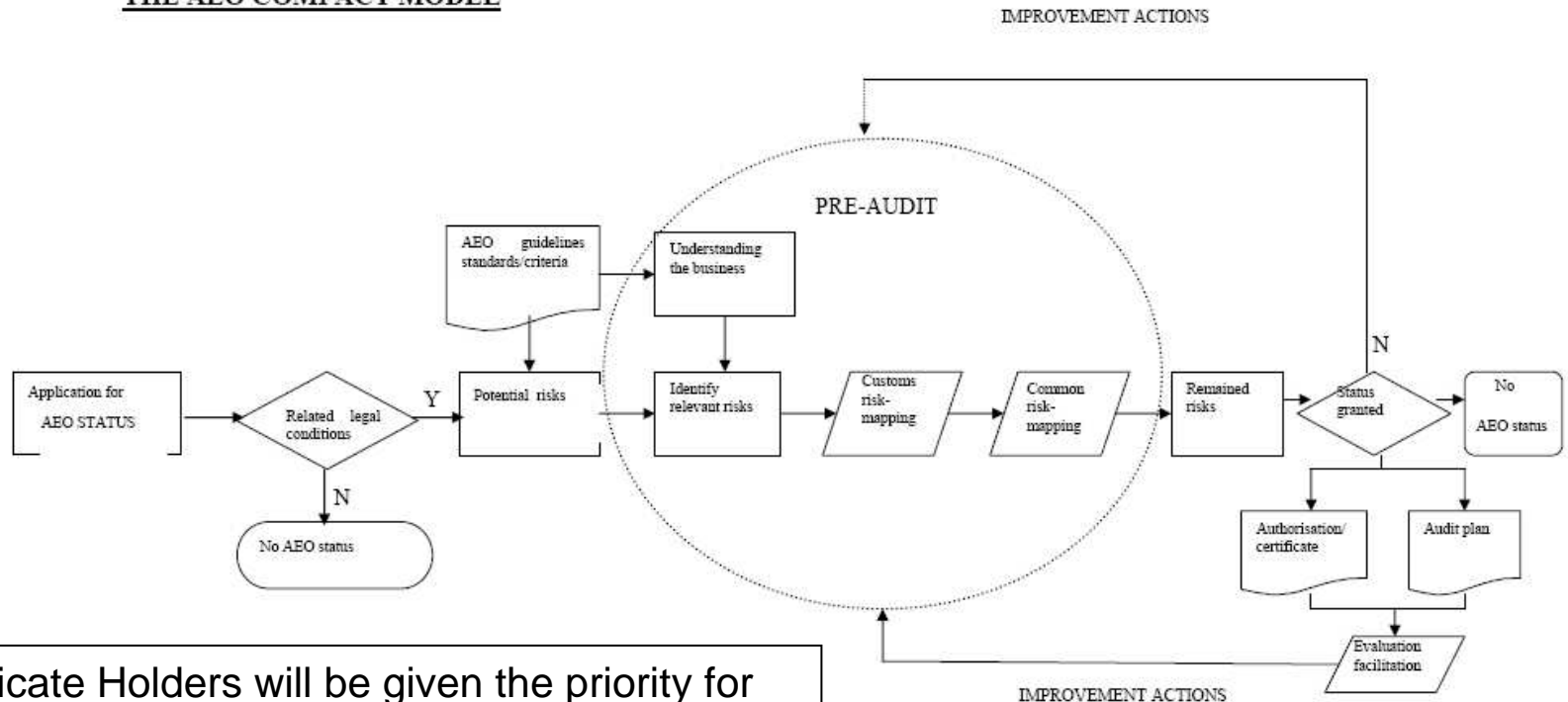
	I	II	III	IV
A				
B				
C				
D				
E				

-  Risk mitigation necessary
-  Risk mitigation important
-  Risk mitigation « nice to have »
-  Risk mitigation costs may outweigh benefits



# The Authorised Economic Operator (AEO) - reduces risk!!!

## THE AEO COMPACT MODEL



AEO Certificate Holders will be given the priority for imports / exports / transit in the case of a terrorist attack or catastrophic natural event.

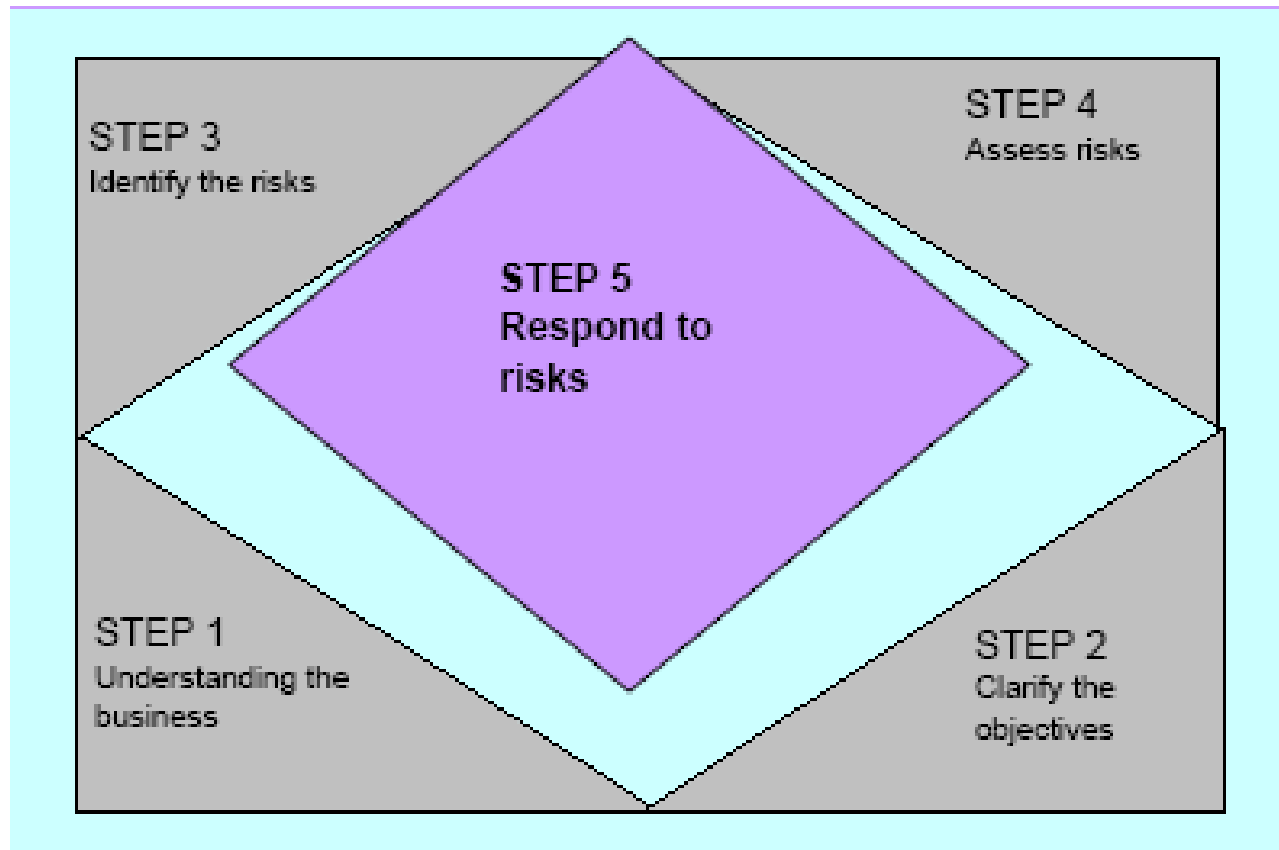
\*NOTE: applies specifically for C-TPAT members in the US

\*from DG TAXUD AEO Compact Model





# AEO Risk Mapping and Mitigation Process





# Supply Chain Security Solutions

Detection – Non-intrusive Inspection – Physical Inspection

Track / Trace / Movement Controls

Cargo / Container Integrity

Maritime  
Cargo

Land-Based  
Cargo

Air Cargo

Advance Information – Data Capture, Information Management, Access

Systems Interoperability – Exchange of Information (relevant agencies)

Regulatory, Voluntary Compliance, Mutual Recognition and other elements



# EOS (Who)

## 31 Members (from 12 European countries) and more to come

Present Members active in the following sectors

CIVIL SECURITY & DEFENCE

TRANSPORT & ENERGY

INFORMATION & COMMUNICATION

FINANCE & SERVICES

HEALTH / FOOD / WATER

NUCLEAR / BIO / CHEMICAL

USER/OPERATOR & SUPPLY COMPANIES

RESEARCH & NGOs Institutions

EU SECTORAL ASSOCIATIONS

