



Protecting our Nation's Ports: Port Security Risk and Resource Management System

A DHS Science and Technology Center of Excellence Solution

Balancing Competing Needs at Ports

The operation of our nation's ports depends on carefully balancing competing needs: maintaining the security of these bustling economic and transportation hubs, ensuring the continued flow of goods, and ensuring that the multitude of agencies and components (e.g., police, harbor patrol, owners, businesses) involved in port security and operations can perform their daily activities.

The Center of Excellence for Risk and Economic Analysis of Terrorism Events (CREATE), a Department of Homeland Security (DHS) Science and Technology (S&T) Center of Excellence, is developing the **Port Security Risk and Resource Management System (PortSec)**, a decision-support system used to assess tactical and strategic risks to port operations and reduce risk from terrorist attacks.

How It Works

PortSec helps port security officers and analysts perform risk assessments and resource allocation analyses in order to optimally balance security activities and countermeasures, business continuity, and daily port activities.

The PortSec software analyzes facts and figures about a port's layout and operations, anticipated attack vectors and methods, and the cost of specific countermeasures. PortSec takes into account vulnerabilities, threats, and potential resource allocations and assesses them against consequences and costs.

Collaborating with End Users

CREATE researchers are collaborating with the U.S. Coast Guard and the Ports of Los Angeles and Long Beach (POLA/LB) to develop PortSec.

"We at the Port of Los Angeles believe that the PortSec project is particularly relevant in this challenging budget climate. The port was very pleased to see that CREATE was responsive to our concerns about resource management."

~ Capt. John Holmes
Deputy Executive Director of Operations
Harbor Department
Port of Los Angeles

PortSec Components

The PortSec system consists of two modes:

- The "tactical system" addresses daily security needs.
- The "strategic system" addresses long-term resource allocation investments for port security.

The PortSec system consists of several modules:

- Risk assessment model
- Resource/technology portfolio allocation model
- Macro-micro simulation model of port operations
- Port transportation model
- Economic cost model
- Environmental model
- User interfaces



Screen shot of tactical PortSec output

Next Steps

A prototype of the tactical PortSec system has been evaluated at POLA/LB. The next steps in the development of PortSec include:

- Incorporating POLA/LB user feedback into the next release of PortSec
- Updating the risk assessment model
- Establishing connections with external information sharing and data sources (e.g., Unified Incident Command and Decision Support, Marine Corps Exchange, Caltrans, blue force tracking, intelligence sources such as Suspicious Activity Reports)
- Implementing calendar-based event planning and assessment
- Extending PortSec to support strategic planning and operations