

Office of Cyber and Infrastructure Analysis

Terminal Automation and Cybersecurity Risks

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Andrew Pasternak



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Security

National Protection And Programs Directorate
OFFICE OF CYBER AND INFRASTRUCTURE ANALYSIS

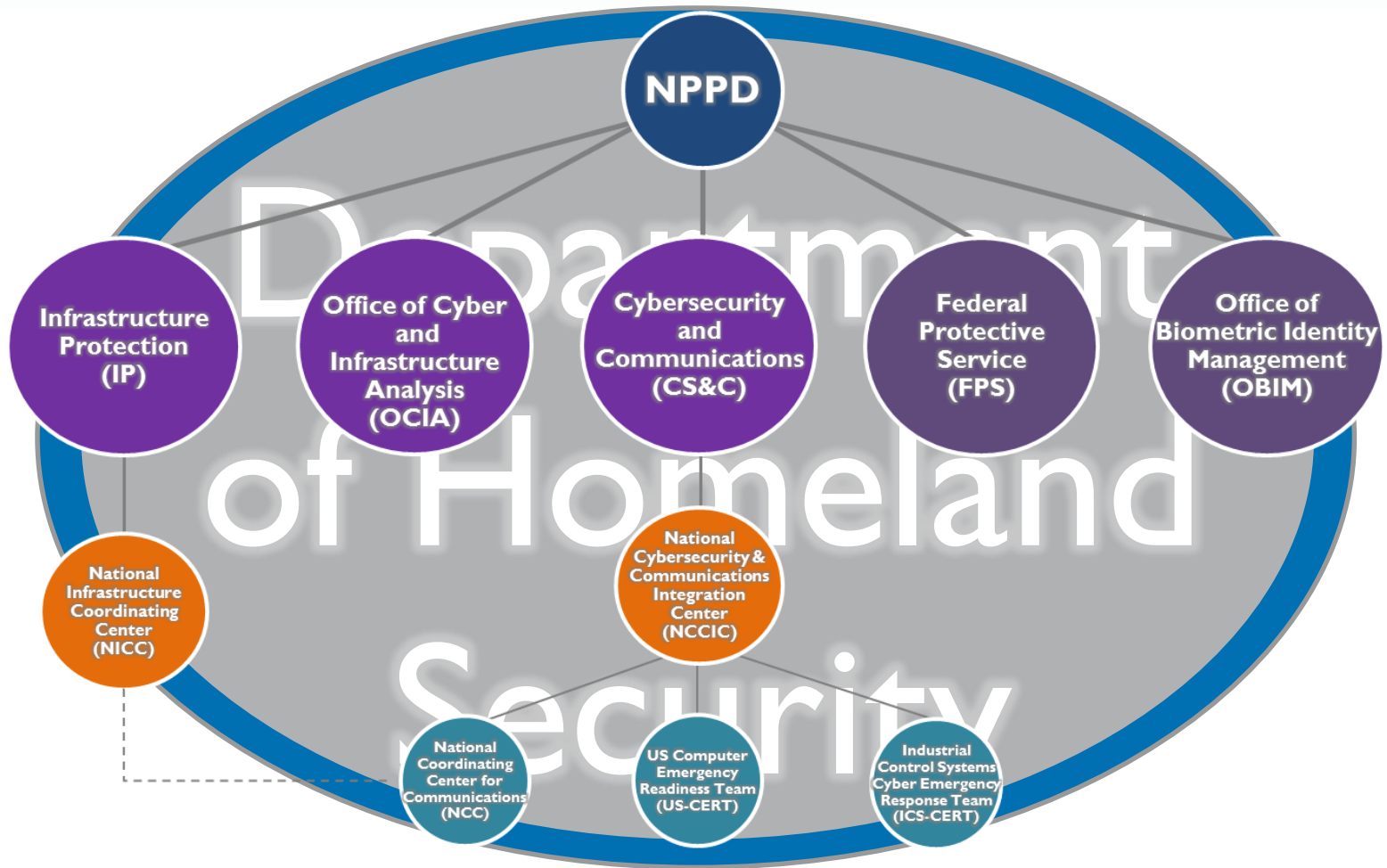
Overview

- OCIA 101
- Importance of Container Shipping to DHS
- Infrastructure System Overview
 - Automated Container Overview
 - Terminal Operating System
- Cybersecurity Risk Analysis
 - OCIA
 - Regional Resiliency Assessment Program



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OCIA Vision

Strengthen the security and resilience of the Nation's critical infrastructure through innovative cyber and physical analysis.



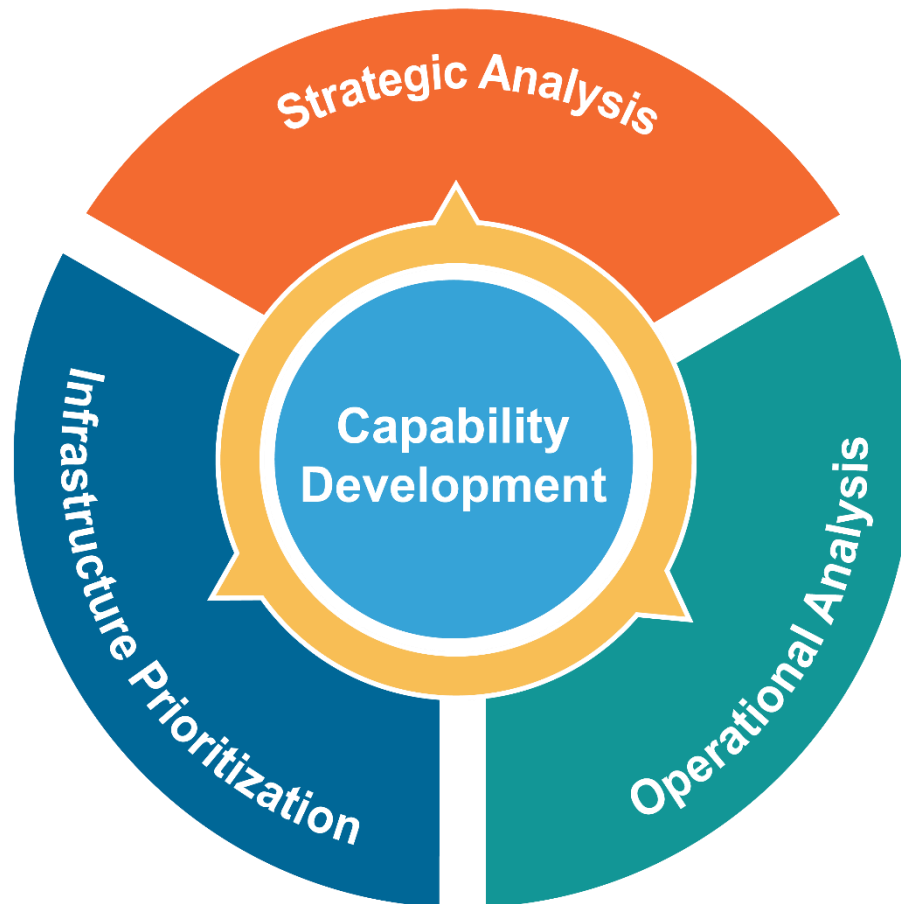
OCIA Mission

Inform the decisions that protect the Nation's critical infrastructure.



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OCIA Core Functions



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Importance of Container Shipping to DHS

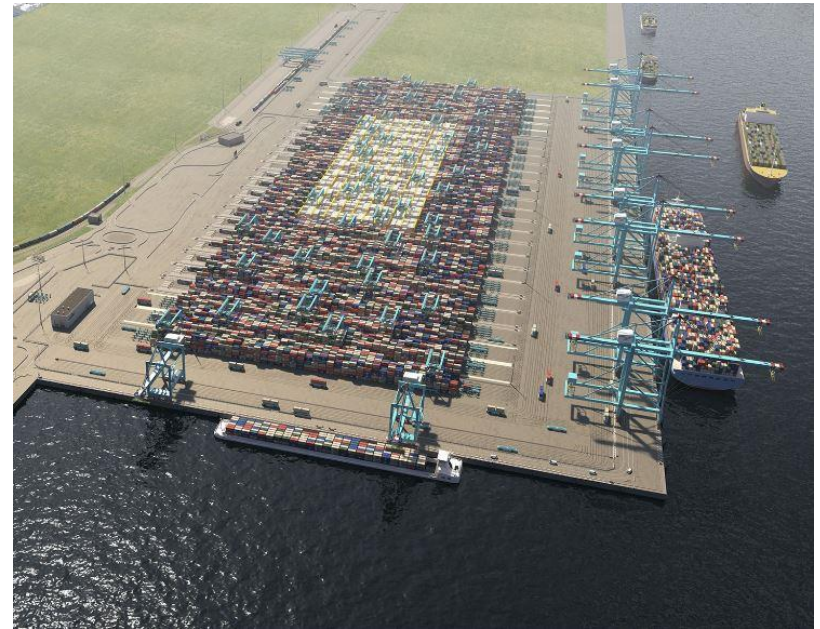


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Infrastructure System Overview

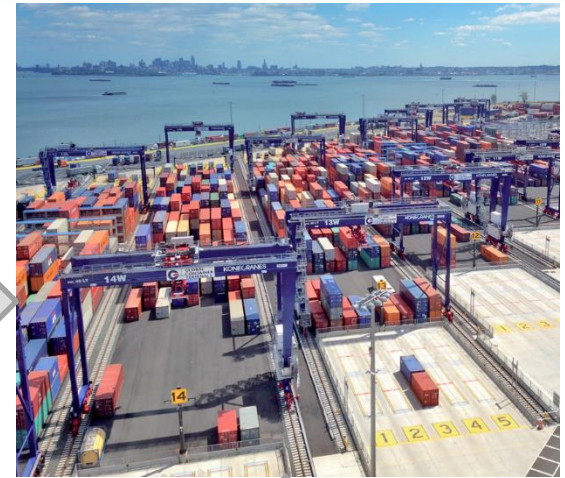
OCIA is developing an Infrastructure System Overview (ISO) of automated container terminals because:

- Increase in automation at container terminals
 - Environmental
 - Safety
 - Operational
- Limited knowledge of automation outside of industry
- Create baseline understanding for future risk analysis



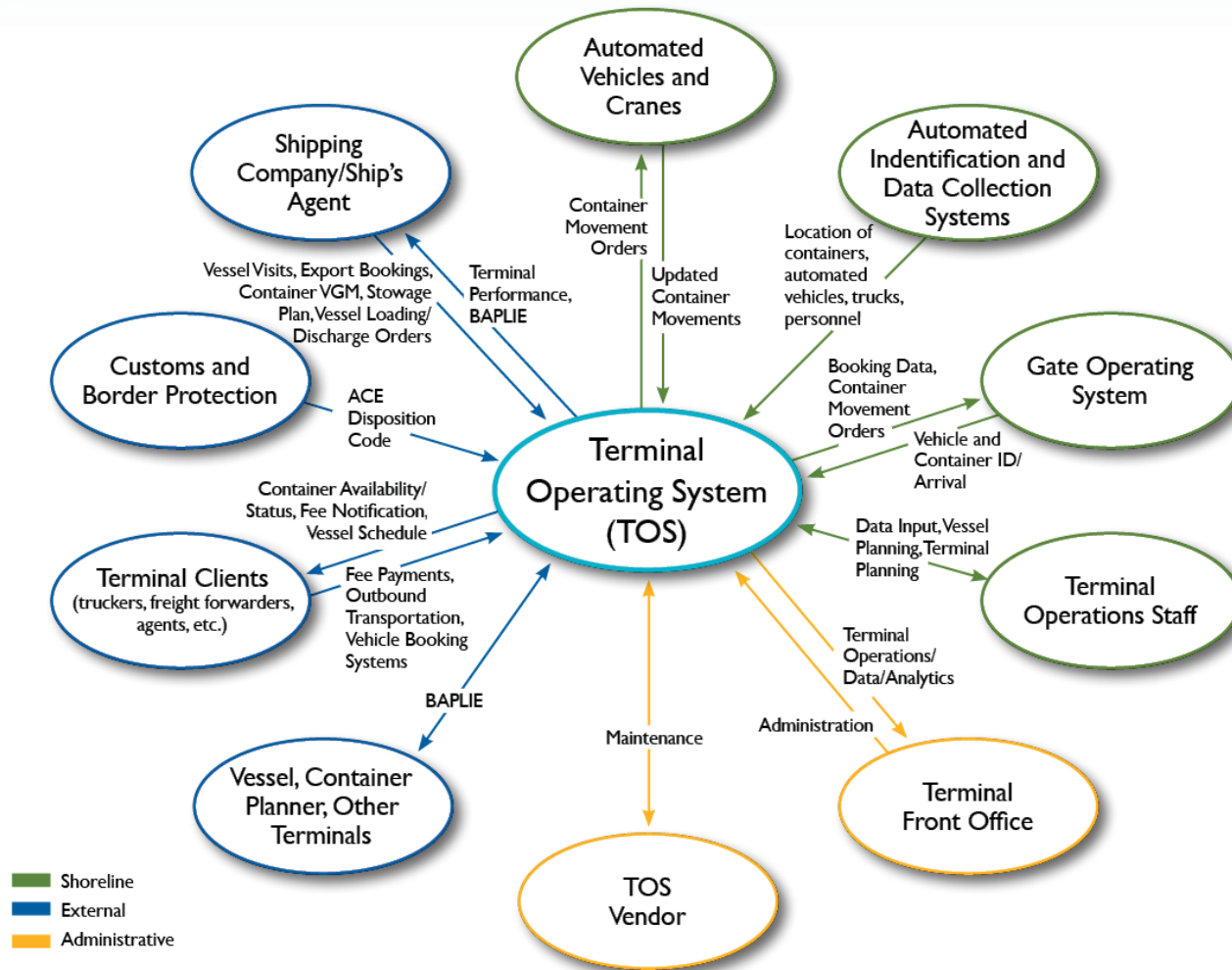
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Automated Container Terminal Overview



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Terminal Operating System



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Cybersecurity Risk Analysis - OCIA

- **Future Risk Analysis on Automated Container Terminals**
- Vulnerabilities
 - Interconnectivity Among Systems, COTS Technologies, Insider Threat, etc.
- Threat Actions and Consequences
 - Data Denial (deletion, ransomware), Denial of Service, Physical Damage (ICS), Manipulating Databases, etc.

Previous OCIA Product:
Consequences to Seaport Operations from Malicious Cyber Activity



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Regional Resiliency Assessment Program (RRAP)

<https://www.dhs.gov/regional-resiliency-assessment-program>
PSCDOperations@hq.dhs.gov

- The RRAP is a cooperative assessment to assist critical infrastructure owners and operators and state and local agencies
 - Resolves infrastructure security and resilience knowledge gaps
 - Informs risk management decisions
 - Identifies resilience-building opportunities and strategies
 - Improves critical partnerships among stakeholders
- Sensitive information protected from public disclosure



*Office of Infrastructure Protection
Protective Security Coordination Division*



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For more information visit:

www.dhs.gov/office-cyber-infrastructure-analysis