

Cyber Risk Management In Port

Maritime Cybersecurity Dialogue

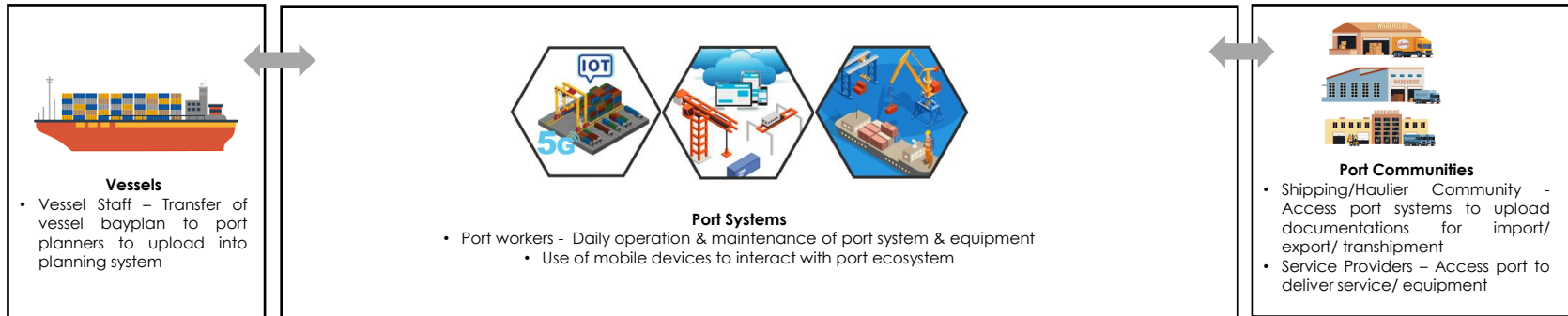
2022

Anatomy of a Port Ecosystem

With complex interactions & port users



Are technological advancement & port users posing cyber risks to port ecosystem?



Total Security Convergence: A Cyber Risk Management Approach

To strengthen competitive edge and ensure resiliency

Harmonization of Regulatory & Corporate Compliance

Regulatory Requirement



- CSA's Cybersecurity Code of Practice (CCOP)
- MPA's Security Standard
- MPA's International Ship and Port Facility Security (ISPS) Code
- Custom's Free Trade Zone Act

Organizational Requirement



- PSA Physical/ IT/ OT Security Policy/ Standard

Strengthen Beyond Compliance

Benchmark With Best Industrial Practices

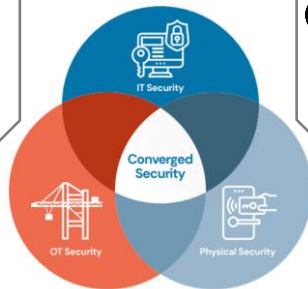
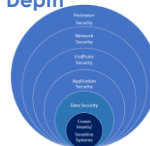
- To enhance effective measures to be put in place to protect our systems against cyber attacks



The NIST Cybersecurity Framework



Defense in Depth



Technology & Architecture Planning

Compliance Operationalization

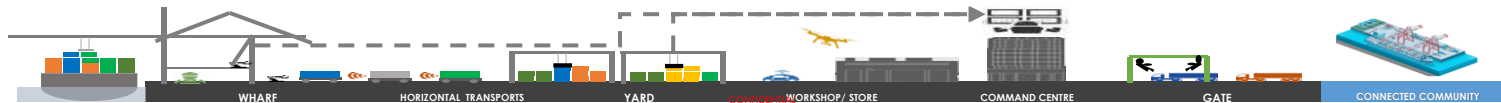
Cybersecurity-Risk Synchronization

Identity/Access Administration & Governance

Competency, Skills & Awareness

5 Key Pillars to Enable Total Security Convergence

Protect PSA Systems



5 Key Pillars to Enable Total Security Convergence

To elevate cybersecurity posture



Technology &
Architecture
Planning

- Maintain **technical oversight** of IT, OT & Physical Security development roadmaps
- **Planning & co-ordination** of technology solutions towards seeking out synergies from convergence
- **Lead and propose** recommendations on technical architecture with integrated security considerations

Compliance
Operationalization

- **Coordinate & streamline implementation approach** on IT, OT & Physical security operational processes towards ensuring **sustainable compliance** to required standards
- **Lead and coordinate assessment** of **operational feasibility/implications** for compliance
- **Identify & propose** opportunities for consolidation of compliance operationalization efforts

Cybersecurity-Risk
Synchronization

- **Establish broad based principles** to guide the alignment of IT, OT & Physical security governance towards regulatory and/or Group policies & standards
- **Identify & facilitate resolution** of ambiguities/discrepancies at/between *TSS & RM/BCM
- **Align & harmonize** against PSA Group Risk Management standards

Identity/Access
Administration &
Governance

- **Synergize & integrate** identity/access administration workflows & processes into overall organizational business processes and workflows
- **Identify and propose** areas for streamlining & simplification of identity/access administration
- **Lead formulation** of standards & guidelines on identity/access admin for IT, OT & Physical Security

Competency, Skills
& Awareness

- **Identify & plan** competency development on **converged outcomes** aligned with current competency/skills development roadmaps for IT, OT & Physical security **practitioners**
- **Plan & coordinate** regular **education, awareness & outreach** activities for **internal stakeholders**

Towards A Safe & Secured Tomorrow

Collective Approach Partnering Key Stakeholders

Partners / Customers



Regulators / Agencies



Solution / Service Providers



PSA Group

Thank You