



U.S. Customs and
Border Protection

Seaport of the Future

CBP Los Angeles/Long Beach Seaport

Chief Brian Sale

BRIAN.A.SALE@cbp.dhs.gov





Los Angeles/Long Beach Seaport

CBP's Mission Statement:

We safeguard America's borders, protecting the public from dangerous people and materials, while enhancing the Nation's global economic competitiveness by facilitating legitimate trade and travel.

Seaport Challenges:

- Larger vessels with more places to conceal narcotics and people and capable of carrying 18,000 Twenty-Foot Equivalent Unit (TEU)
- Mis-manifesting complex chemical names that can be used to conceal fentanyl or pre-cursor chemical shipments
- Potential CBP exposure to Hazardous chemicals
- Smuggling of narcotics and human trafficking via pleasure craft at public launch ramps and marinas
- Lack of legislation requiring the same amount of export cargo data as inbound cargo data
- Over 4.6M containers arriving just to LA/LB (36% of arriving containers nationally).
- Additional screening and longer holds increases expenditure to trade community on legitimate shipments
- How do we turn 4.6M containers into 1 target with positive results?

WHAT WE NEED:

- Smarter targeting algorithms
- Targeting tools that can help identify suspect chemicals or commonly mis-manifested chemical names
- Ability to identify the chemical makeup of a 50-gallon drum, within a 40-foot shipping container
- A handheld device that can "sniff" air particles for the presence of narcotics
- Ability to identify a pleasure craft that may be overweight and riding low in the water using camera, radar, sonar, infrared, other, etc. technology
- Programs or technology that encourages the submission of export cargo data voluntarily
- Ability to narrow all of the possible concealment locations of a vessel down to the most likely.
- Non-Intrusive Inspection technology that can provide 3D imaging around dense or hard to reach spaces

Maritime Modernization

Over the past few decades, the air and land transportation industries have continued to leverage innovative solutions to address challenges and improve performance. However, in the maritime industry many processes remain the same as they were decades ago or, in some cases, even hundreds of years ago.

SPACE: Seaport Operations

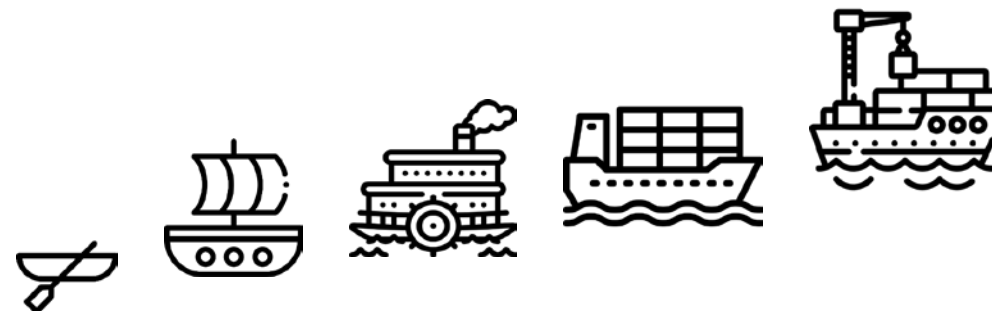
CHALLENGE: Seaports often operate in un-centralized or remote spaces without dedicated resources or connectivity and require skilled personnel to construct innovative ways to enhance operations

SOLUTION: CBP at the LA/LB Seaport has prioritized creating high-level solutions, partnerships, and pilot programs to address the most critical seaport challenges nationwide

- Technology Readiness Level: 4 - 8 (contingent on solution)

RESULTS: Thousands of hours, annually, have been redirected from labor intensive, administrative tasks to enforcement-related activities such as inspections, in order to maximize mission outcomes

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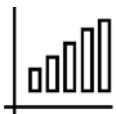
Seaport of the Future

The Seaport of the Future effort is the result of an Office of Field Operations offsite, in November 2018, to **understand and address major Seaport challenges**, displayed below. The effort has resulted in an increase in awareness and use of new technologies, and enabled a newfound appreciation for integrating analytics into processes that were previously time-intensive and lacked efficiencies.

Process



Overreliance on paper processes



Lack of data exploitation and usage



Lack of performance indicators for officer-driven processes such as targeting



Antiquated maritime industry practices

Technology



Lack of integrated open architecture and systems



Lack of automation in various labor-intensive processes



Outdated infrastructure leading to limited connectivity

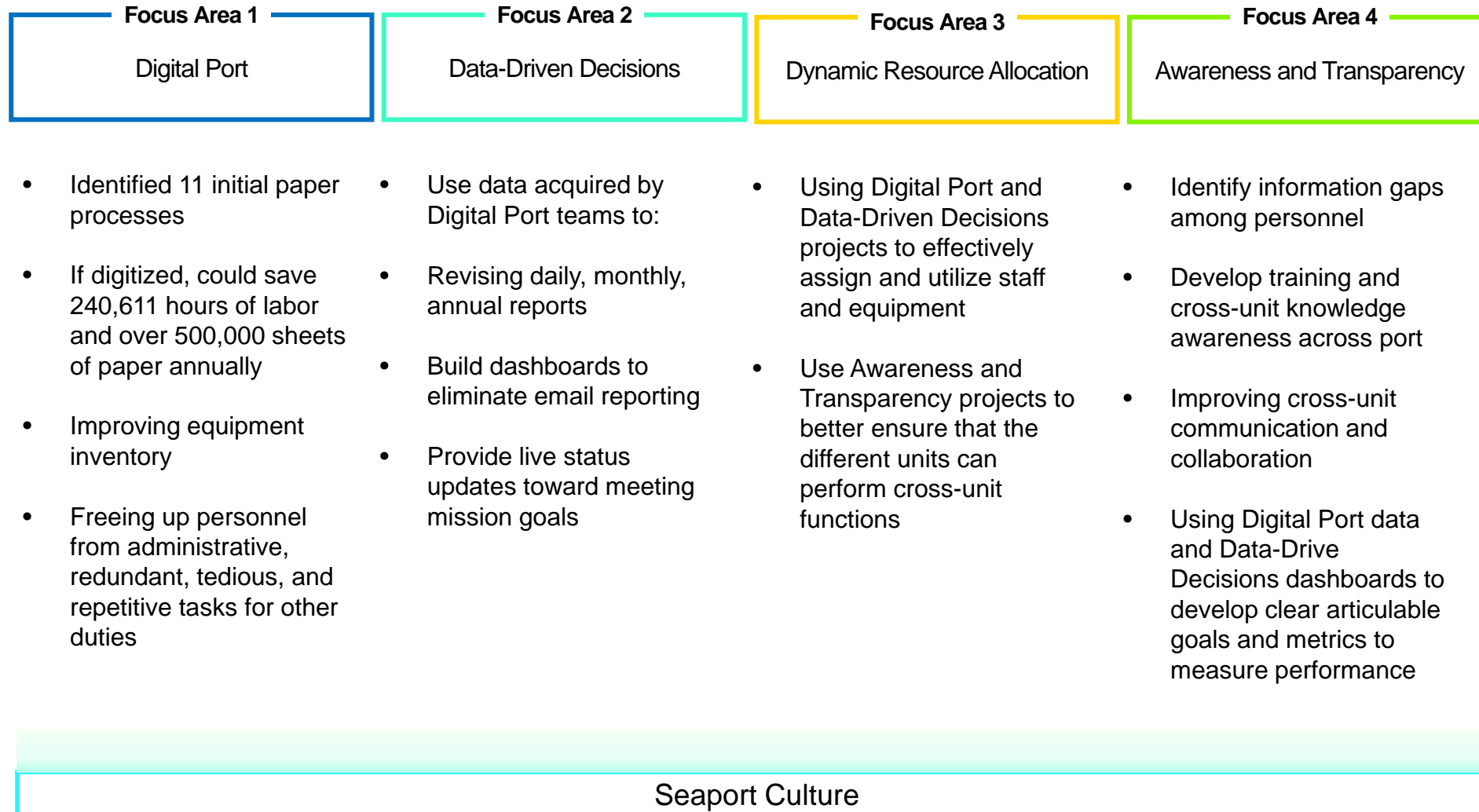


Lack of terminal automation for processes such as OCR connections, cameras and weight scales

Collectively, the challenges at the Seaport contribute to an overextension of time toward administrative functions that prevent officers from performing proactive law enforcement and trade duties.



Seaport of the Future Focus Areas





Remote Operation (RO) - RPM

CHALLENGE: All inbound cargo must enter the U.S. through a **Radiation Portal Monitor (RPM)**. A CBP Officer must be physically present at a terminal to monitor RPM scans. This creates a vast resource allocation challenge until integrated and automated systems are in place.

SOLUTION: A remote operating center that **utilizes camera and physical security technology** to monitor numerous RPMs throughout the port, **from a centralized Command Center**, which will dispatch CBP Officers to respond to alarms. CBP will be implementing this solution through 2022 to give the Seaport time to adjust staffing and duties as needed

RESULTS: The ability to remote monitor will free up approximately 50-60 officers to focus on other CBP mission critical activities and will further promote Dynamic Resource Allocation (decreasing **inefficient duties** to allow officers to be placed in more optimal positions at the Seaport).





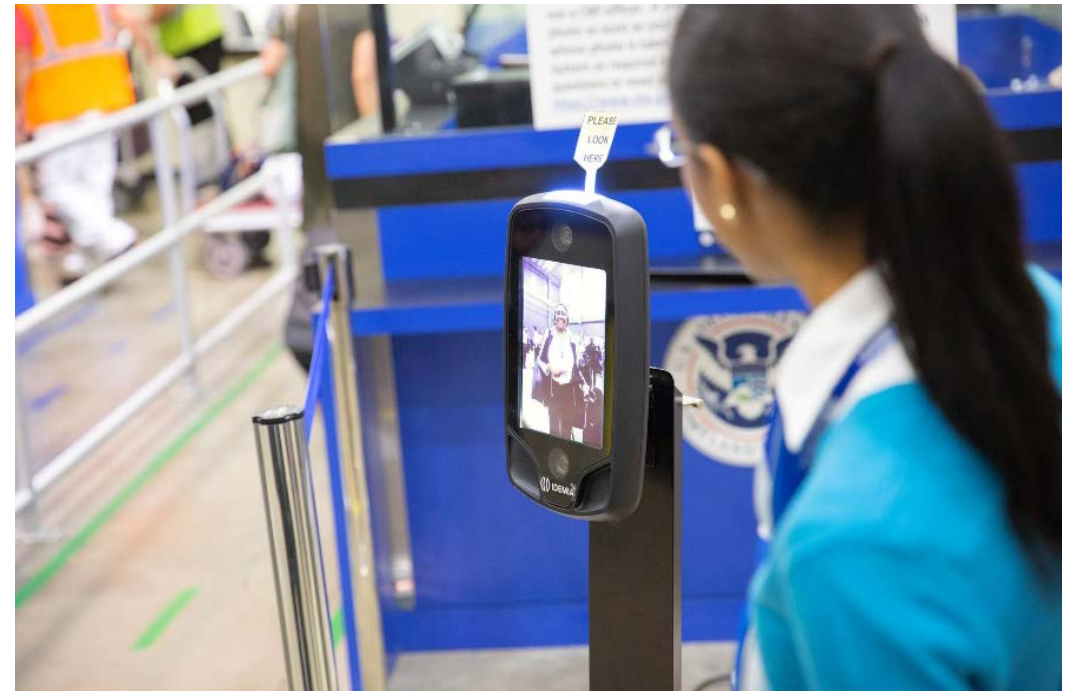
Ongoing Efforts - TVS

CHALLENGE: Passenger travel has numerous bottlenecks starting from disorganized traffic management to lack of quick access to proper identification information.

SOLUTION: The Traveler Verification System (TVS) utilizes facial recognition technology to process passengers arriving to the US via cruise ship. The solution will:

- Transform passenger identification by shifting the key to unlocking a traveler's record from **biographic identifiers** to **biometric identifiers**
- Utilize **databases in cloud sources** to match to existing traveler biometrics for identity verification
- Allow for a high **90th percentile match rate** for any given passenger

RESULTS: Enhanced biometric matching capabilities, faster processing of passengers at ports, and reallocation of CBP personnel to focus on other mission critical activities.





Automated Container Terminals

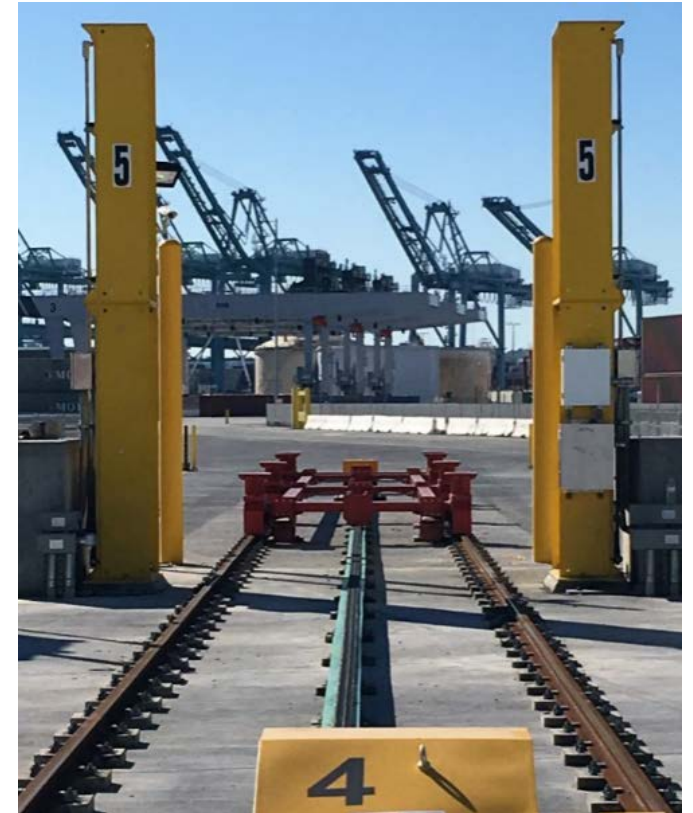
CHALLENGE: Operating a cargo terminal is an expensive, consuming, and labor intensive responsibility. The Long Beach Container Terminal (LBCT) Middle Harbor Project and Trans Pacific Container Service Corporation (TraPac) implemented two of the nation's first automated terminals, where human presence is not permitted during operations, which prevents physical inspection of cargo.

SOLUTION: CBP's NII Division, and the Domestic Nuclear Detection Office (DNDO), and the LA/LB Seaport collaborated with these terminals which resulted in a new and innovative CONOP for both facilities, which transport cargo through the required CBP inspections and stage cargo in designated areas for CBO to conduct physical inspection, if necessary.

- **Stationary Portal VACIS at LBCT** utilizing automated vehicles
- **On-dock rail (ODR) application at TraPac** utilizing conveyor systems that transports cargo containers past RPM detectors, respectively.

RESULTS:

- Radiation detection at TraPac utilizes a driverless **cart and rail system** which allows for automatic scanning of cargo entering the US via rail carrier.
- X-Ray inspections at LBCT utilize **Automated Guided Vehicles (AGVs)**, which are fully autonomous through the use of sensors, that bring the cargo to a designated inspection point after the X-Ray is conducted and prevents any hindrance in discharging of cargo from the vessel.





Contact Info:

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