![Wabtec Corporation logo]

Wabtec's Digital Solutions
Port Optimizer™

"Port Optimizer gives our supply chain community a holistic view of what's happening – well in advance. It is enabling a new level of efficiency and optimization."

Gene Seroka, Executive Director
Port of Los Angeles

Business Challenges

Supply chains face a complex set of market dynamics and emerging disruptive forces — globalization, outsourced manufacturing, intense competition, tighter margins, and market threats. All of this is against the backdrop of an economy where expectations for delivery are becoming shorter and more exacting. Ports, serving ~90% of global trade, are the center point of supply chains.

Traditionally, supply chain operations consisted of multiple systems, each designed to measure and monitor singular aspects, for example ocean transit. There has not been the ability to consolidate and provide that "single pane of glass" that supply chains need to see how cargo is moving — holistically.

$3.9 Trillion
value from digital transformation of transport logistics through 2024

World Economic Forum

"visibility and predictability are everything"

Beneficial Cargo Owner

WabtecCorp.com

Optimizing the Supply Chain

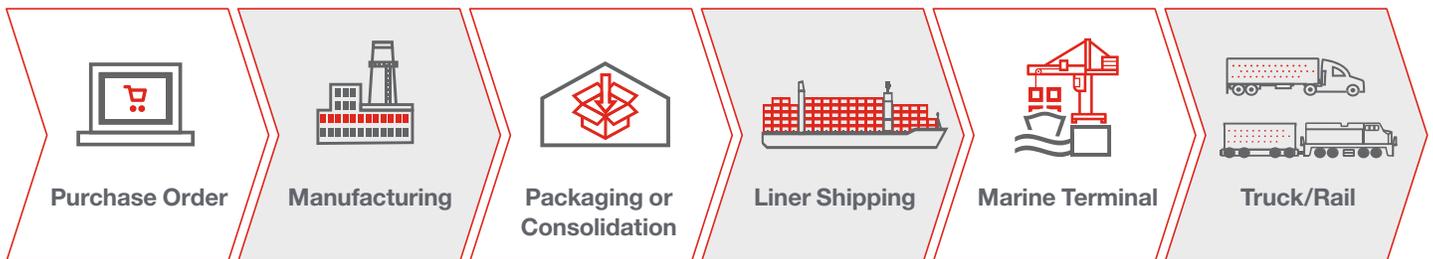## Challenges Faced by Supply Chain Stakeholders

- Lack of advance visibility to cargo in transit – not knowing in advance when cargo will be available impacts planning for trucks, equipment, and labor.

- Siloed information. The inefficiencies of data sharing can add an entire day to the supply chain.

- Accessing multiple web sites to secure valuable information.

- Inaccurate information.

- Not knowing the status of cargo.

- Unpredictable and unreliable visit times by motor carriers inside the yard.

Solution Description

Port Optimizer is a cloud-based software solution that enhances supply chain performance and predictability by delivering real time data-driven insights through a single portal to partners across the supply chain. Integrating data from across the port ecosystem, combining machine learning and deep domain expertise, it helps the supply chain monitor and respond to dynamic conditions, align people and resources, and proactively communicate across functions – enabling maximum port throughput and delivery performance.

Optimizing the Global Supply Chain

Purchase Order	Manufacturing	Packaging or Consolidation	Liner Shipping	Marine Terminal	Truck/Rail

Port Optimizer

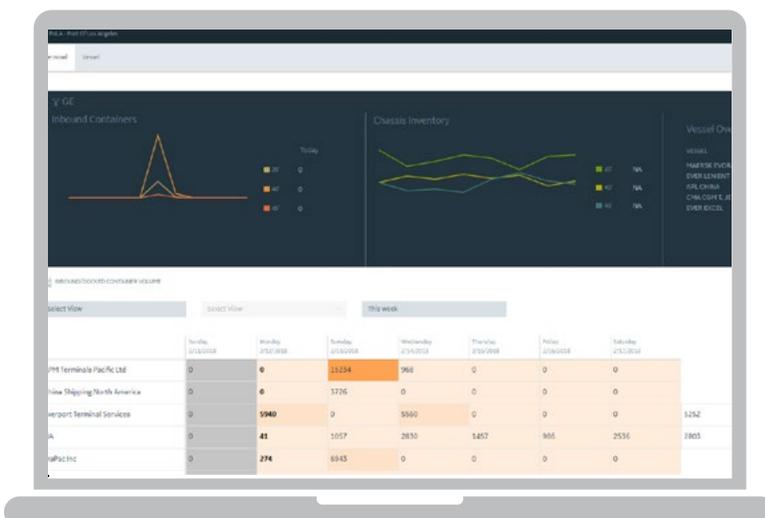| Inbound Visibility	Vessel Status	Peel Piles
• Shipping Line	• Inbound	Container Tracking
• Vessel	• Outbound	Container Forecast
• Terminal	• Docked	
• BCO	• ETA/ETD	
• Destination	• Unload Status	
• Container Size		
• Container Type	**Chassis Positioning**	
• Date		
	Container Status	
	• Terminal	
	• Discharged	
	• Status	
	• Destination	
	• Days After Discharge	
	Empty Container Management	

Features

- **Unified Information Portal:** Digitizes disparate supply chain data and brings together into a single source of truth.

- **Cloud-Based Platform:** Automated data ingestion. SaaS model enables rapid deployment and seamless operation.

- **Flexibility:** API-driven architecture enables easy integration into existing IT systems (operating systems, appointment systems, etc.).

- **Persona-Based Visualization:** Flexible, modern user interface tailored by persona. Users only see their data.

- **Predictive Analytics & Data-Driven Insights:** Real-time vessel & container status, intermodal equipment planning, and empty container returns.

Feature	How Port Optimizer helps
Vessel Tracking	Visibility to containers for equipment management and resource planning.
Vessel Operational Status	Reat-time progress of ship discharge and loading activity.
Container Tracking	Current container status by port, city, state, and final destination.
Container Allocation	Ability to see which motor carriers are picking up containers.
Empty Container Management	Aggregation of data from shipping line and terminals to provide real-time updates.
Operational Status	Real time, actionable insights into terminal operations, container dwell, availability status.
Chassis Readiness	Real time inventory of available chassis by size across each terminal.

User Personas

Beneficial Cargo Owner

Port

Marine Terminal Operator

Ocean Carrier

Motor Carrier

Railroad

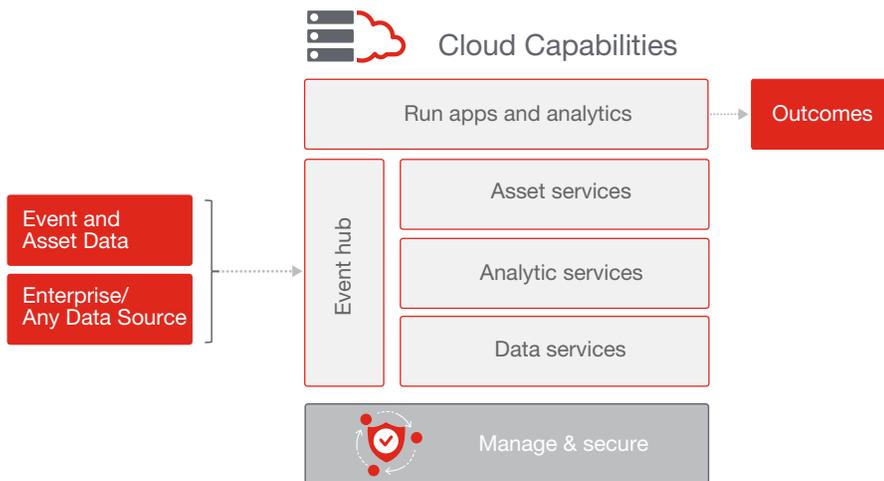Intermodal Equipment Provider

Freight Forwarder & NVOCC

Outcomes

Increased Visibility
Eliminate cargo speculation with ~14 days of advance visibility.

Predictability
Dynamic ETAs, machine learning and other analytics drive predictive performance.

Throughput
Facilitates immediate throughput improvements to cargo flow.

Productivity
8-12% projected productivity increase as the solution scales.

Port Optimizer allows you to

- Extend the window of visibility of inbound cargo for proactive equipment and resource planning.
- Collaborate with supply chain partners through a single portal.
- Identify potential problems in advance, thus reducing supply chain dislocations.
- Achieve greater productivity from existing assets and resources.
- Increase cargo velocity and improve service delivery.

Port Optimizer Platform: The foundation

A scalable, asset-centric data foundation is critical to the success of industrial applications. Port Optimizer is built on a comprehensive and secure application platform to run, scale, and extend digital industrial solutions. The platform delivers shared capabilities that industrial applications require: asset connectivity, analytics and machine learning, and big data processing.

Recognition

AAPA
American Association of Port Authorities

LOS ANGELES DIGITAL GOVERNMENT SUMMIT
Outstanding IT Project Award
Los Angeles Digital Government

Federal Maritime Commission

Minds + Machines
GE Digital Innovator Award

Cloud Capabilities

Run apps and analytics	Outcomes

Event and Asset Data

Enterprise/ Any Data Source

Event hub
- Asset services
- Analytic services
- Data services

Manage & secure

For more information on Port Optimizer:
WabtecCorp.com/portoptimizer