

Critical Issues Facing The Marine Terminal Industry: The Next Quarter Century



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It's a Long List!

A large sailing ship with complex rigging is shown in the background, rendered in a light gray, semi-transparent style. The ship's masts and ropes create a dense, geometric pattern across the frame.

**A
VERY
LONG LIST**

The background of the slide is a grayscale image of a ship's mast and rigging, showing a complex network of ropes and wooden beams.

Meet the Needs/Demands Of Customers while Maintaining Economic Viability

- Steamship Lines
- Trucking Companies
- Railroads
- Local Community

Critical Issues

The background of the slide is a faded, grayscale image of a large sailing ship's mast and complex rigging system, featuring numerous ropes and horizontal cross-arms.

**What Do You Think
?**

Critical Issues, My List

1. Improved Worker Safety
2. Increased Terminal Capabilities
3. Labor Issues
4. Environmental Compliance
5. Port Authority Requirements
6. Chassis Availability
7. Shortage of Trucking Power
8. Required Infrastructure Support
9. Adequate Electrical Infrastructure
10. Security
11. Who Owns the Terminal
12. Sea Level Rise

Key Attributes Driving the Global Terminal Redevelopment

1. Improved Worker Safety
2. Increased Terminal Capabilities
3. Labor Issues
4. Environmental Compliance



Improved Worker Safety

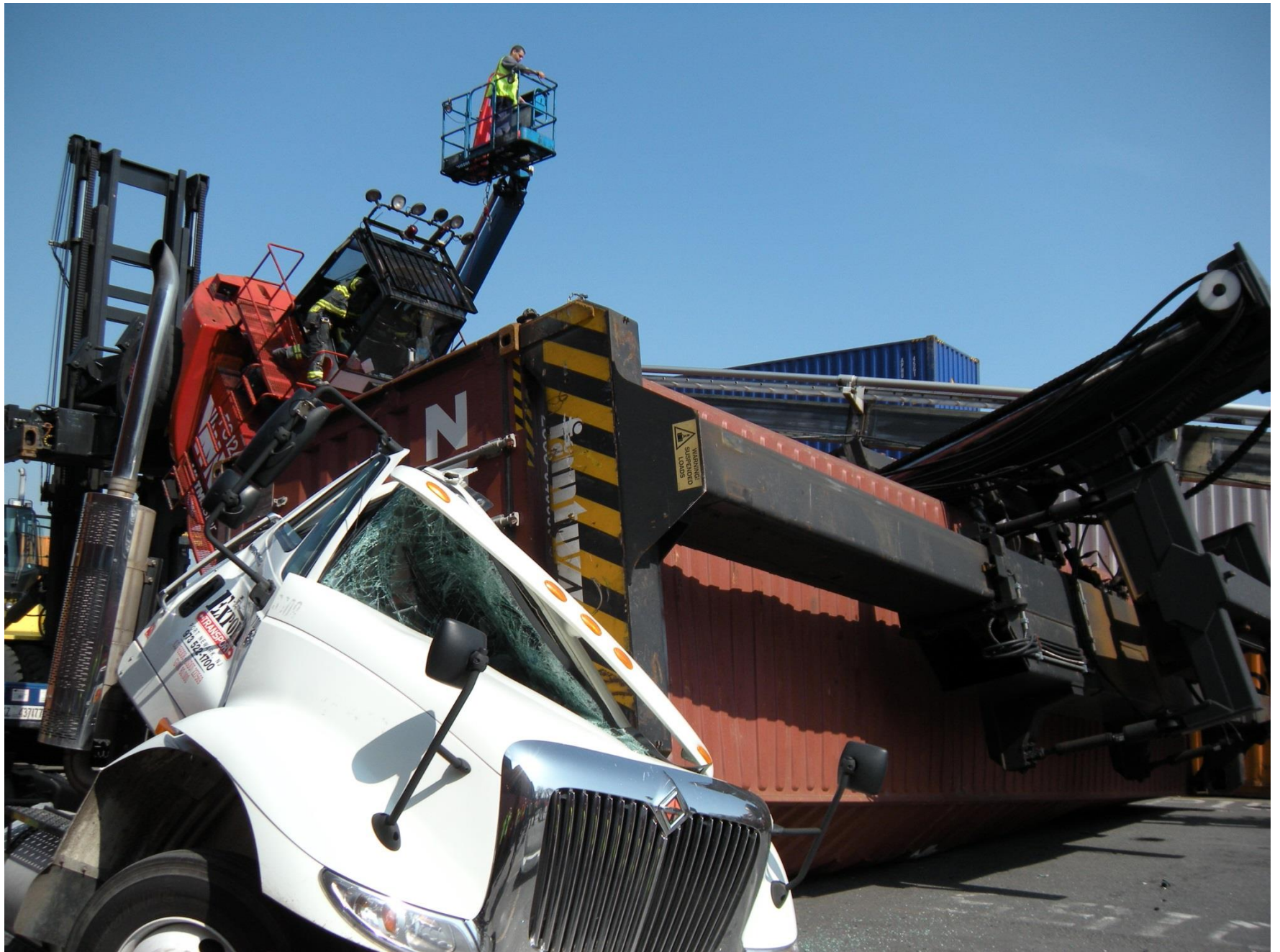
Signal Mutual Indemnity Association LTD

<u>Region</u>	<u>Claim Counts</u>	<u>Major Injuries ex Fatalities</u>	<u>Number of Fatalities</u>	<u>Percent Major Ex Fatalities</u>
Northeast	642	30	0	4.7%
Southeast	414	20	1	4.8%
Great Lakes	27	0	0	0.0%
Gulf Coast	245	12	1	4.9%
West Coast	910	51	1	5.6%
	2238	113	3	5.0%

Notes

- 1) A major injury is defined to be one where the total incurred loss >\$100,000.
- 2) There were only 3 know fatalities in the stevedoring industry through 12 months.
- 3) The 2013/14 incident rate for all claims in the stevedoring industry through 12 months was approximately 1065 claims per 200,000 manhours.
- 4) The 2013/14 incident rate for major injuries in the stevedoring industry through 12 months was approximately 0.54 claims per 200,000 manhours.









Increased Terminal Capability

Typical Container Storage Density per Acre of Yard Storage(*) for various Modes of Operation at Marine Container Terminals

□Containers on Chassis (“wheeled”)	60
□Top Handler/Reach Stacker	150
□Straddle Carrier	225
□Rubber Tired Gantry Crane (“RTG”)	240
□Rail Mounted Gantry Crane (“RMG”)	360

(*)based on standard 40-foot long container

Labor Issues

- **Needed to Improve their Safety**
- **Needed to Improve their Productivity**
- **Needed to Improve Terminal Efficiency**

What Is/Was



What Is/Was



Next Generation



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Next Generation



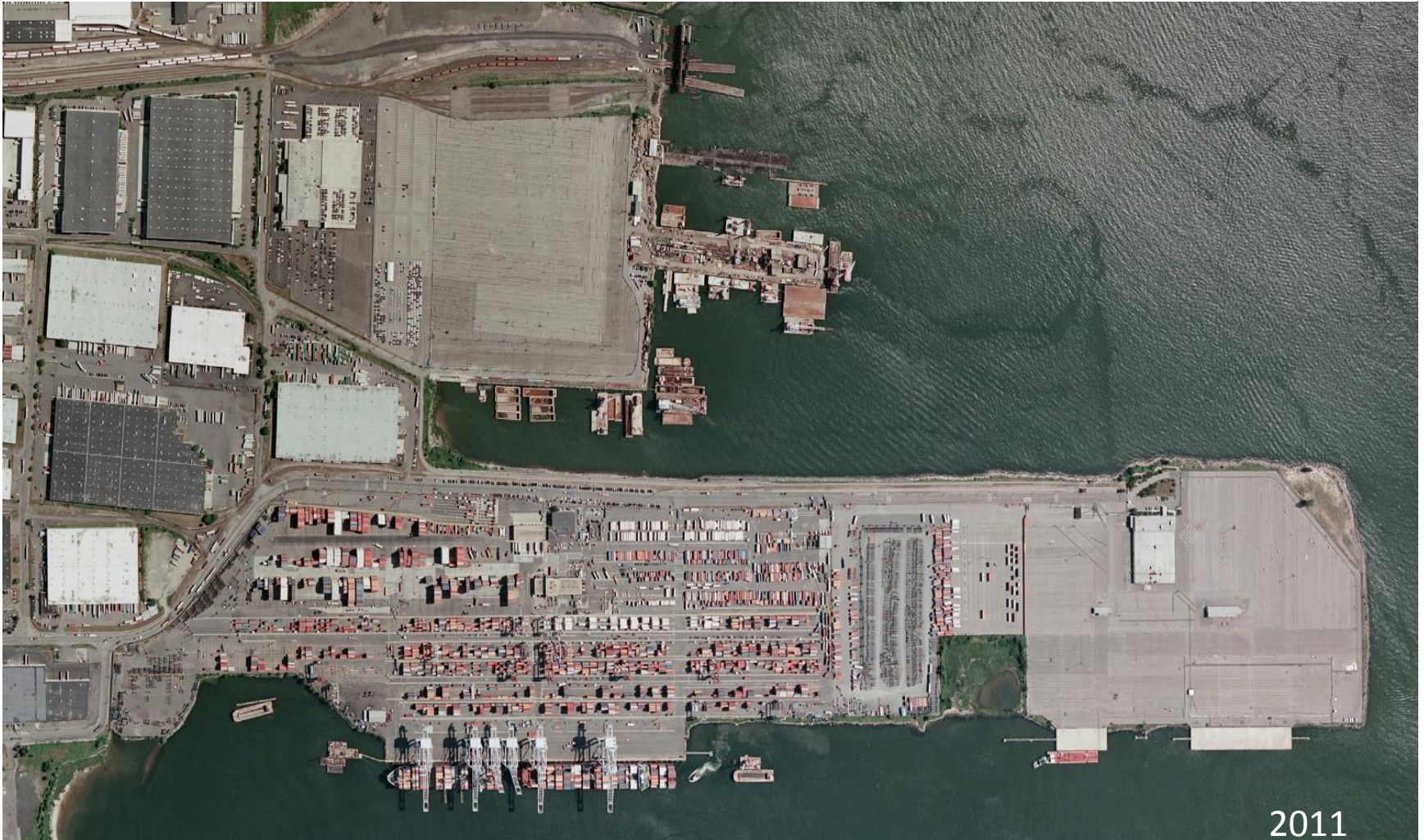
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Next Generation



Environmental Issues

Five Acres of Wetlands;
Two Acres of Open Water



2011

Issue Resolved

One year—Approximately \$5 mil
In Permitting and Mitigation

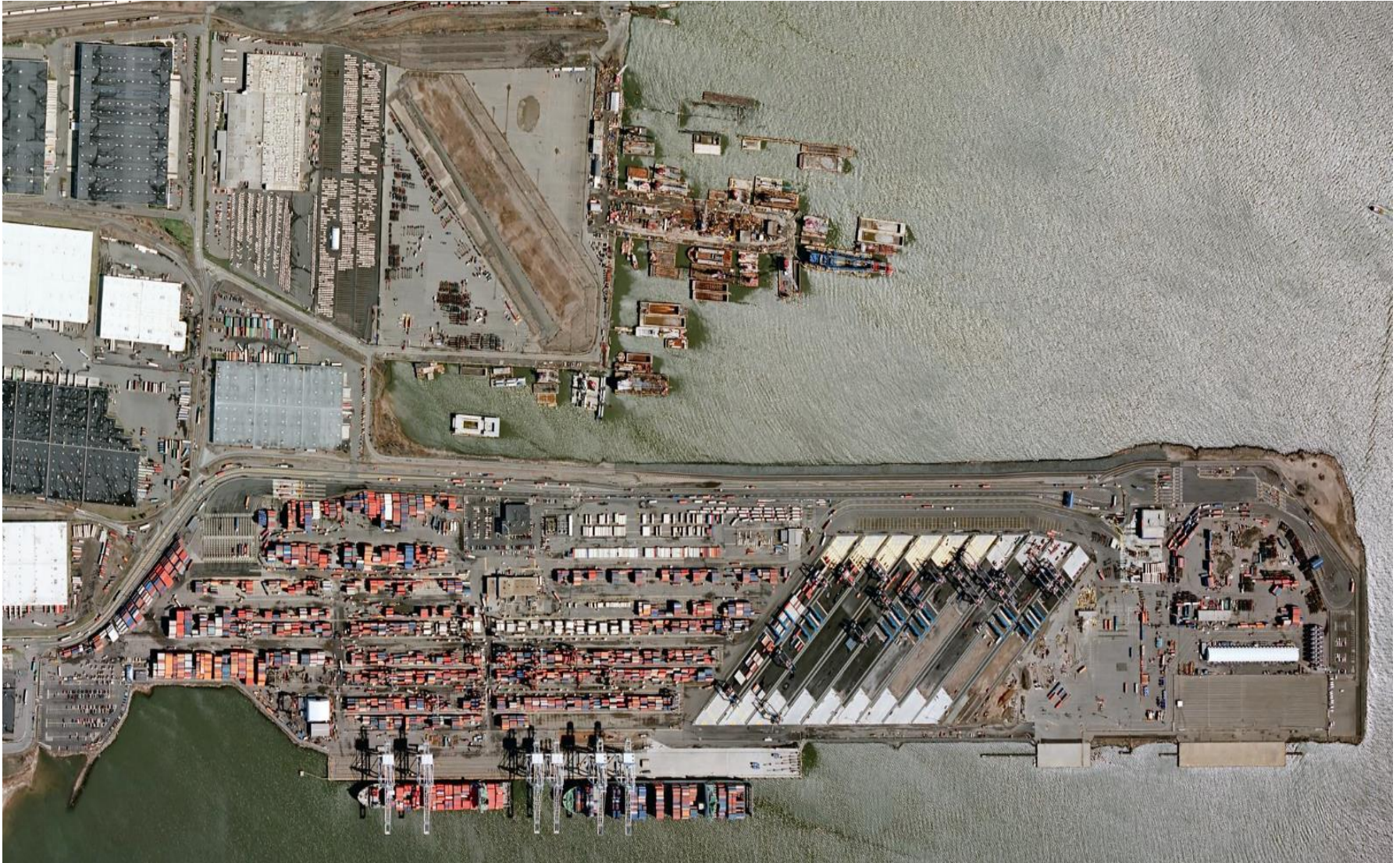


2012

Spring 2013



Spring 2014



Grand Opening Summer 2014



Global Terminal Bayonne

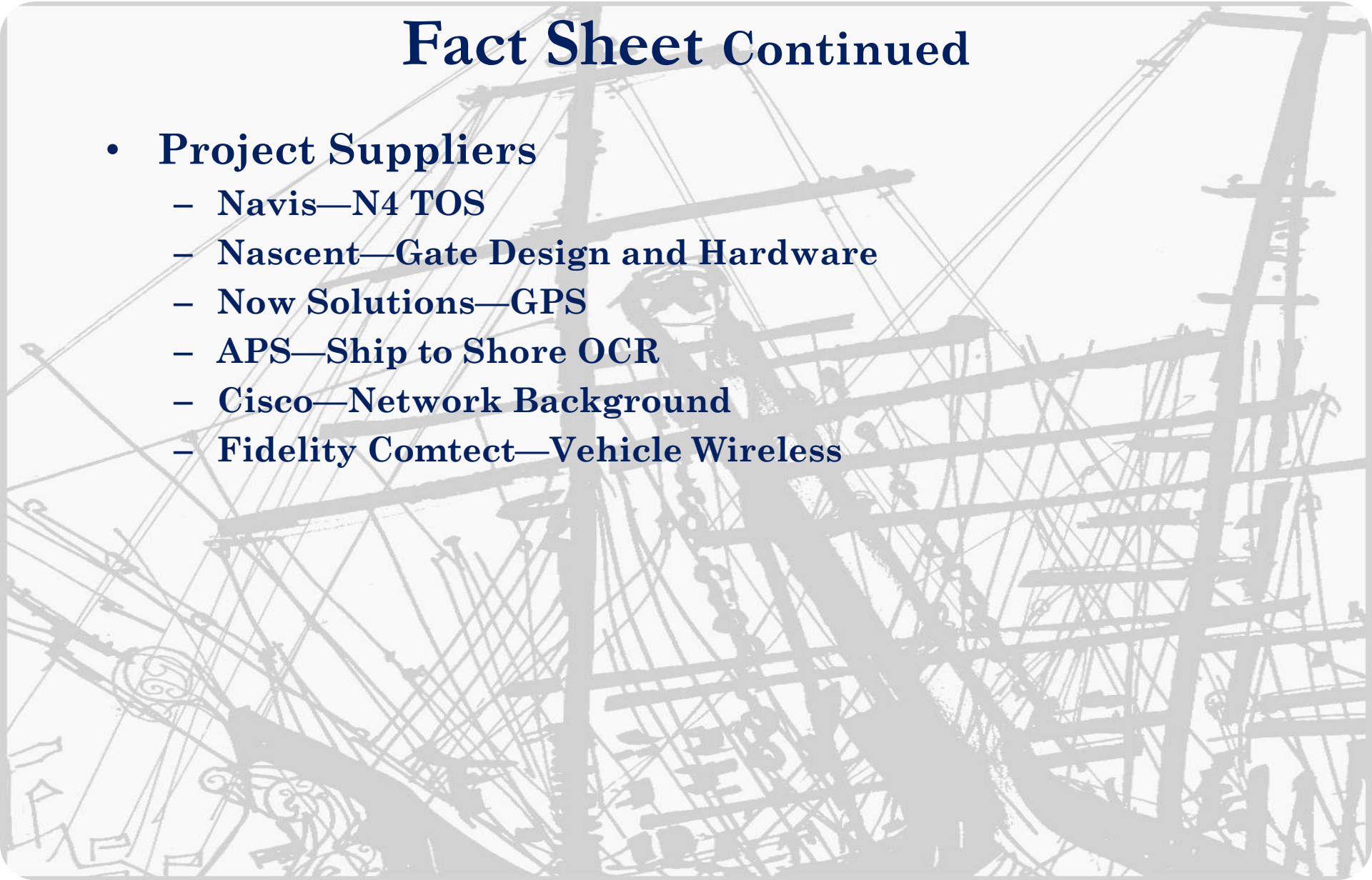
Fact Sheet

- 100 Acres to 170 Acres
- Four Years to Build—2010 to 2014
- Project Cost Approximately \$325 mil
 - Civil Works—\$85 mil
 - Equipment—\$110 mil
 - IT—\$25.5 mil
 - 900ft Berth Extension—\$100 mil
 - Environmental—\$5 mil
- Characteristics of RMG Expansion
 - 10 RMG Stacks
 - 20 RMG Cranes
 - Stacks 9 Wide, 1 over 5, 37 TEUs in Length
 - Approximately 2.5 Acres each
 - Design Capacity—66,000 per year, per stack

Global Terminal Bayonne

Fact Sheet Continued

- **Project Suppliers**
 - Navis—N4 TOS
 - Nascent—Gate Design and Hardware
 - Now Solutions—GPS
 - APS—Ship to Shore OCR
 - Cisco—Network Background
 - Fidelity Comtect—Vehicle Wireless



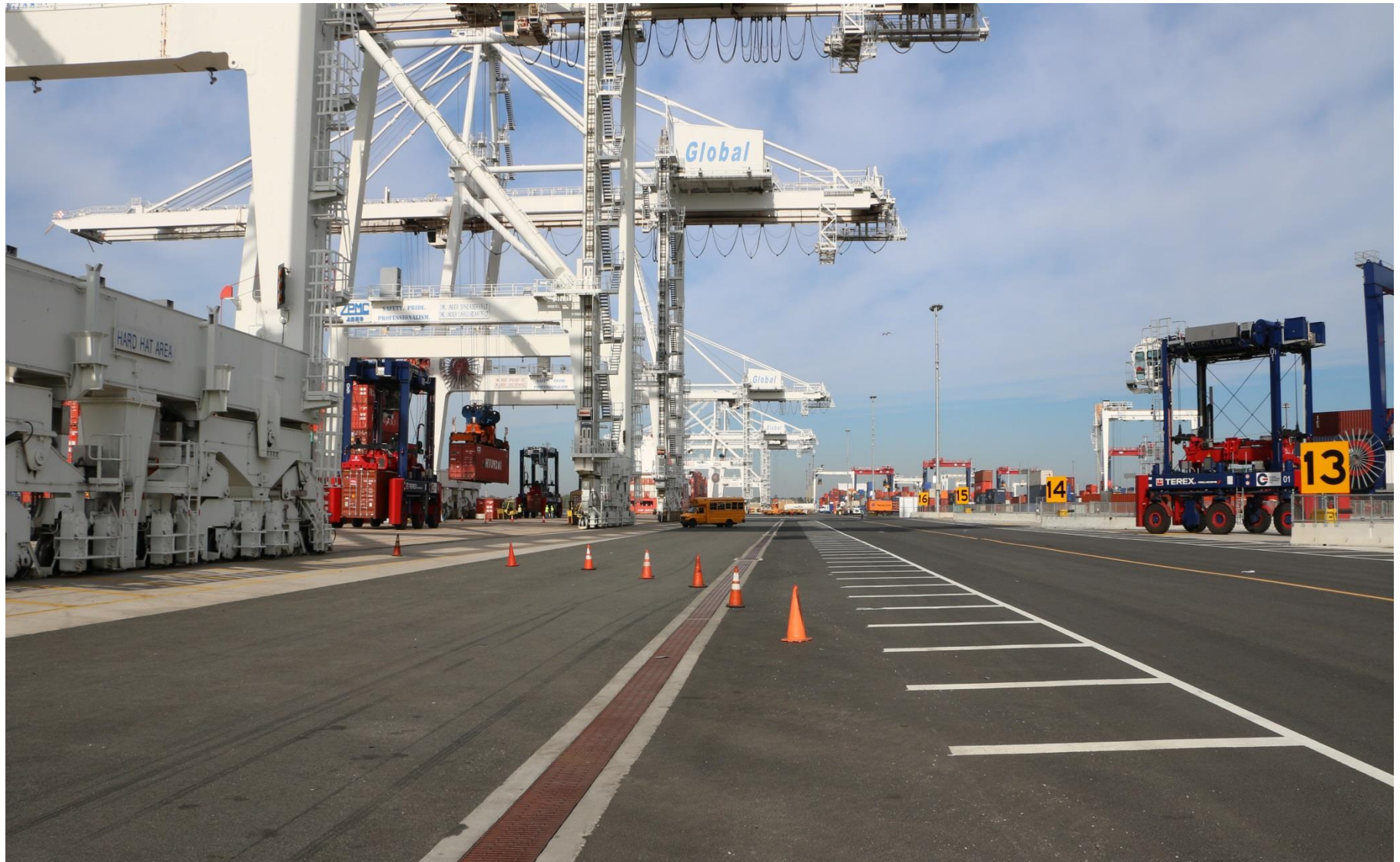
Next Generation



Next Generation



Next Generation



Next Generation



Next Generation



Next Generation



Next Generation



Next Generation



Next Generation



Sea Level Rise





History is littered with examples of those who failed to adapt to new operating environments.