

## SHOULD U.S. PORTS AUTOMATE OR EXPAND?

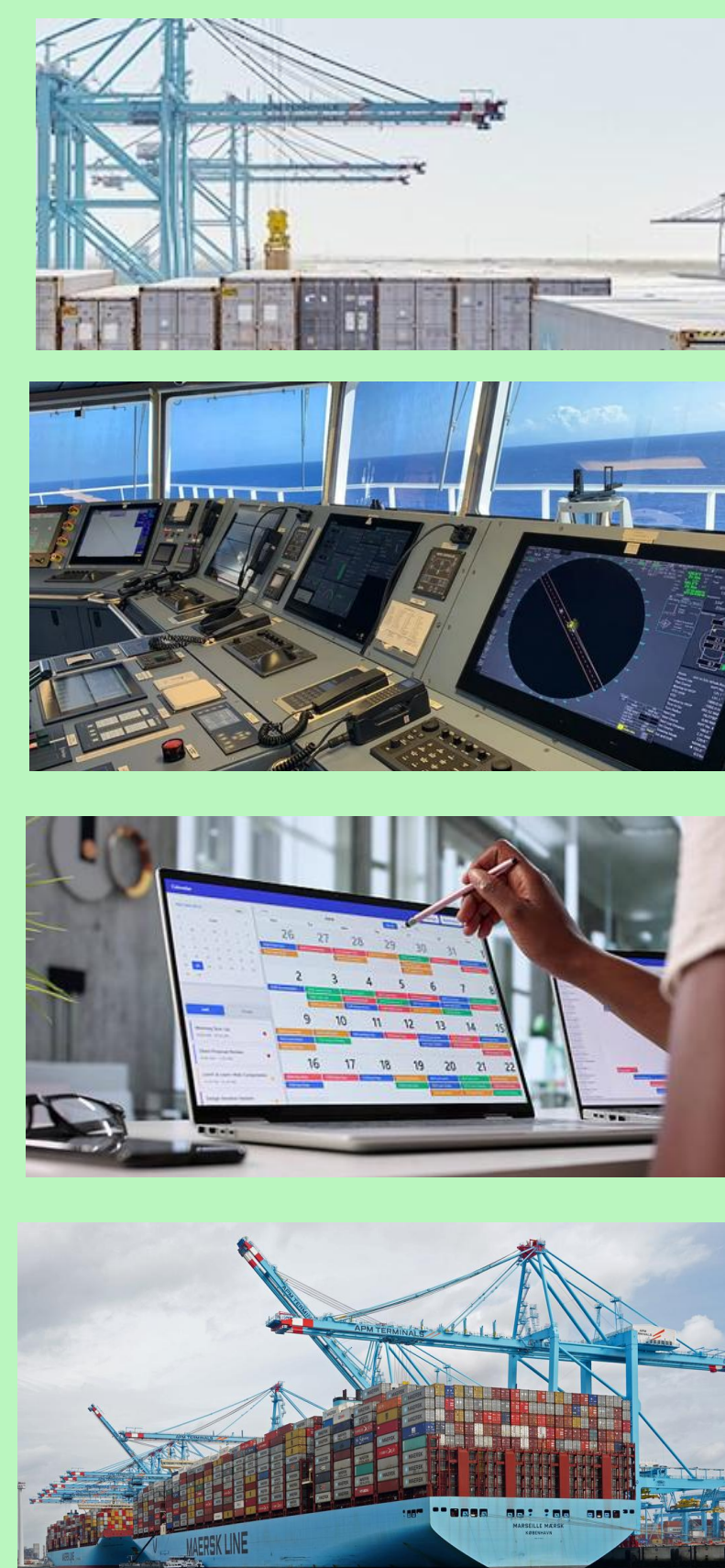
**PROBLEM: U.S. ports are facing record cargo volume, congestion, and long wait times. Ports need to decide how to invest limited funds to improve performance.**

**Abstract-** This poster examines whether U.S. ports should prioritize automation or expanding their physical infrastructure. It compares the benefits and challenges of both options, including efficiency, costs, congestion, and global competitiveness. The research shows that automation can help ports move cargo faster, reduce delays, and improve existing operations. Overall, the poster recommends that U.S. ports prioritize automation to become more efficient and competitive in global trade.

### OPTION 1: AUTOMATE

Investing in technology & Automation

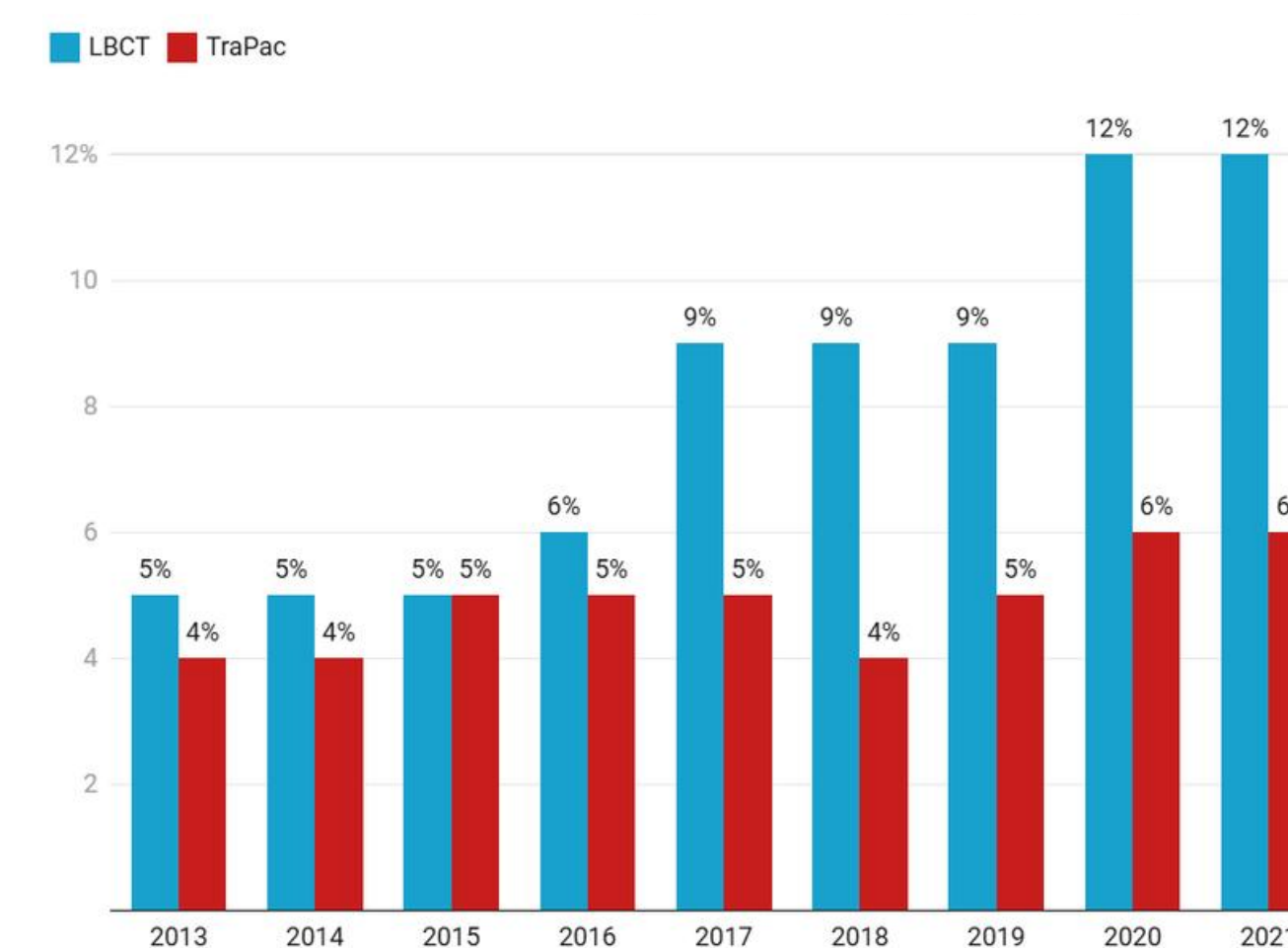
- Automated cranes & vehicles
- Technology improvements
- Scheduling improvements



| Potential Benefits                                                                                                                                                                     | Potential Challenges                                                                                                                                               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Faster Cargo Movement</li> <li>• Less congestion &amp; Delays</li> <li>• Higher productivity</li> <li>• Long-term efficiency gains</li> </ul> | <ul style="list-style-type: none"> <li>• High technology costs</li> <li>• Workforce impacts</li> <li>• Need for training</li> <li>• Cybersecurity risks</li> </ul> |

### WHAT WE WILL COVER

- Cost of investment
- Impact of cargo capacity & efficiency
- Effect in wait times & congestion
- Environmental impact
- Impact of workers & communities
- Global competitiveness



The graph displays an increase in the percentage of cargo handled after automation at two automated terminals

### OPTION 2: EXPAND

Invest in physical infrastructure

- More terminal space, docks, and berths
  - Road and rail access improvement
  - Expansion of channels



| Potential Benefits                                                                                                                                                                                         | Potential Challenges                                                                                                                                                                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Increased physical capacity</li> <li>• Ability to handle larger ships</li> <li>• Supports long-term growth</li> <li>• Creates jobs during construction</li> </ul> | <ul style="list-style-type: none"> <li>• Very high production costs</li> <li>• Long construction deadlines</li> <li>• Environmental disruption</li> <li>• Limited immediate impact</li> </ul> |

### Problem

What prOblem is the port facing?

### Evidence

What does the data and research show?

### Findings

What does the evidence mean?

### Recommendation

What should the port invest in and why?

### Final Answer

Our research will show whether U.S. Ports should prioritize automation or expansion for the greatest benefit.

### Decision:

Where should Ports invest in first to get the greatest benefit?

Breakbulk Americas Poster Competition - Should U.S. Ports Automate or Expand?

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