


## THE MISSING LINK

# What does AI mean for Container Terminals?

# Constraints in the Supply Chain Landscape



Pandemic-era  
Shipping Boom

Performance  
inhibited by  
current solutions  
limitations

Downturn in  
the ocean freight  
business

Lack of space to stack containers  
Vessels waiting near the shore for days  
Trucks waiting in line for hours  
Traffic jams, queues and delays  
Port congestion drives inflation

Expected shift from globalization to  
regionalization in the supply chains  
Reduced shipping distance and delivery time  
Drop in container throughput due to geopolitical  
and macroeconomic contexts

# Traditional response to demand

## Create spare capacity

Increase the pool of equipment

Land extension

Extra shifts



Wasteful, costly,  
and fundamentally inefficient

## Technology driven solutions

Low risk

Financial savings

Fast Return on Investment




Hesitation in using technologies  
widely adopted in other industries

# Systemic innovation with AI

Artificial intelligence and Machine Learning are primed to change business processes.

**Intelligent capabilities will:**



Reinforce automation  
and process  
optimization

Deliver better and  
faster planning,  
decision making, and  
risk forecasting

Do more with less  
in industries such as  
manufacturing, retail  
and transportation





# Advanced AI Systems

**AI can bring higher levels of value  
as you add two critical vectors**

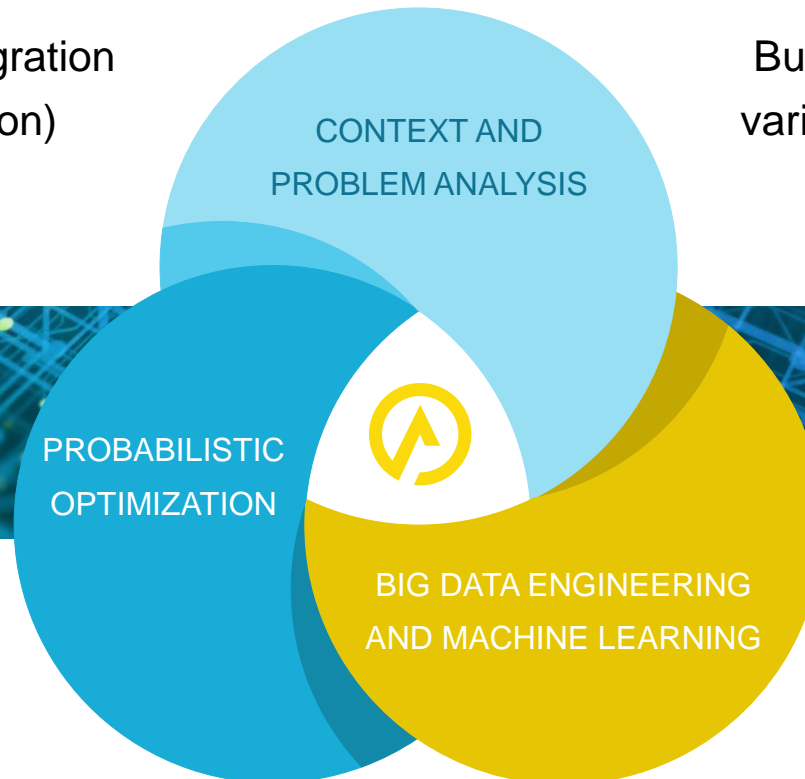
Context and Business Problem Analysis

Operations Research integration  
(Probabilistic optimization)

**Paradigm shift in resulting solutions**

AI Systems able to predict, plan, and be aware  
of the world around them at a very high standard

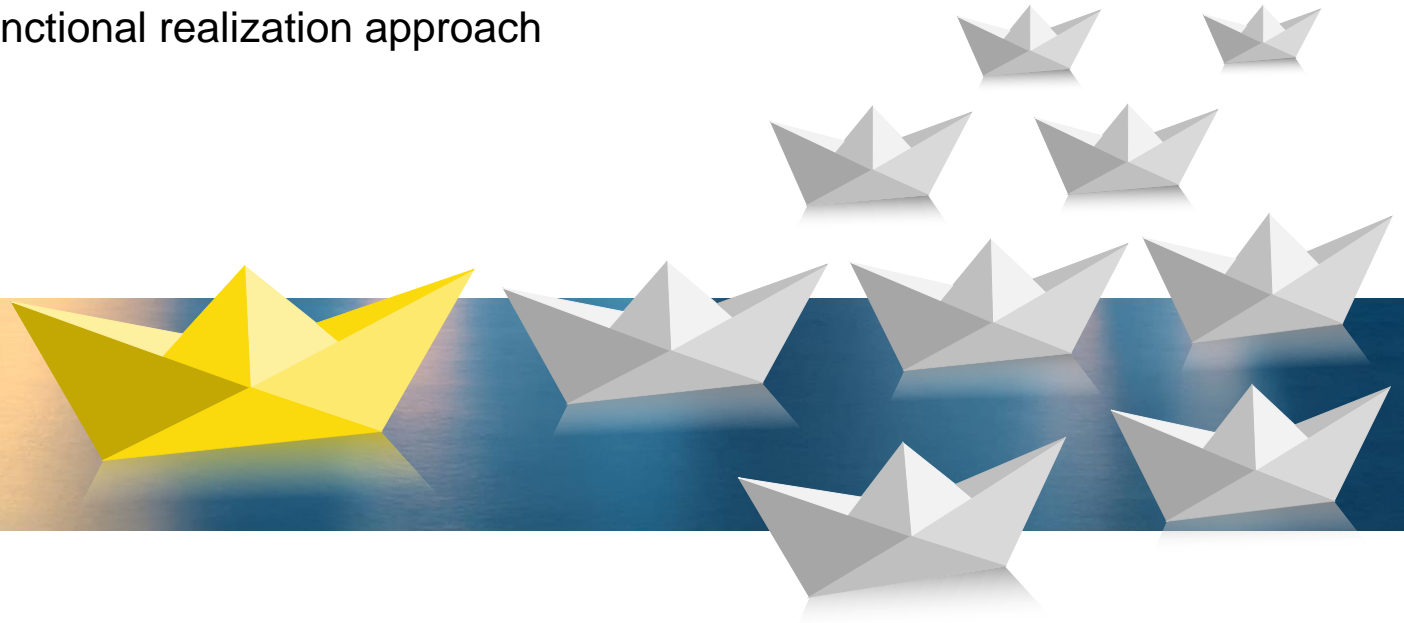
Business KPIs are dynamic, can be  
varied and drive the operational logic



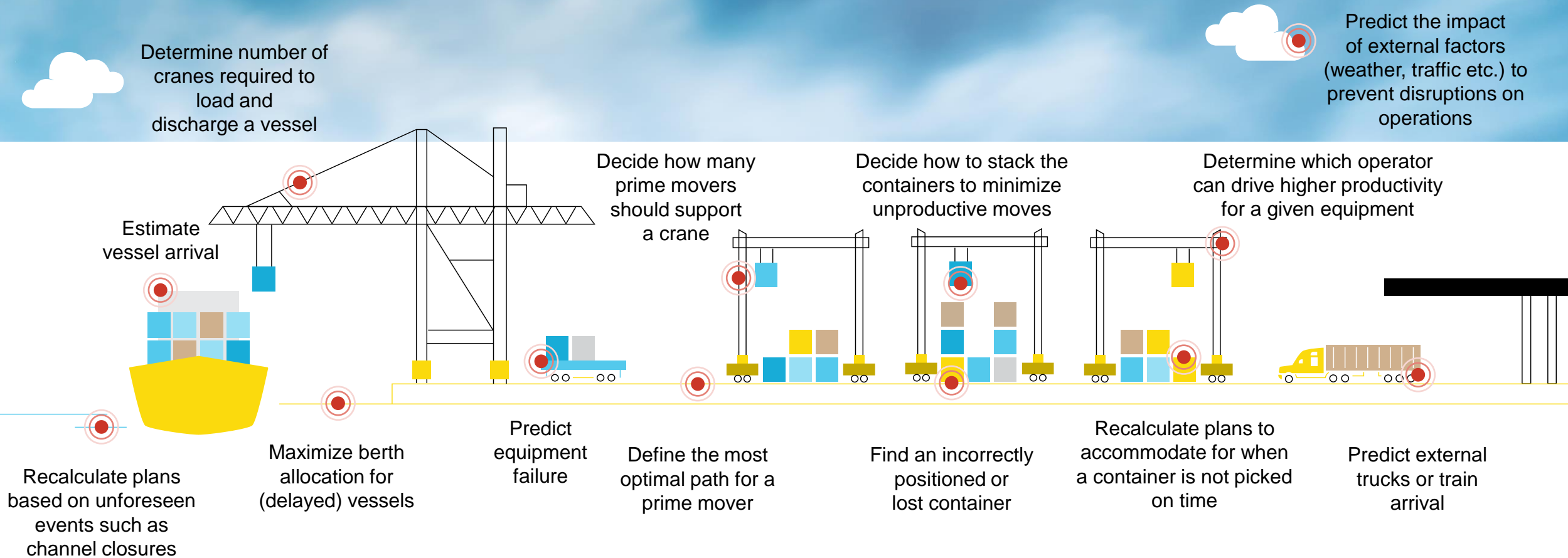
# Going beyond the existing status

**AI Systems are outperforming current systems by:**

- Enabling efficient planning based on optimally configured systems
- Adapting to real-time operational changes dynamically
- Re-configuring parameters automatically
- Replacing penalty approach with objective functional realization approach
- Delivering ML-based self-learning
- Eliminating manual updates



# Opportunities for AI based value



## Key take-aways

- 01** Global maritime supply chains have been disrupted
- 02** AI systems help to deal with the disruptions through better synchronization of cargo flows
- 03** AI tools are immediately available and AI systems can be quickly built while expanding capacity takes time
- 04** With more optimized infrastructure utilization come many advantages and benefits
- 05** Advanced systems start with the business problem, not the technology solution





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