Increasing Operation Productivity with Advanced Scheduling and Analytics

July 15, 2016

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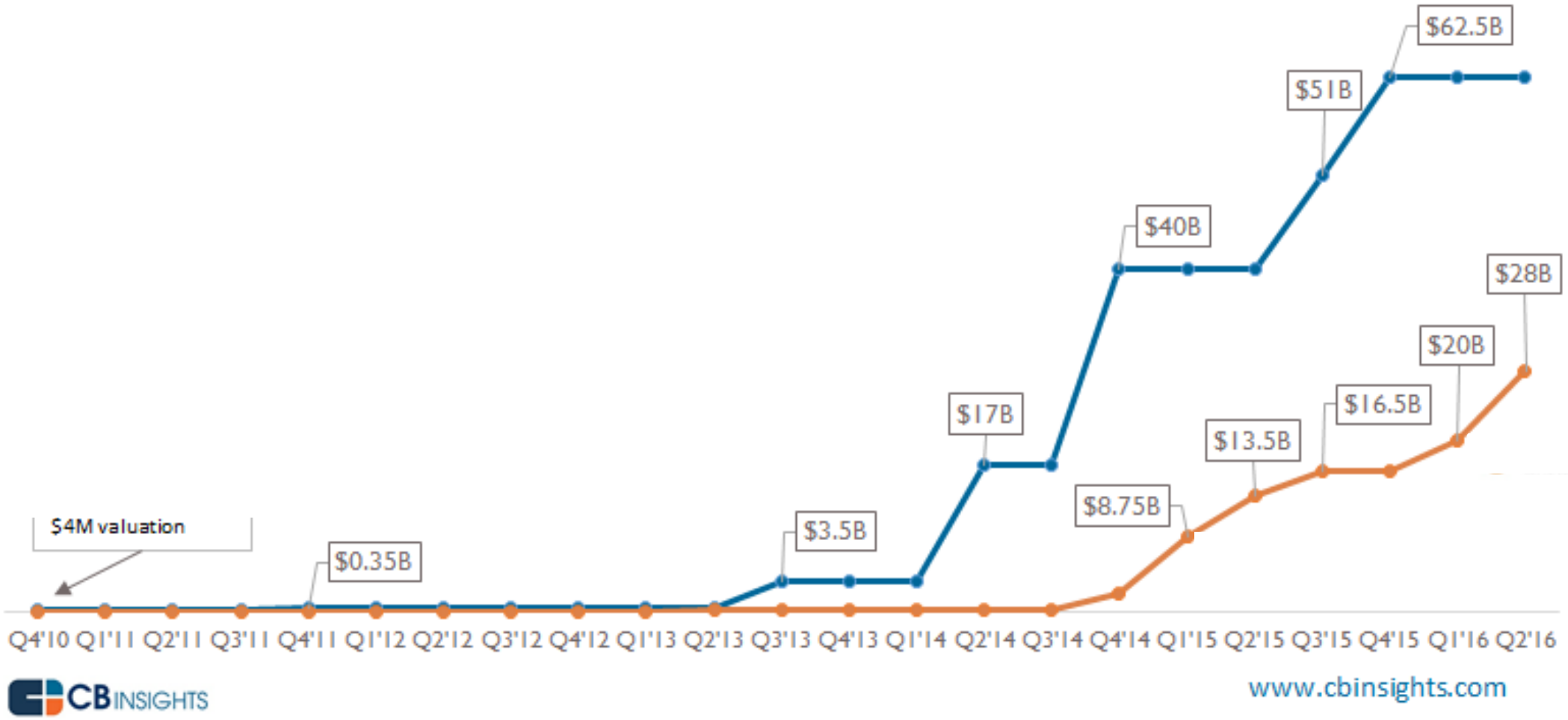
A Quick Detour from Ports…



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Vehicle Dispatching Systems

Drivers

Match

Riders

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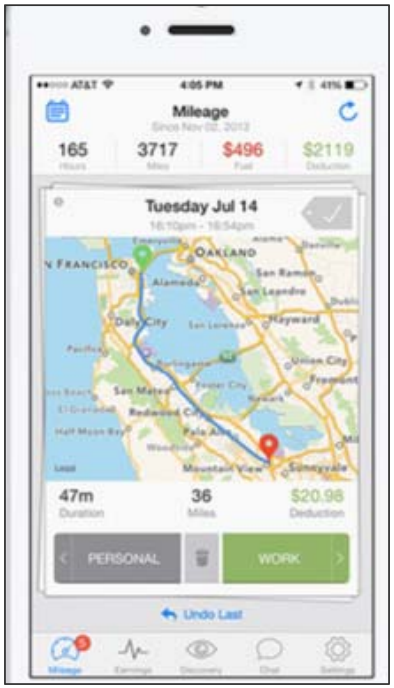
Some Technology Enablers

GPS

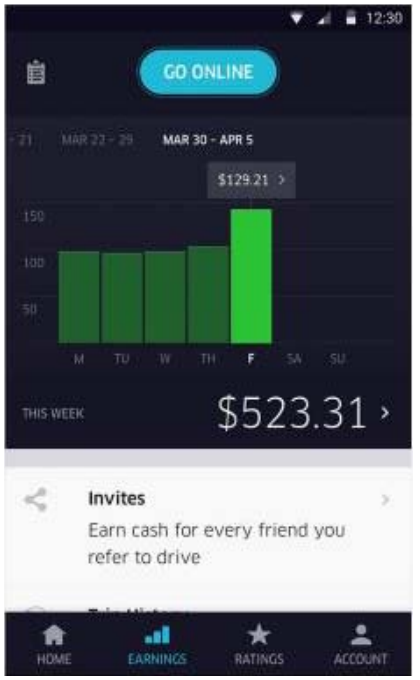
& Mobile Devices

Mapping



Billing & Accountability

Reporting



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The Drive Toward Automation

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Match

travis kalanick
@travisk
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Drivers on @uber_nyc making $90k/yr
Driverless car is a multi-decade transition. Let's take a breath and I'll see you in the year 2035

RETWEETS 140 LIKES 127

2:13 PM - 28 May 2014

Toyota and Uber to
Ridesharing Collabo

May 24, 2016
Toyota City, Japan, May 24, 2016 --
safer, more efficient and convenient
way the world moves, are announcin

Technology | Tue Apr
Google,
driving cars

-like

May 16, 2016, 2:11 PM 4,268

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Technology in (More) Controlled Environments

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Technology at Ports Today
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Global Pooling & Scheduling
Rail OCR, A-RGC
Mobile Devices & Yard Inventory
QC OCR, QC R/C
Gate Appts, RFID, OCR, LPR, Weighbridge
Yard Planning
Vessel Planning
A-RTG, ASC, C-ARMG Scheduling
ITV Job Step PDS, RFID
Reefer Monitoring
Data Exchange, EDI, Web Portal, ITT, Billing

Dispatching Jobs to Manned Assets

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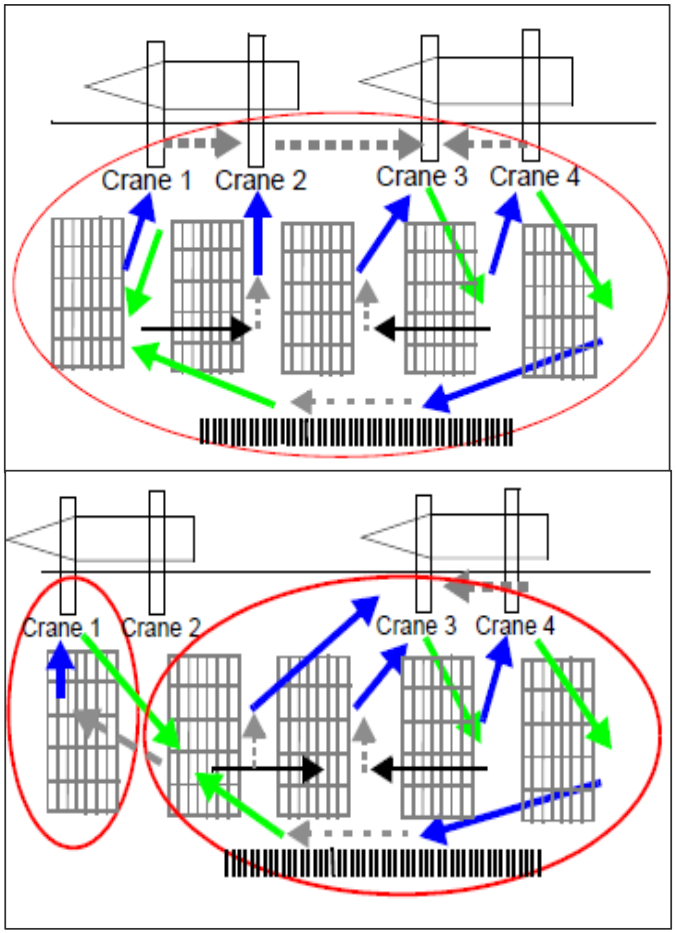
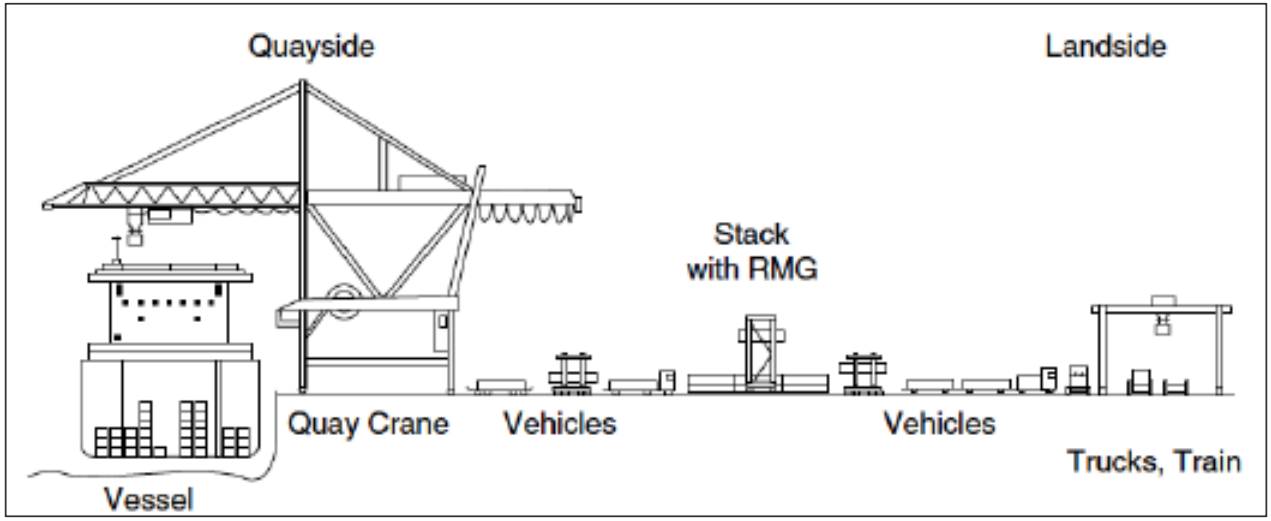
Holistic Scheduling Achieves Terminal Objectives





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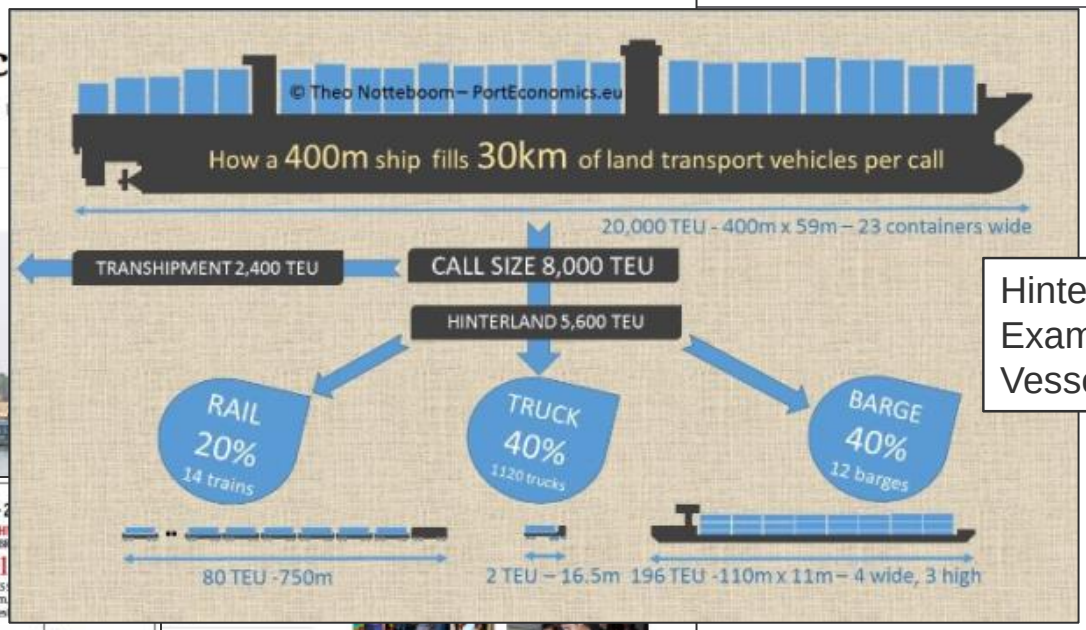
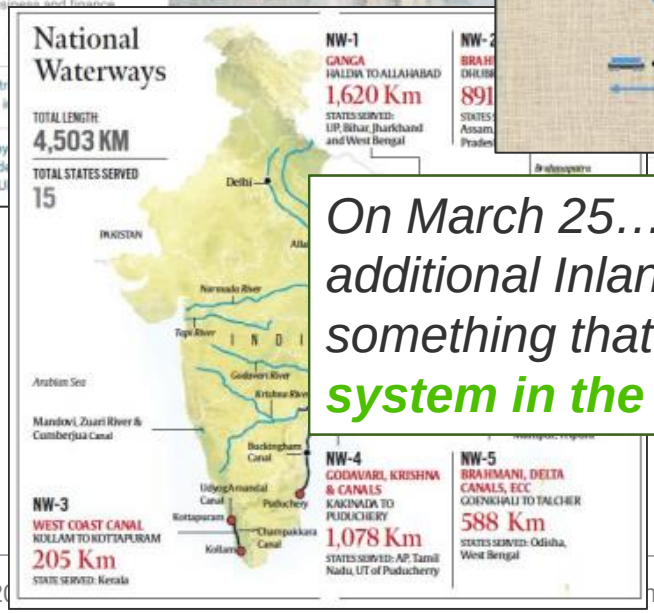


Hinterland Flow Example with Large Vessel



*On March 25… the Union Cabinet had taken the decision to approve…101 additional Inland Waterways as National Waterways (NW) for navigation, something that Gadkari said "**would transform the inland waterways system in the country like never before**".*

Source:The Indian Express: Inland waterways policy: Dredging through the silt

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Scheduling the First Step Toward Automation

Equipment Control System (ECS)

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Managing Performance with Business Intelligence

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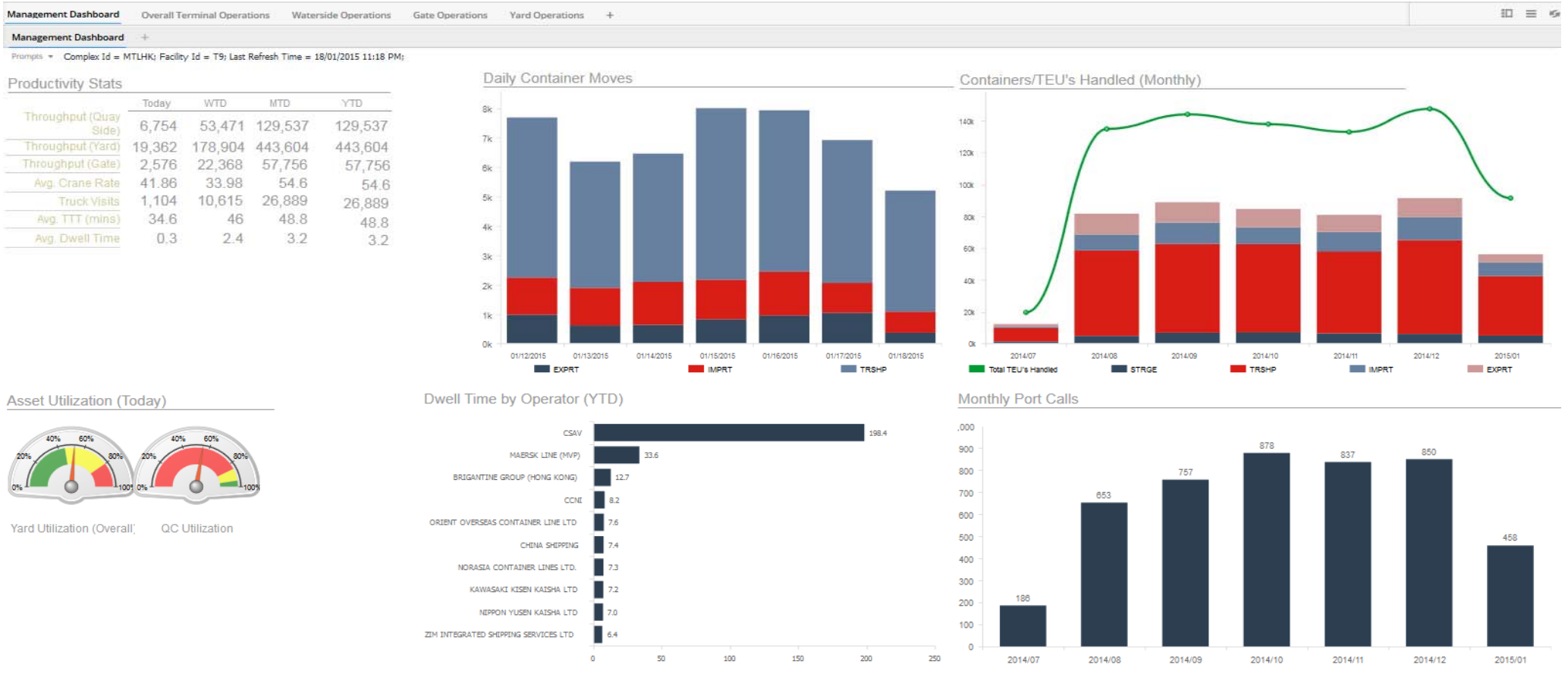

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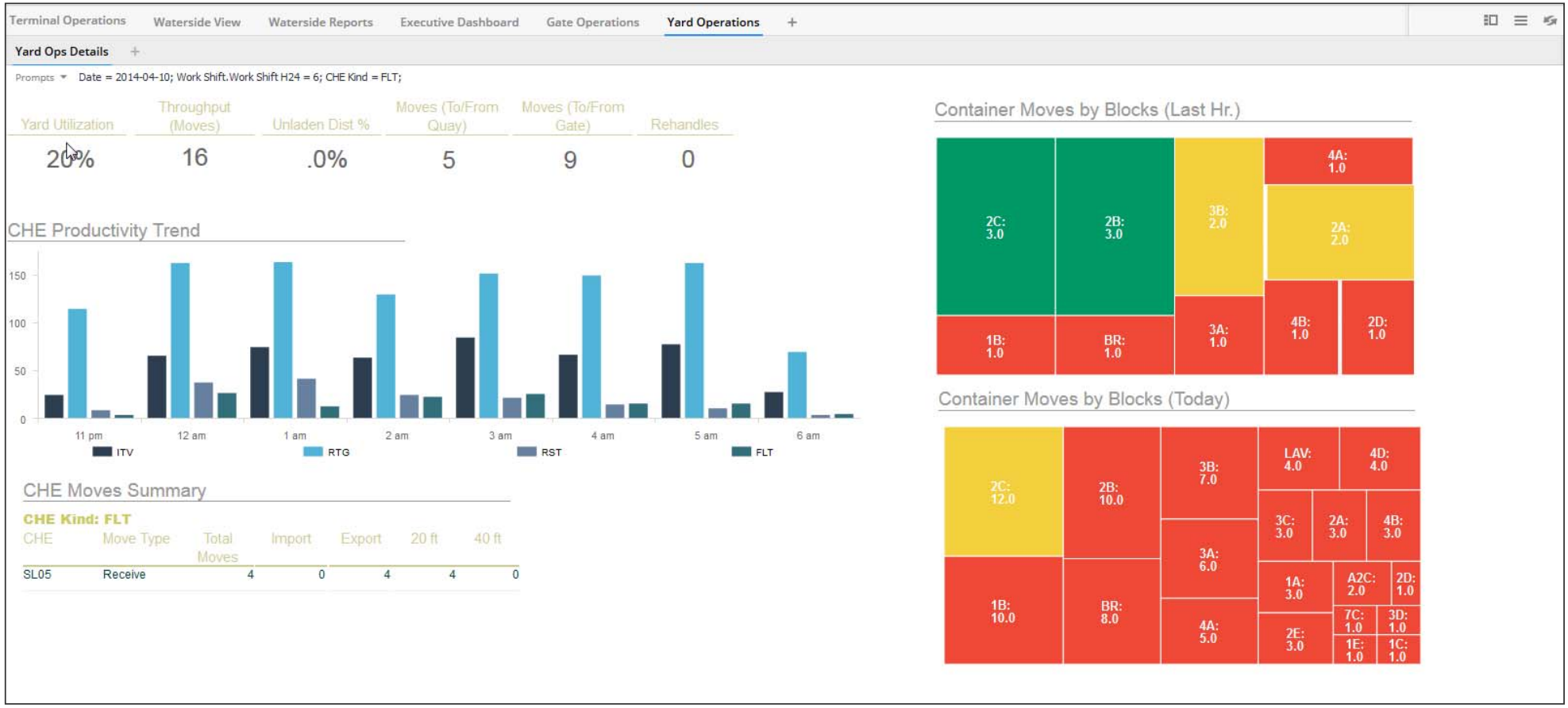
Evaluating Scheduling with Business Intelligence



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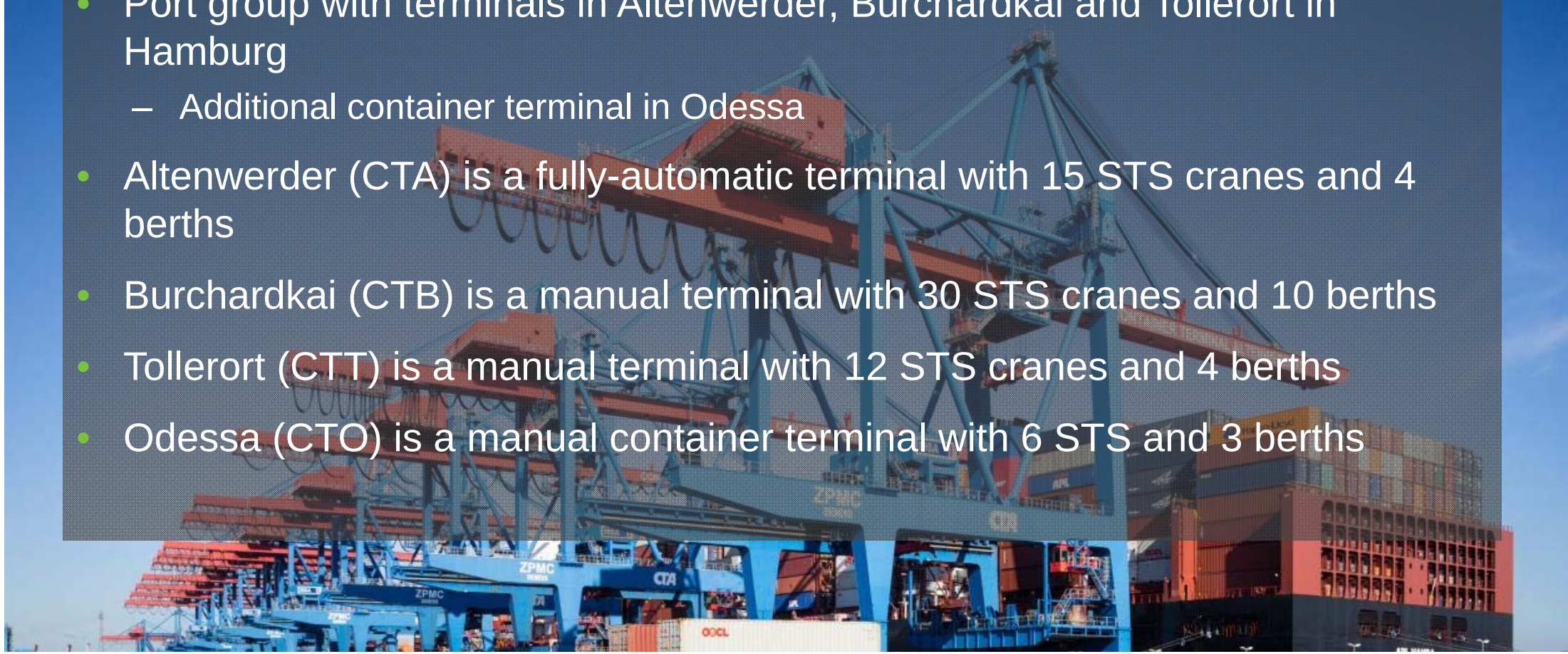
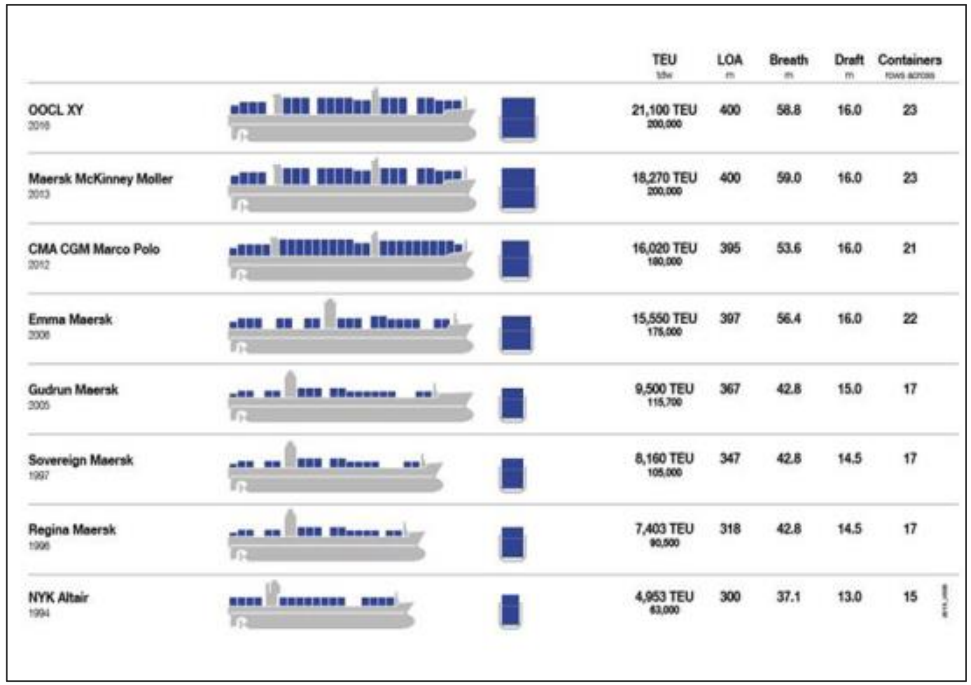
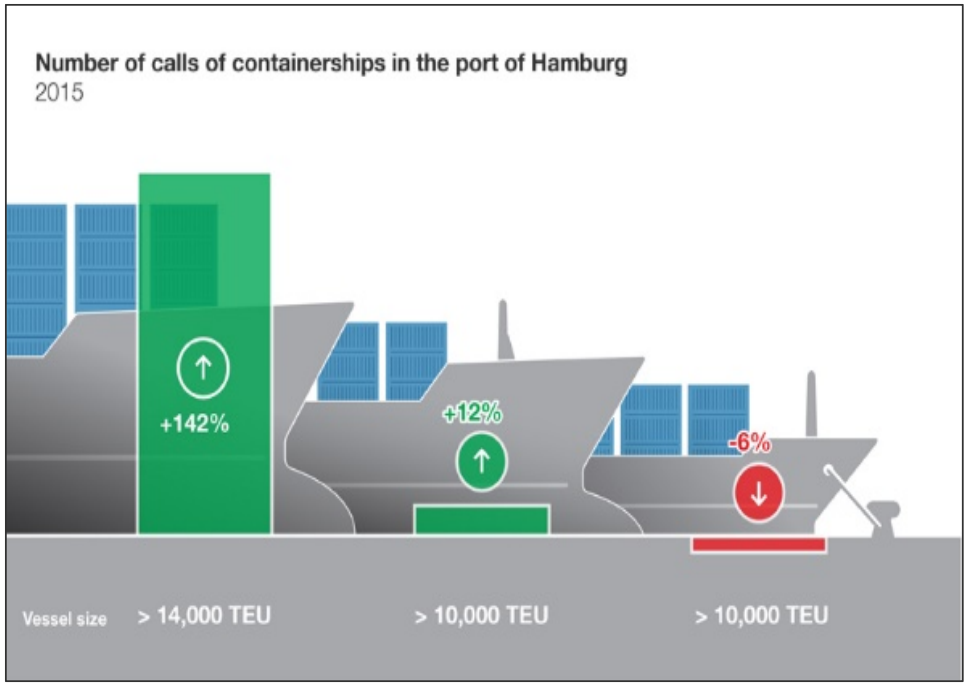
HHLA

- Port group with terminals in Altenwerder, Burchardkai and Tollerort in Hamburg
  - Additional container terminal in Odessa
- Altenwerder (CTA) is a fully-automatic terminal with 15 STS cranes and 4 berths
- Burchardkai (CTB) is a manual terminal with 30 STS cranes and 10 berths
- Tollerort (CTT) is a manual terminal with 12 STS cranes and 4 berths
- Odessa (CTO) is a manual container terminal with 6 STS and 3 berths



HHLA Peak Congestion Challenges





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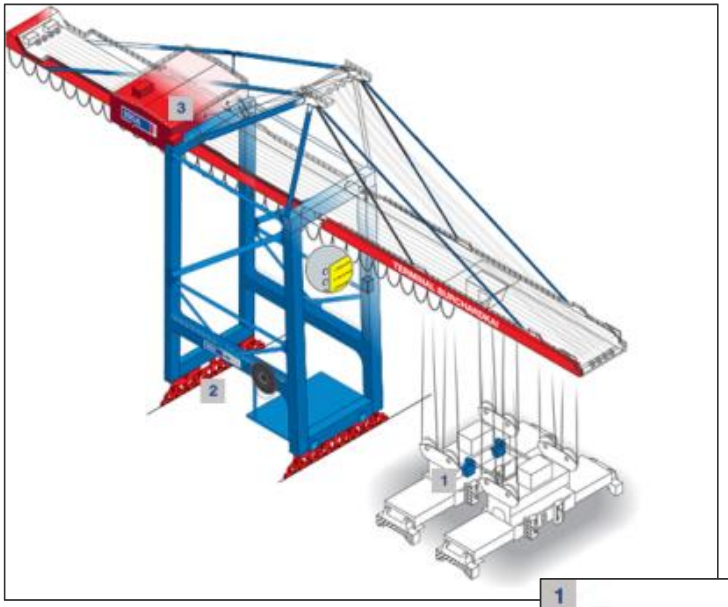
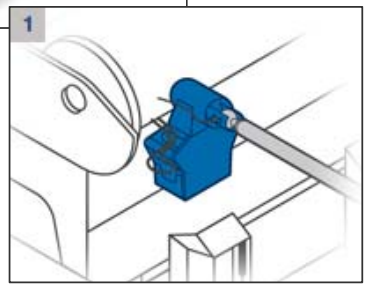
Terminal Objectives

- Terminal growth and expansion domestically and abroad
- Investment in equipment automation and process automation
- STS tandem project
- ‘Brownfield’ phased automation approach to existing manned terminals
- Continuous improvement in optimization algorithm techniques
- Need for updated technology stack





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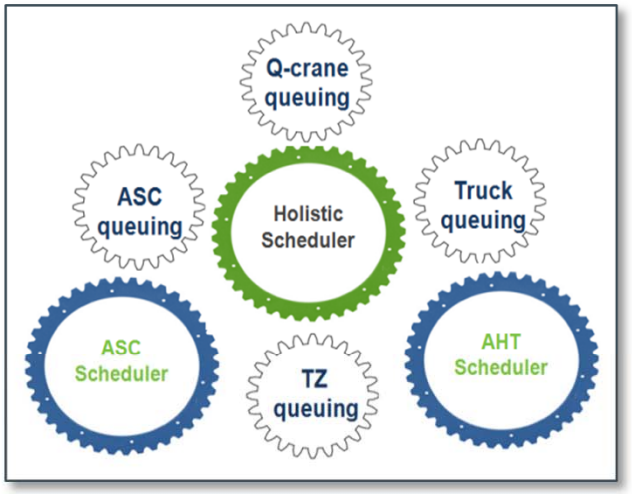
Navis Product Vision and Investments

Terminal Optimization	Business Intelligence	Terminal Automation
How to handle larger vessels / increased throughput	You can't manage what you can't measure	Delivering the tools for Equipment Automation



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Committed to Port Industry

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Navis's N4 boom

Terminal Pacífico Sur Valparaíso is replacing CTI3 with Navis N4

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GLOBAL ISSUES

The port of the future
capturing the sense of wonder

Dr Oscar Pernia, *Director of Product Strategy, Navis;* and,
Manuel Perez, *Director of Product Management (Engineering), Xvela; California, USA*

For the port of the future, bigger vessels, broader carrier alliances, container capacity consolidation and larger hub and spoke port networks will be changing costs

eliminating or drastically reducing the estimated US$17 billion waste in current port and carrier business processes.

Mega-hubs, connectivity and

The port of the future will be integrated into a maritime information network where relevant data is accessible and shared with shipping partners in a secure environment. Automatic processing o

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27 Years
305 TOS Terminals
80 Countries
142 N4 Live
225 N4 Committed
455 Employees
6 Offices
N4
It's time for more.

Thank You

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