

YMS Disrupted: Why Yard Management is Critical for Today's Agile Supply Chain



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Yard Management Systems

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The role of Technology in the Yard



Bart De Muynck

VP Analyst
Gartner

Agenda



- Impact of Disruptions on Technology
- Trends in the Yard
- Yard Management Solution Overview
- Benefits of a Yard Management Solution
- Further Automation of Yard Processes
- YMS vendor overview
- Recommendations
- Q&A

Impact of Disruptions on Technology

Crisis and Disruption reveal a need to move to a new way of working with applications

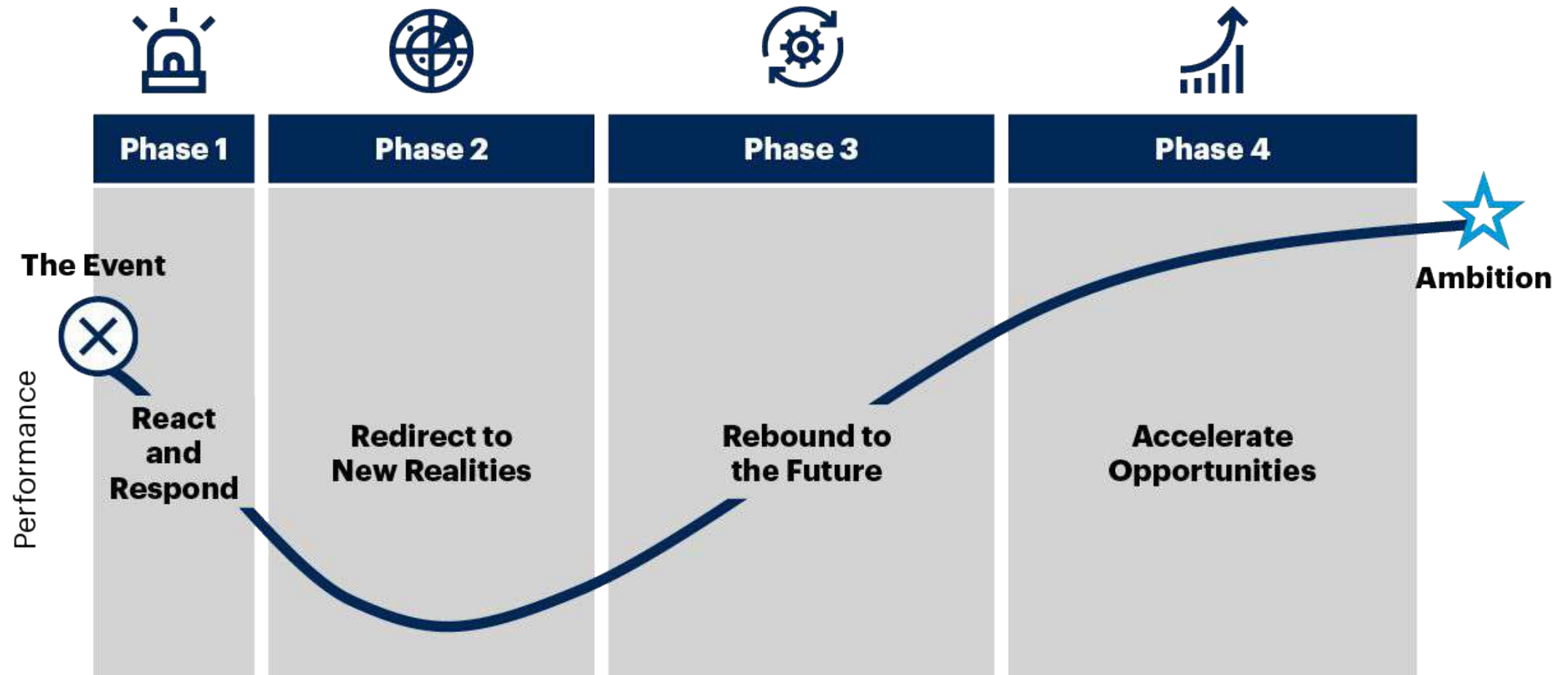


We have already seen...

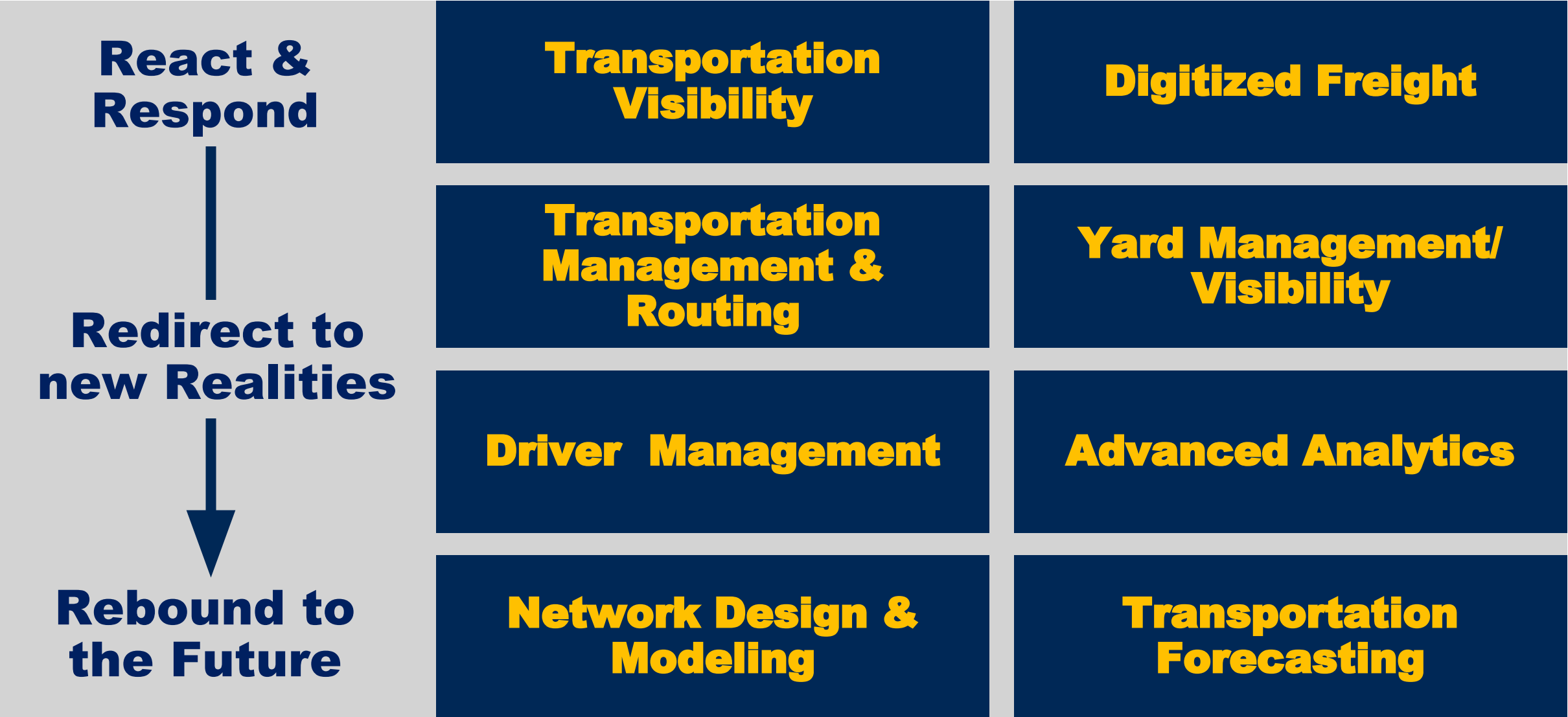
- Increase in new and modified business processes
- Increased use and new ways to use existing applications
- Increased need for new applications to be created quickly
- Increased focus on self service
- Emphasis on mobile
- Increased need for collaboration
- Increased focus on Automation of manual processes
- Desire for better and more advanced analytics
- Increased focus on electronic documents
- Emphasis on Social Distancing

Increased focus on Digitization and Automation

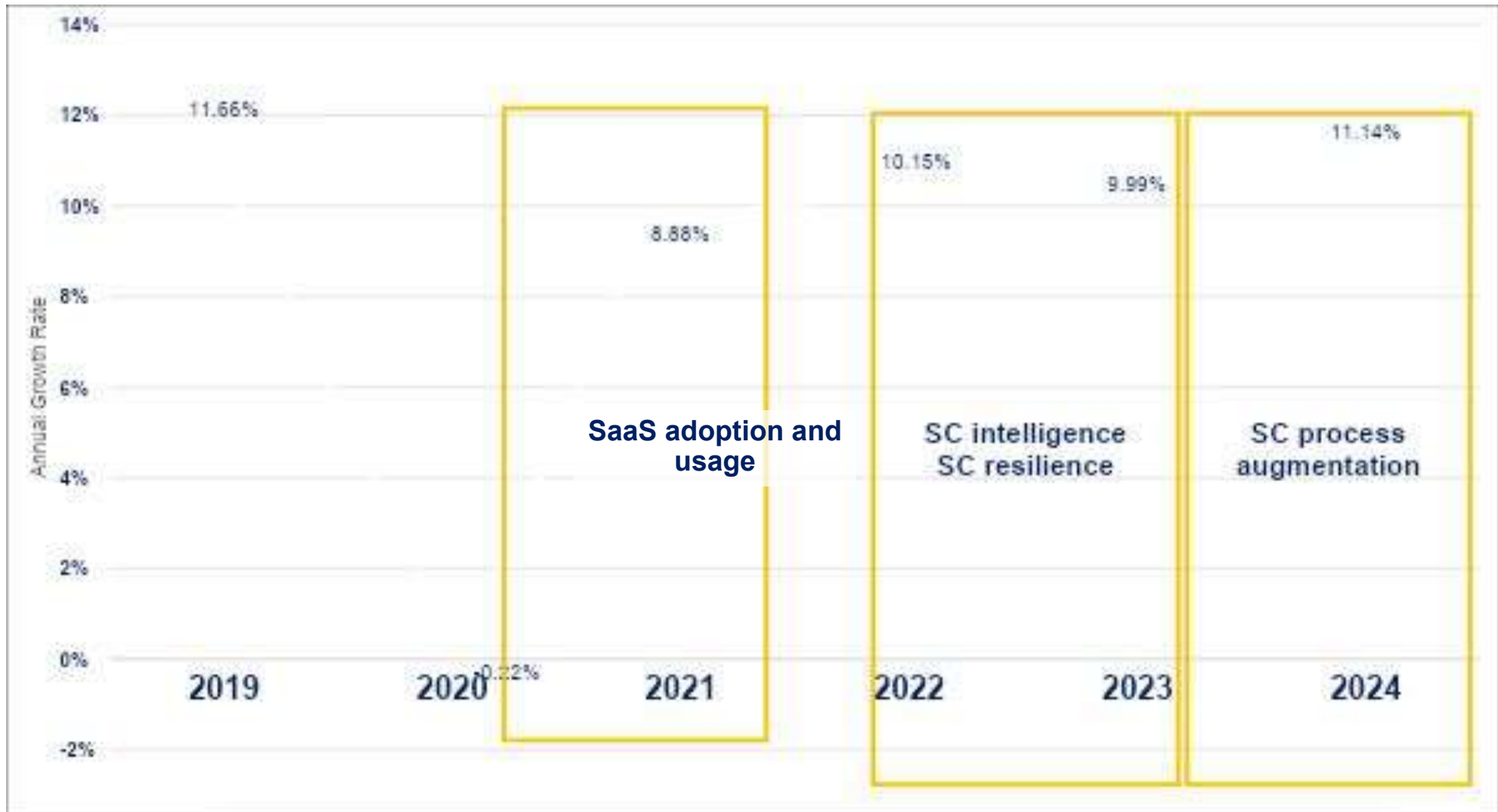
Four Phases for Leading in a Disruptive Crisis



Key Transportation Technologies for Managing Disruption



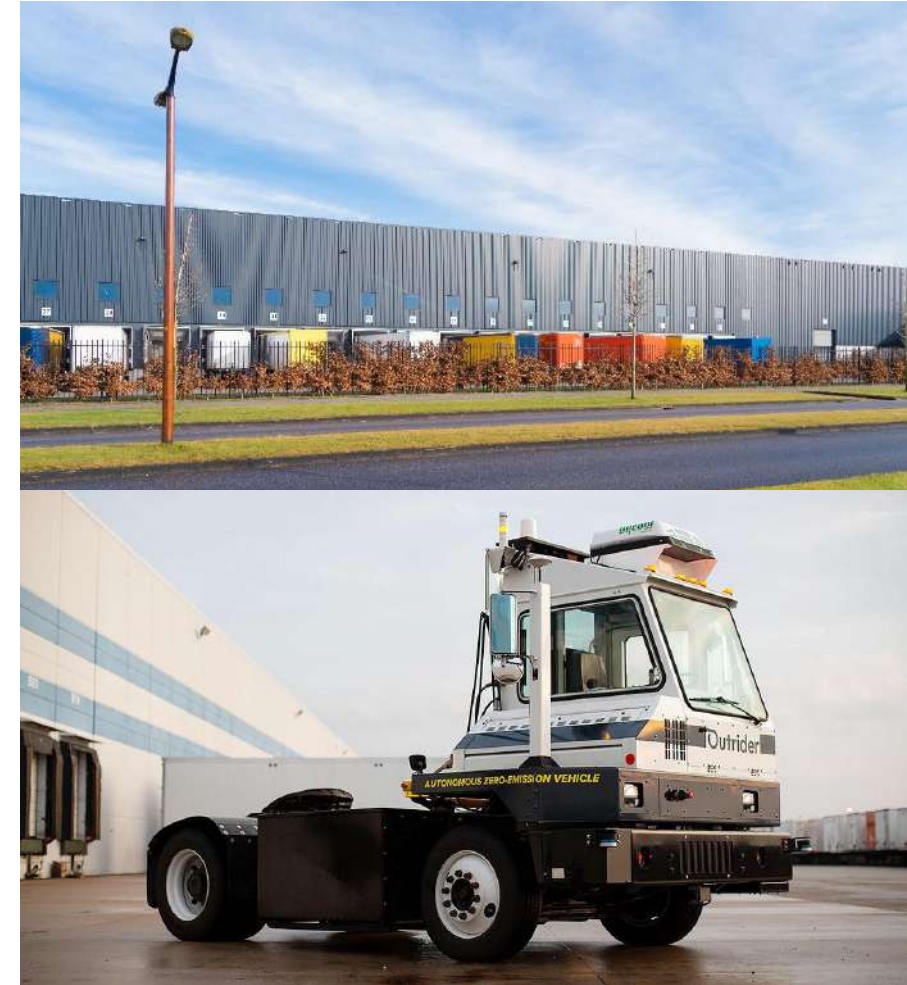
Three phases of recovery in SCM software spend



Trends in the Yard

Current Yard Trends

- Recent disruptions have highlighted **lack of focus** in the yard.
- Longer dwell times are causing a **renewed interest** in yard solutions.
- Shippers and 3PLs want to **extend transportation visibility** to the yard
- The increased need for more **Automation** in the Yard.
- Visibility vendors are focusing more on **dynamic scheduling capability** as part of their offerings

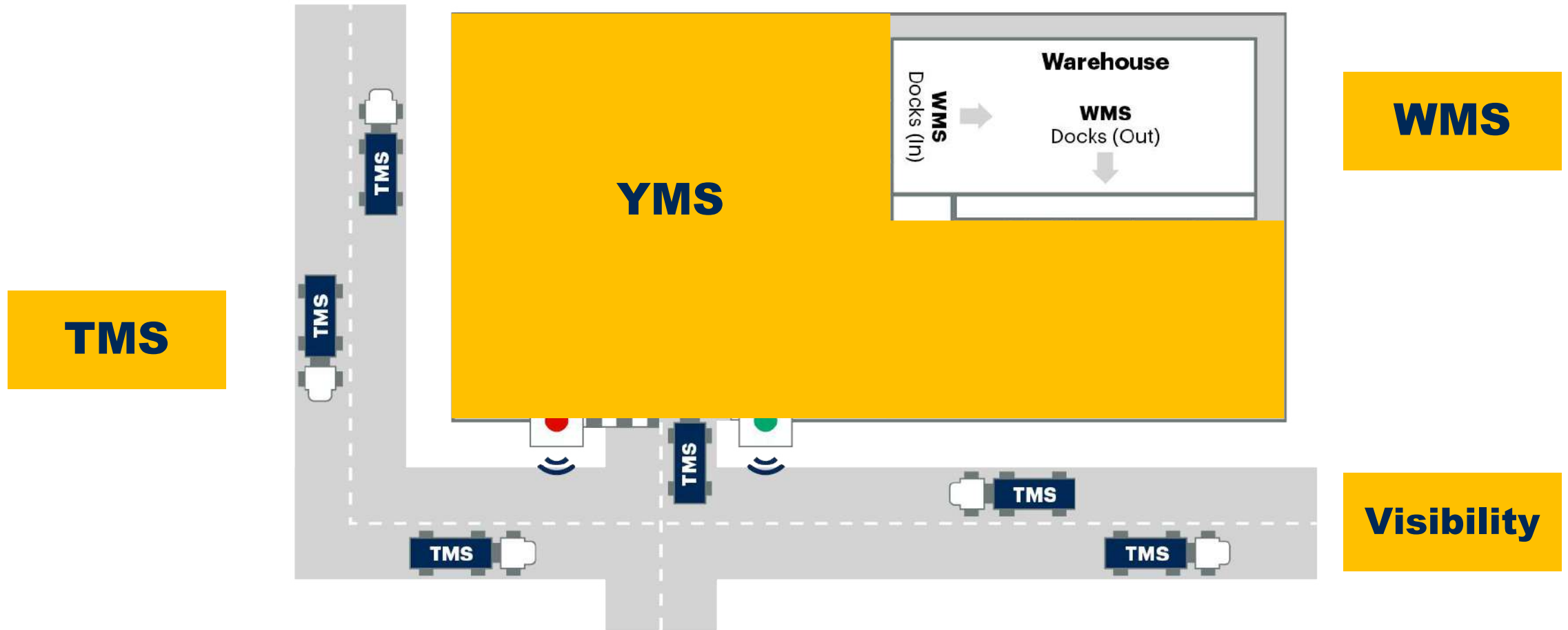


These solutions drive greater efficiency for the yard and better collaboration with carriers

YMS Overview

What is a YMS?

Interplay Between a TMS, YMS and WMS



Yard Management is the connector between Transportation and Warehousing

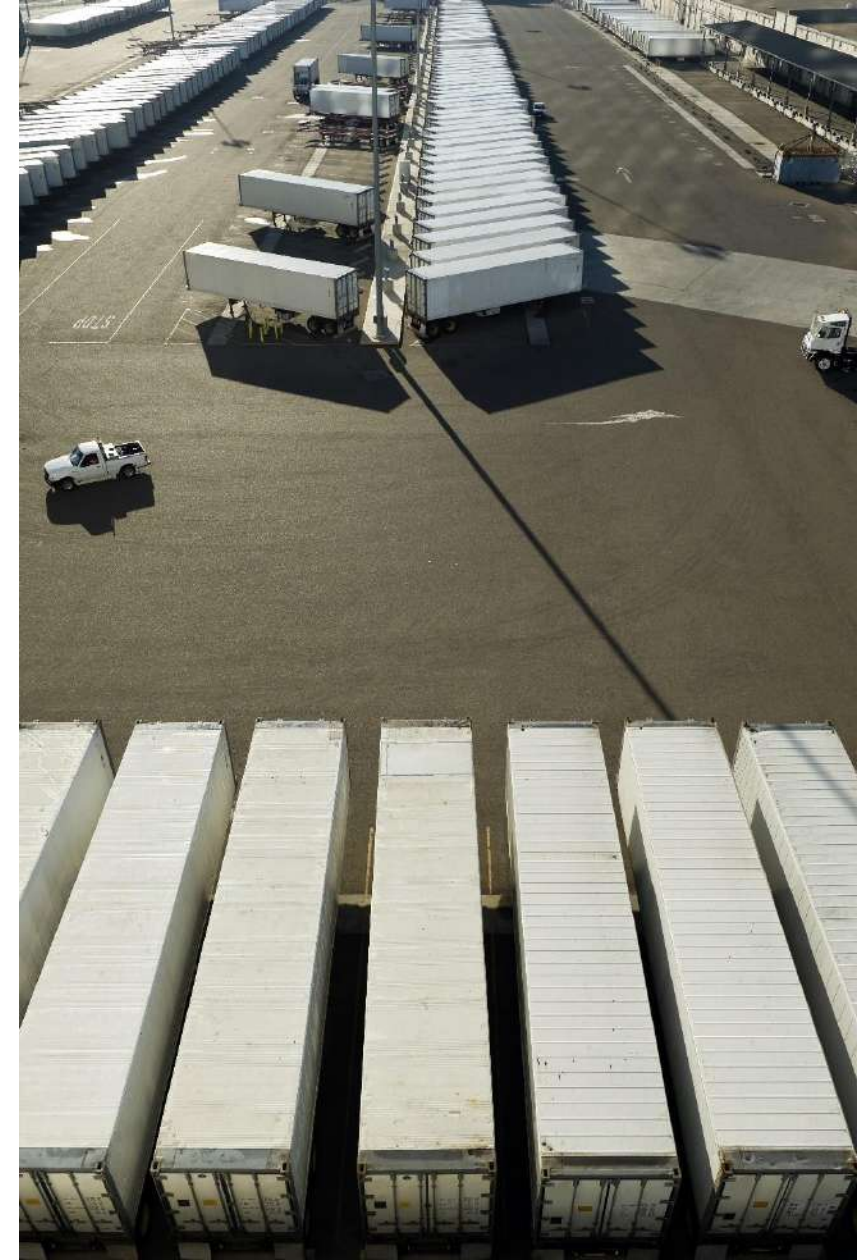
Current issues in the Yard

Lack of trailer visibility

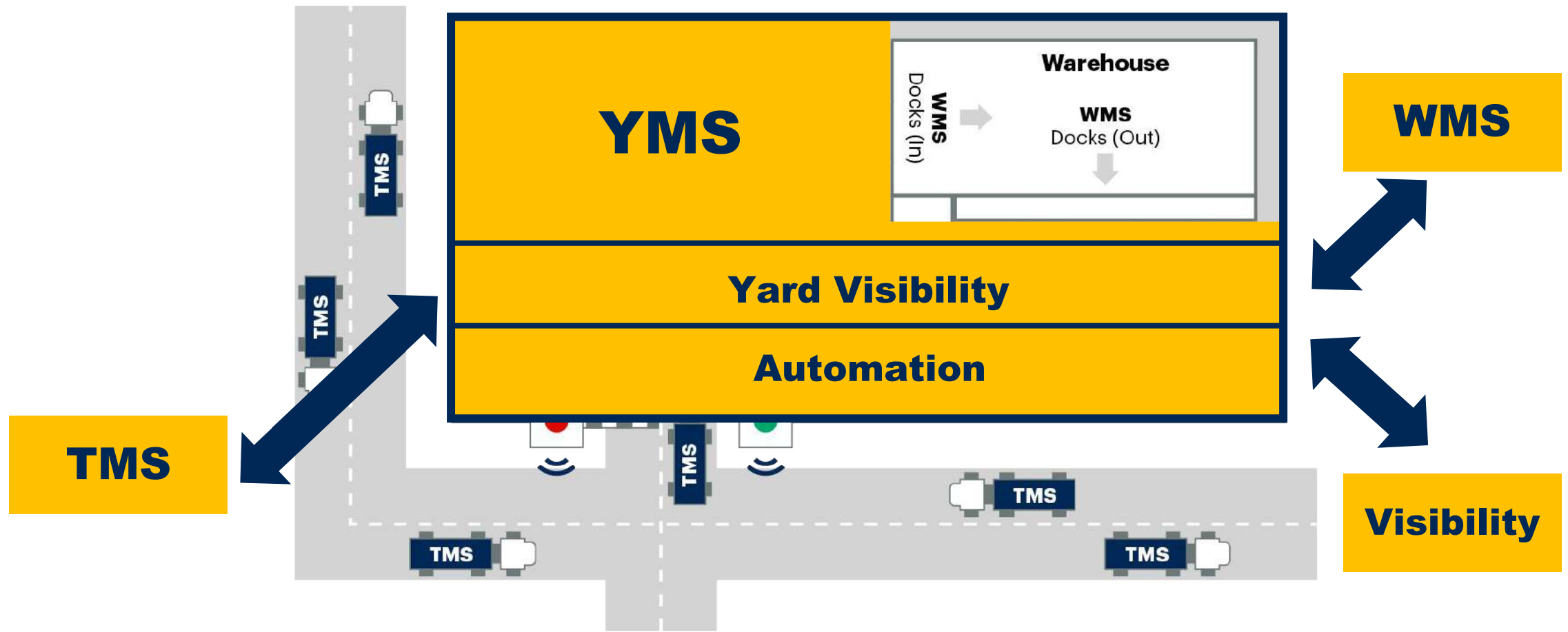
Lack of shipment visibility

Lack of process alignment

Lack of yard jockey efficiency



The next generation of YMS?



New Generation of Yard Management that is more Dynamic enabled by Visibility and Automation

Use Cases and Benefits of a YMS

Key Use Cases of a YMS

Use Case	
Visibility	▪ Visibility to the yard operations and assets ▪ Elimination of “lost” trailers ▪ Visibility to product inventory in the yard
Process Improvement	▪ Automation of yard processes and increased accuracy ▪ Improvement of check-in and check-out processes ▪ Improvement of the flow and direction of materials through a facility to best support the utilization of yard and warehouse labor
Cost Reduction	▪ Reduction of detention and demurrage expenses ▪ Reduction of idle rental ▪ Reduction of idle dock labor
Carrier Analysis	▪ Tracking of carrier commitments and on-time performance ▪ Tracking of carrier wait time and unload time

Benefits of a YMS

Velocity

Process Conformity

Hostler Efficiency

Carrier Collaboration

Safety/security

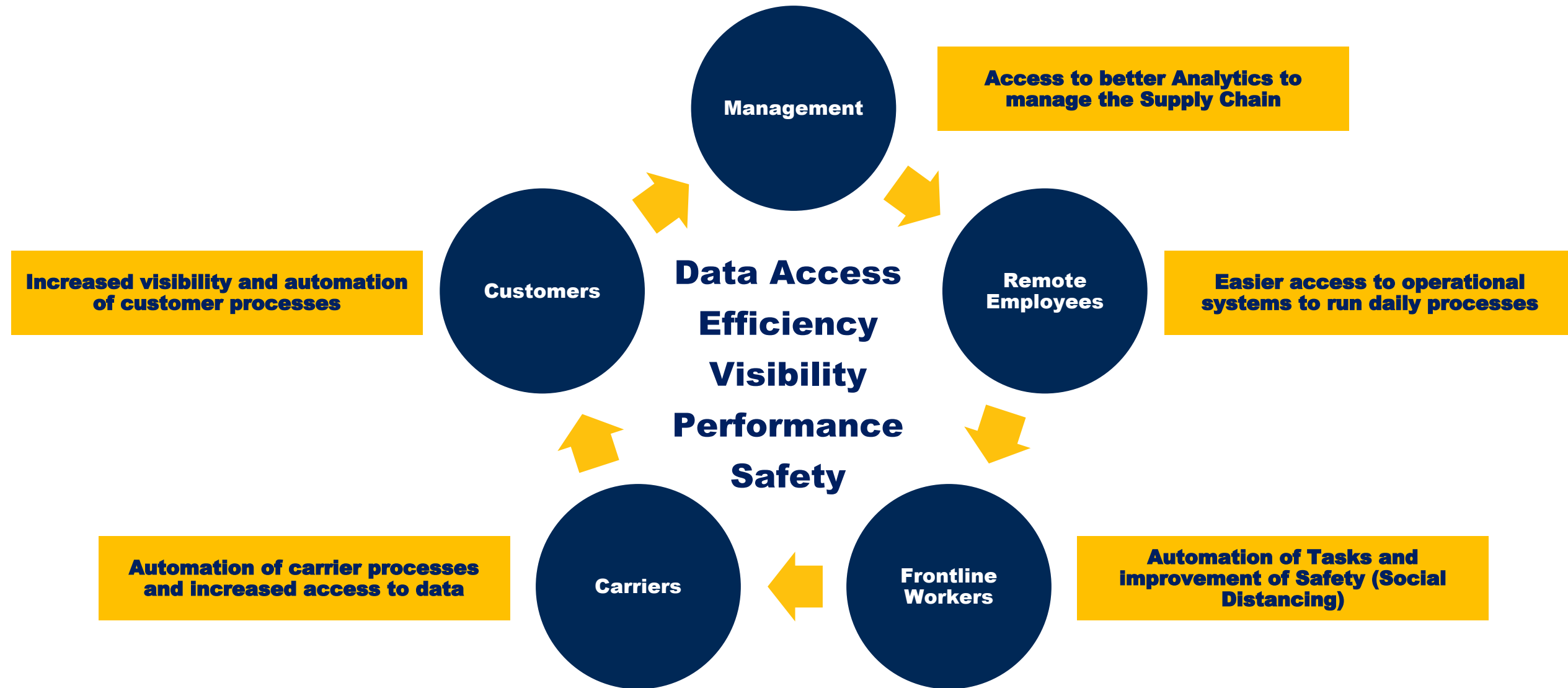
Yard of yards

Cross-Dock Efficiency



Further Automation of Yard Processes

Mobility plays a role for all parties



Transportation Technology needs during COVID-19

- Better Transit data
- Appointment Scheduling:
 - At Stores
 - At Business locations
- Gate Automation
- Electronic Documents
- More use of Mobility (“social distance”)
- Emerging technologies



Virtual Interaction Options for Transportation

The use of Electronic Documents

- Electronic Bill of Lading (eBOL)
 - Avoidance of paper
 - Standardization
- Electronic Signatures
- Electronic Check-in/Check-out
- Electronic Proof of Delivery (ePOD)

Government fast tracks digitization of Bill of Lading to deal with post Covid-19 world trade

J.B. Hunt launches electronic signatures to support social distancing—Covid-19 roundup for May 1

Why Use eBOL and ePOD Solutions?

**Social
Distancing**

**Electronic
Signature Capture**

Simple Integration

Costly Mistakes

Driver Detention

Lack of Access

Customer Experience

Departmental Coordination

Poor Visibility

Audit & Compliance Risk

Lack of Access

Slow Workflows

Too Many Touches

High Printing Expense

Carbon Footprint

Other Yard Technologies

5G NETWORKS



CONTACTLESS GATE CHECK-IN / RECEIVING AUTOMATION

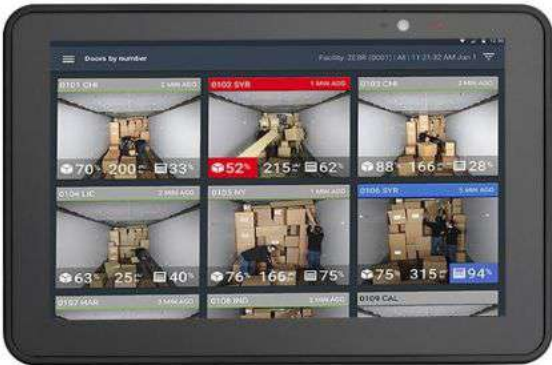
BOL SCAN INTO ANY TOUCHSCREEN KIOSK OR DEVICE USING AI



AUTONOMOUS YARD VEHICLES



TRAILER LOAD OPTIMIZATION



YMS Vendors

YMS Vendor Type

Vendor Type	Description	Companies
Application megasuite vendors	These vendors offer broad portfolios of applications across most application categories (for example, back-office financials, supply chain management [SCM], logistics, CRM and product life cycle management [PLM]).	Oracle, SAP
SCM suite vendors	These vendors offer a portfolio of applications focused primarily on SCM, including aspects of logistics, but not other functional areas such as financials or human capital management. While these vendors might offer a variety of SCM solutions, they do not necessarily offer an integrated platform (although some do).	4Sight, Aptean, Blue Yonder, BluJay Solutions, HighJump, Inconso, Inform, Manhattan Associates, NCR Retalix, ProAct International, Reply, Softeon, Transporeon, UltraShip, Zebra
Yard Visibility Vendors	These vendors are independent software vendors (ISVs) that focus primarily or exclusively on holistic YMS, although they might offer some additional capabilities.	FourKites
Specialist YMS vendors	These vendors are independent software vendors (ISVs) that focus primarily or exclusively on holistic YMS, although they might offer some additional capabilities.	C3 Solutions, Cypress Inland Corporation, Pinc

Vendor Overview: Functionality

Functionality Covered

■ Has Capability
 ■ Has Capability via Other Application or Partnership
 ■ Does Not Have Capability

Vendor Name	Functionality											
	Automated Gate Check-In/ Check-Out	Yard Optimization (System Direct Trailer Moves)	Dock Scheduling	Yard Inventory	Hostler Work Assignment	Asset Tracking	Real-Time Vehicle Location/ Yard Visibility	Graphic Display of Entire Facility Incl. Trailer Location/Status	Analytics/Business Intelligence	Web Portal for Carriers/ Customers to View Trailer Pools	Seal Verification, Damage Inspection/Reporting	Other
Oracle												
SAP												
FourKites												
Blue Yonder												
Consafe Logistics												
Körber (HighJump)												
Körber (inconso)												
Manhattan Associates												
NCR												
ProAct International												
Reply												
Transporeon												
Zebra												
C3 Solutions												
Exotrac												
PINC												
Yard Management Solutions												
YardView												

Source: Gartner (June 2020)

384268_C

Conclusion

Recommendations

- **Address** the gap between warehouse and transportation operations
- **Investigate** how Yard Technology can increase your company's yard visibility, optimize asset utilization, enhance transit flows and decrease costs.
- **Determine** if you can easily extend your current capabilities by extending visibility into the yard or if you need a full yard management solution.
- **Identify** other capabilities that can be easily implemented to further automate the yard processes and provide value.

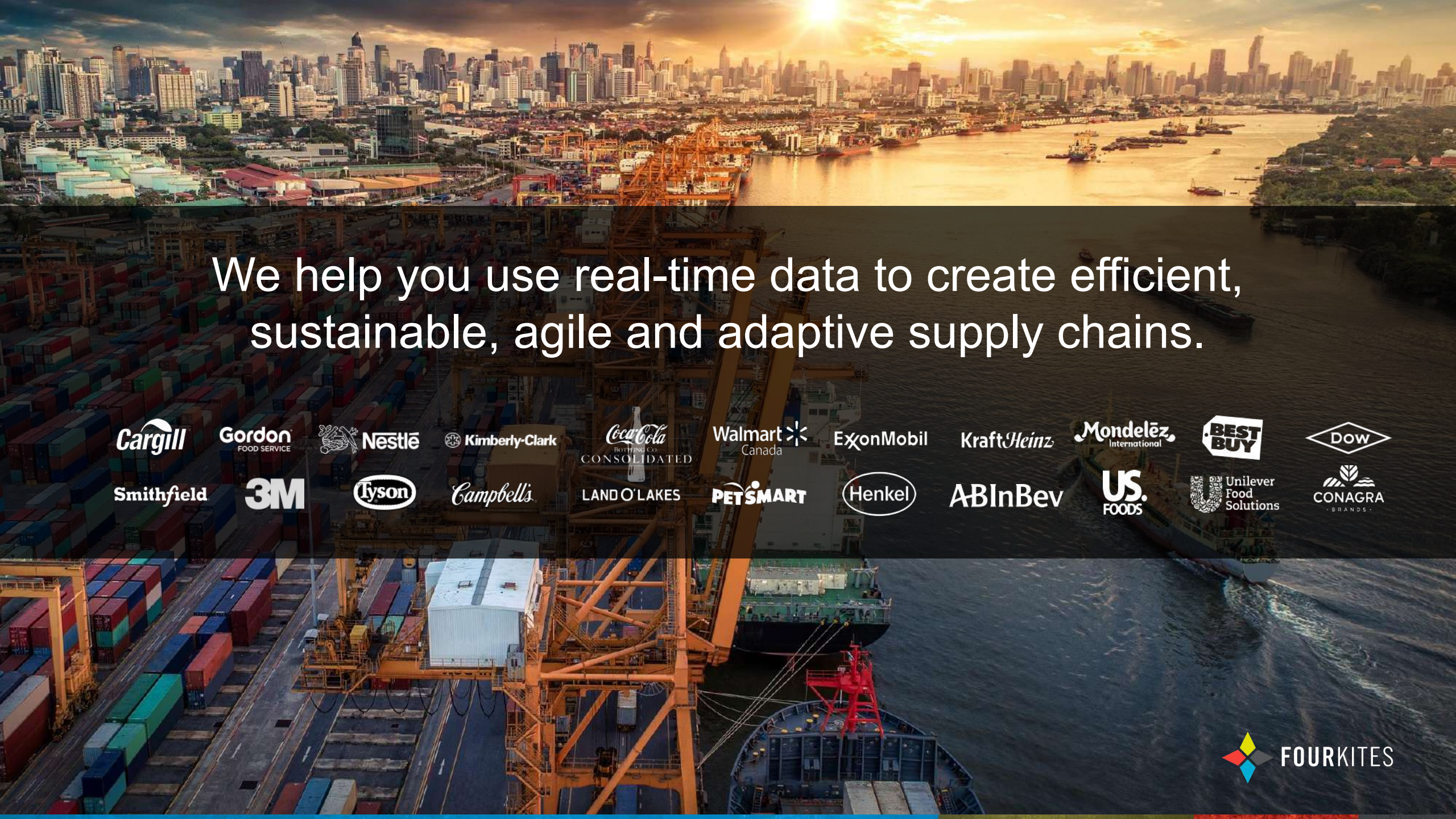
Q&A



Priya Rajagopalan
Chief Product Officer - FourKites



FOURKITES



We help you use real-time data to create efficient, sustainable, agile and adaptive supply chains.

Cargill

Gordon
FOOD SERVICE

Nestlé

Kimberly-Clark

Coca-Cola
BOTTLING CO.
CONSOLIDATED

Walmart
Canada

ExxonMobil

KraftHeinz

Mondelēz
International

BEST BUY

DOW

Smithfield

3M

Tyson

Campbell's

LAND O'LAKES

PETSMART

Henkel

ABInBev

US
FOODS

Unilever
Food
Solutions

CONAGRA
BRANDS

 FOURKITES



The largest network of supply chain data on the planet gives you
greater insights, greater accuracy and greater collaboration



380+ Shippers
In 70 countries



9 of top 10
CPG



18 of top 20
Food and Bev



1 million shipments
tracking daily



GLOBAL END-TO-END VISIBILITY

The world's largest network means global visibility
across every mode and every load.

ROAD

RAIL

OCEAN

AIR

YARD

Your Truck is Going to be 4 Hours Late...

No Worries, Your Appointment Scheduler and Yard Manager Already Know



**REAL-TIME
TRANSPORTATION
VISIBILITY**



**APPOINTMENT
MANAGER**



**eDOCS
GATEWAY**



**DYNAMIC
YARD**

Re-Defining Appointment Scheduling with Real-Time Visibility



**REAL-TIME
TRANSPORTATION
VISIBILITY**



**APPOINTMENT
MANAGER**



**eDOCS
GATEWAY**



**DYNAMIC
YARD**

We've Solved 4 Huge Problems With Appointment Scheduling

Manual &
Cumbersome



Inaccurate
Appointment
Times

Scheduler
Availability



Lack of
In-Transit
Visibility

Filter Select Date and Time Select Carrier Shipping type

Search for Load number

+ Create/Bulk Upload

Menu icon, Calendar icon, Settings icon

Today Thu, Jul 12 < < MON Jul 09 TUE Jul 10 WED Jul 11 THU Jul 12 FRI Jul 13 SAT Jul 14 SUN Jul 15 > >

	Live Delivery	Tuna - Inbound	Live Pick Up	Drop Hook Delivery	
UTC-06:00	1	2	3	4	5 < >
08:00 AM (5/7 Confirmed)	Load 357-112-224G Carrier Great Bakery In... PO number 3864918301+ 2 2 hrs late →	Load 7821887847 Carrier Mode Transport... PO number 7821887847 1 hr late →	Load 7821887974 Carrier Napa Transporta... PO number 7821892224 5 hrs late →	Load 7000481853 Carrier Napa Transporta... PO number 7821892224 On time →	Load 7000481853 Carrier Napa Transporta... PO 782 (+)
09:00 AM (4/7 Confirmed)	Load 357-112-224G Carrier Great Bakery Inc., PO 3864918301+ 2	Load 357-112-224G Carrier Great Bakery Inc., PO 3864918301 2 hrs late →	Load 357-112-224G Carrier Great Bakery Inc., PO 3864918301 On time →	Load 357-112-224G Carrier Great Bakery Inc., PO 3864918301 On time →	(+)
10:00 AM (3/7 Confirmed)	Load 357-112-224G Carrier Great Bakery In... PO number 3864918301+ 2 2 hrs early →	Load 7821887847 Carrier Mode Transport... PO number 7821887847 2 hrs late →	Load 7821887974 Carrier Napa Transporta... PO number 7821892224 On time →		(+)
11:00 AM (2/7 Confirmed)	Load 357-112-224G Carrier Great Bakery Inc., PO 3864918301	Load 357-112-224G Carrier Great Bakery Inc., PO 3864918301 1 hr early →			(+)
12:00 AM (3/7 Confirmed)	Load 357-112-224G Carrier Great Bakery In... PO number 3864918301+ 2 On time →	Load 7821887847 Carrier Mode Transport... PO number 7821887847 1 hr late →	Load 7821887974 Carrier Napa Transporta... PO number 7821892224 On time →		(+)
1:00 PM (3/7 Confirmed)	Load 357-112-224G On time →	Load 7821887847 On time →	Load 7821887974 On time →		

Appointments

Requested 3 Unscheduled 0 Confirmed 0

Load
7821887974
Carrier Napa Transportation PO number 7821892224
Requested delivery Jul 12 8:30 PM PST Appointment type Live
Approve Reject

Load
36272426427
Carrier The Truck Company PO number 7821892224
Requested delivery Jul 12 9:00 PM PST Appointment type Live
Approve Reject

Load
36272426427
Carrier The Truck Company PO number 7821892224
Requested delivery Jul 12 9:30 PM PST Appointment type Live
Approve Reject

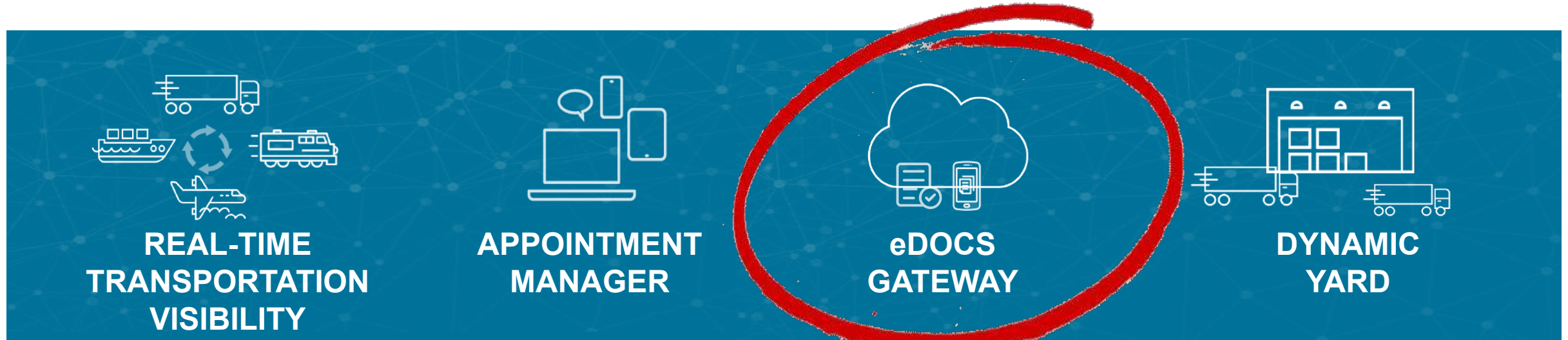
The Impact of Real-Time Visibility Plus Appointment Management

85% Reduction in Manual Scheduling &
Increased Data Accuracy

*“The app is great. It takes just 15 seconds to book an appointment.
I rate you 9/10 only because I never give a **10/10!**”*



Re-Defining eDocs with Real-Time Visibility



1



Shipper uploads
file to FourKites

2



FourKites exposes BOL to
driver via CarrierLink app or
carrier's in-cab solution.

3

< Bill of Lading

Waiting for Approval
Please wait until approval of BOL

Overview [Edit](#)

Load #	Stop
1234567890	San Diego, CA
Date	Time
04/22/2020	08:31 AM MDT

[View More](#) ▾

Seal Number [Edit](#)

Driver initiates
document signature
process

4

Thank You

New BOL requested

Mark, Attention has been called to BOL request for Load #1234567890. Please click on the link below to view the document or document details.

Access Code: 8376 [View and Approve the BOL](#)

NYZ Company LOGO

Bill of Lading

Load # 1234567890

Stop San Diego, CA

Date 04/22/2020

Time 08:31 AM MDT

Seal Number

Barcode

Shipping clerk/Receiver
notified - views details and
edits doc or approves.

5

Load CBCC-1

Overview [Stop](#) [Messages](#) [Documents](#)

San Diego, CA

Proof of Pickup
Apr 4, 2020 at 6:45 PM
[SHIPPER FILE](#) [Updated](#)

Los Angeles, CA

Proof of Delivery
Apr 4, 2020 at 5:20 PM
[SHIPPER FILE](#) [E-Verified](#)

Proof of Delivery

Load No: CBCC-1
31 May, 2020 5:20 PM CDT
[View eURL](#)

From: KDCDC Ogden Plant
2010 N. 20th White Blvd
Ogden, UT, US

To: KDCDC PARS PLANT
2466 N. FAIRM ROAD EST
PARIS, TX, US

Base Document

Barcode

Approved doc published to all
stakeholders - available for
payment & audit

The Impact of Real-Time Visibility Plus eDocs Gateway

Secure

Hard to Alter
Documents

Fast

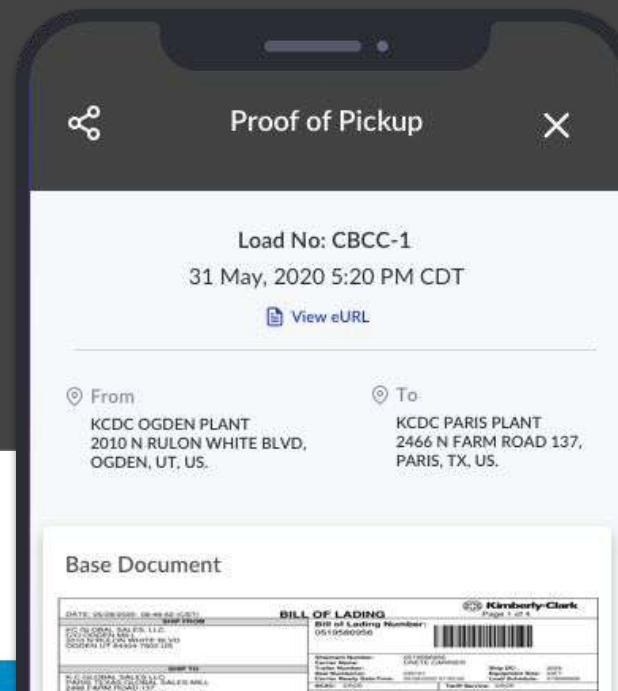
No Waiting to
Scan & Fax

Safe

Touchless
Communications

Sustainable

Reduce Paper /
Printing



Re-Defining Yard Management With Real-Time Visibility



**REAL-TIME
TRANSPORTATION
VISIBILITY**



**APPOINTMENT
MANAGER**



**eDOCS
GATEWAY**



**DYNAMIC
YARD**



INTRODUCING



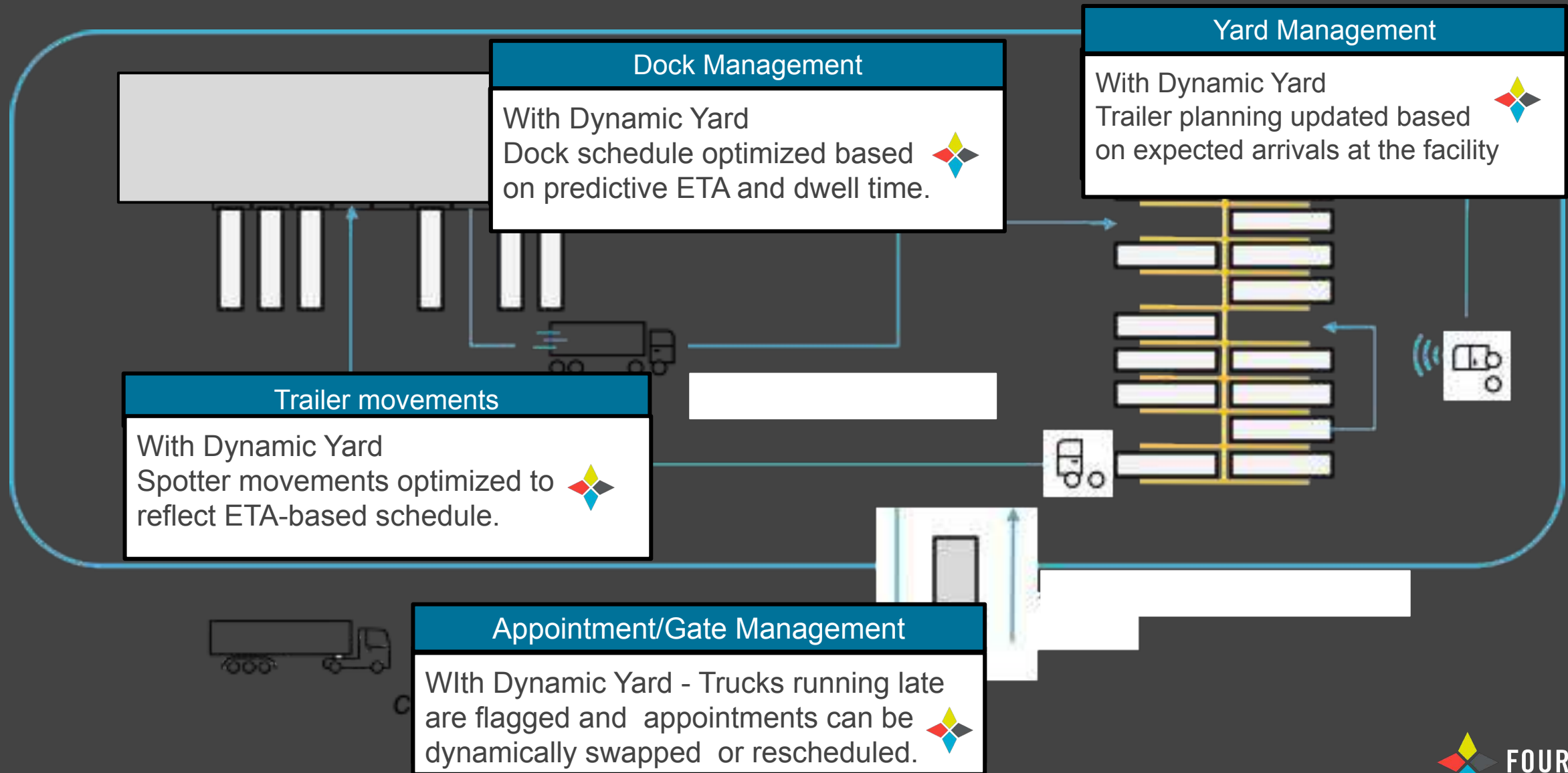
FOURKITES

DYNAMIC YARD



FOURKITES

Your Truck is 4 Hours Late...



https://app.fourkites.com/dynamicyard

FOURKITES

HOME

TRACKING

DYNAMIC YARD

TOOLS

ADMIN

OWEN LARS

COMMUNITY

HELP

SETTINGS

SIGN OUT

GATE

YARD

DOCK

SPOTTERS

ADMINISTRATION

SECURITY

Site Portal

Riverside Facility

Gate

SW Gate

Search by Appointment, Equipment or Shipment #

Filter

Type = Pickup

SCAC = RYDR

Status = On Time

View by

Upcoming

History

Expected Arrivals

Expected Departures

New Arrival

New Departure

Appointment Status	Appointment Time	FourKites ETA	Type	Shipment #	SCAC	Equipment #	Appointment #	Action
Very Late by 18h 45m	10:15 AM EST	11:45 AM EST	Pickup	P39392	SRGO	77288	399993828	Check in
Late by 18h 45m	10:15 AM EST	11:45 AM EST	Delivery	D39392	RYDR	77288	399993828	Check in
On-time	10:15 AM EST	11:45 AM EST	Pickup	P39392	SRGO	77288	399993828	Check in
Early by 18h 45m	10:15 AM EST	11:45 AM EST	Delivery	D39392	RYDR	77288	399993828	Check in
At Risk	10:15 AM EST	11:45 AM EST	Pickup	P39392	SRGO	77288	399993828	Check in
Awaiting ETA	10:15 AM EST	11:45 AM EST	Delivery	D39392	RYDR	77288	399993828	Check in

FOURKITES

Site Overview

[Edit Dashboard](#)



Carriers

All ▾

[More Filters](#) ▾

[Hide Filters](#)

[Saved Filters](#)

Arrivals

212 / 343

Actual gate-in vs. expected to arrive

Departures

58 / 176

Actual gate-out vs. expected to depart

Turn Aways

14

Shipments turned away at the gate

Wait Time at the Gate

12m

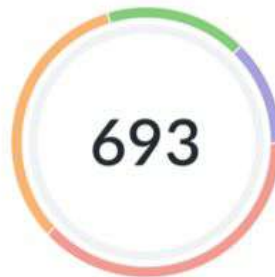
Geofence arrival vs. actual gate-in time

Carrier Performance

97%

Percentage of on time arrivals

In-Transit Shipments



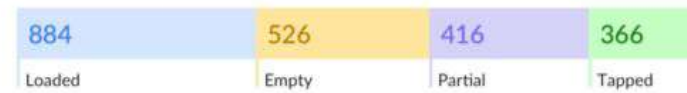
239
Very Late

212
Late

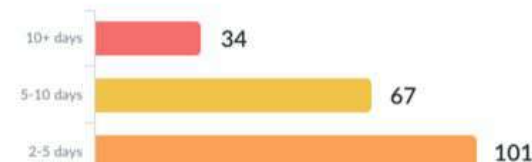
134
On Time

108
Early

Equipment by Status



Equipment by Dwell Time



Dock Door Capacity

74%

368 / 502 dock doors occupied

Parking Spot Capacity

89%

684 / 763 parking spots occupied

8550697

61985607

26503227

50695682

5984454

19422914

55602714

61119051

19834927

52735992

17547807

25399649

46889797

16307420

56750212

70770567

71570721

82774723

71000334

33750259

92837174

61236198

01234567

16769074

59878421

16307420

01234567

2294624

53911300

81295881

D101

56750212

01234567

79675564

38955554

37129097

01234567

75020338

38955554

D101

D101

D101

Task List

13 Open Tasks Assigned to Me 3 Tasks Completed by Me Today 47 Open Tasks in Queue

TYPE	EQUIP #	CARRIER	FROM	TO	STATUS	REQUESTED
Pull	120035	CWCE	A201	D517	Empty	Jun 26, 11:41 AM
Spot	946721-003	RSEL	B341	C216	Loaded	
Bump	416798	DAFG	B327	--	Tapped	
Pre-Cool	102346	CWCE	A201	--	Partial	
Pull	123456	CWCE	A201	D517	Empty	
Spot	212585-02	RSEL	B341	C216	Loaded	
Pre-Cool	120035	CWCE	A201	--	Empty	
Pull	120035	CWCE	A201	D517	Partial	

Task Information

Pickup A201 → Dropoff D517

Equipment # 120035

Carrier CWCE

Temp Set N/A

Status EMPTY

Commodity UNKNOWN

Type TRAILER

START TASK

Current Location Info

Location A102

Equipment # 479810

Carrier CWCE

Now Tracking OVER 155 million Trailer Movements Each Year



The Impact of Real-Time Visibility Plus Dynamic Yard



**PREDICTIVE
ETAs**



**MULTI-SITE
VISIBILITY**



**PROACTIVE
RESCHEDULING**



**CARRIER
TOOLS**

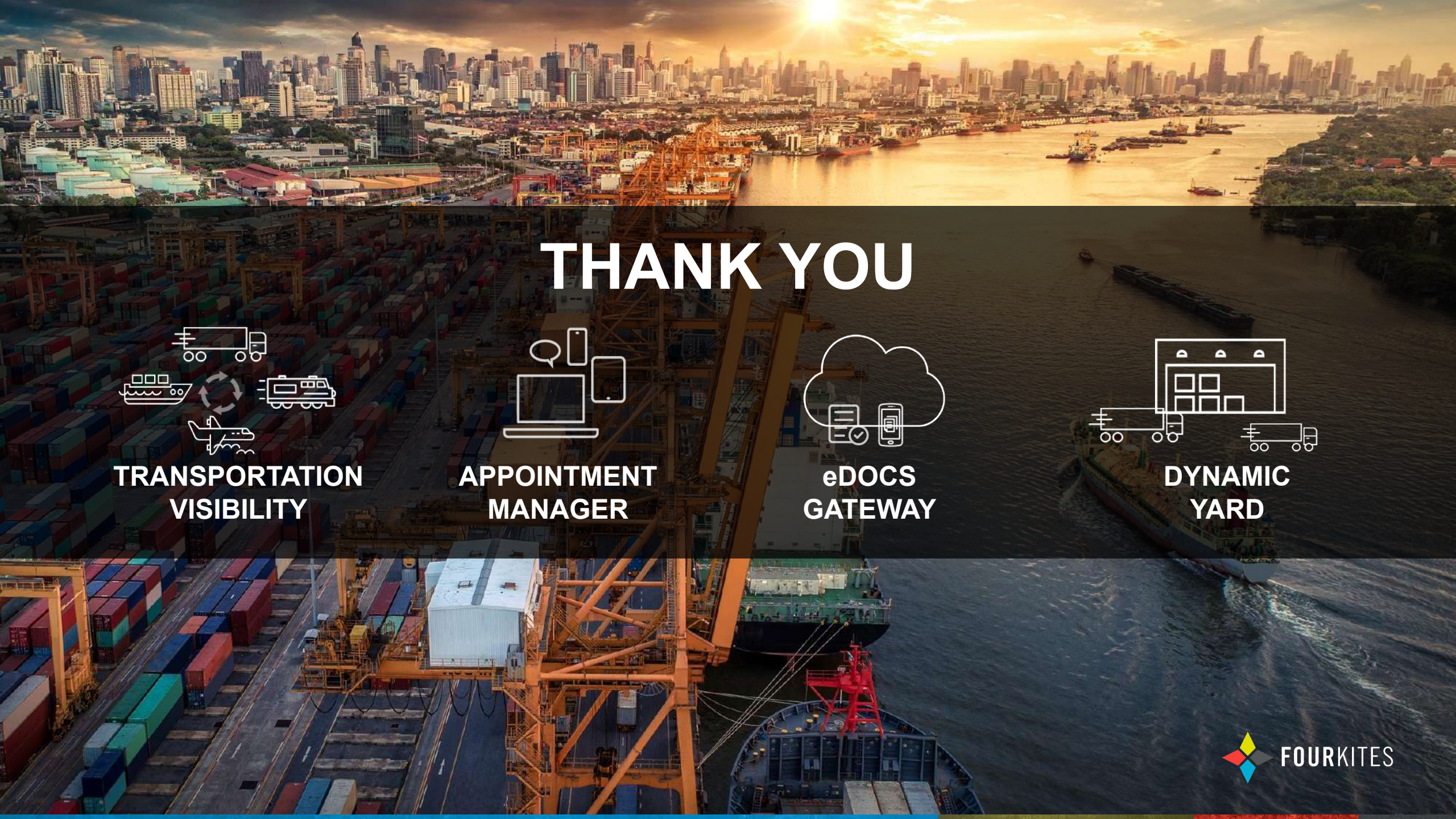


**IoT
TEMP TRACKING**

The Impact of Real-Time Visibility Plus Dynamic Yard

"FourKites' Dynamic Yard could become a game-changing solution for us. Our existing YMS is limited when it comes to understanding the real-time status of our freight. Dynamic Yard and its integration with FourKites Visibility platform, could be a real breakthrough that enables cost savings and significant gains in efficiency."

Belinda Biddle, Customer Experience Manager, Transportation at GE Appliances.

An aerial photograph of a busy port area with a city skyline in the background. The sun is setting, casting a warm orange glow over the scene. In the foreground, there are stacks of colorful shipping containers and large yellow gantry cranes. Several ships are docked at the pier, and others are visible in the water. The city skyline is dense with skyscrapers and buildings.

THANK YOU



**TRANSPORTATION
VISIBILITY**



**APPOINTMENT
MANAGER**



**eDOCS
GATEWAY**



**DYNAMIC
YARD**

Q&A



Mary Anne Hensley
Vice President - FreightWaves



Bart De Muynck
Vice President Analyst - Gartner



Priya Rajagopalan
Chief Product Officer - FourKites

VISIT 500 W Madison St, Suite 3300, Chicago, IL 60661
EMAIL hello@fourkites.com
CALL 1.888.466.6958

Thank You

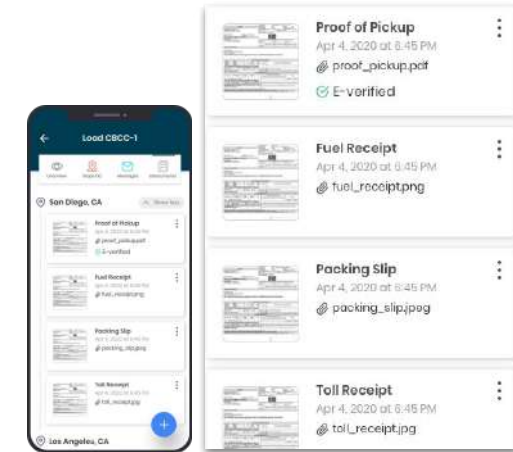
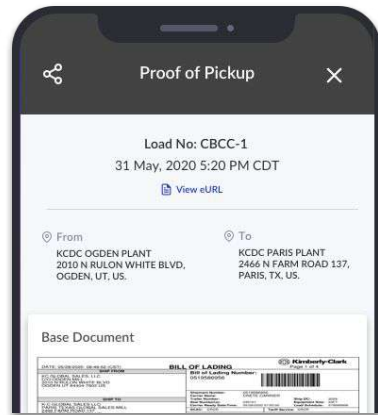


Key advantages of moving to the eDocs Gateway

Sustainable - Reduce Paper Usage

Secure - Reduce ability to alter documents

Fast - No waiting for driver to scan/fax/send carrier pigeon



Digitized freight documents with instant validation & availability to all parties at a safe distance.

Enables the shipper, broker, carrier and driver to digitally execute all required documents.

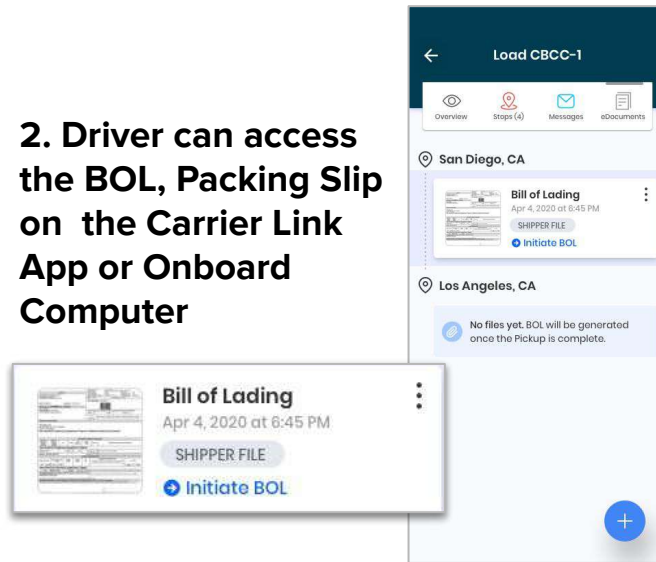
The driver can complete all formalities at the pick up/delivery stops using the CarrierLink app or onboard computer..

Example: How the eDocs process works

1. Shipper uploads the file to fourkites cloud



2. Driver can access the BOL, Packing Slip on the Carrier Link App or Onboard Computer

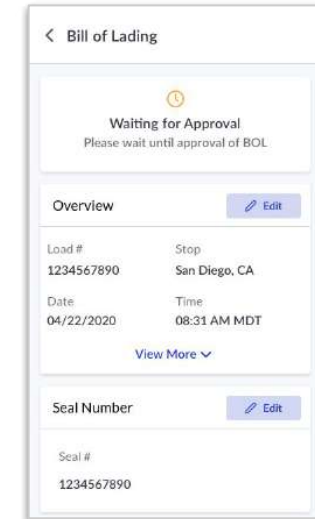


3. Driver uses “fast pass” to enter the yard

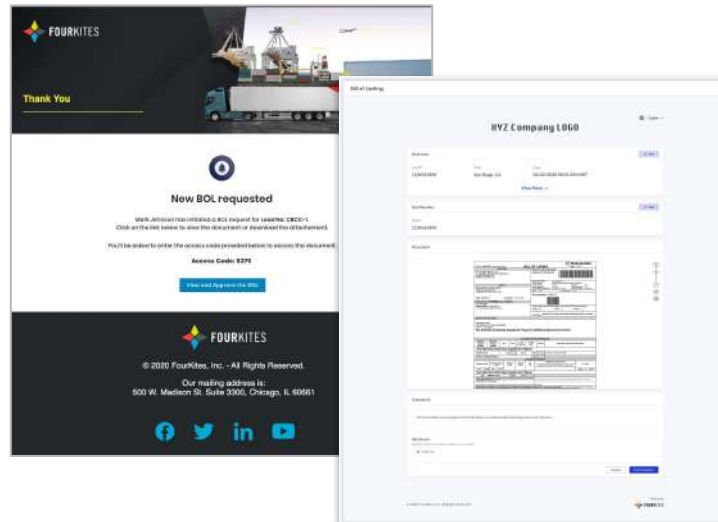
Please park trailer at:

Dock 15

4. Driver initiates the process to generate eDocuments



5. Shipping Clerk/Receiver is notified and can view details on the Document URL page



6. The approved document is published to all stakeholders and is available in the records for payment processing and audits

Driver, Carrier/ Broker

Shipper's team (warehouse, logistics, finance etc)

