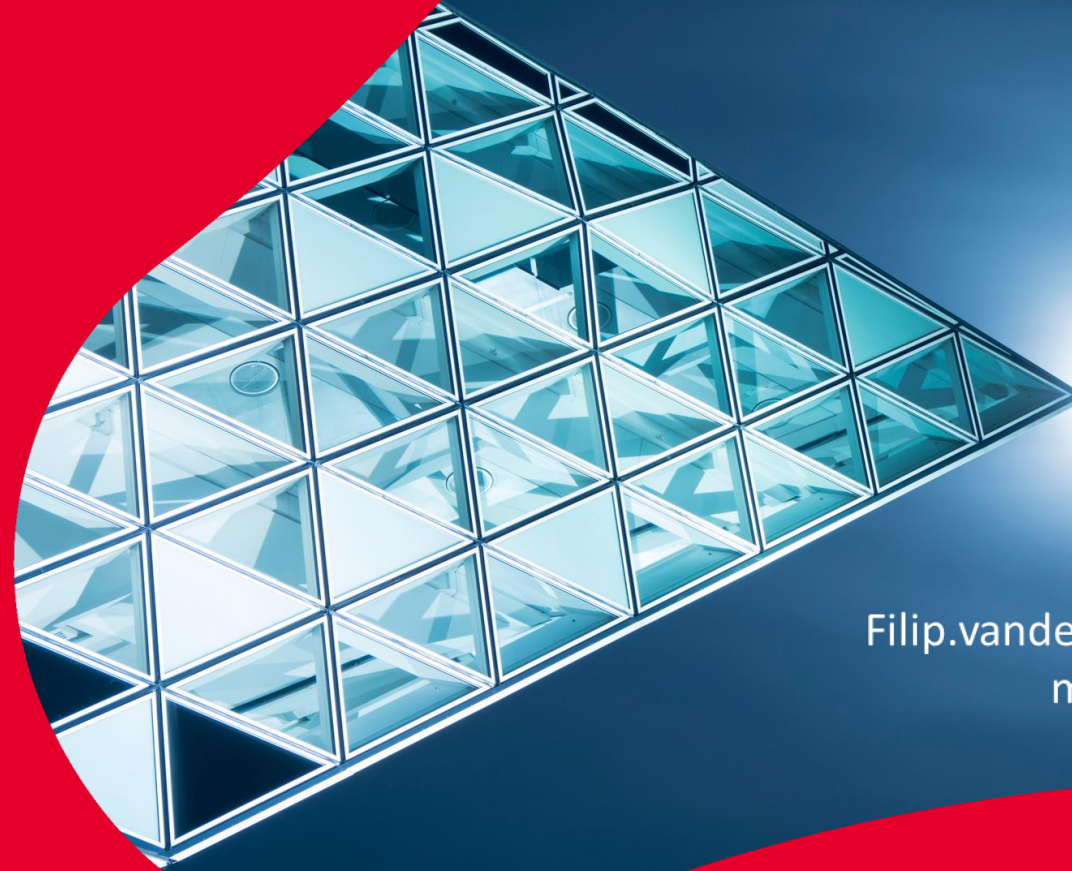


Data Sharing as a
lever to a
sustainable port
of the future.

AAPA

April 3 2019



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Agenda

Intro: What's cooking in the supply chain?

Data Sharing within the Port Community and with intermodal operators is key for a sustainable growth and the supply chain transparency.

How to approach this as a Port Authority?

Testimonials:

- Port Houston
- GE Transportation Port Optimizer
- Port of Antwerp



Agenda

- What are the key messages from the supply chain ecosystem?
- What response do we see from the supply chain players?
 - Start-up's, BCO's and Freight forwarders
 - Response from Carriers
 - Initiatives by Port Authorities/Port Community Systems
- Main reasons why the Port Authorities/Port Community Systems can play a key role in the digitalization of the cross border supply chain
- Port Testimonials
- Q&A

What are the key messages from the supply chain ecosystem?

BCO driven:

- BCO's are pushing for Data-driven landside logistics optimization, visibility and transparency.
- The Maritime transparency is abundantly available but..
- The landside transparency is too often a pebble in the shoes of the BCO's and their freight forwarders.
- Operational and Cost efficiency gains in the supply chain: avoiding errors by sharing data and documents digitally and by eliminating re-keying data.

Operational focus at the Ports

- Growing cargo volumes put pressure on the port operations and intermodal fluidity.
- The larger container vessels calling on the Port unloading X times more containers
- The data sharing should result in:
 - operational efficiency gains, improving fluidity and intermodal connections at the Port.
 - Supporting the Intermodal shifts from truck to rail and/or barge: less truck, more rail and/or barges
- In other words, how to increase the fluidity and efficiencies at the Port?

What response do we see from the supply chain players?

Many announcements being made with respect to merging data sources from the entire ecosystem to produce an international visibility picture and provide end-to-end transparency for the BCO's.

- **Many start-ups** in this field. Cfr RILA, TPM, WPC ..
 - Project44 “Introducing Ocean Visibility: Track North American-bound container shipments as they travel across the ocean, as they arrive in port, and are discharged from vessels to be moved onto rail or trucks.”
 - Clear Metal: predictive analytics
 - Cargo Smart.AI
 - FourKites
 - Infor Gt/Nexus and many more
- **BCO's** implementing their own solutions or working with cloud-based global supply chain management platforms like Infor/Gt Nexus, XPO Logistics, Kuebix,...
- **Large Freight forwarders** investing heavily in this domain: Kuehne + Nagel & DB Schenker taking the lead
 - Flexport got 1 Billion, yes 1 Billion from Softbank, to become the new breed of freight forwarder focusing on international visibility in the supply chain

Response from Carriers

- “**TRADELENS** is an open, neutral platform underpinned by Blockchain technology, supported by IBM AND MAERSK.”

The platform enables a more efficient, predictable and secure exchange of information fostering greater collaboration and trust across the global supply chain.

- Some US ports and terminal operators are linked to Tradelens.

Case study: Port Houston

- Each participant is connected individually to the global network versus the Port Community systems approach.

- **Global Shipping Business Network (GSBN)**, include ocean carriers CMA CGM, Cosco, Evergreen Marine, OOCL and Yang Ming, as well as terminal operators DP World, Hutchison Ports, PSA International and Shanghai International Port. Powered by Cargosmart.

- **Global Carrier consortium** to discuss standardization

Initiatives by Port Authorities/Port Community Systems

IPCSA, the International Port Community Systems Association

<https://www.ipcsa.international/>

IPCSA Members 2019

EUROPEAN UNION

INTERNATIONAL

Organisation

Location

Organisation

Location

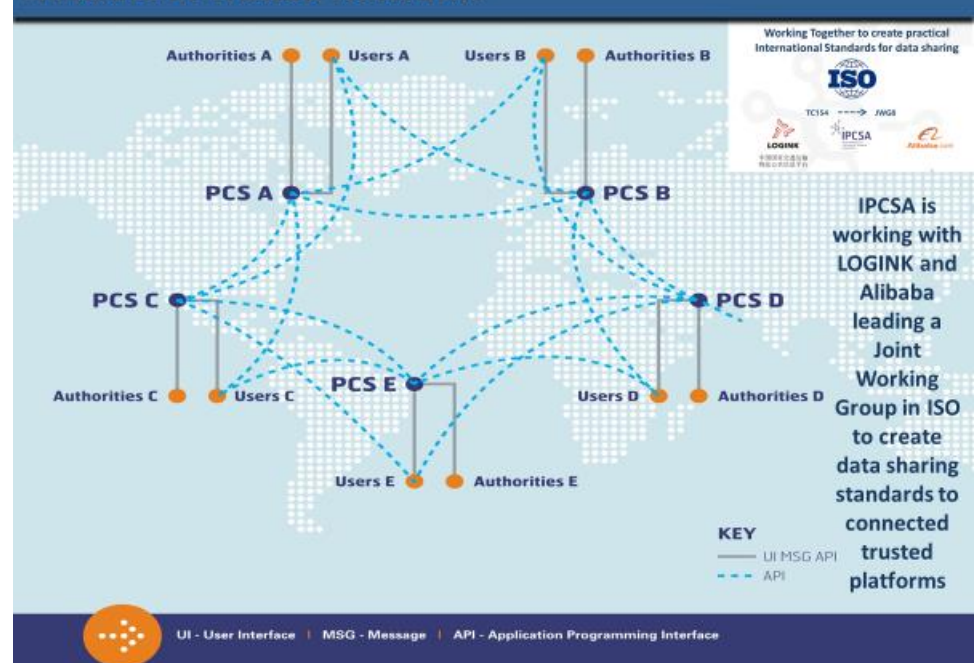
Port of Antwerp
Hamburg Port Authority
EPuertoBilbao
CNS Ltd
Portel
PENTANT
MGI
ValenciaportPCS
Port of Ravenna
Port de Tarragona
Port of Sines
MCP
SOGET
Portic
Portbase
Dbh
CARGONAUT
DAKOSY
UINet
Ports of Genoa
Algeciras Port
Port Network Authority of the
Eastern Adriatic Sea – Port of
Trieste

Antwerp, Belgium
Hamburg, Germany
Bilbao, Spain
Southampton, UK
Madrid, Spain
Dover, United Kingdom
Marseille, France
Valencia, Spain
Ravenna, Italy
Tarragon, Spain
Sines, Portugal
Felixstowe, UK
Le Havre, France
Barcelona, Spain
Rotterdam, Netherlands
Bremen, Germany
Amsterdam, Netherlands
Hamburg, Germany
Rome, Italy
Genoa, Italy
Algeciras, Spain
Trieste, Italy

SEGUB
Maqta Gateway
IPCS
PPL 33-35
I-Stop
SEGUCE
PORTNET
Saudi Ports Authority
DT World
KL Net
Kale Logistics
PORTALL
Port of Prince Rupert
Port of Abidjan
Djibouti PCS
Port of Los Angeles
Trade-Van
RDC SEGUCE
Benin
Abu Dhabi, UAE
Israel
Odessa, Ukraine
Australia
Togo
Morocco
Saudi Arabia
Dubai, UAE
Seoul, Korea
Mumbai, India
Mumbai, India
British Columbia, Canada
Ivory Coast
Djibouti
Los Angeles, United States
Taiwan
Democratic Republic of
Congo



Network of Trusted Networks



Initiatives by Port Authorities/Port Community Systems

- European and Asian Port Authorities take the lead in digitalization
 - Antwerp, Rotterdam, Singapore, Shanghai,...
- Port of LA and GE Transportation joined forces : **first operational data sharing project.**
Solution: Port Optimizer: [case study by GE Transportation.](#)
- Port Houston connected to Tradelens: [case study Port Houston.](#)

Main reasons why the Port Authorities/Port Community Systems are key in the digitalization of the supply chain

- Too many silo projects based on different APIs and standards. Too much integration effort and cost for individual companies who participate in for example the Tradelens project
- Sharing data requires trust and a governing entity within the Port eco system. Trust between the data providers within the local Port ecosystem is better manageable because of the personal relation and in many cases because of the existing commercial relation.
- The Port Supply Chain operators, local customs agencies and the intermodal service providers generate 70% of the data.
- Ports are the ideal environment to setup **harmonized** data sharing and creating the Port's datahub for
 - terminal optimization, efficiency gains and intermodal connectivity improvements and **landside** transparency.
 - the Port Community System can be linked to other international PCS to achieve **international** end-to-end transparencies.
- Monetization of the data-lab data at the Port is an option for new revenue.

Port Testimonials

Mr. John Moseley

**Chief Commercial Officer
Port Houston**

Brian Hill

**Program Manager
GE Transportation**

Filip Vandenbussche

**Business Development North America
Port of Antwerp**

Port of Antwerp's NxtPort Project

The future of our Port is digital and connected globally.

Our goal is to Optimize capacity, intermodal connections and modal shift: more barges, rail and less trucks.

2 years ago we embarked on a challenging task:
the data sharing project within the Port's supply chain ecosystem.

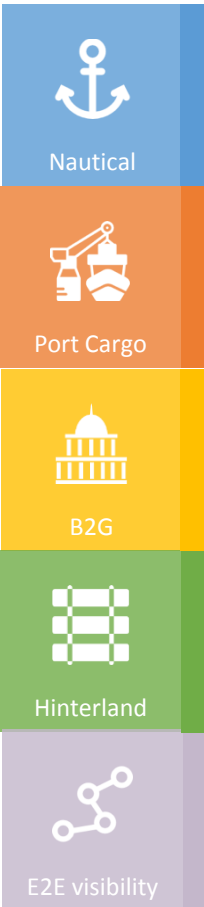
How did we project it to the Port Community?

[NxtPort 2 years ago](#)



And now, 2 years later

Magazine American Shipper: “NxtPort could be seen as the new digital breed of a port community system, unifying data exchange through standard APIs”



Secure container release

Together with T-Mining, NxtPort is improving security throughout the process of releasing a container by using blockchain technology. In the first phase of this project, a PIN code will be generated on an app. In the next phases, this project will evolve into a state where there no longer is a need for a PIN code.



VGM for eCMR applications

Container weight is useful info for a lot of partners in the chain. Instead of passing it on between each other, we provide a service to implement this data directly into your systems.



[IMPORT] Digital re-use of cargo information for customs declarations

A lot of data that is used to ship goods is useful data to re-use in later stages of the supply chain, in this case the declaration of goods to customs. NxtPort provides solutions to facilitate this re-use. These solutions can help your business slim down on administrative time and costs.



Standardized transport instructions

In the process of transporting goods overseas, the principal needs to send out transport instructions to one or more transport companies. NxtPort wants to standardize these instructions between all parties, resulting in significant gains in time and costs.



Arrival at exit (IE507)

Whenever a container declared for export in the hinterland arrives at the terminal, the terminal operator has to notify Customs authorities of this event. NxtPort is working on a solution to facilitate this process.



Export Manifest (IE547)

Every time a ship is loaded and leaves the port, the law requires the different ship's agents to send in a report on what goods have left the port to customs. NxtPort will help them automate these messages.



Next mode of transport

NxtPort will provide data about what cargo will be transported with different modi (train, truck and barge) and when. This will improve the way terminals organize their stacks and reduce inefficiencies between terminals and hinterland transporters.



Track & Trace

To get an overview of what the status is of specific goods that are being transported is difficult nowadays. Information is scattered around the supply chain, which makes it hard to gather, let alone to implement it in your own systems. With this business case, NxtPort provides an easy solution.



Master data

Being a part of the supply chain involved in delivering goods overseas involves a lot of data sharing. In many cases, master data is used throughout multiple stages in the supply chain. NxtPort collects this master data and makes it available for everyone who is supposed to have access to these data.



CCRM

In order for a container to be released from a terminal, 3 'green lights' are required. One of those green lights is the confirmation of customs that the container can be released. NxtPort will provide a way to consult this status or to have this status pushed to you.



VGM: tare weight information

Easy access to a container's last known tare weight



Standardized pre-announcements

Transport companies are asked to do a pre-announcement every time they pick up goods from a terminal. NxtPort wants to standardize the way these pre-announcements take place, regardless of which terminal you are visiting.



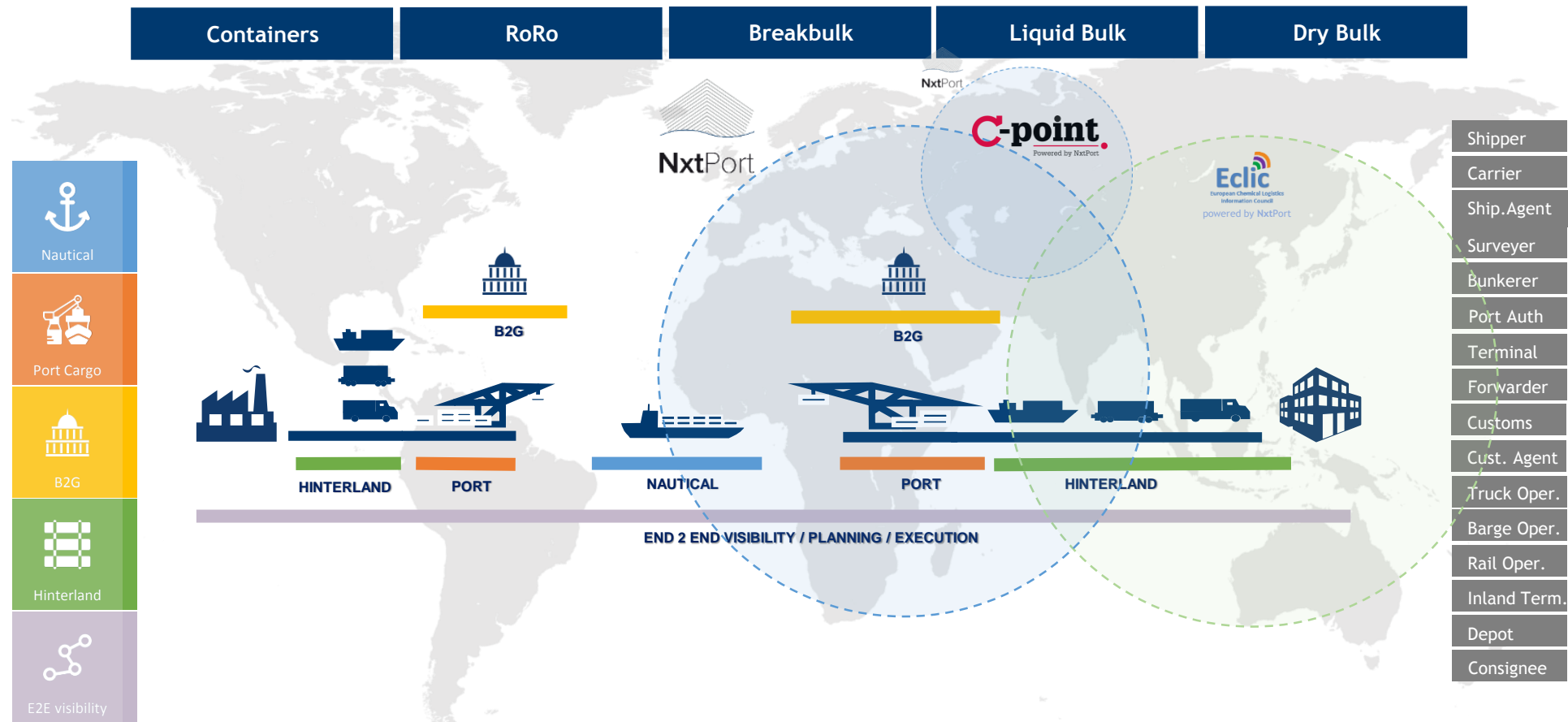
Nautical chain & ETA / ATA

The awareness that the nautical chain needs to be considered as a whole is growing. Therefore, NxtPort is working on solutions to improve the efficiencies between all players in the chain instead of only between players that are connected in the chain. A good example of such a solution is a service that allows to better predict ETA's and share ATA's of ships.

...

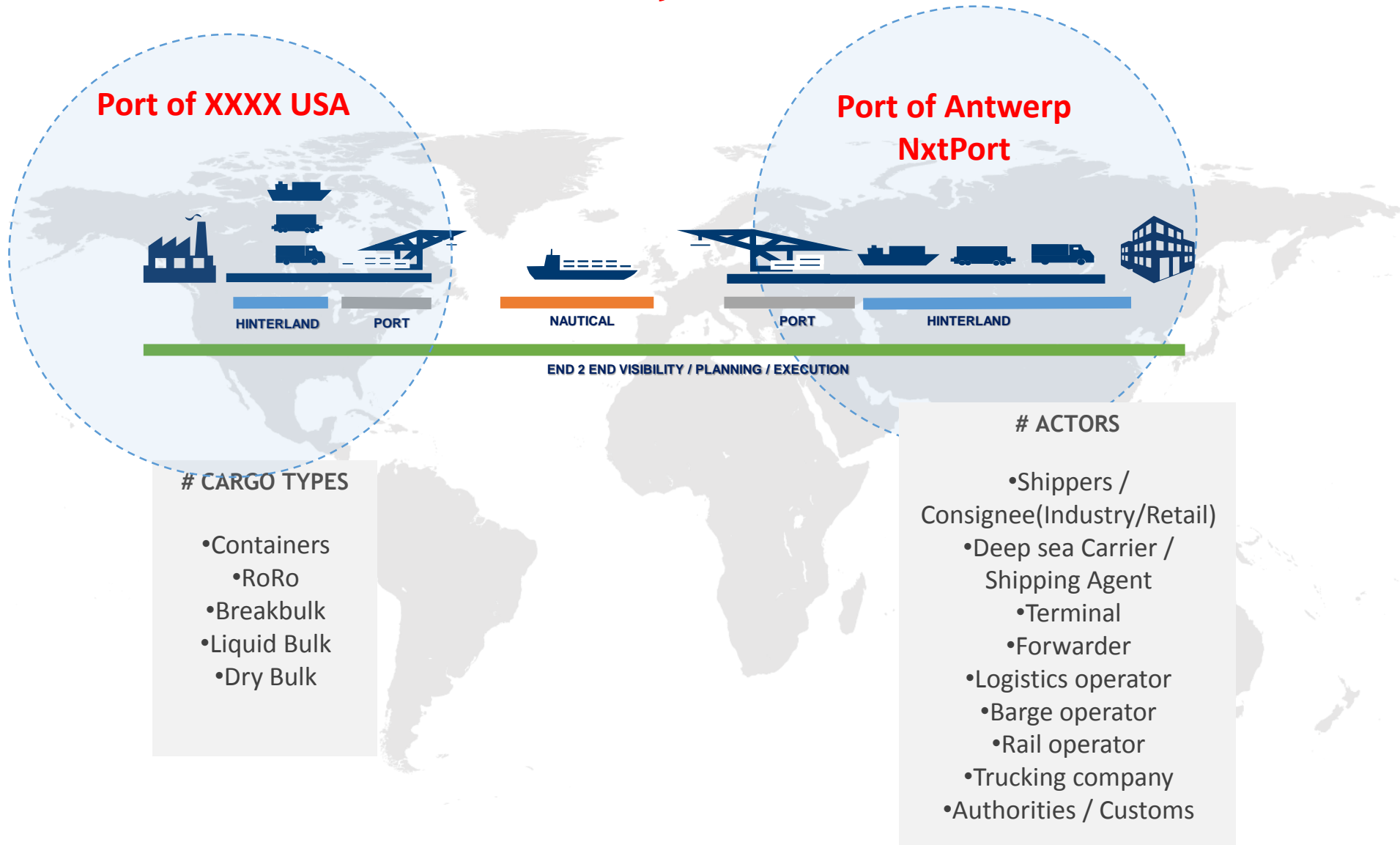
NxtPort Business Cases: www.nxtport.com

Data sources, Solution Domains & Multiple Communities



Transatlantic Data Sharing between major USA Ports and Port of Antwerp

Our Vision: **End-to End Visibility in a Network of Trusted Networks**



Case study by Port Houston: Mr. John Moseley

John Moseley **joined the Port Houston in 2010**, successfully leading the port's sales efforts as Senior Director of Trade Development.

- He was named **Chief Commercial Officer in June 2018**.
- Mr. Moseley started his career **in international supply chain and logistics in 1987 and has held expanding roles in the U.S. and overseas** with ocean carriers, international freight forwarders, customs house brokers and beneficial cargo owners.
- Prior to joining the Port, his most recent position was with **CMA CGM**.
- Mr. Moseley earned a bachelor's degree in international business administration from California State University at Los Angeles and an MBA from the University of Massachusetts at Amherst, Isenberg School of Management.
- In his position, he is responsible for Port Houston's real estate, trade development, economic development, marketing/external communications and media relations departments and the administration of Harris County's Foreign Trade Zone.
- Mr. Moseley actively serves in leadership positions of the Retail Industry Leaders Association, American Institute for International Steel and the Greater Houston Partnership and is a member of the Society of Industrial and Office Realtors, NAIOP – Commercial Real Estate Development Association and the Industrial Asset Management Council.

Case study by GE Transportation: Port Optimizer at the Port of LA

Mr. Brian Hill, Program Manager GE Transportation, a Wabtec Company

Brian Hill joined GE Transportation as Program Manager for the Port Optimizer™ product being developed in conjunction with the Port of Los Angeles in November 2016. Overseeing the initial pilot program and the subsequent full rollout.

Prior to joining GE Transportation, Brian worked in the rail supply chain world as Customer Success Manager for Railinc, a subsidiary of the Class 1 Railroads, focusing on major commercial accounts.

Brian's career has been primarily focused on technology with a strong focus on customer experience through his previous work with IBM and Nortel Networks in Research Triangle Park, NC.

Brian has a BS in Communications from East Carolina University and makes his home in Durham, NC.