



The Global Language of Business

# GS1 Transport & Logistics Workshop

## GS1 in Maritime & Ports

Closing the Traceability Gap for Shippers and Receivers

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Jaco Voorspuij, Senior Manager Transport & Logistics

3<sup>rd</sup> December 2020; Global Industry & Standards Event Brussel

# Welcome & Agenda



- Schedule for this workshop
- Housekeeping
- Presentations and discussions
  - Why do we NEED to engage with Maritime and Ports?
  - Navigate – GLN essential to connect the dots on the map
  - Run through of the Global Location Data Platform
  - Vision for the Global Location Data Platform
  - Questions, Answers and discussion
- Closing
- Lunch

Jaco Voorspuij  
Kevin Kruijthoff  
Kevin Kruijthoff  
Jaco Voorspuij

# Anti-Trust Caution



- GS1 operates under the GS1 anti-trust caution. Strict compliance with anti-trust laws is and always has been the policy of GS1.
- The best way to avoid problems is to remember that the purpose of the group is to enhance the ability of all industry members to compete more efficiently.
- This means:
  - **There shall be no discussion of prices, allocation of customers, or products, boycotts, refusals to deal, or market share.**
  - If any participant believes the group is drifting toward impermissible discussion, the topic shall be tabled until the opinion of counsel can be obtained.
- The full anti-trust caution is available via the link below, if you would like to read it in its entirety: <http://www.gs1.org/gs1-anti-trust-caution>.

# Meeting etiquette



## Be present

Presenters turn on video  
Avoid multitasking

## Be considerate

Mute microphone  
Keep comments concise

## Be collaborative

Ask questions  
Be open to other views

## Be professional

Speak on company's behalf

# Please clearly identify yourself in Zoom: Full name and company name



## How to change your screen name:

1

After launching the Zoom meeting, click on the "Participants" icon at the bottom of the window.



Participants (1)

RB Ryan B... (Host, me) Mute Rename

2

In the "Participants" list on the right side of the Zoom window, hover over your name and click on the "Rename" button.

Rename

Enter a new screen name:

John Doe, ABC Co.

OK Cancel

3

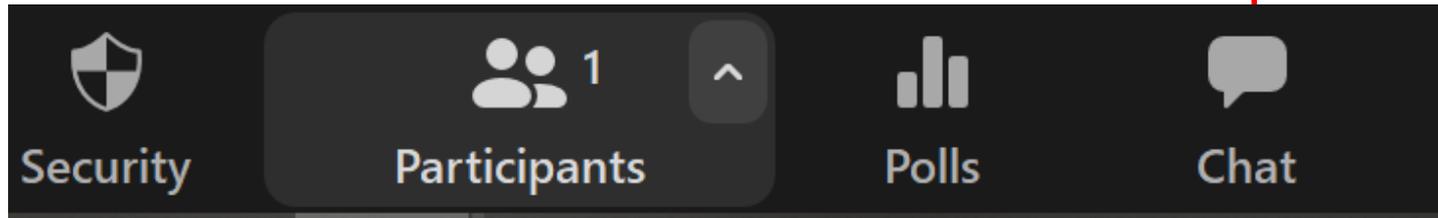
Type in the display name you'd like to appear in the meeting and click on "OK".

# Use the chat to comment or ask a question



**Click the bar at the bottom of your screen  
the chat window will open**

Click here



# How to raise your hand to ask a question



Click here

Click here

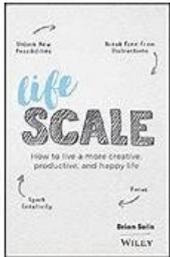
Invite Participants Share Screen

Raise Hand yes no go slower go faster more

# Did you enjoy the session?



**Please take a moment to complete a session survey**



Complete an event survey to receive Brian Solis's new eBook  
**Lifescale: How to live a more creative, productive & happy life**

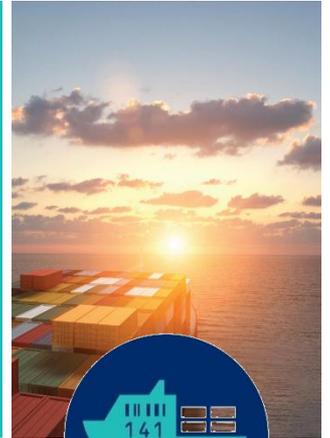


# Maritime & Ports Closing the Traceability Gap

Essential building block to deliver GS1 strategy

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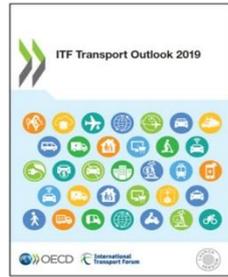
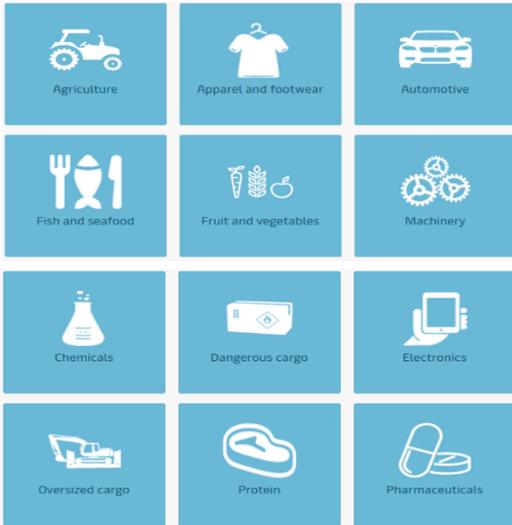
Jaco Voorspuij, Senior Manager Transport & Logistics  
3<sup>rd</sup> December 2020; Global Industry & Standards Event Brussel



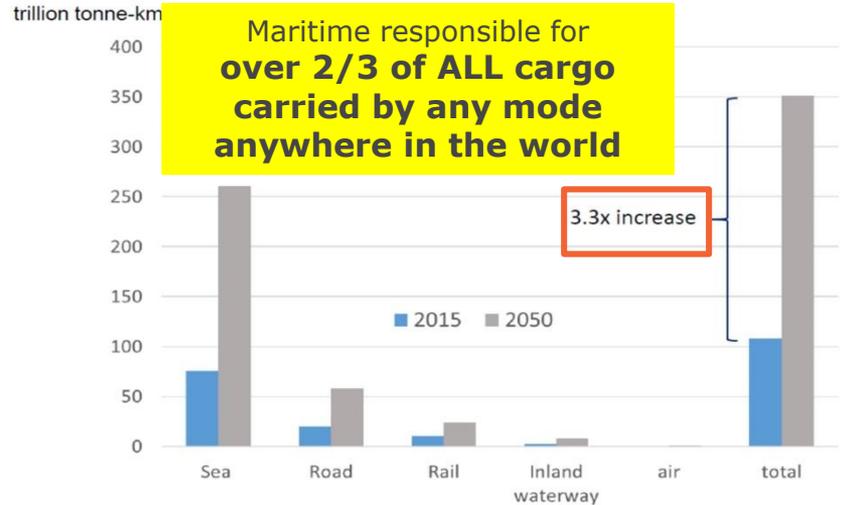
# Maritime mode crucial for all sectors



Projected growth in freight movement worldwide between 2015 and 2050



May 2019

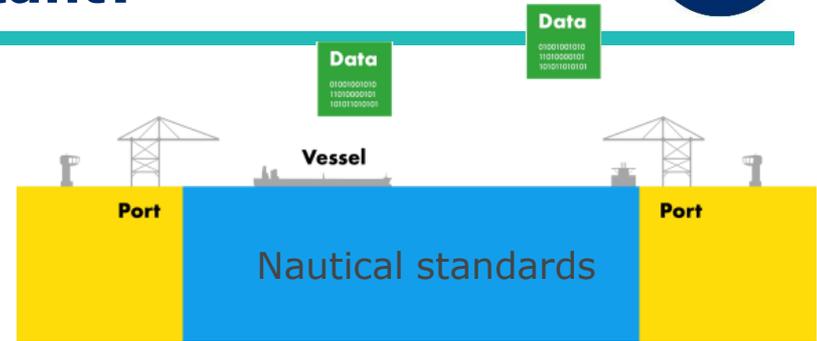


# Why is quality and availability of ship-port interface data important?



## Movement of the **vessel**

- Realising safe and sustainable berth to berth navigation: where is my berth, when is my berth available?
- Important for shipping and terminals



## Movement of the vessel's **cargo**

- Realising sustainable end-to-end supply chain: *where are my goods*, when are my goods available for hinterland transport?
- **Important for shippers**



# Address most pressing challenges first: agree on minimum scope of data

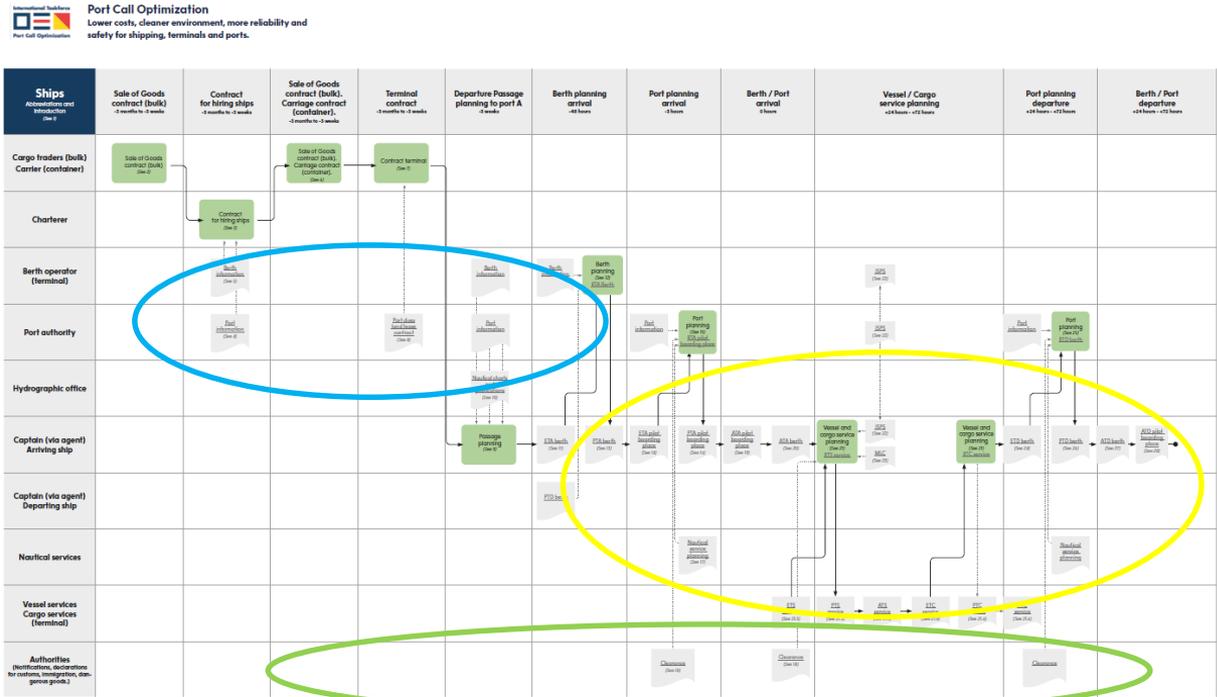


Priority in data sets:

- 1) **Nautical data**
- 2) **Administrative data**
- 3) **Operational data**

**Knowing WHERE is critical for all data sets**

**GS1 GLN may be used in ALL data sets**





# IMO Standardisation video

https://www.youtube.com/watch?v=xD\_rJQ4\_SAw&feature=youtu.be

YouTube NL Zoeken



**Declaration of Health**

- 
- 
- 

**Operational Data**

- 
- 

**Dangerous Goods**

- 
- 

[https://www.youtube.com/watch?v=xD\\_rJQ4\\_SAw&feature=youtu.be](https://www.youtube.com/watch?v=xD_rJQ4_SAw&feature=youtu.be)

2:38 / 3:06



# What does this mean for GS1?

- **International Taskforce Port Call Optimization**  
leads Community Engagement Maritime industry
- **Close collaboration** with Maritime and Ports communities  
**crucial for GS1 adoption in Supply Chains**
- **GS1 will need to amend standards to meet M&P needs**
  - Solutions for future/planning events exchanges
  - Application Standard  
“End-to-end Traceability for Container-based Supply Chain”
- **Supply Chains need GLN-based services** to facilitate adoption of unambiguous Location Identification everywhere in supply chains

# It ALL starts with knowing WHERE

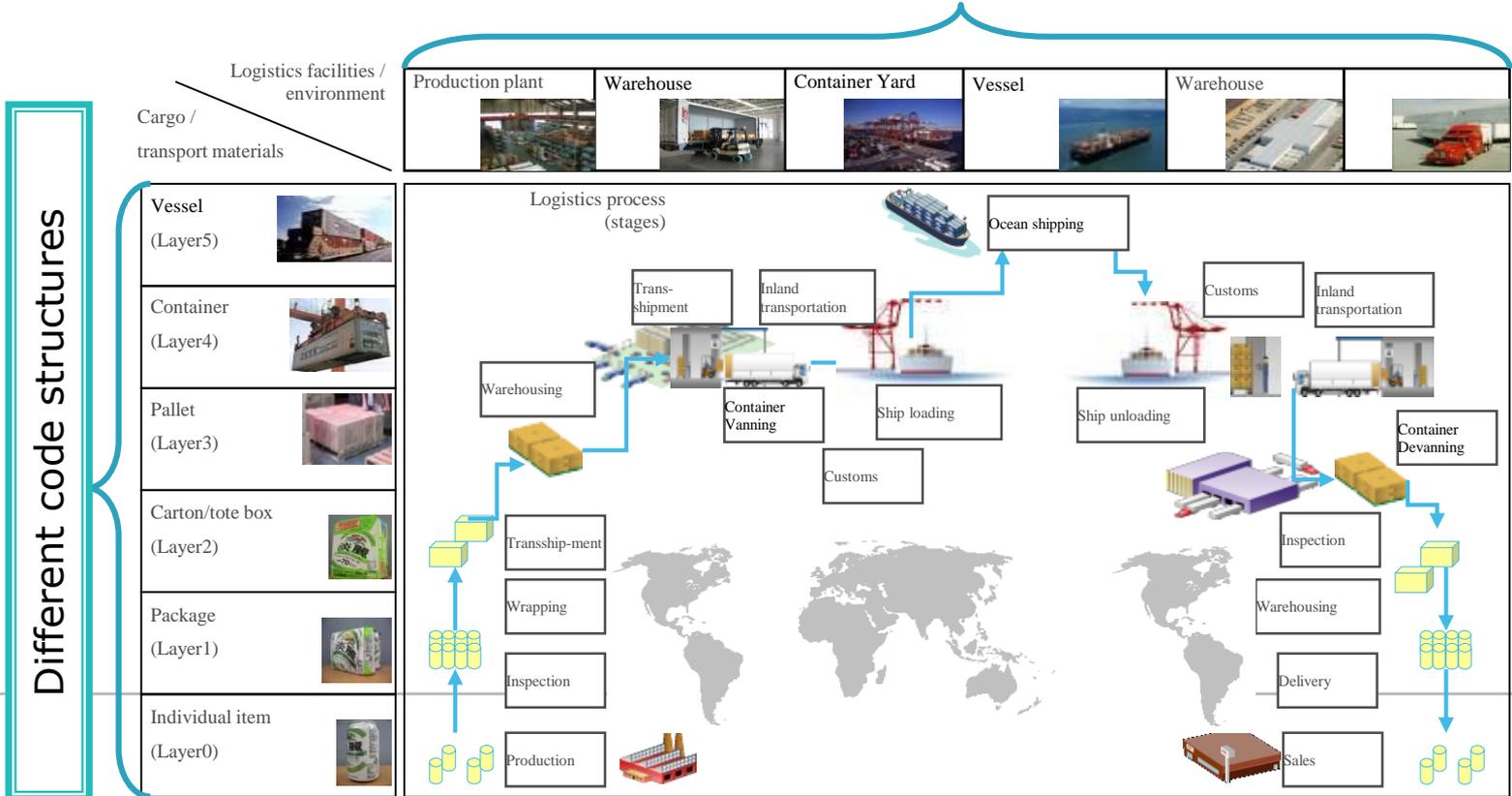


- **GS1 GLN offer unambiguous identification to stakeholders in Value Chains and Transport & Logistics Networks.**
- ID Keys without access to Linked Data does not add value
- **The GS1 User Community NEEDS databases and services that enable access to reliable, trusted, up-to-date information linked to Locations.**
- Stakeholders like Ports, Shipping lines, freight forwarders, cargo owners etc. need it sooner rather than later.
- Their **first priority** however is to be able **to easily assign GLN** to the relevant locations (and link the **most relevant data** to them).
- We are working with ITPCO and Port of Rotterdam to **develop a Global Solution to find and access reliable Location Data**

# Challenges for knowing WHERE goods are



## Different code structures



# So how do we take things forward?



## Develop a “Global Location Data Platform”

- Agile Development approach
- **Minimum Viable Product** in terms of functionality
- Support for all terminal types
- Support for adding Gate-In and Gate-Out to all kinds of terminals;  
**linking hinterland operations (e.g. Road transport) to the maritime & terminal operations.**
- **Value Propositions** for Data Providers and Data Consumers being prepared
- **Self-sustaining business model** for GLDP services being prepared
- WHY is this approach unique: collaborative, driven by industry, hands-on; user-centric, supports modern and traditional environments learning by doing, easy-access, easy to use.



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# Global Location Data Platform

Essential building block to deliver GS1 strategy

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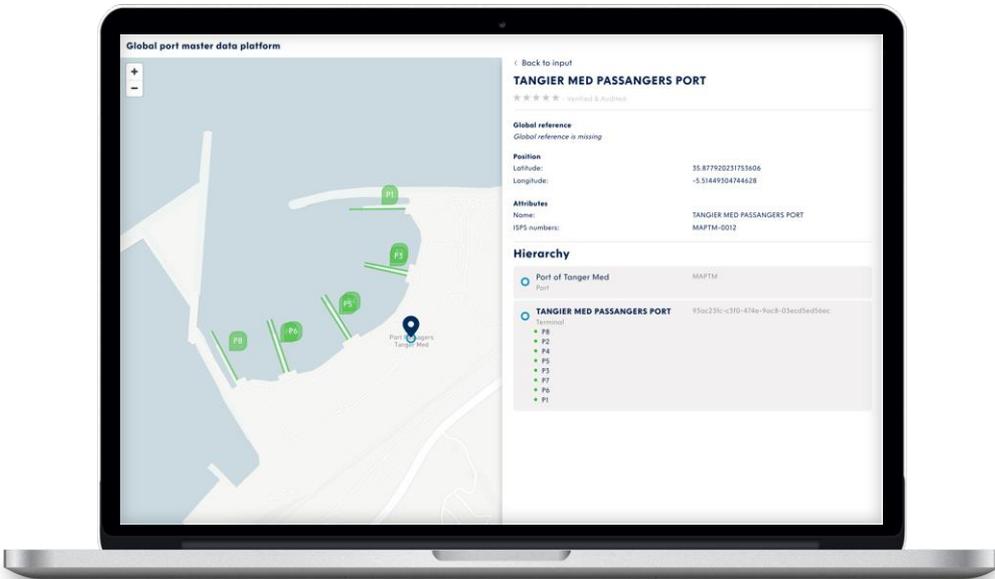
Kevin Kruijthoff; Product Manager PathFinder at Digital Business Solutions Port of Rotterdam  
3<sup>rd</sup> December 2020; Global Industry & Standards Event Brussel





**Kevin Kruijthoff**

Port of Rotterdam



# Global Location Data Platform

The neutral and not-for-profit **global platform** for capturing, storing and distributing standardized **logistical master data**. Directly enabling the logistics sector in **unambiguous communication** and referencing.



# Ambiguous where: Operation

An opening for miscommunication



Charterer

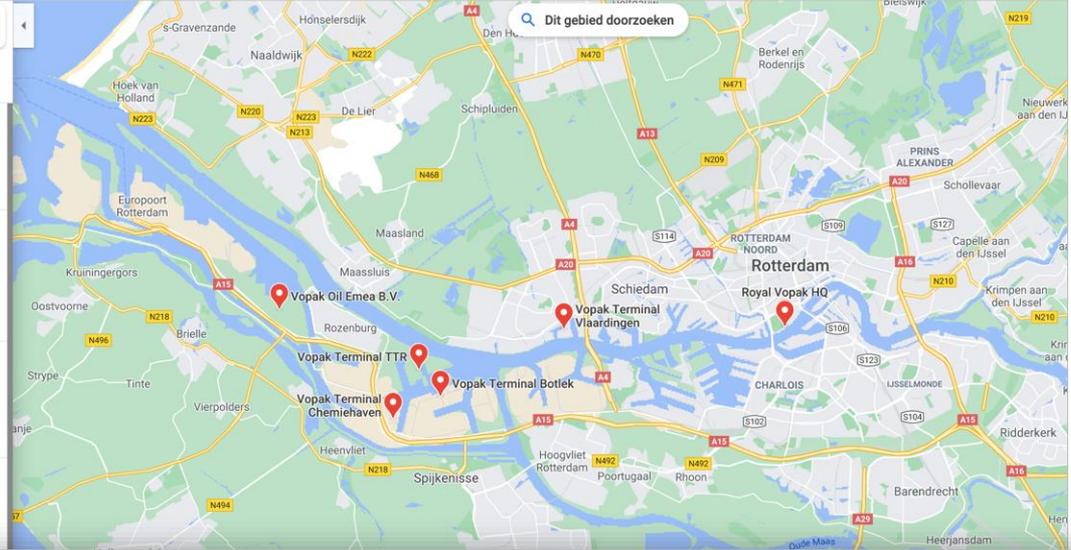
You need to go to Vopak Rotterdam

Vessel captain

Which Vopak in Rotterdam?

Search results for 'vopak rotterdam' showing a list of facilities with ratings and contact information:

- Royal Vopak HQ** (4.3 stars, 40 reviews): Opslagbedrijf · Westerlaan 10, Open tot 17:00 · 010 400 2911
- Vopak Terminal Vlaardingen** (3.8 stars, 172 reviews): Opslagbedrijf · Kon. Wilhelminahaven Zuidoostzijde 1, 010 460 8899
- Vopak Terminal Botlek** (3.8 stars, 228 reviews): Chemische fabriek · Welplaatweg 115, 010 472 9799
- Koninklijke Vopak N.V.** (Opslagbedrijf · Westerlaan 19)
- Vopak Terminal TTR** (4.0 stars, 32 reviews): Chemische fabriek · Torontostraat 19, 0181 270 800
- Vopak Terminal Chemiehaven** (3.8 stars, 44 reviews)

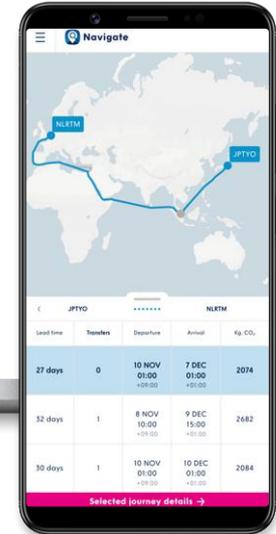
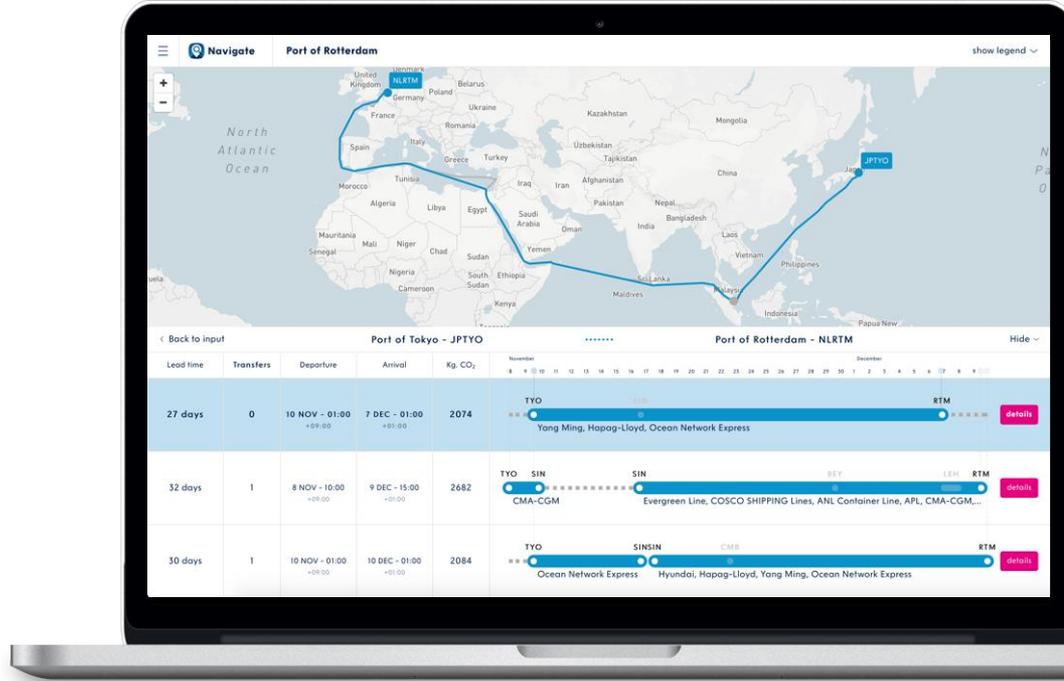


## Some more examples from the operation

- Where is the berth?
- How can I find relevant master data independent of which port I am visiting or trade I am in?
- On which data can I perform a berth-to-berth compatibility check for a vessel?
- Which gates belong to which facility?

# Ambiguous where: Supply chain design

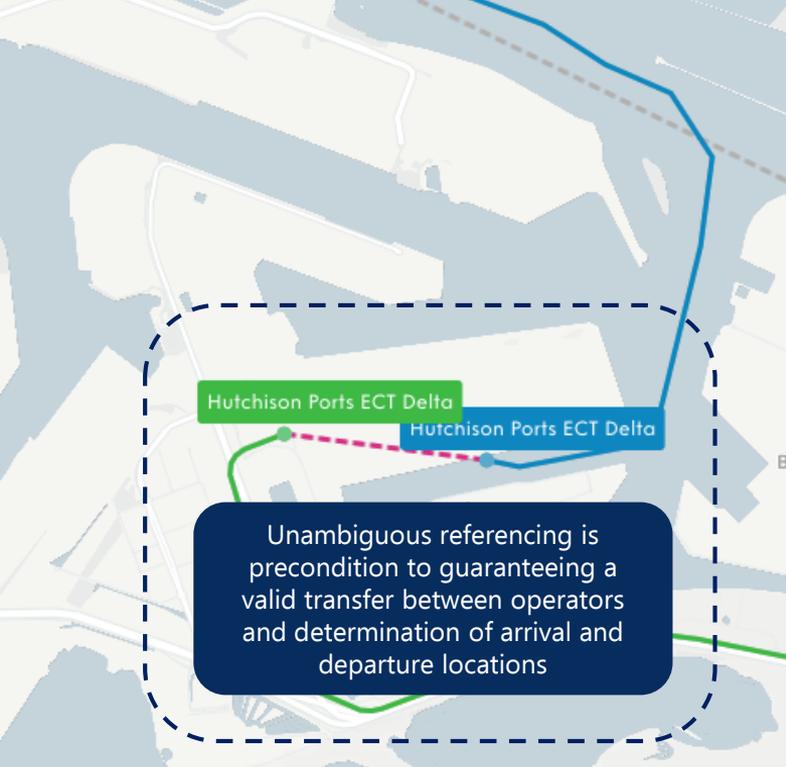
Navigate Rotterdam





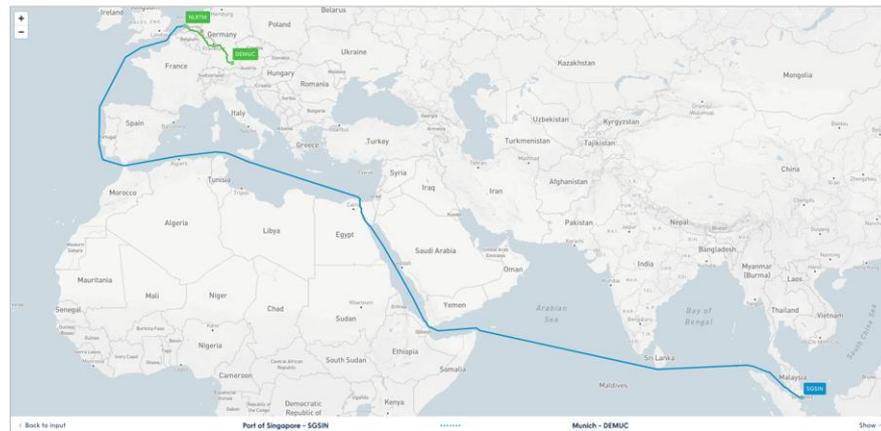
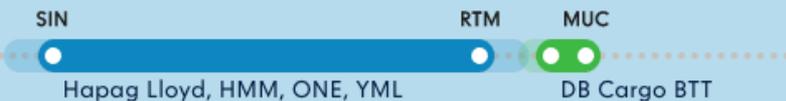
# Our Mission

## Connecting the dots



Singapore - SGSIN

November December  
22 23 24 25 26 27 28 29 30 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15



### Intermodal

Leveraging deep-sea, short-sea, rail, barge and truck options.

We Showcase the connection options between ocean and inland voyages to supply our users their most sustainable options.



### Terminals connect

Terminals act as nodes in the logistical network. They are central hubs at which schedules arrive or depart.

Reliable unambiguous data for identification and referencing is crucial.



# Our Challenge

## How to determine the dots



### Harmonization

Harmonizing entries from numerous sources is a tedious and error-prone task.

Relevant information is needed at the commercial level as well as at the operational level.

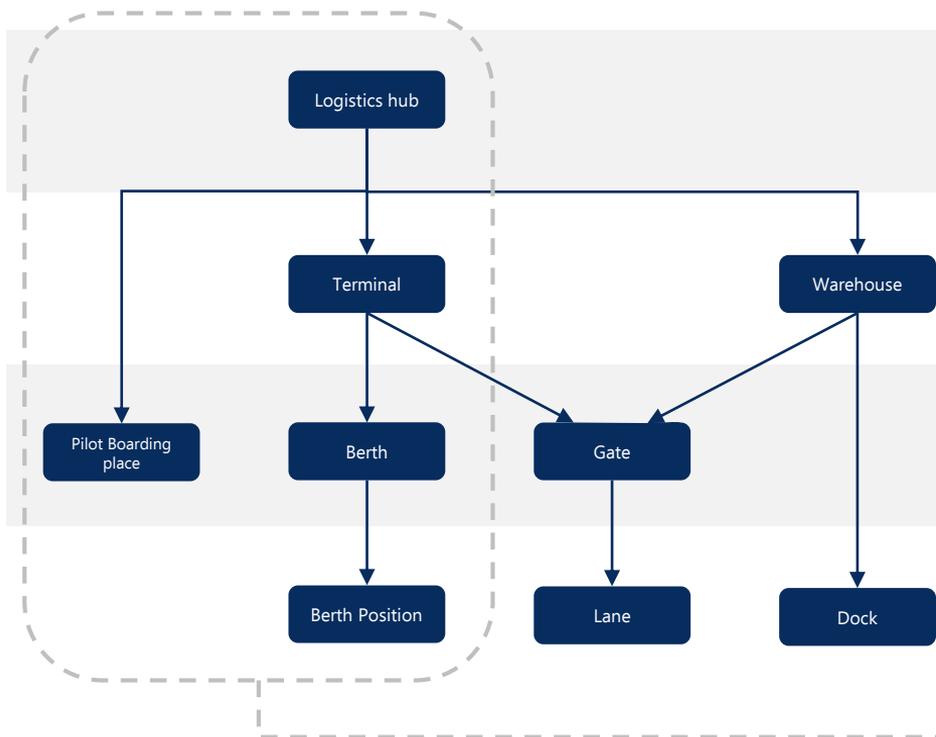


### Warehouses next

Once standardized GLN usage and distribution for locational master data is facilitated, we can extend our navigation services with additional levels of precision and allow for system-to-system integration.

# Hierarchic Relations

Linking locations to entities



## Logistics Hub

Geographical concentration of logistical service providers

## Network Service node

Logistical service provider with a physical location at which a cargo handling is being performed (regroup / load / unload / transfer to different modality / etc.).  
**An Entity whom you can contact**

## Location

At which physical asset?

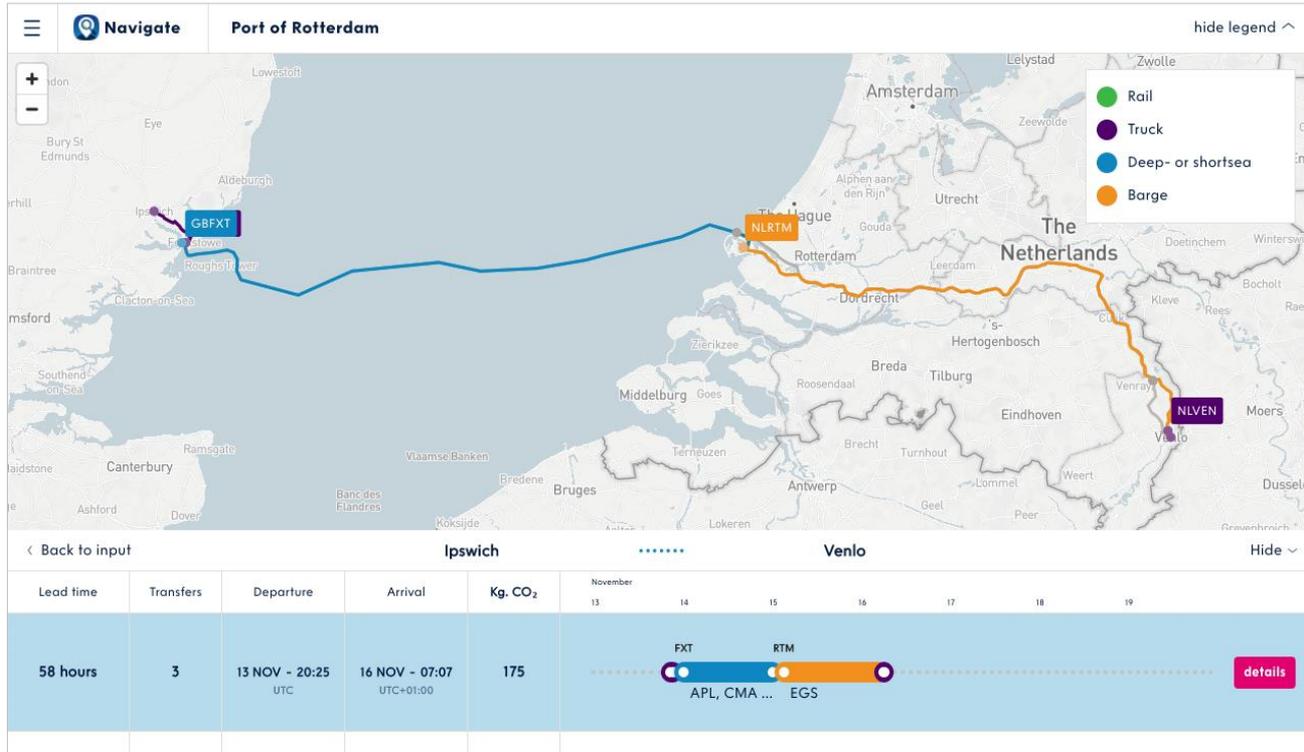
## Location Position

In detail where within / at this asset?



# Hierarchical Routing

Relevant detail at each step: **A real life example**



# Hierarchical Routing

Relevant detail at each step: **The shipment need**



**From:** DC Ipswich

**To:** DC Venlo

DC Ipswich

DC Venlo



## Legend

- Logistics Hub
- Terminal
- Pilot Boarding Place
- Warehouse
- Gate
- Berth
- Berth Position

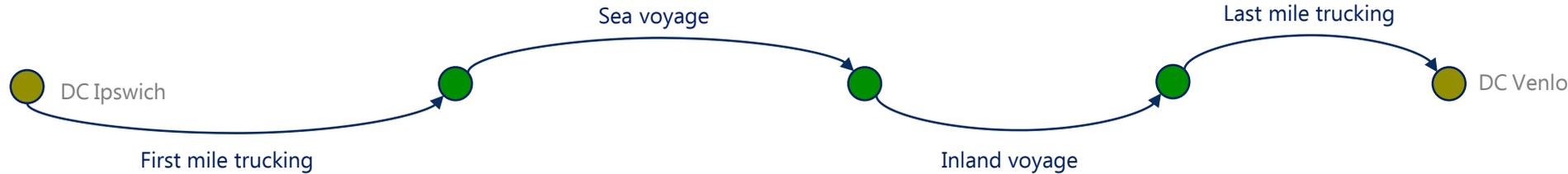
# Hierarchical Routing

Relevant detail at each step: **Expected steps to take**



**From:** DC Ipswich

**To:** DC Venlo



## Legend

- Logistics Hub
- Terminal
- Pilot Boarding Place
- Warehouse
- Gate
- Berth
- Berth Position



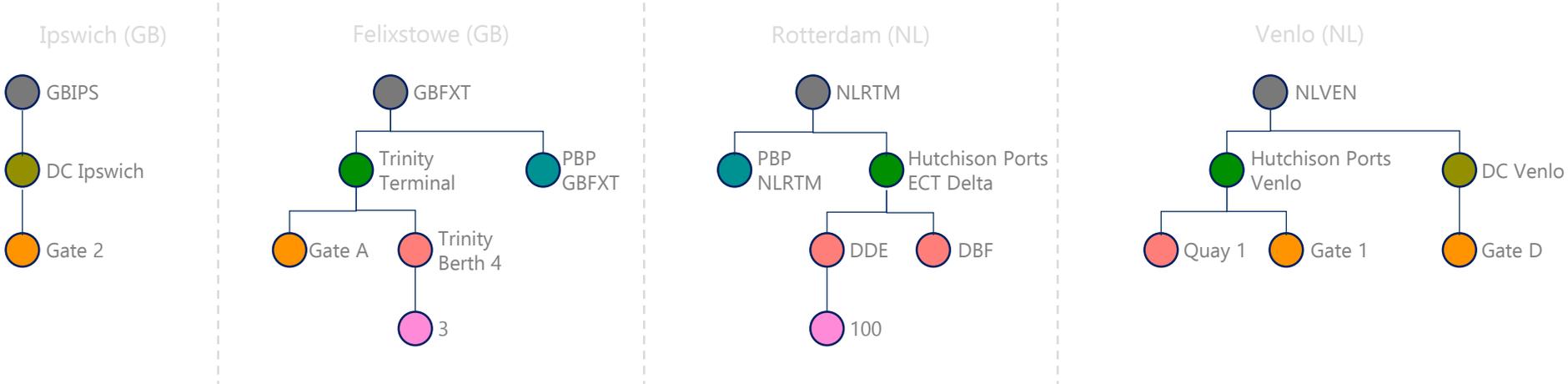
# Hierarchical Routing

Relevant detail at each step: **Node network overview**



From: DC Ipswich

To: DC Venlo

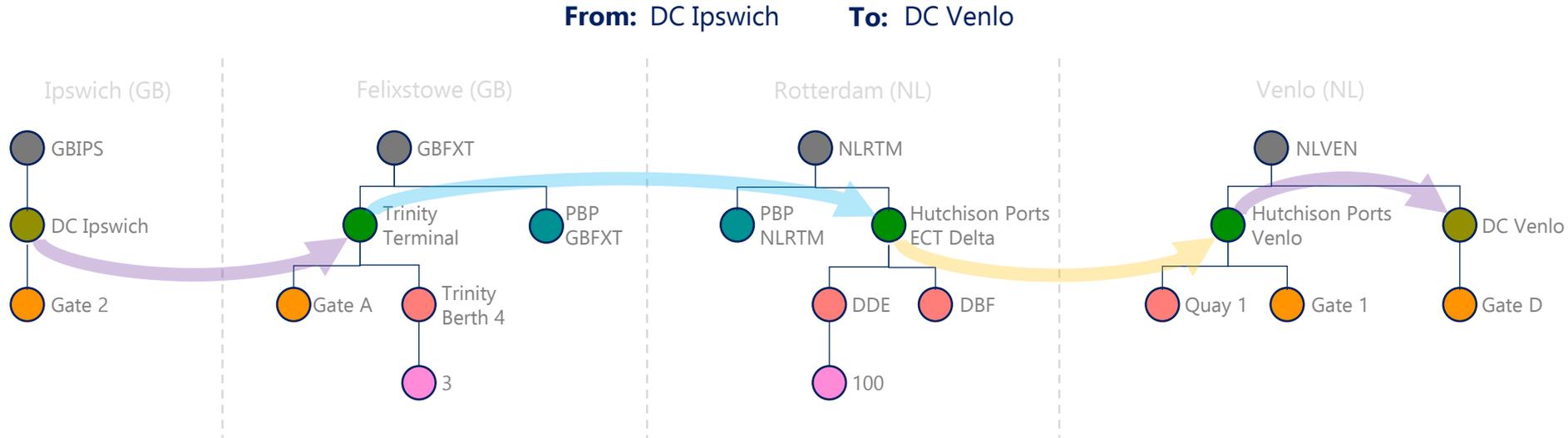


## Legend

- Logistics Hub
- Terminal
- Pilot Boarding Place
- Warehouse
- Gate
- Berth
- Berth Position

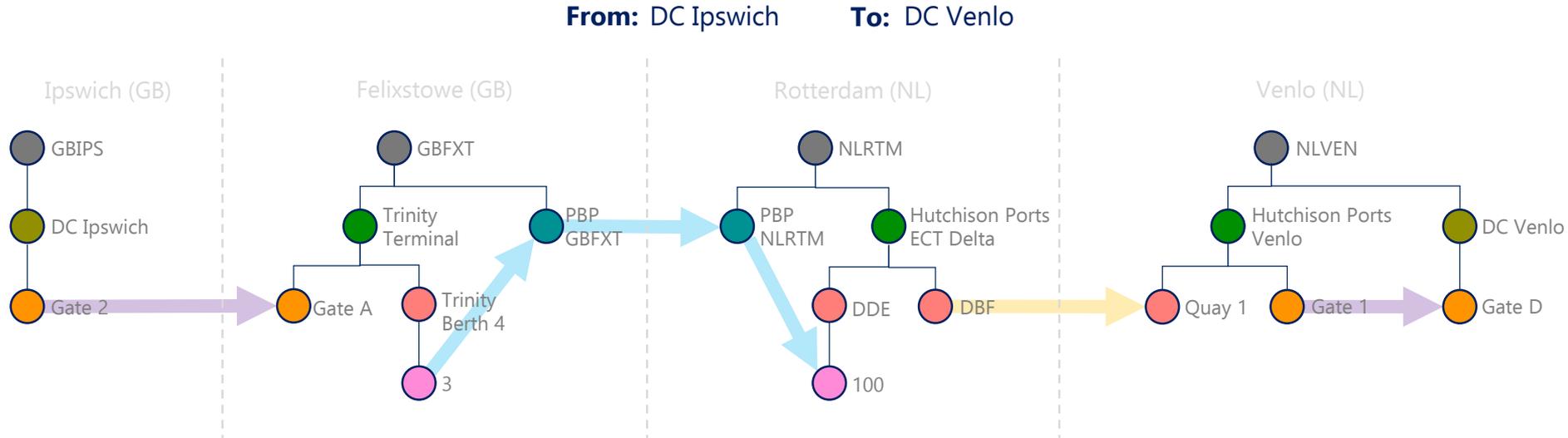
# Hierarchical Routing

Relevant detail at each step: **The commercial flow**



# Hierarchical Routing

Relevant detail at each step: **The logistical realization flow**



# Hierarchical Routing

Relevant detail at each step: A real life example



## Additional value for logistics platforms

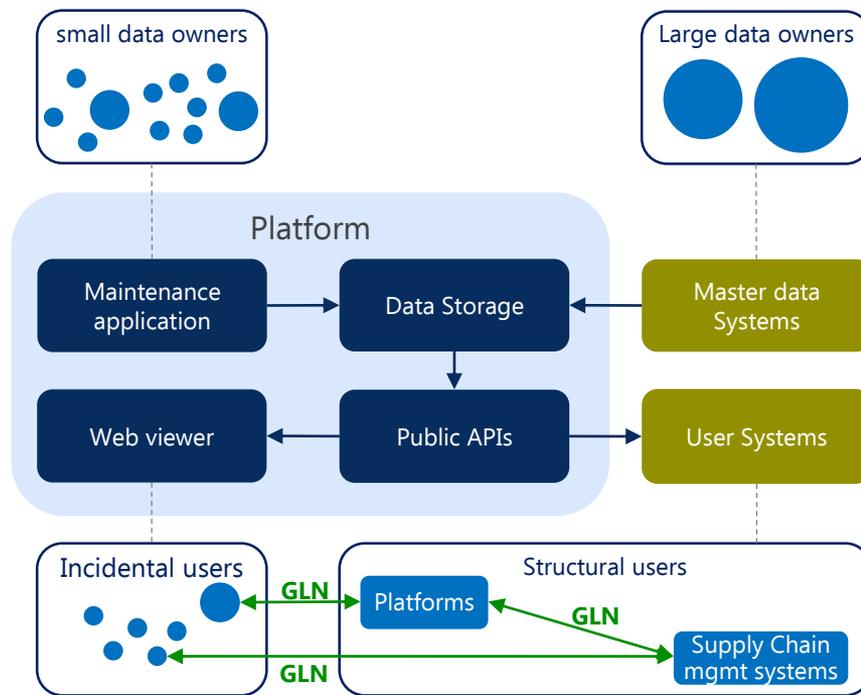
- Identifying all relevant entities and the hierarchical structure they're in using the same GLN type identifier
- Being able to offer searches from and to other unambiguously identifiable supply chain locations, such as Warehouses





# Platform layout

## Simple.



The screenshot displays the Global Port Master Data Platform interface. It features a world map with a green dot indicating a location in the Middle East. A search modal is overlaid on the map, containing the following elements:

- Search by ID:** A text input field labeled "Reference ID".
- Search through hierarchy:** A text input field labeled "Port".
- Search Button:** A blue button labeled "Search".
- Global Port Master Data Platform:** A section with a title and a paragraph describing the platform's purpose: "A platform for capturing and retrieving port master data, consisting of an editor and viewer application, as well as a public API. The platform is created to globally support the trial period in which ports collaborate on validating the applicability and value of the implementation of port master data standards as defined by the [International Taskforce Port Call Optimization](#)."
- Contact:** A section with a title and a paragraph: "For users/developers interested in directly accessing the port master data: find information about and gain access to the public API via our [API documentation](#)."
- Participating ports:** A list of port codes: "BEGNE, CAVAN, ESALG, ESVLC, MAPTM, NLRMT, NLTNZ, NLVLI, OMSOH, SEGOT".
- Technical questions:** A link: "[Kevin Krujithoff | Port of Rotterdam](#)".

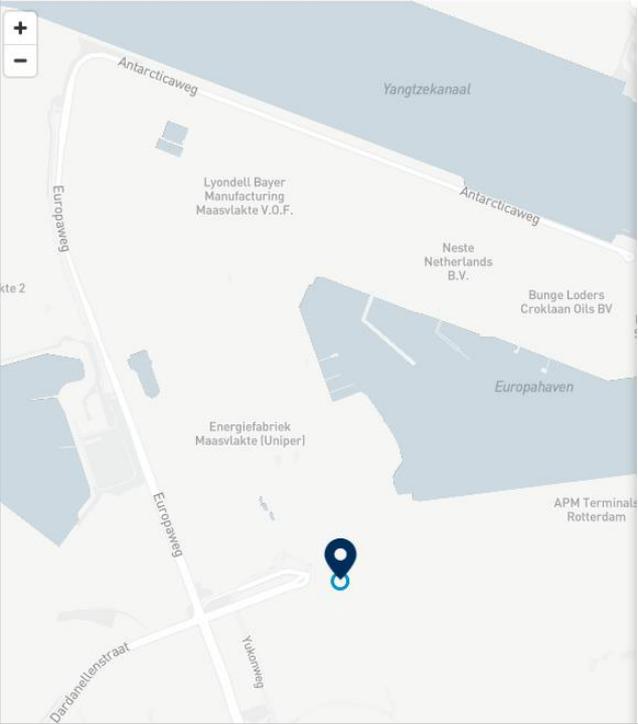


# Trucking Gates

Unambiguously identify the facility interface



Global port master data platform



< Back to input

## Gate 1

★★★★★ - Verified & Audited

**Global reference**

Assigned id: 2012365678402

**Position**

Latitude: 51.954197  
Longitude: 4.029532

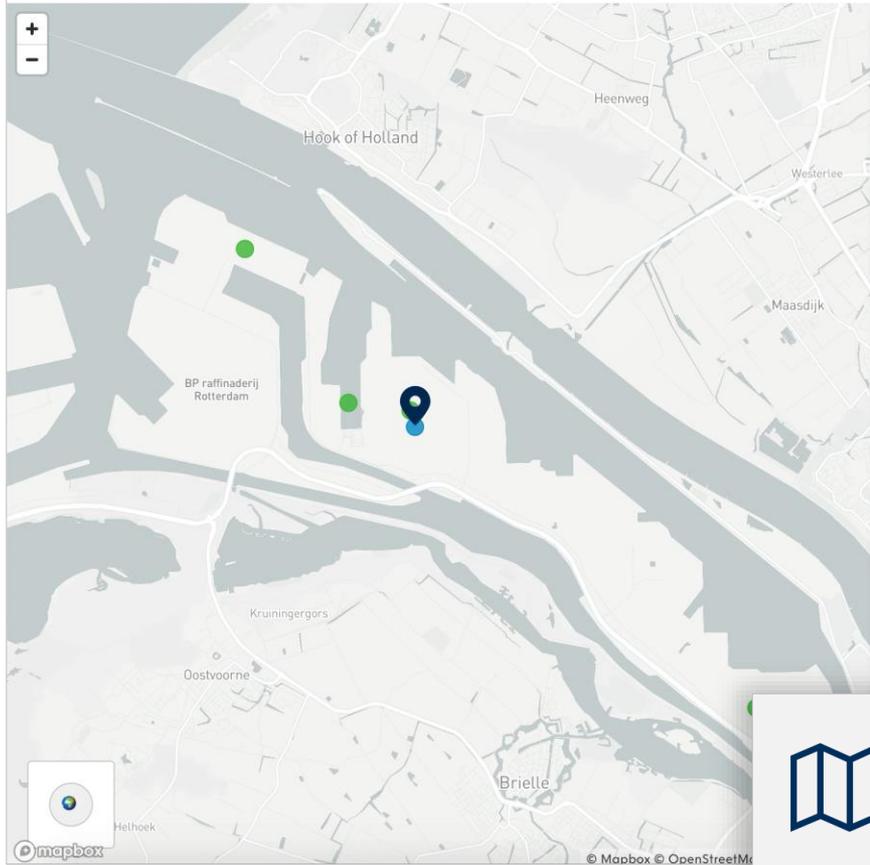
**Attributes**

Name: Gate 1 - In

**Hierarchy**

- Port of Rotterdam  
Port NLRTM
- ECT Delta Terminal  
Terminal 2012365678358
- Gate 1**  
Gate 2012365678402





Selected Port

Port of Rotterdam

Create a new Pilot Boarding Place or Terminal, or select an existing Pilot Boarding Place or Terminal

Create Terminal

Create Pilot Boarding Place

Select existing Pilot Boarding Place or Terminal



## Identification and Attributes

- GLNs are assigned automatically
- GLNs are never changed or reused
- The assigned attributes can be adjusted at any time
- After creation, the entities are directly available for unambiguous communication



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# Global Location Data Platform Vision

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Jaco Voorspuij; Senior Manager Transport & Logistics  
3<sup>rd</sup> December 2020; Global Industry & Standards Event Brussel





## Full hierarchy of locations easily mapped using GLN

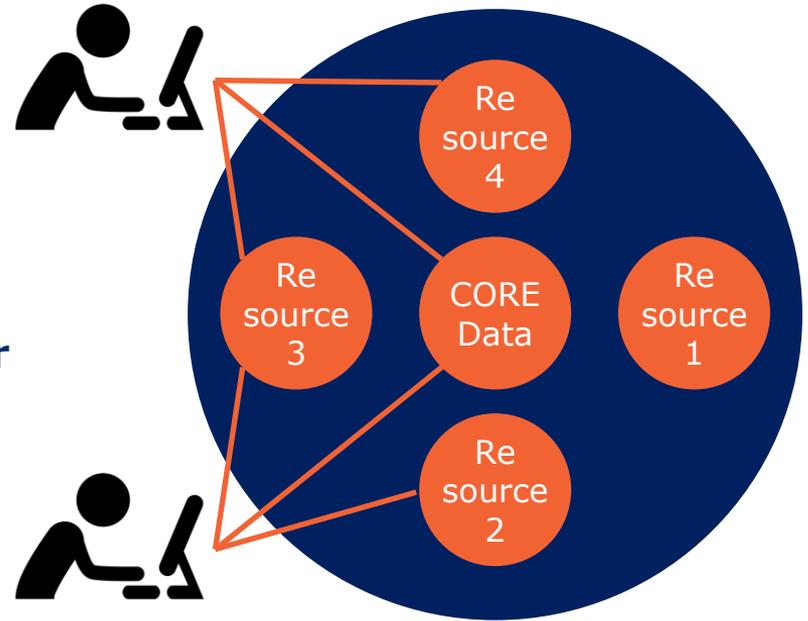
- **Stakeholders may use approach anywhere in their Supply Chain**
  - (Warehouse) campus, buildings, dock-doors
  - Inland terminals (Barge or Rail)
- Accurate / reliable geographical location information
- Navigational assistants can always **“find the right place”**.

**At last we can be sure about WHERE**



# Why is this **IMPORTANT**?

- GLN databases and services will have common core data elements.
- They will also have resources (groups of data elements) that are relevant for (a) specific domain/s
- **Users in different domains will need data entry applications that are easy for them** (targeting data relevant to them)
- **GLDP Application may be basis for domain specific GLN entry Applications**

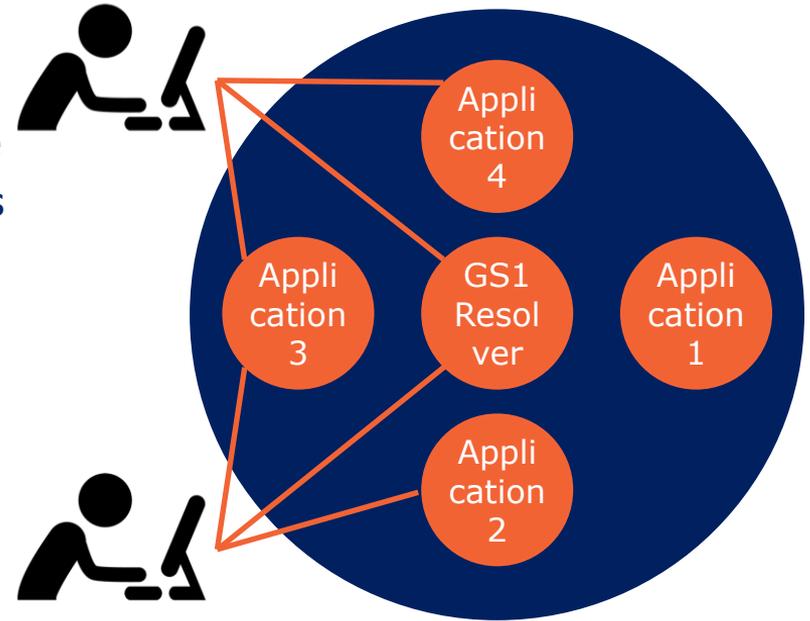


# Linking in existing Location Databases



## GLN will often need to be linked to existing industry applications

- Industry Applications hold information essential to stakeholders
- Stakeholders invested entering and maintaining data and data quality assurance
- Applications use non-GS1 primary identifiers usually not globally unambiguous
- Applications may ADD GLN as unambiguous ID Key (searchable via API).
- Applications may register there Location records with GLN in GS1 Resolver.
- **Anyone can now find the application and correct record based on GS1 GLN**





# Collaboration

## Established, Trusted, Equipped



### GS1

- Leading in logistics expertise
- Extensive global representation
- Broker of trust regarding master data

### Port of Rotterdam

- Maritime logistics expertise
- Master data creator and dependent
- Agile development approach

### Joint venture Scope

A neutral and not-for-profit entity for capturing, storing and distributing locational Master Data (as defined in the Port Information Manual). Directly enabling the (maritime) logistics sector to unambiguously communicate and reference locational master data, as well as a providing a foundation for additional value creation by third parties.





# Our vision

## Facilitate cooperative logistics



### The platform will be

- Trade independent
- Modality independent
- Global
- Standardized
- Data ownership guaranteed via GLN
- Neutral and not for profit
- Open for all to use
- Easy lookup via open platform
- System to system integrations via API

### This will lead to

- Unambiguous communication
- A pure “where” in the EPCIS standard
- Eliminating the need for local master data harmonization efforts
- A platform for all logistical entities that act as a node in logistical chains to be found
- Globally scalable solutions from the start



Port of  
Rotterdam

# Questions & Discussions



# Close



# Thank you all for being here

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