

Improving updates of ports to hydrographic offices



**International
Harbour Masters
Association**

Improving updates of ports to hydrographic offices

International Taskforce



Port Call Optimization

International Taskforce Port Call Optimization

Industry partners; shipping and agents



Shell



Vopak Agents



Maersk Line



CMA CGM
Line and Agency



MSC
Mediterranean Shipping
Company S.A and Agency



Inchcape
Shipping Services



Oldendorff Carriers

Industry partners; ports



Port of Gothenburg



Port of Rotterdam



Port of Algeciras



Port of Busan



Port of Singapore



Port of Houston



Port of Ningbo Zhoushan



Port of Tanger Med

Standard partners



GS1



Uk Hydrographic
Office

Endorsers



International Harbour
Masters Association



International Hydrographic
Organization



MarineTraffic



BIMCO



UK P&I Club is managed
by Thomas Miller



Lloyds Marine
Intelligence Unit



The Nautical
Institute



IALA



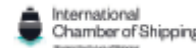
Green Award
Foundation



International Association
of Ports and Harbours



Inter cargo



International
Chamber of Shipping

Improving updates of ports to hydrographic offices

Specific information required for Safe Port Memos

- > Name of port
- > Name of terminal
- > Name of berth
- > Material used for fendering
- > Distance between berth and shipside

Why is this information so difficult to obtain?

- > Certified Bollard Capacity
- > Angle at which capacity is measured
- > Distance between Bollards
- > Distance from Bollards to edge of berth
- > Height of berth at Chart Datum
- > Max speed in channel/port
- > Max draft alongside
- > Berthing day/night
- > Other: ice, weather, swell, surge, aircraft, currents etc

Improving updates of ports to hydrographic offices

NIPWG

Develop and maintain guidance, resolutions and specifications

In order to provide shipboard users the necessary and up-to-date information in a timely manner

To allow for the planning of a safe route for the intended voyage and the safeguarding of the ship's navigation throughout the voyage



Agenda

1. Why
2. Data input from ports
3. Input to ports



Why does communication need to improve?

Regulation 19, Chapter V
2018 last implementation phase

Resolution A893-21
Berth to berth passage planning with
increasing ship sizes

Resolution A960
More disconnect between pilot and bridge
team by use of ECS in PPU vs ENC in ECDIS

Ambition 50% reduction CO2 in 2050
Just In Time arrivals as short term measure –
more need for efficient passage planning



Why the need for updates? User expectations

The user expects ENC and digital products to be more accurate

Updates from ports to Hydrographic Offices are still the same as for paper charts and products

Need to provide frequent digital updates from ports



Why is this important for future developments

Semi autonomous docking: today
Autonomous docking: some day
The Last Nautical Mile is very busy



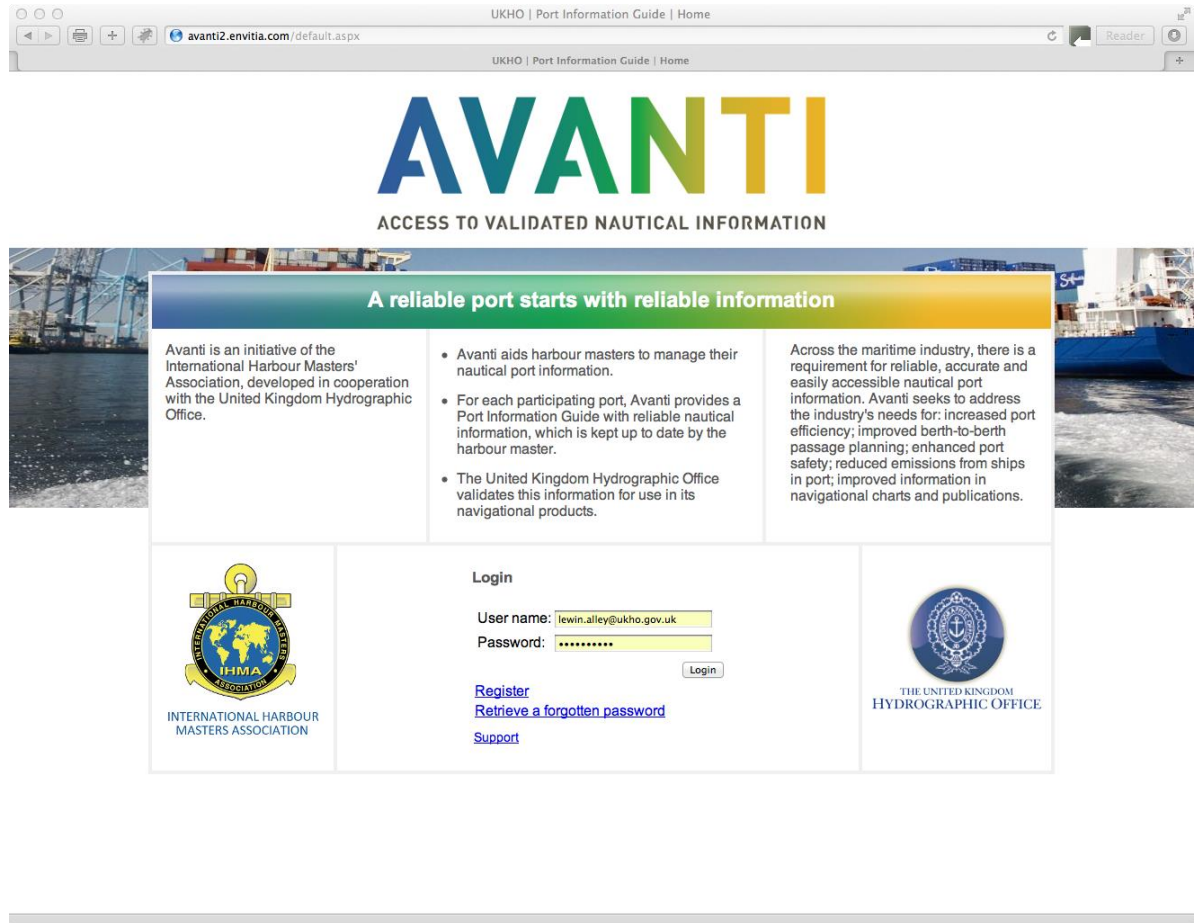
Data input from ports – pioneering Avanti project

Start working on:

- 1) Port information
- 2) Berth information

Lessons learned:

- One definition
- One entry

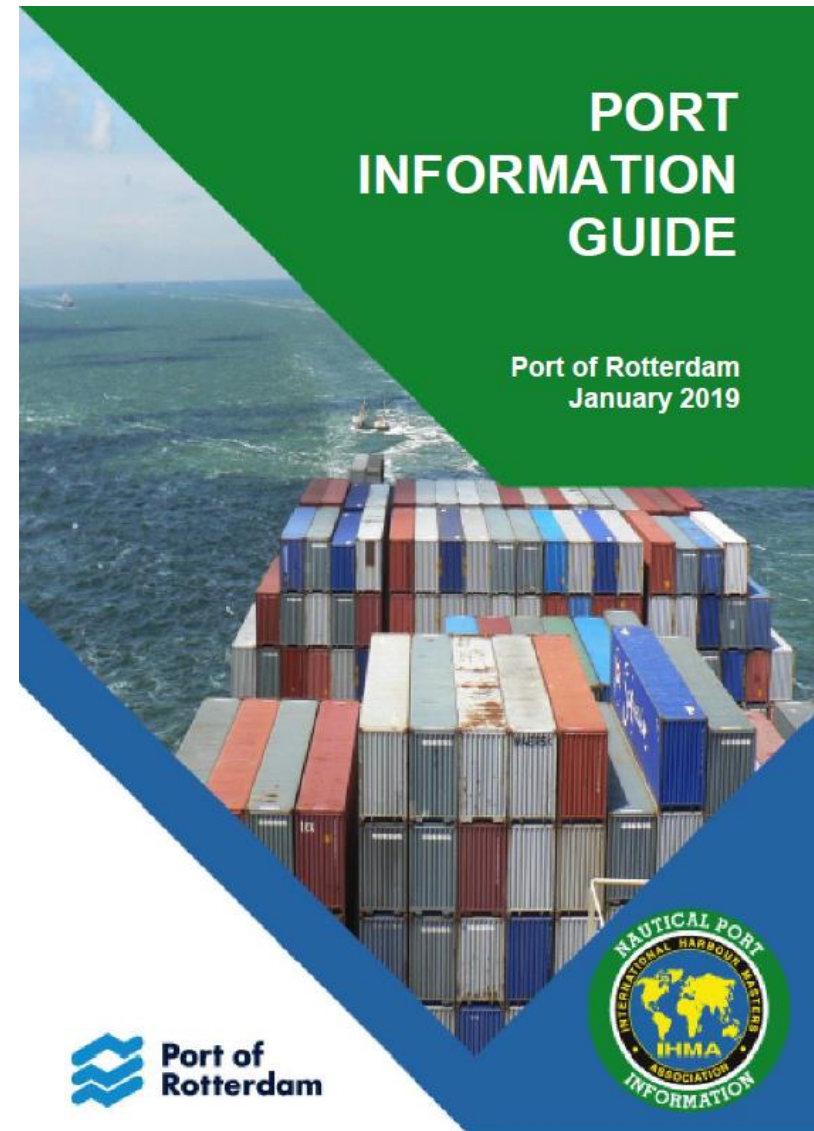


The screenshot shows a web browser window displaying the Avanti website. The browser's address bar shows the URL `avanti2.envitia.com/default.aspx`. The page header includes the text "UKHO | Port Information Guide | Home". The main heading is "AVANTI" in large, multi-colored letters, with the tagline "ACCESS TO VALIDATED NAUTICAL INFORMATION" below it. A banner below the heading reads "A reliable port starts with reliable information". The main content area is divided into three columns. The left column contains text about Avanti's origin: "Avanti is an initiative of the International Harbour Masters' Association, developed in cooperation with the United Kingdom Hydrographic Office." The middle column contains a bulleted list of services: "Avanti aids harbour masters to manage their nautical port information.", "For each participating port, Avanti provides a Port Information Guide with reliable nautical information, which is kept up to date by the harbour master.", and "The United Kingdom Hydrographic Office validates this information for use in its navigational products." The right column contains text about the industry's need for reliable information: "Across the maritime industry, there is a requirement for reliable, accurate and easily accessible nautical port information. Avanti seeks to address the industry's needs for: increased port efficiency; improved berth-to-berth passage planning; enhanced port safety; reduced emissions from ships in port; improved information in navigational charts and publications." Below the main content area, there are three sections. The left section features the logo of the International Harbour Masters' Association (IHMA) and the text "INTERNATIONAL HARBOUR MASTERS ASSOCIATION". The middle section is titled "Login" and contains a form with fields for "User name" (with the example `lewin.alley@ukho.gov.uk`) and "Password" (with masked characters), a "Login" button, and links for "Register", "Retrieve a forgotten password", and "Support". The right section features the logo of The United Kingdom Hydrographic Office and the text "THE UNITED KINGDOM HYDROGRAPHIC OFFICE".

Data input from ports – general information

Input to BA Pilots, port guides, etc.
Coming from port authorities

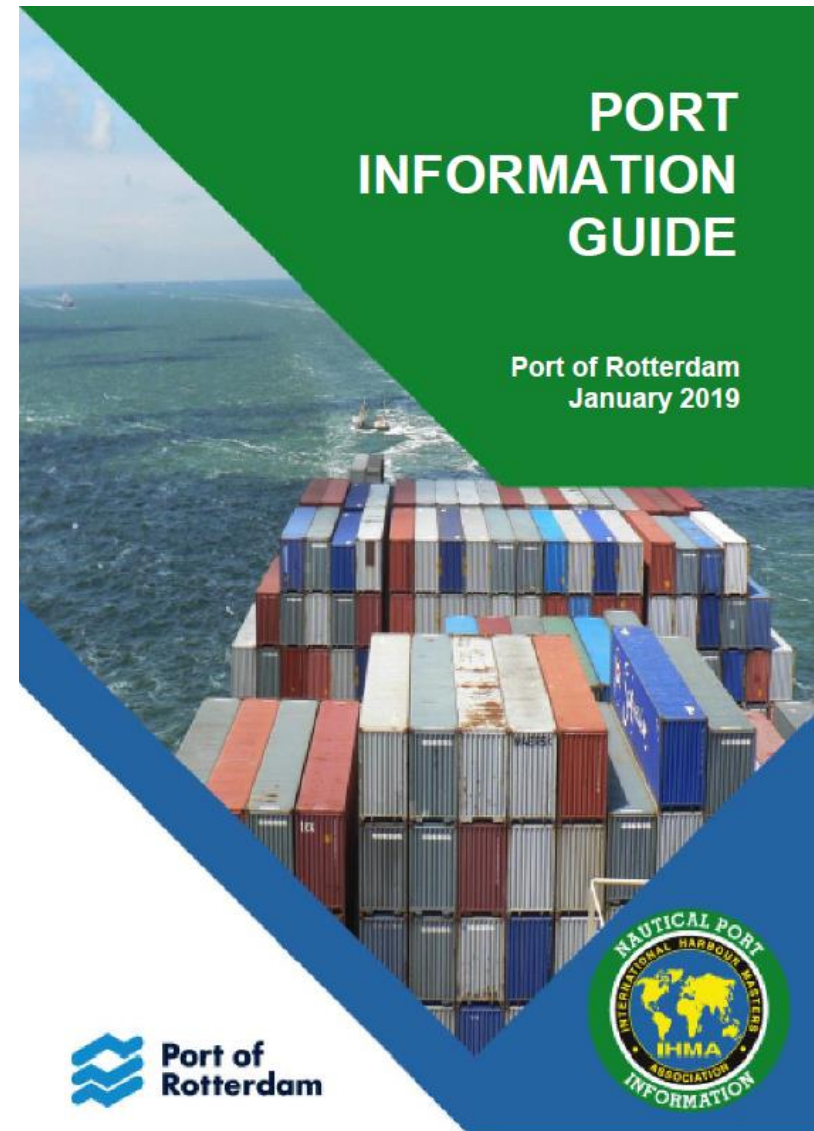
- Data Definitions (based on existing standards from IHO, WMO, IALA, ISO)
Published by NP100
- No double entries



Data input from ports – general information

Broad content:

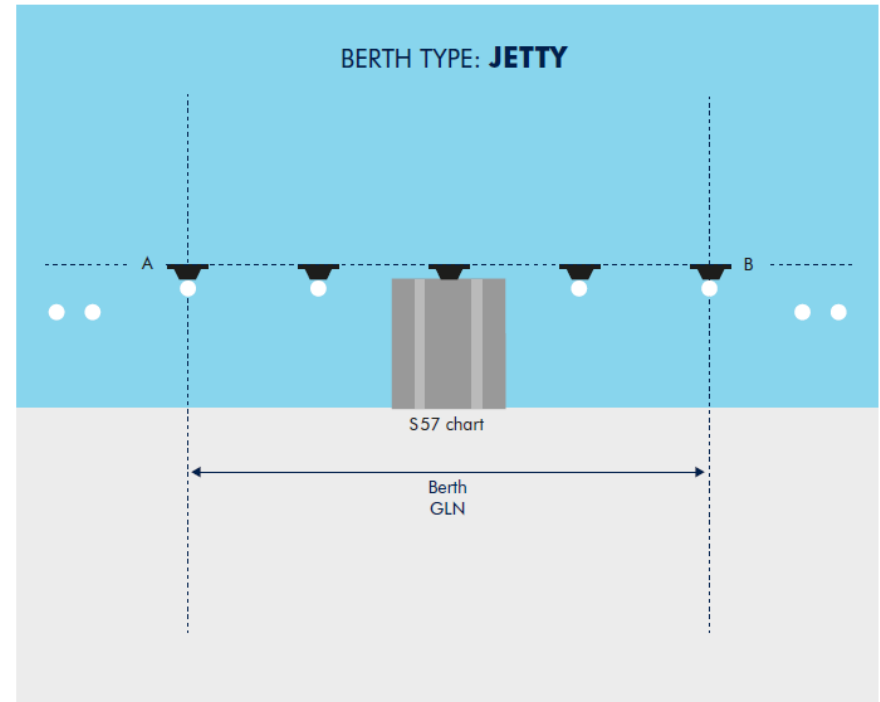
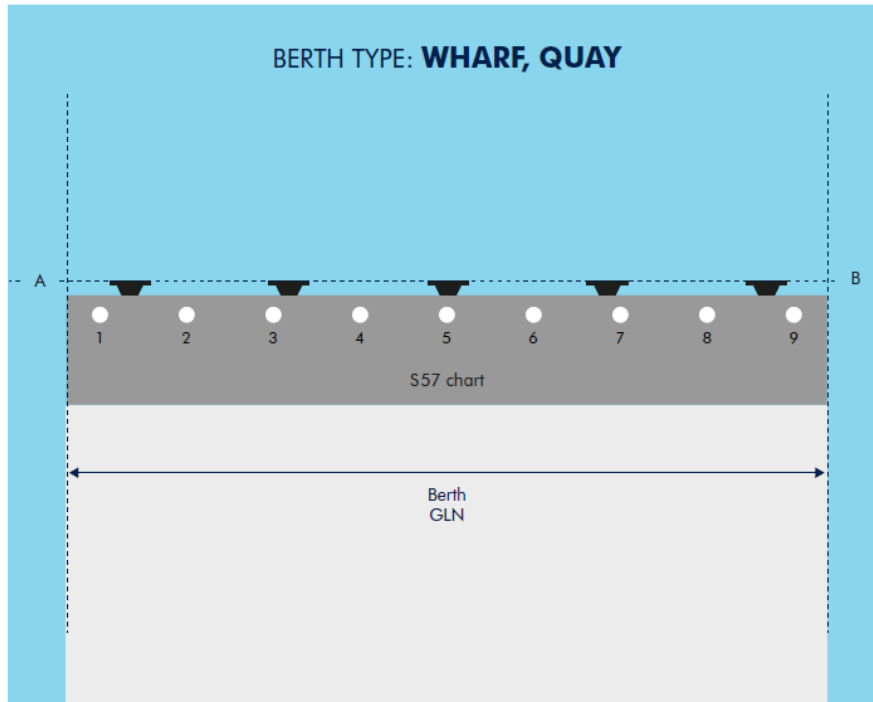
- Port General Information
- Contact Information
- Weather and Tidal Information
- Reports & Documentation
- Regulations & Requirements
- Port Safety
- Nautical Services
- Vessel Services



Data input from ports – berth information

Input to ENC's, Port guides, Port databases of customers, VTS
Coming from port authorities or terminals

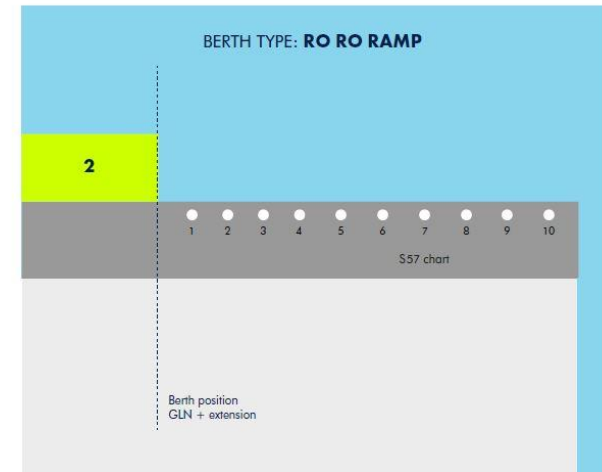
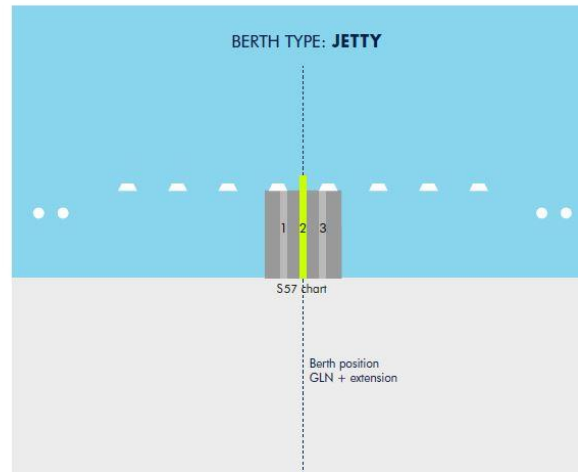
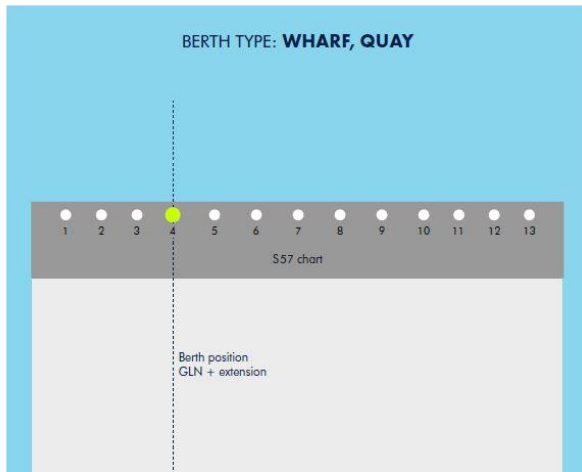
1. BERTH



Data input from ports – berth position information

Input to ENC's, Port guides, Port databases of customers, VTS
Coming from port authorities or terminals

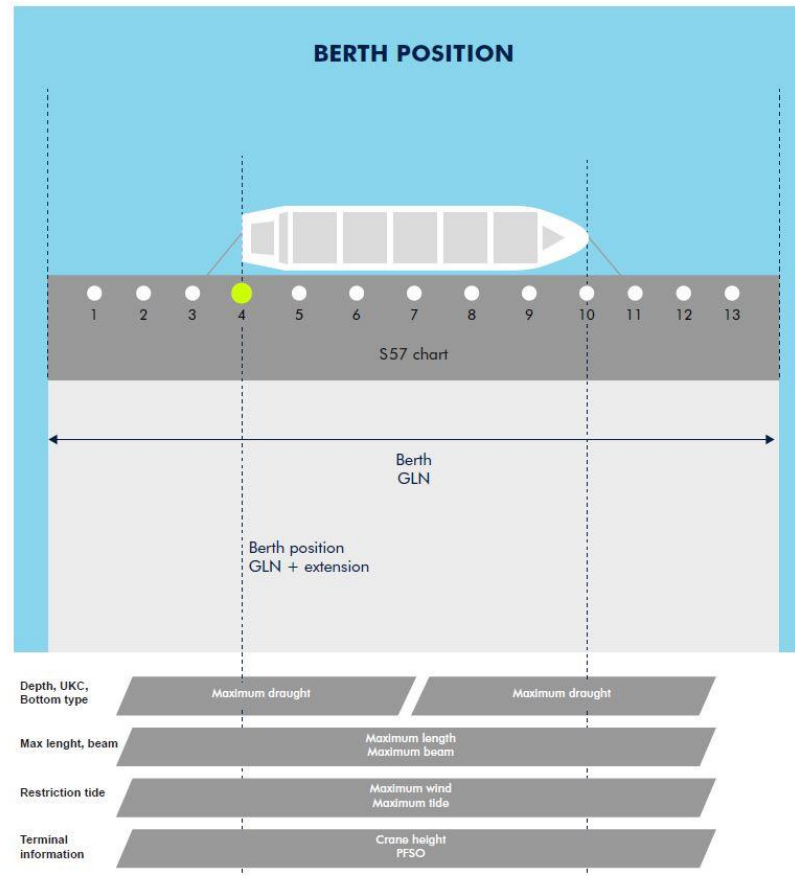
2. BERTH POSITION



Input from ports – berth restriction information

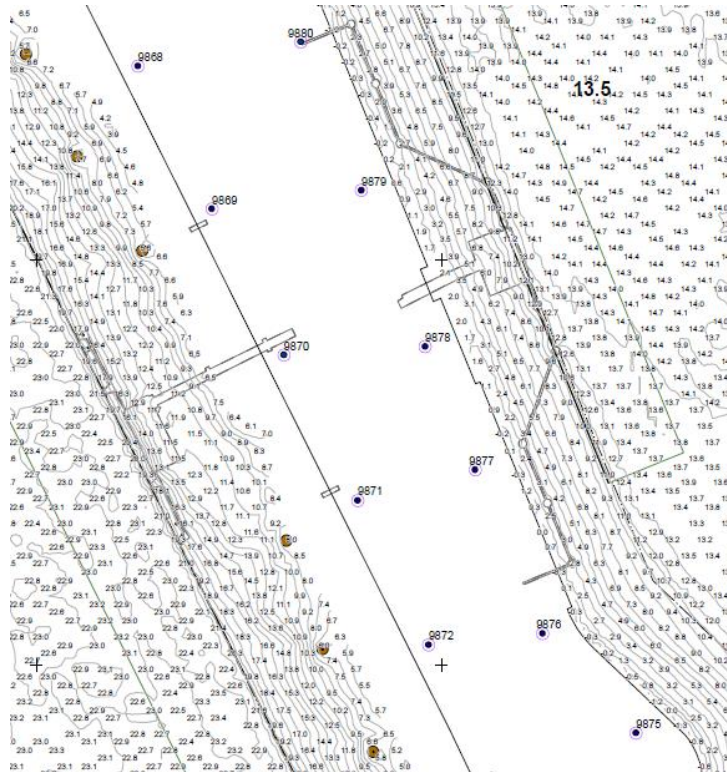
Input to Port guides, Port databases of customers, VTS. Later ENC's and S-10x overlays
Coming from port authorities or terminals

3. BERTH POSITION MAXIMUM SIZES AND CONDITIONS



Data input from ports – up to date depth information

Input to ENC, VTS, Terminals, Shipping
Coming from port authorities or terminals



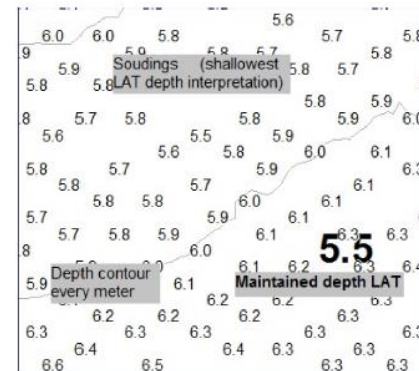
Not to be used for navigation.

Only maintained depths should be used for passage planning of vessels and cargoes. Soundings should be used only after consultation with the harbour coordination centre as they are affected by siltation and dredging operations.¹

Responsibility for safe navigation remains with the master of the vessel.

At any time the port accessibility can be affected by unexpected causes such as a localised movement of sediment or less water due to extreme weather factors or river flow .

¹ If the sounding is less than the maintained depth this will be one of the reasons to start a dredging operation



Input from ports – data from operations

Important that data is coming from operational data bases

Data is more reliable if used in daily operations

Avanti

MAP

COSCO NINGBO

IMO ⓘ 9305582 Draught ⓘ 14,5 min. 14.5 m

LOA ⓘ 350.6 m UKC ⓘ 1 m

BOA ⓘ 42.9 m

Check available berths

cancel Show route

- 1 Open sea
- 2 Maasmond (13.5 m)
- 3 Nijlhaven (13.5 m)
- 4 Beerkanaal (3.65 m)
- 5 Yangtzekanaal (5.55 m)
- 6 Prinses Arianehaven (11.4 m)
- 7 **AMALIAH APMT DSQ**

AMALIAH APMT DSQ APMT DSQ

Departure 22-05-2018 15:00

Arrival 23-05-2018 15:00

Harbour name	Prinses Amaliahaven
Terminal name	APM Terminals Maasvlakte II B.V. APM
Berth name	AMALIAH APMT DSQ
Type	Kade
Maximum length ⓘ	1000.1 m
Maximum beam ⓘ	60 m
Maintained depth ⓘ	19 m
Owner id	Z100/12/41
Reachable	true

Input to ports – maintenance of standards

Ports will not invest in standards which are changing

Big investment not only in terms of money, also in terms of culture change

Experience from railroad and airports: maintenance of standards by ISO is robust

GAP analysis of used standards versus ISO:

- Who defines standards in ISO for maritime?
- Which standards should be brought to ISO?



Input to ports – available standards

Functional and data definitions

Based on existing standards

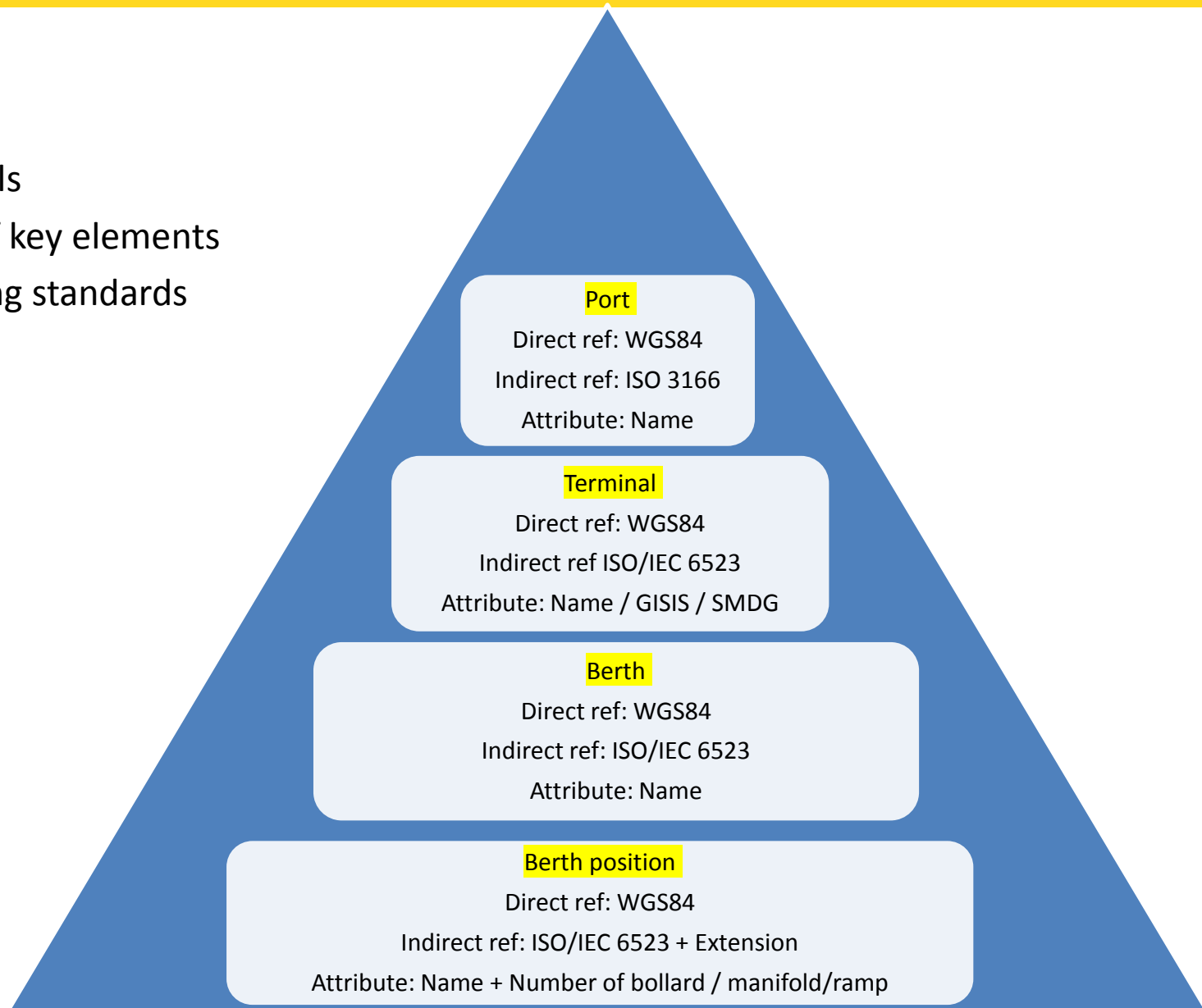


Input to ports – available standards

At multiple levels

Identification of key elements

Based on existing standards



Input to ports – available standards

Port

51.9200000, 4.5000000

NLRTM

Port of Rotterdam

Terminal

51.890200, 4.282500

8719331014014

Rhenus Terminal

Berth

A : 51.887190, 4.284030 B: 51.886240, 4.284560

8719331034478

Berth 1

Berth position

51.887195, 4.284032

8719331034478-5

Berth 1 - Bollard 5

Input to ports – available standards



Input to ports – available standards



Input to ports – implementation of standards

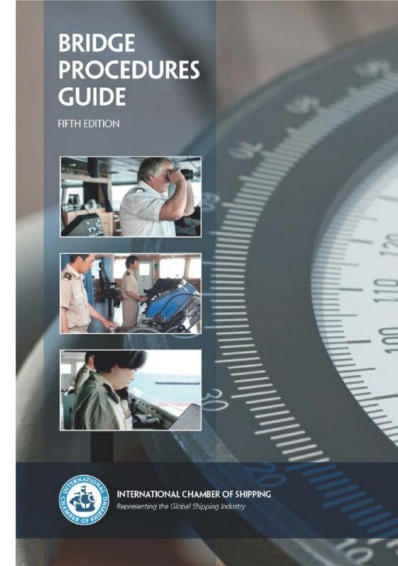
Standards alone is not sufficient

Guide to ports for implementation

Best Practises exist for shipping, not for ports

Based on input from:

- IHO
- IMO NGO's
- Ports
- Shipping

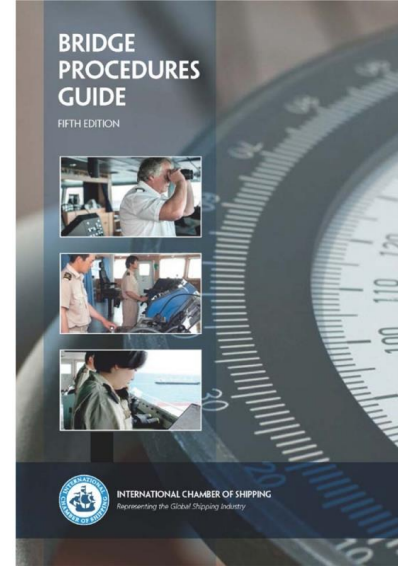


Input to ports – proposed guide content

Guide for safe port & berth data

1. Value of data
2. Legal aspects of sharing data
3. Safety and sustainability aspects
4. How to organize data ownership
5. How to organize data quality
6. Standards







Draft version December 2019



Input to ports – what is the Return On Investment???

Recognition for quality port data:

1. CATZOC?
2. ISO for Safe Port?

Zone of Confidence (ECDIS Symbol)	Position Accuracy	Depth Accuracy
A1 	5 Meters	0.5 Meters + 1% of Depth
A2 	20 Meters	1.0 Meters + 2% of Depth
B 	50 Meters	1.0 Meters + 2% of Depth
C 	500 Meters	2.0 Meters + 5% of Depth
D 	More than 500 Meters	More Than 2.0 Meters + 5% of Depth
U 	Not Assessed	Not Assessed



Thank you

