Improving updates of ports to hydrographic offices

Improving updates of ports to hydrographic offices

International Taskforce

Port Call Optimization

Improving updates of ports to hydrographic offices

MAERSK LINE

Specific information required for Safe Port Memos

- Name of port
- Name of terminal
- Name of berth
- 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
- Material used for fendering
- Distance between berth and shipside
- Max speed in channel/port
- Max draft alongside
- Berthing day/night
- Other: ice, weather, swell, surge, airdraft, currents etc

Why is this information so difficult to obtain?

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

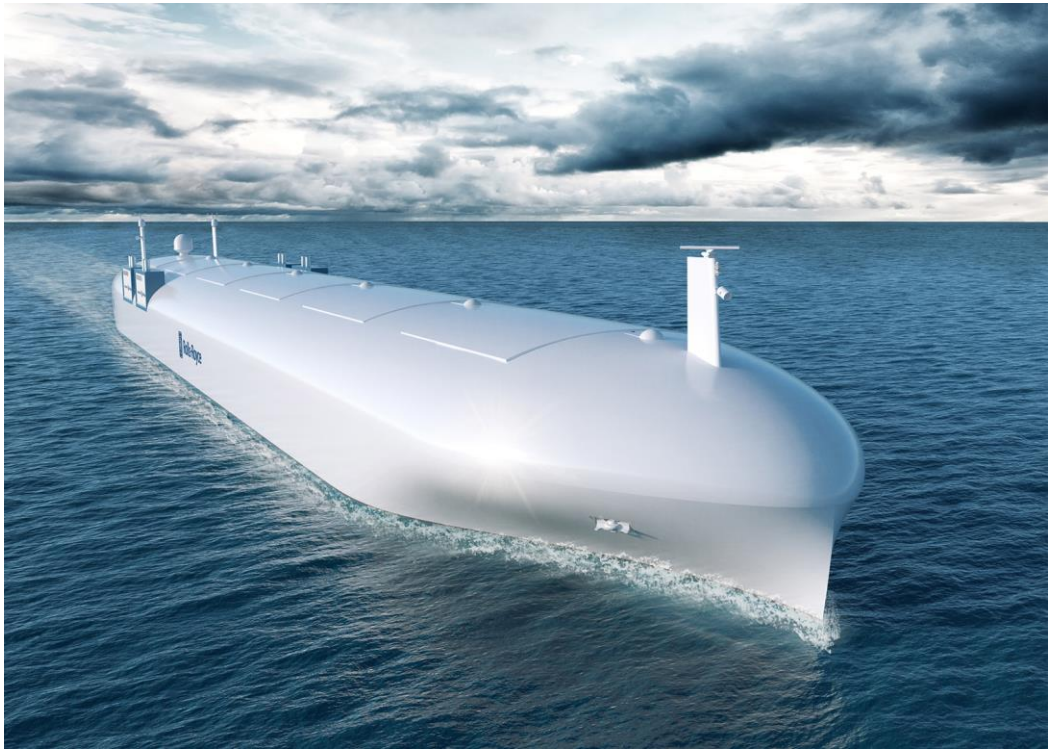
Need to provide frequent digital updates from ports

Why is this important for future developments

Semi autonomous docking: today

Autonomous docking: some day

The Last Nautical Mile is very busy



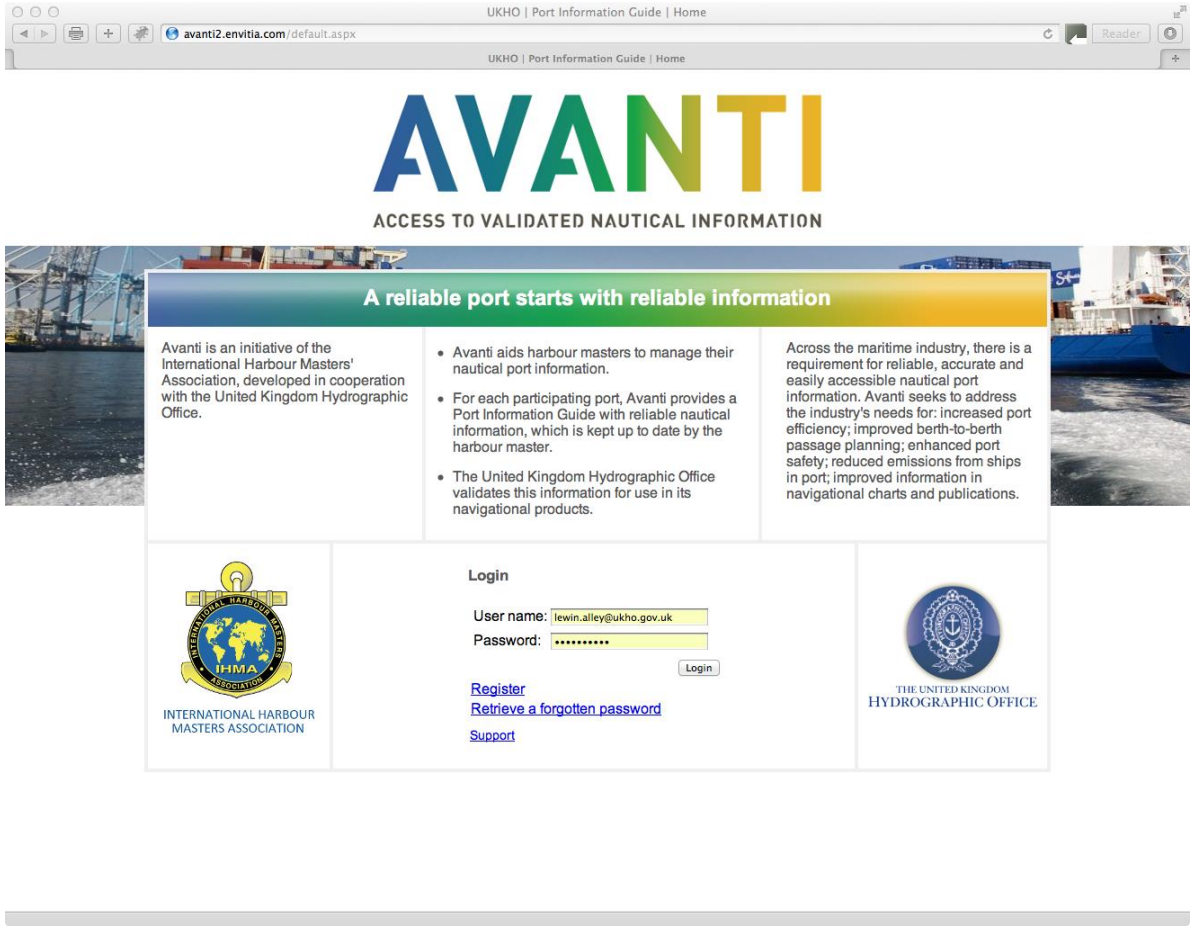
Data input from ports – pioneering Avanti project

Start working on:

1) Port information
2) Berth information

Lessons learned:

- One definition
- One entry

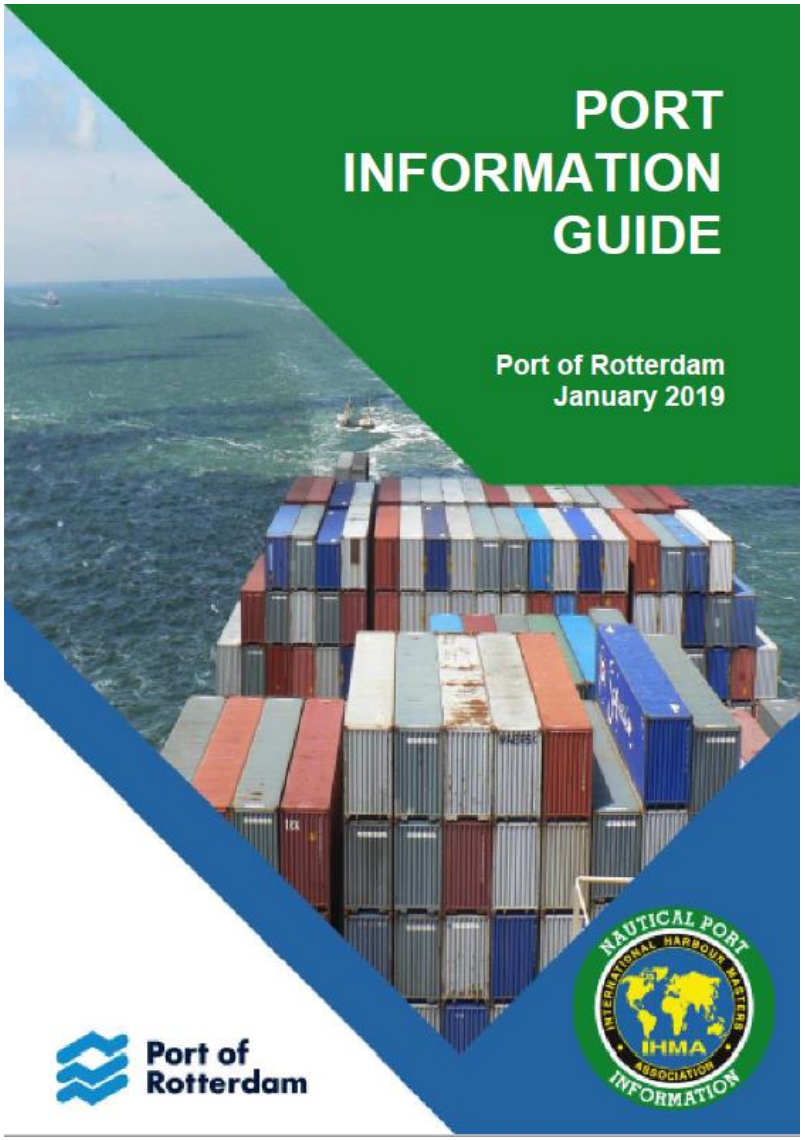


Data input from ports – general information

Input to BA Pilots, port guides, etc.

Coming from port authorities

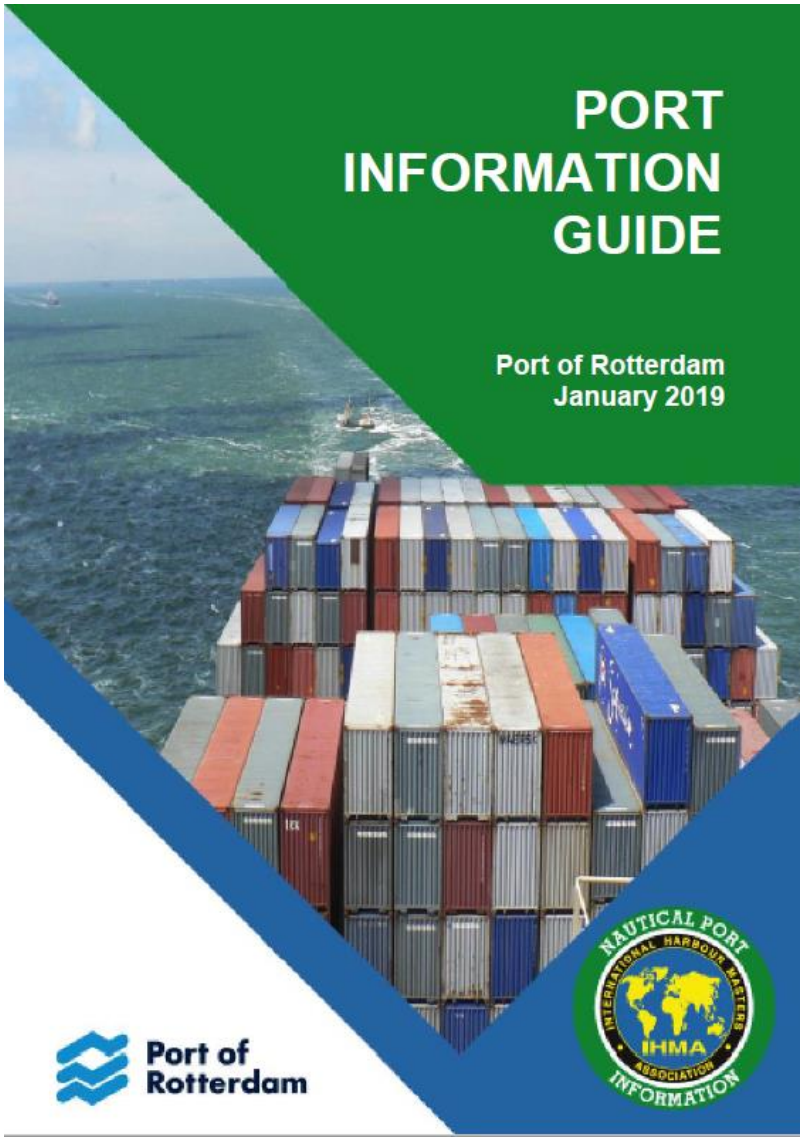
- Data Definitions (based on existing standards from IHO, WMO, IALA, ISO) Published by NP100
- No double entries



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

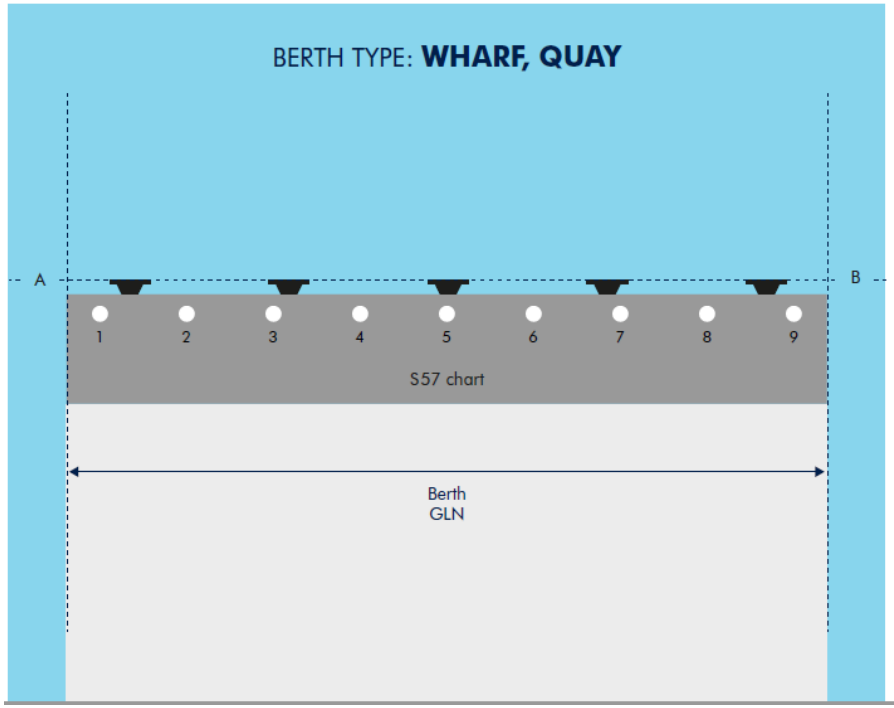


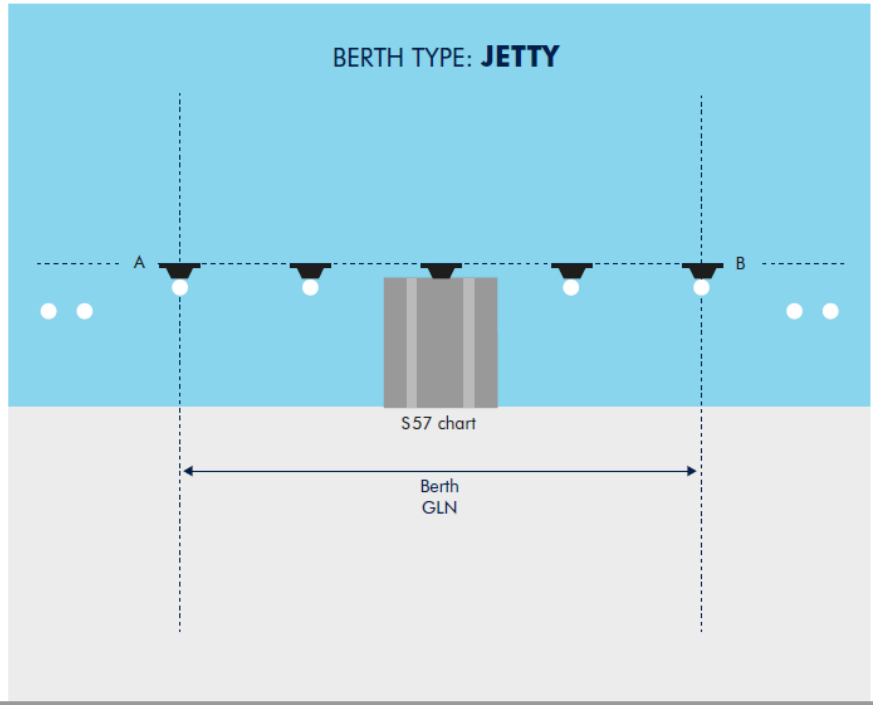
Data input from ports – berth information

Input to ENC's, Port guides, Port databases of customers, VTS

Coming from port authorities or terminals

1. BERTH



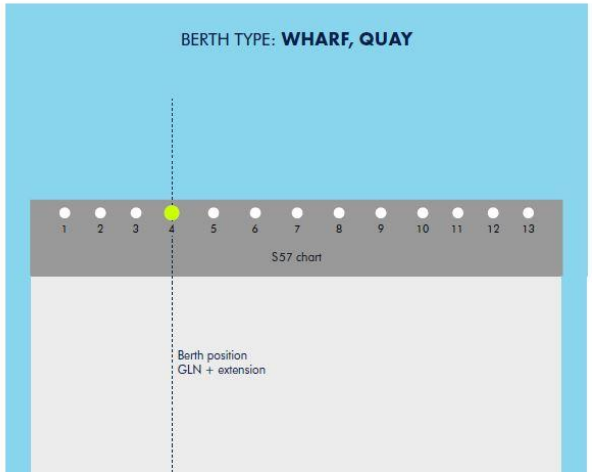


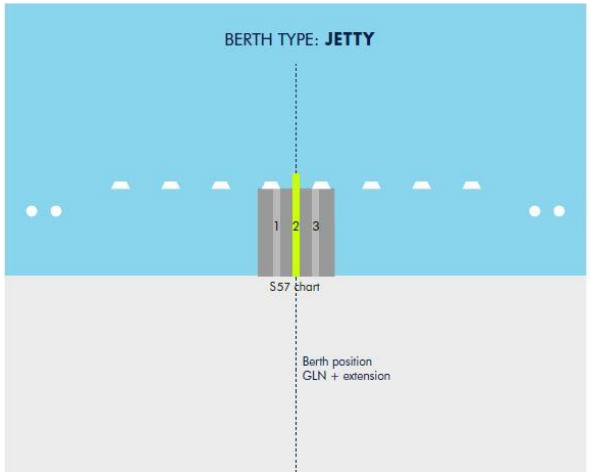
Data input from ports – berth position information

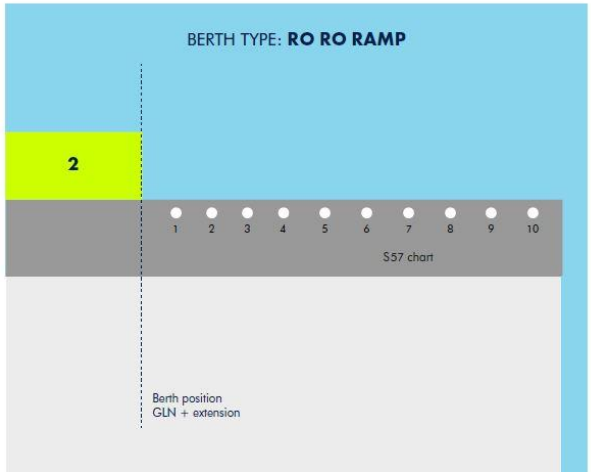
Input to ENC's, Port guides, Port databases of customers, VTS

Coming from port authorities or terminals

2. BERTH POSITION



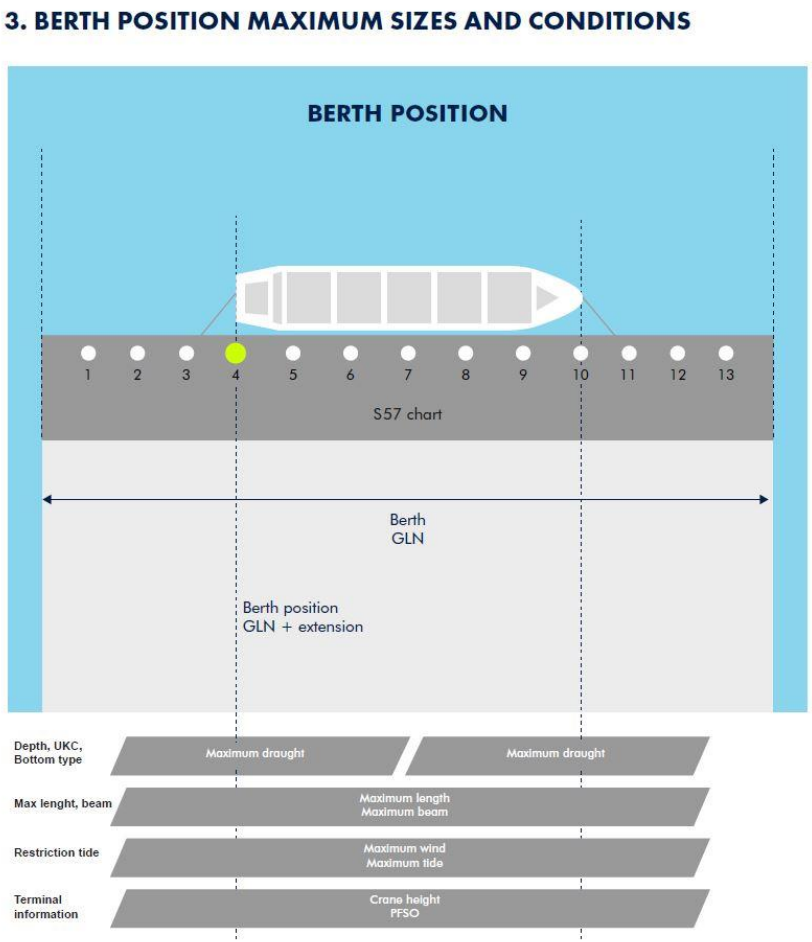




Input from ports – berth restriction information

Input to Port guides, Port databases of customers, VTS. Later ENC's and S-10x overlays

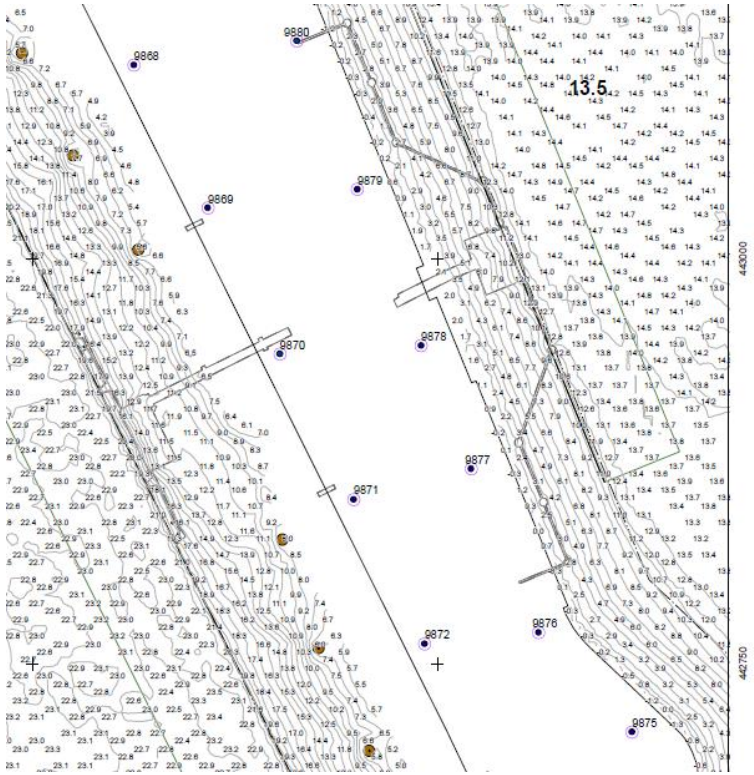
Coming from port authorities or terminals



Data input from ports – up to date depth information

Input to ENC, VTS, Terminals, Shipping

Coming from port authorities or terminals



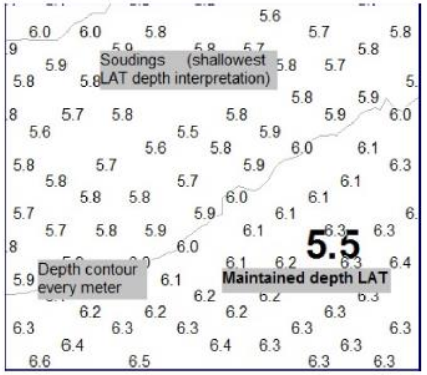
Not to be used for navigation.

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 .

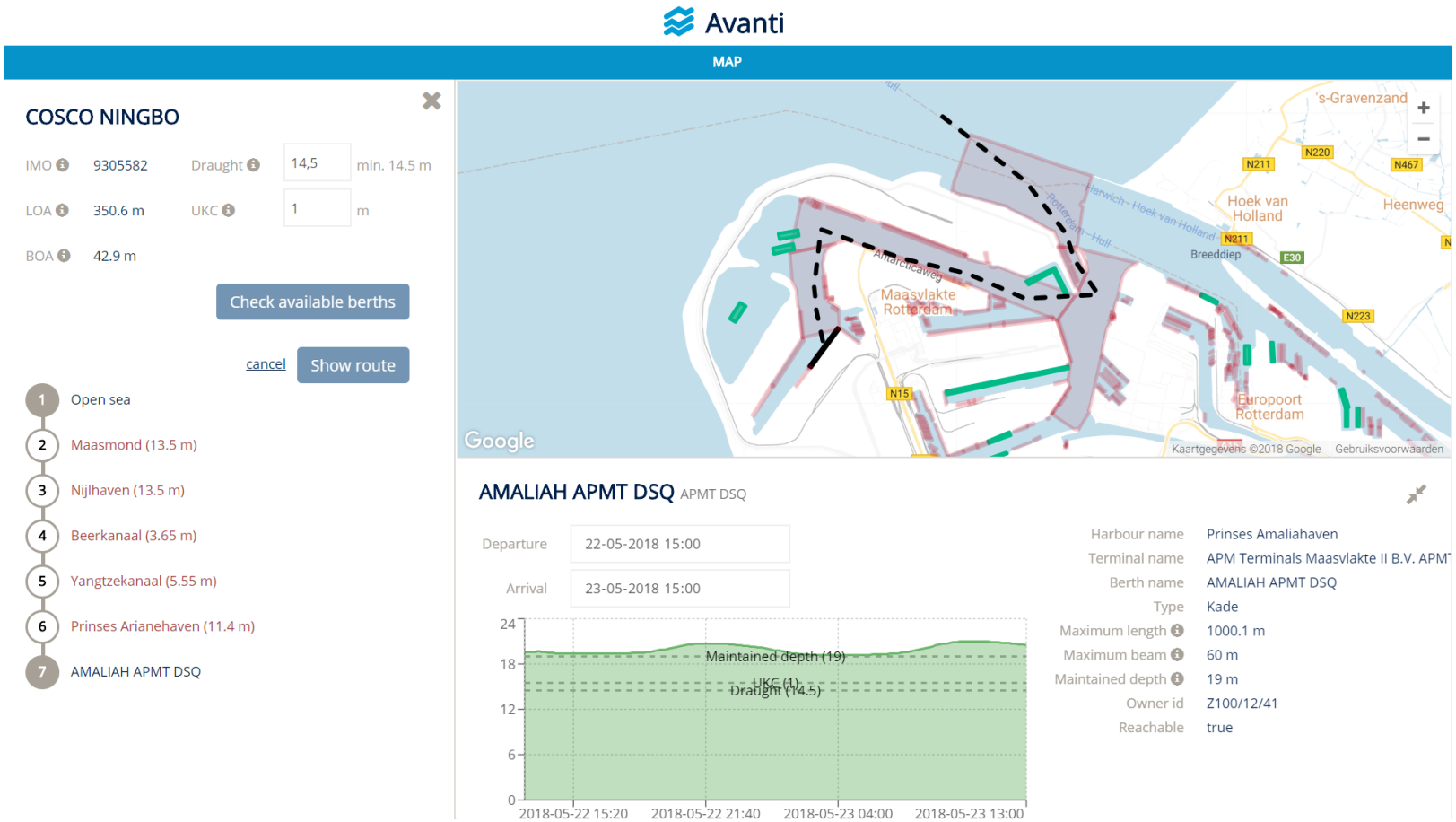
[1] If the sounding is less than the maintained depth this will be one of the reasons to start a dredging operation



Input from ports – data from operations

Important that data is coming from operational data bases

Data is more reliable if used in daily operations



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

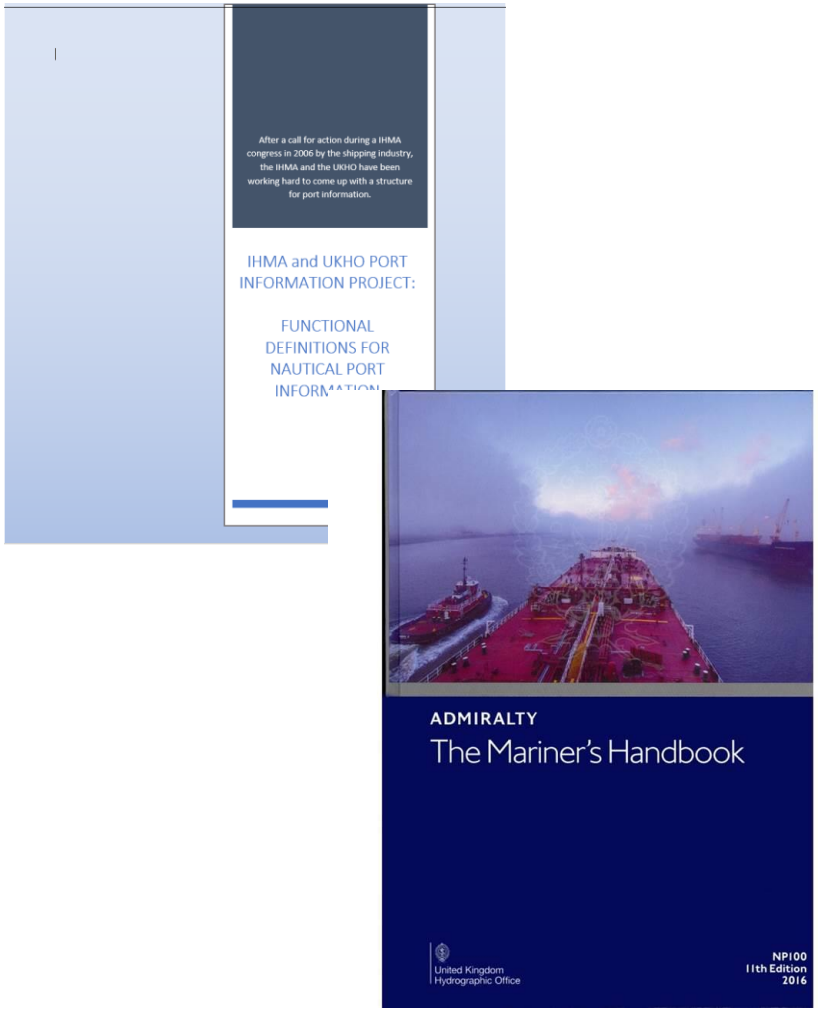
GAP analysis of used standards versus ISO:

- 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

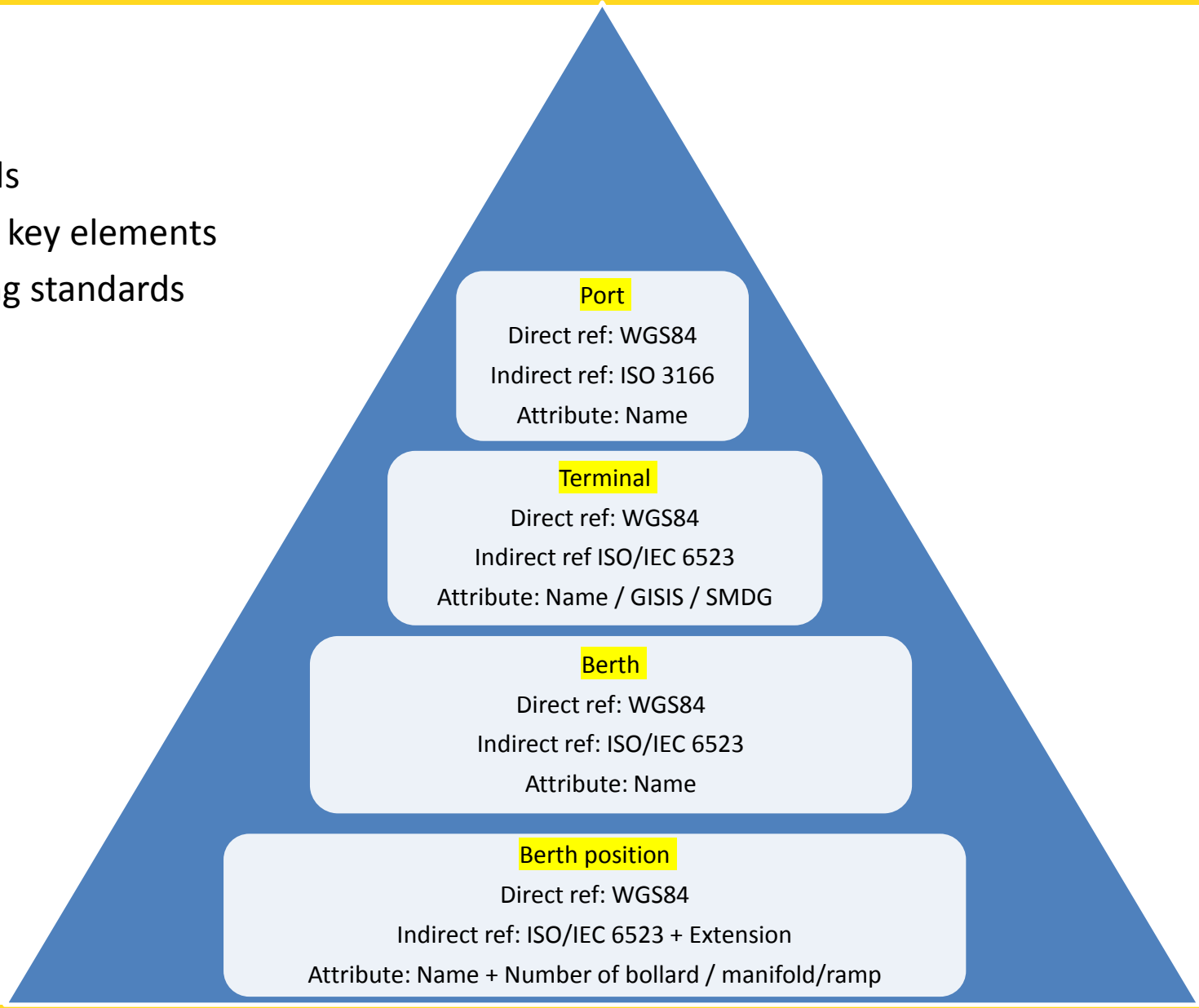


Input to ports – available standards

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

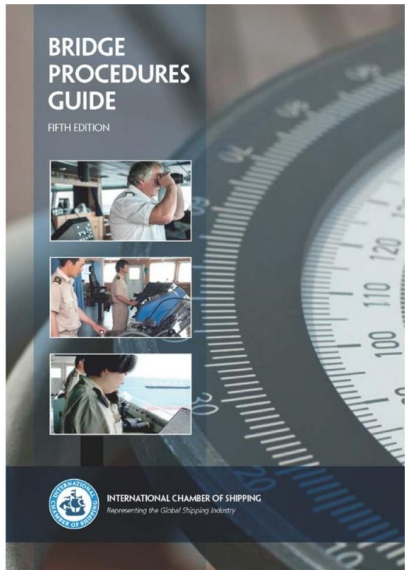
Standards alone is not sufficient

Guide to ports for implementation

Best Practises exist for shipping, not for ports

Based on input from:

- IHO
- IMO NGO's
- Ports
- Shipping

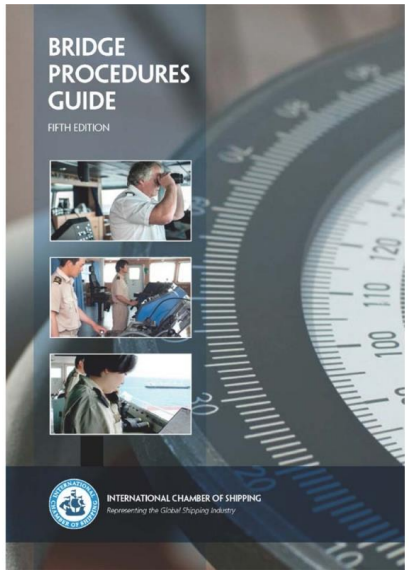


Input to ports – proposed guide content

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