**Guidelines for Harmonized Communication**

**and**

**Electronic Exchange**

**of**

**Nautical Data for Port Calls©**

Version 1.6

CONCEPT

**Afbeelding met Lettertype, logo, tekst, Graphics

Automatisch gegenereerde beschrijving**Afbeelding met tekst, Lettertype, logo, Graphics

Automatisch gegenereerde beschrijving**Afbeelding met tekst, Lettertype, logo, schermopname

Automatisch gegenereerde beschrijving****Afbeelding met tekst, Lettertype, Graphics, grafische vormgeving

Automatisch gegenereerde beschrijving**Afbeelding met tekst, Lettertype, logo, Graphics

Automatisch gegenereerde beschrijvingAfbeelding met tekst, logo, symbool, embleem

Automatisch gegenereerde beschrijving****

# Document revision history

|  |  |  |
| --- | --- | --- |
| 1.0 | 20/04/22 | Content of Port Information Manual 3.02, aligned with chapters of IMO BLU Code and aligned with IHO standards |
| 1.1 | 17/05/22 | Review of IHO NIPWG processed for definitions |
| 1.2 | 10/06/22 | Review of IHO NIPWG processed for units of measurement |
| 1.3 | 31/01/23 | Review for submission to IMO FAL 46/INF.3 |
| 1.4 | 21/08/23 | Based on Guide for Nautical Data 1.3  Based on IMO BLU Code, IMO Resolution A.862(20) (bulk)  Based on OCIMF MTIS (tanker)  Based on Port Memo (container)  Focus on “nautical information necessary for safe navigation” as per SOLAS  Aligned with IMO FAL “Guidelines For Harmonized Communication And Electronic Exchange Of Operational Data For Port Calls”  Validated with IHO standards through IHO NIPWG |
| 1.5 | 14/09/23 | Processed input IHO NIPWG meeting in Monaco  Processed input IAPH DCC meeting |
| 1.6 | 16/10/23 | Naming of document changed to align with IMO FAL “Guidelines For Harmonized Communication And Electronic Exchange Of Operational Data For Port Calls” |
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# 1 Preamble

1.1 These guidelines are intended to provide guidance to the implementation of an electronic and automated exchange of nautical data between port and hydrographic offices / services.

1.2 These guidelines will make reference to the IHO standards and other specifications where relevant but will not specify any specific protocol or information exchange standard.

1.3 These guidelines will help to demonstrate that Hydrographic Offices, Ports and Terminals are working together to discharge their collective responsibilities for SOLAS as per Chapter V Regulation 9: “Contracting Governments undertake to arrange for the collection and compilation of hydrographic data and the publication, dissemination and keeping up to date of all nautical information necessary for safe navigation”.

1.4 These guidelines will help ports and terminals to demonstrate that they are a “safe port” in the context of the Charter Party: “A port will not be safe unless, in the relevant period of time, the particular vessel can reach it, use it and return from it without, in the absence of some abnormal occurrence, being exposed to danger which cannot be avoided by good navigation and seamanship”.

1.5 These guidelines will lead to chartering, planning and safe berth to berth navigation (as per IMO Resolution A,893(21)) of vessels based on the same data with the same standards

1.6 The content of these guidelines is based on existing publications and databases of all trades:

* All segments: Guide for Nautical Data 1.3
* Bulk segment: IMO BLU Code, IMO Resolution A.862(20)
* Tanker segment: OCIMF Marine Terminal Information System
* Container segment: Port Memo’s
* IMO FAL Guidelines for Harmonized Communication And Electronic Exchange Of Operational Data For Port Calls

The content of these publications and databases has been filtered on data elements related to nautical information necessary for safe navigation as laid down in SOLAS.

1.7 The IHO has supported the search for best matching standards, thus ensuring harmonization between hydrographic offices and the industry.

1.8 The chapters have been organized in such a way that these standards can be validated frequently; the validation dates are shown in the Document Revision history.

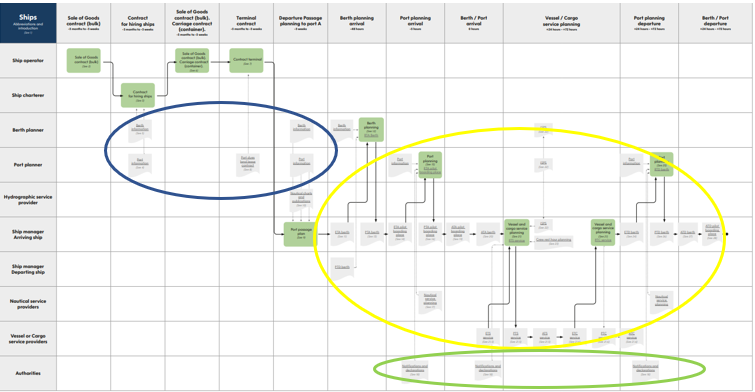
# 2 Abbreviations

|  |  |
| --- | --- |
|  |  |
| BIMCO | The world’s largest direct-membership organisation for shipowners, charterers, shipbrokers, and agents |
| ECDIS | Electronic Chart Display Information System |
| ENC | Electronic Navigational Chart |
| FAL | Convention Facilitation of International Maritime Traffic |
| HD ENC | High Density ENC |
| HO | Hydrographic Office |
| IAPH | International Association of Ports and Harbours |
| IBTA | International Bulk Terminals Association |
| ICS | International Chamber of Shipping |
| IHMA | International Harbour Master’s Association |
| IHO | International Hydrographic Organization |
| IMO | International Maritime Organization |
| INTERCARGO | International Association of Dry Cargo Shipowners |
| ITPCO | International Taskforce Port Call Optimization |
| MTIS | Marine Terminal Information System |
| OCIMF | Oil Companies International Marine Forum |
| RENC | Regional Electronic Navigational Chart Coordination Center |
| UKC | Under Keel Clearance |
| UKHO | United Kingdom Hydrographic Office |
| VAR | Value Added Resellers |

# 3 Nautical data as part of the port call process

3.1 The port call process is based on a high-level business process of port calls, which is based on IMO regulations, BIMCO contracts, and requirements of port authorities and other stakeholders, making it a port and trade agnostic process. It has been created by the Industry (a group of leading ports and shipping lines) and validated during Industry Roundtable sessions organized by the IMO Global Industry Alliance (GIA) to Support Low Carbon Shipping. It has been used as such in the “Guidelines for setting up a Maritime Single Window”, IMO FAL 46/5/1.

The port call process and an explanatory appendix can be downloaded from [www.portcalloptimization.org](http://www.portcalloptimization.org)



3.2 The data to be exchanged as part of the port call process includes the following:

3.2.1 Nautical data - blue

Data that is provided by Hydrographic Offices in Navigational Charts, Nautical Publications or coast pilots, and tide tables. Additionally, nautical data is used in the maritime industry for chartering and planning purposes.

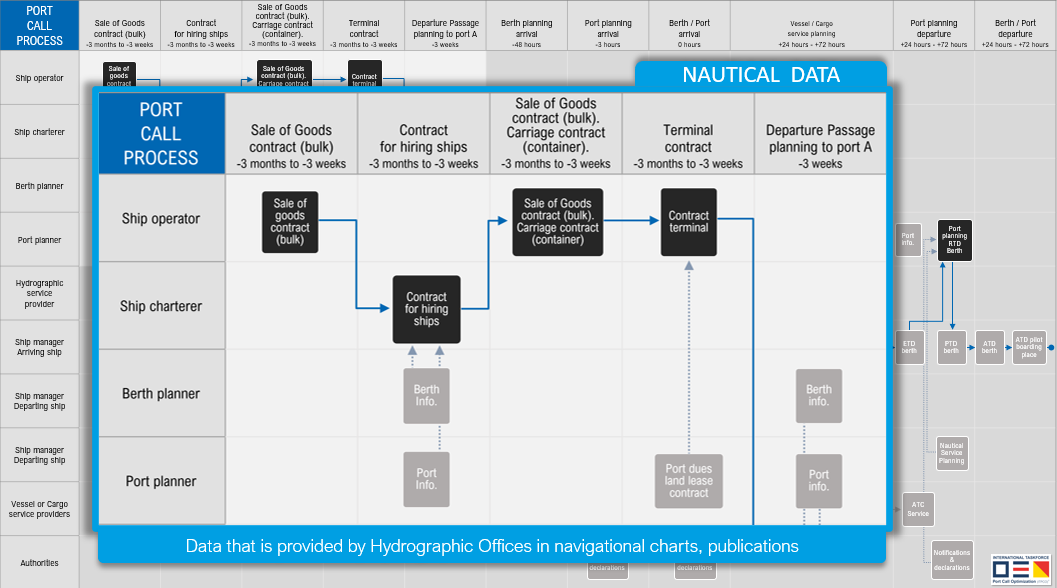
3.2.2 Administrative data - green

Data that is submitted by ships or other non-authority parties to authorities in notifications and declarations

3.2.3 Operational data - yellow

Data that is submitted to non-authority parties as part of planning or execution of certain operations. Refer to IMO FAL Guidelines for Harmonized Communication And Electronic Exchange Of Operational Data For Port Calls published by IMO

3.3 Nautical data in the business process

From the business process one can identify that nautical data is used for multiple purposes:

3.3.1 For Chartering and planning

The risk of a port or berth being unsafe is very often primarily for the Charterer. Based on a series of court judgements under common law, a widely accepted legal definition of a(n) (un)safe port under common law is the following: “A port will not be safe unless, in the relevant period of time, the particular vessel can reach it, use it and return from it without, in the absence of some abnormal occurrence, being exposed to danger which cannot be avoided by good navigation and seamanship”.

The Charterer uses shore-based databases and applications to select ships and make a ship-berth compatibility check. Therefore, having robust, globally unique identifiers for both the ship and the berth are crucial in this part of the process.

These databases and applications may collect their data about twice per year through e.g., but not limited to, agents, terminals, surveyors. However, these parties do not have an obligation to provide such data. The standards used are often trade specific (e.g., the bulk segment uses different standards than the tanker segment).

3.3.2 For Navigation

A Master is responsible for making a voyage plan from berth to berth as per IMO Resolution A.893(21): “detailed planning of the whole voyage or passage from berth to berth”. The Master can only use Nautical Charts (Electronic Navigational Charts, so called ENC’s) and Nautical Publications which are issued by, or on the authority of a Government-authorized Hydrographic Office (HO’s) or other relevant government institution. Only these publications fulfill the SOLAS carriage requirements.

A special form of an ENC is the High-Density bathymetry (HD ENC); a special ENC with more bathymetric content compared to ENC, not (yet) available to the Master, but used by e.g., local pilots.

These Nautical Charts and Publications are kept up to date by the “Contracting Government” as per SOLAS Chapter V Regulation 9: “Contracting Governments undertake to arrange for the collection and compilation of hydrographic data and the publication, dissemination and keeping up to date of all nautical information necessary for safe navigation”.

Most HO’s collect their data from Port Authorities, depending on when new data becomes available. HO’s of the IHO Nautical Information Provision Working Group experience a lack of data availability and consistency by Port Authorities, resulting in HO’s being unwilling to publish port infrastructure data in their charts and publications as they cannot guarantee the correctness of the data. Port Authorities in their turn face difficulties gathering data from all data owners in the port, as the Port Authority is not the data owner of all port data. E.g., terminals may be the data owner of the soundings of the berth pocket. In addition, Port Authorities do not always have the mandate nor the resources to organize the collection and dissemination of nautical data. Terminals again in their turn feel reluctant to provide data about the berth approach, as it’s normally the responsibility of the Port Authority.

Most HO’s act in accordance with the IHO recommendation to distribute ENC’s through a controlled process of validation and distribution through RENC’s and VAR’s. Taking into the account the external dependency of the onboard update mechanism, today the time between actual measurement or sounding and chart update on board may typically be about 4 weeks.

3.3.3 For Chartering, Planning and Navigation

As data for chartering, planning and navigation is collected from different parties, at different times and with different standards, it is inevitable that the same ship is chartered, planned, and navigated based on different data sets.

Therefore, efforts should be made that Port Authorities, Terminals. the Maritime Industry and HO’s start using the same standards, and consequently a minimum set of nautical data for safe navigation becomes available for both chartering, planning and navigating the same ship berth to berth.

As data for exact planning of maximum sizes and draughts depends on exact data of both berth positions and depths at these positions, efforts should be made that berth positions and depths are made available.

# 4 Standards - General

4.1 As shipping operates from port to port worldwide, the standards need to be accepted and respected by all ports globally (i.e. the standards need to be port agnostic).

4.2 As ports facilitate all types of trades (tanker, bulk, container, ro-ro, cruise etc.) the standards need to be accepted and respected by all trades (e.g. not only by container or tanker sector, i.e. the standards need to be trade agnostic).

4.3 As ports are all different from one another, the standards should be flexible enough to be implemented at each port.

4.4 As shipping operates from port to port globally, the standards should be sufficiently rigid to facilitate port to port navigation.

4.5 As shipping is the most important component in the global supply chain, the connection to the global supply chain is very important.

4.6 As data owners face a lot of administrative burden to update parties in different formats, and the navigational safety, environment and security are best served by real time updates, efforts should be made for maximum compatibility between navigational, administrative and operational data.

4.7 For this reason the definitions of IMO Compendium will be harmonized with those in IHO S-131 for locations.

4.8 As most trades are facing ship-berth compatibility issues, and are also part of the supply chain, efforts should be made for a robust data compatibility check between maximum sizes of both the ship and the berth by using the existing globally unique identification number for ships (the IMO ship number) and by using the existing globally unique identification number for berths (Global Location Number, ISO/IEC 6523).

4.9 As most Hydrographic Offices collect their data in a different way and from different sources than the maritime industry, nautical charts and publications on board the ship often show different data than shore-based data bases and applications. Efforts should be made to exchange the same data with the same standards with both parties to ensure that chartering, planning and navigation processes, as described in the port call process, are all executed using the same standards.

4.10 Links to IHO standards:

* IHO Concept Register: [https://registry.iho.int/fc/list.do](https://eur01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fregistry.iho.int%2Ffc%2Flist.do&data=05%7C01%7CBRJ.Scherpenzeel%40portofrotterdam.com%7C8f3089f16e65476ddb3008db8eba7ce6%7C3045399847844b0ebdb0a8ba14eff494%7C0%7C0%7C638260703831744307%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=LTqNWNqr2%2BYqFnroQKOdCNmqQPnR35ntdDy4%2BcZcYS0%3D&reserved=0)
* IHO Data Dictionary Register: [https://registry.iho.int/fc/list.do](https://eur01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fregistry.iho.int%2Ffc%2Flist.do&data=05%7C01%7CBRJ.Scherpenzeel%40portofrotterdam.com%7C8f3089f16e65476ddb3008db8eba7ce6%7C3045399847844b0ebdb0a8ba14eff494%7C0%7C0%7C638260703831744307%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=LTqNWNqr2%2BYqFnroQKOdCNmqQPnR35ntdDy4%2BcZcYS0%3D&reserved=0)
* IHO S-4: [https://iho.int/uploads/user/pubs/standards/s-4/S4\_V4-9-0\_March\_2021.pdf](https://eur01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fiho.int%2Fuploads%2Fuser%2Fpubs%2Fstandards%2Fs-4%2FS4_V4-9-0_March_2021.pdf&data=05%7C01%7CBRJ.Scherpenzeel%40portofrotterdam.com%7Cd367ea2393d84c999bd708dbb2c8d438%7C3045399847844b0ebdb0a8ba14eff494%7C0%7C0%7C638300348955556153%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=mCnj0SVvcuIViJ2u7PT7MzSbL7RLRfvkbNQbYclf7MA%3D&reserved=0)
* IHO S-32: <http://iho-ohi.net/S32/engView.php>
* IHO S-131: [https://registry.iho.int/productspec/view.do?idx=193&product\_ID=S-131&statusS=5&domainS=ALL&category=product\_ID&searchValue=](https://eur01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fregistry.iho.int%2Fproductspec%2Fview.do%3Fidx%3D193%26product_ID%3DS-131%26statusS%3D5%26domainS%3DALL%26category%3Dproduct_ID%26searchValue%3D&data=05%7C01%7CBRJ.Scherpenzeel%40portofrotterdam.com%7Cd367ea2393d84c999bd708dbb2c8d438%7C3045399847844b0ebdb0a8ba14eff494%7C0%7C0%7C638300348955556153%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=Du0KbJ43XhBokgQPeCwilfxOeCXzWFkx5kYKeyFE7mA%3D&reserved=0)

# 5 Standards - Terminals

## Terminal

IHO Concept Register: terminal

Definition: A terminal covers that area on shore which provides buildings and constructions for the transfer of cargo or passengers from and to ships

## Terminal Identifier

IHO S-131: Terminal::terminalIdentifier

Definition: The unique identifier for a given terminal

## Terminal Identifier – Global Location Number

IHO S-131: Terminal::globalLocationNumber

Definition: A globally unique, standardized identifier for parties and locations in business processes or supply chains

Format: ISO/IEC 6523; 13 digits in text format

Remark: for all terminals. Ideally assigned by the port authority so the number remains the same after change of ownership, aligned with IMO vessel number practices

## Terminal Identifier – Port Facility Number

IHO S-131: Terminal::port FaciltiyNumber

Definition: Number assigned to the port facility in the IMO port facility database

Format: UN/LOCODE and a 4-digit code separated with a dash

Remark: only for terminals with ISPS; code will change after change of ownership - check

## Terminal Identifier – UN Location Code

IHO S-131::Terminal::uNLocationCode – Proposal to IHO: UNLOCODE can be assigned to a city or port, but not to a terminal

Used to encode the UN Location Code

Format: UN/LOCODE

## Terminal Identifier – SMDG Code

IHO S-131: Terminal::sMDGCode

A code from the SMDG (ShipMessage DesignGroup) Terminal Code List

Format: UN/LOCODE + SMDG Code (Alphanumeric between 3 and 6 characters)

Remark: only for terminals handling container and/or ro-ro; code may change after change of ownership

## Terminal Identifier - Name

IHO S-131::Terminal::featureName

Definition: Terminal feature has attribute featureName to describe name of the Terminal

Format: text

Remark: for all terminals. Name will change after change of ownership

## Terminal Latitude/Longitude

IHO S-131::Terminal::Geometry

Definition: Terminal feature contains a Geometry object, which can hold the coordinates (latitude and longitude) for a point, or surface area

Format for information exchange: degrees and decimal minutes; datum WGS84

Format for data exchange: decimal degrees to a defined precision (minus to indicate South and West); datum WGS84

Remark: for all terminals; for points a centre of gravity is chosen

## Category Of Harbour Facility

IHO ConceptRegister: categoryOfHarbourFacility

Definition: Classification of harbour use

#### Bulk Terminal

IHO ConceptRegister: bulkTerminal

Definition: A terminal for the handling of bulk materials such as iron ore, coal, etc.

#### Container Terminal

IHO ConceptRegister: containerTerminal

Definition: A terminal with facilities to load/unload or store shipping containers

#### Ferry Terminal

IHO ConceptRegister: ferryTerminal

A terminal for passenger and vehicle ferries

#### Fishing Harobur

IHO ConceptRegister: fishingHarbour

Definition: A harbour with facilities for fishing boats

#### Naval Base

IHO ConceptRegister: navalBase

Definition: A centre of operations for naval vessels

#### Passenger Terminal

IHO ConceptRegister: passengerTerminal

A terminal for the loading and unloading of passengers

#### Pilotage Service

IHO ConceptRegister: pilotageService

Definition: The services of a person who directs the movements of a vessel through pilot water, usually a person who has demonstrated extensive knowledge of channels, aids to navigation, dangers to navigation etc, in a particular area and is licensed for that area, are available

#### Quarantine Station

IHO ConceptRegister: quarantineStation

A medical control center located in an isolated spot ashore where patients with contagious diseases from vessel in quarantine are taken

#### Ro Ro Terminal

IHO ConceptRegister: roRoTerminall

A terminal for roll-on roll-off ferrieswith facilities to load/unload or store shipping containers

#### Service Harbour

IHO ConceptRegister: serviceHarbour

Definition: A harbour within which the floating equipment )dredgers, tugs…) of harbour services are stationed

#### Service and Repair

IHO ConceptRegister: sserviceAndRepair

Definition: A place where mechanical services and repairs can be undertaken to engines or other vessel equipment

#### Ship Lift

IHO ConceptRegister: shipLift

Definition: A platfgorm powered by synchronous electric motors (for example syncrolift) used to lift vessels (lager than boats) in and out of the water

#### Shipyard

IHO ConceptRegister: shipyard

Definition: A place where ships are built or repaired

#### Straddle Carrier

IHO ConceptRegister: straddleCarrier

Definition: A wheeled vehicle designed to lift and carry container or vessels within its own framework. It is used for moving, and sometimes stacking, shipping containers and vessels

#### Tanker Terminal

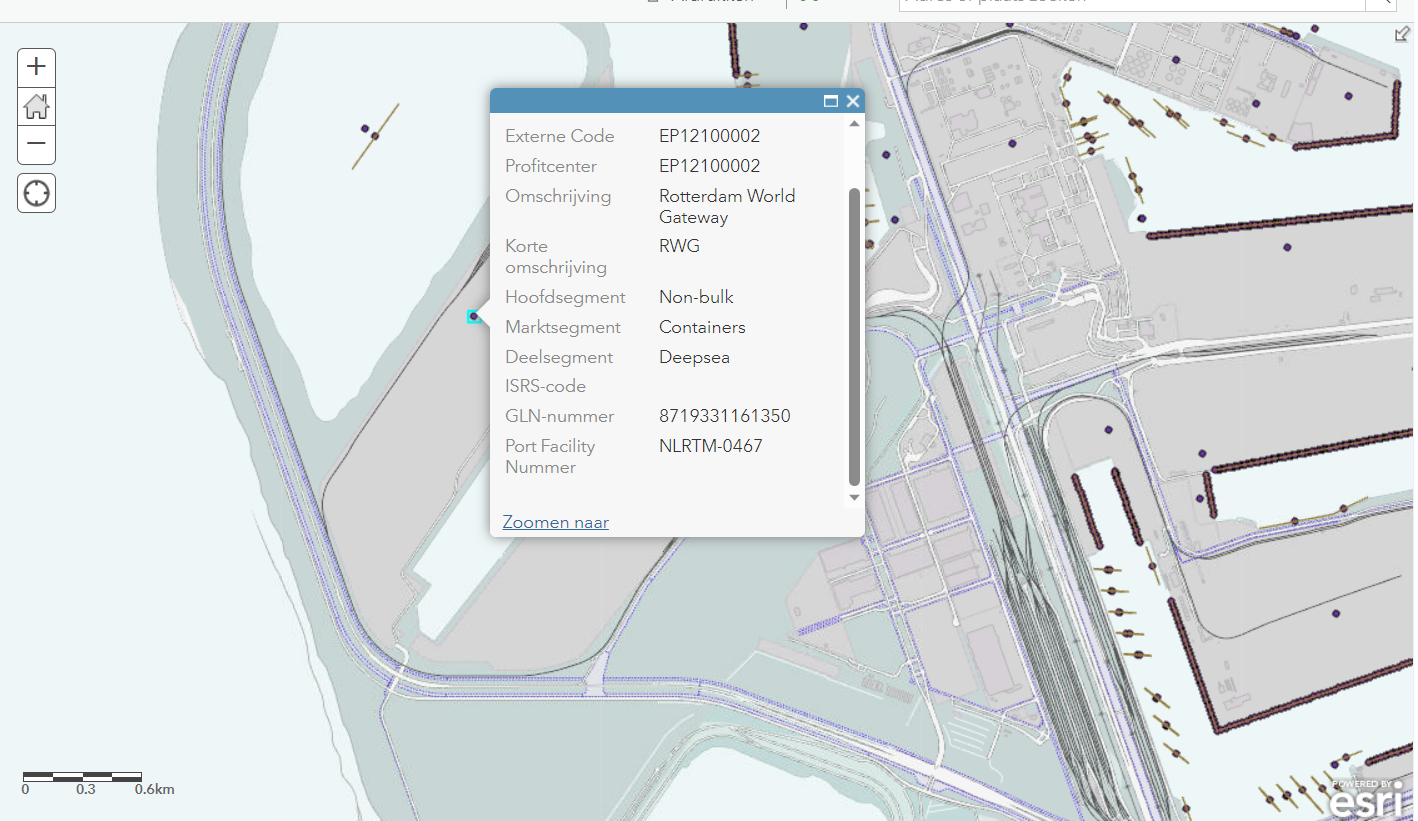
IHO ConceptRegister: tankerTerminal

A terminal for the bulk handling of liquid cargoes

#### Yacht Harbour / Marina

IHO ConceptRegister: yachtHarbourMarina

Definition: A harbour facility for small boats, yachts, etc. where supplies, repairs and various services are available



# 6 Standards - Berths

## Berth

IHO Concept Register: berth

Definition: A place, generally named or numbered, where a vessel may moor or anchor

## Berth Identifier

IHO S-131::Berth::berthIdentifier Proposal to IHO

Definition: The unique identifier for a given berth

## Berth Identifier – Global Location Number

IHO S-131: Berth::globalLocationNumber Proposal to IHO

Definition: A globally unique, standardized identifier for parties and locations in business processes or supply chains

Format: ISO/IEC 6523; 13 digits in text format

Remark: for all terminals, already used in the supply chain industry, ISO/IEC 6523. Ideally assigned by the port authority so the number remains the same after change of ownership, aligned with IMO vessel number practices

## Berth Identifier - Name

IHO S-131::Berth::featureName Proposal to IHO

Definition: Berth feature has attribute featureName to describe name of the Berth

Format: text.

Remark: for all berths. Name will change after change of ownership. Possibly combined with name of terminal name for better human recognition

## Berth Latitude/Longitude

IHO S-131::Berth::Geometry Proposal to IHO

Definition: Berth feature contains a Geometry object, which can hold the coordinates (latitude and longitude) for a point, surface (=polygon) or curve (=line).

Format for information exchange: degrees and decimal minutes; datum WGS84

Format for data exchange: decimal degrees to a defined precision (minus to indicate South and West); datum WGS84

Remark:

* Fender Berth: curve (=line). The berth’s extent is between its two extremities measured in a straight line, indicated by A and B, orientation is not important. The line represents the fender line, being the position of the ship’s side when alongside.
* Multi Buoy Mooring (MBM) Berth: surface (=polygon). The berth’s extent is between the positions of the mooring buoys (this should also allow for the length of mooring lines)
* Anchor Berth: check with IHO

## Berth Types

IHO S-131::Berth::featureType Proposal to IHO

#### Fender Berth

IHO ConceptRegister: fenderBerth

Definition: A designated physical location of berth infrastructure where a vessel may moor, defined by the fender line, which is the position of the vessel when moored

#### Multi Buoy Mooring (MBM) Berth

IHO ConceptRegister: multiBouyMooringBerth

Definition: A designated facility where a vessel may moor, usually by a combination of the mooring buoys and the ship’s anchors

#### Anchor Berth

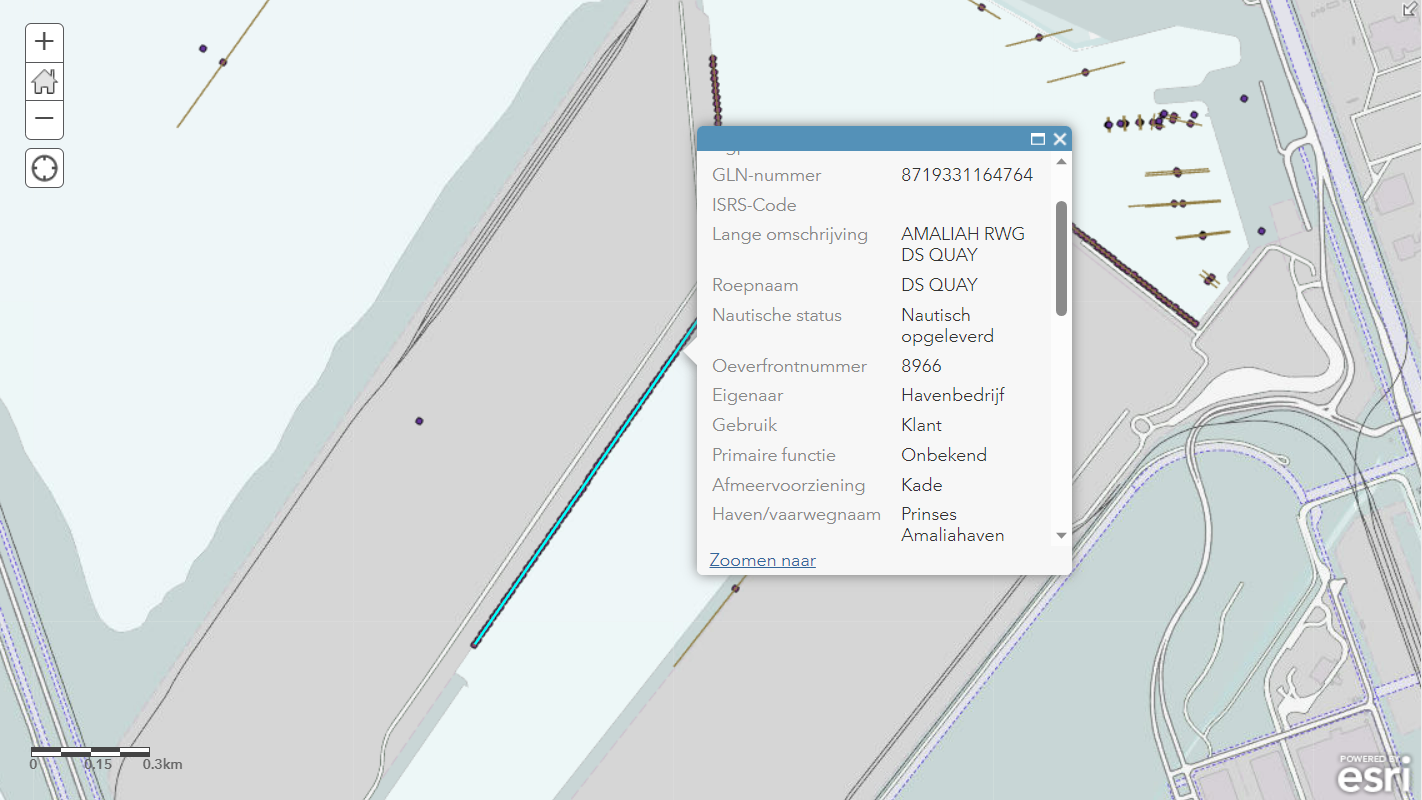
IHO ConceptRegister: anchorBerth

Definition: A designated area of water where a vessel, sea plane, etc., may anchor

#### Fender berth types

IHO S-4: 321.1, 321.2, 324.3

* Quay, Wharf
* Pier, Jetty
* Promenade pier
* Pontoon



# 7 Standards – Berth Positions

## Berth Position

IHO Concept Register: berthPosition

Definition: A specific position within a berth where a vessel may be moored or anchored

## Berth Position Identifier

IHO S-131::Berth Position::berthPositionIdentifier Proposal to IHO

Definition: The unique identifier for a given berth position

## Berth Position Identifier - Global Location Number

IHO S-131: BerthPosition::globalLocationNumber Proposal to IHO

Definition: A globally unique, standardized identifier for parties and locations in business processes or supply chains

Format: ISO/IEC 6523; 13 digits in text format plus extension (for the Berth Position name or number) separated with a dash

Remark: for all terminals, already used in the supply chain industry, ISO/IEC 6523. Ideally assigned by the port authority so the number remains the same after change of ownership, aligned with IMO vessel number practices

## Berth Position Identifier - Name

IHO S-131::BerthPosition::featureName Proposal to IHO

Definition: Berth Position feature has attribute featureName to describe name of the Berth Position

Format: text

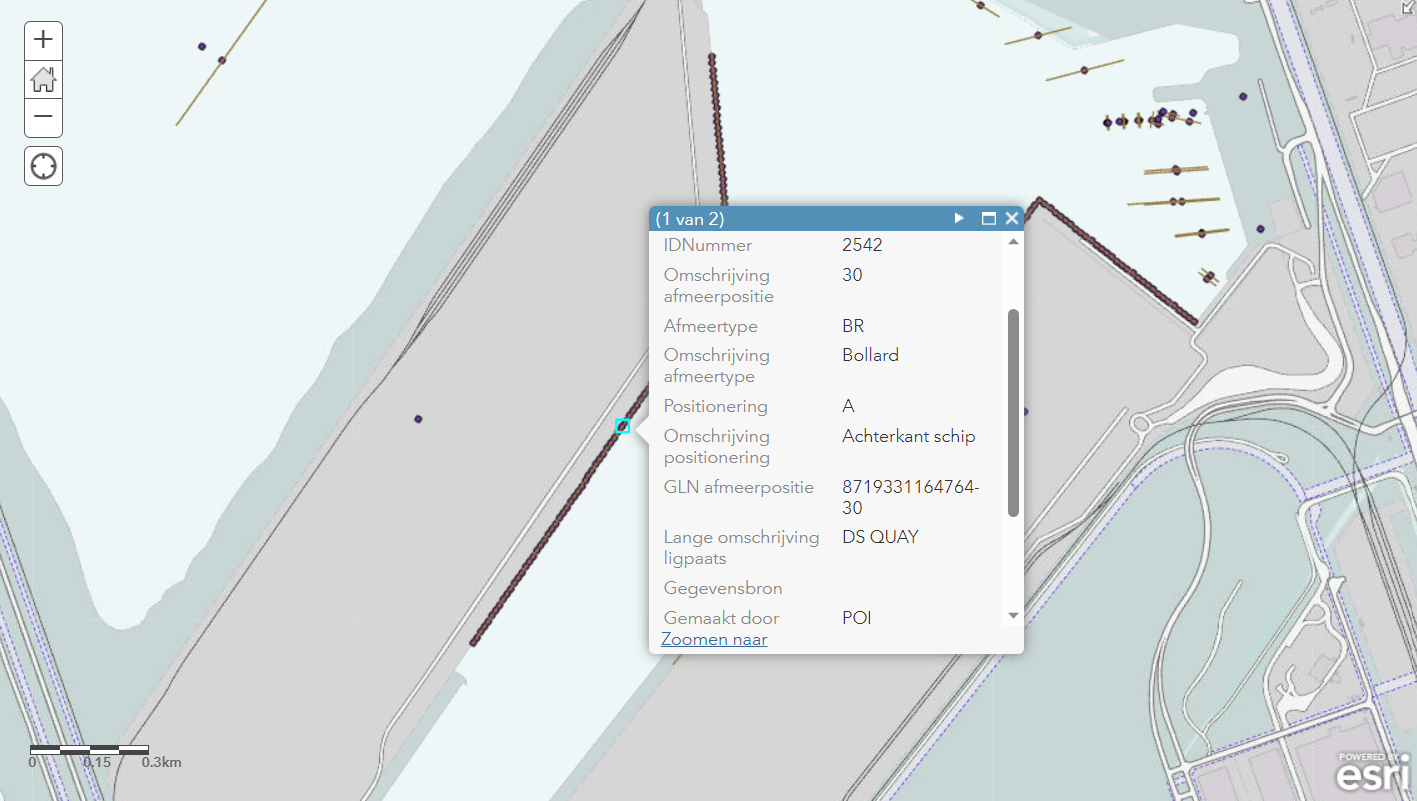
## Berth Position Latitude/Longitude

IHO S-131::Berth::Geometry Proposal to IHO

Definition: Berth Position feature contains a Geometry object, which can hold the coordinates (latitude and longitude) for a point

Format for information exchange: degrees and decimal minutes; datum WGS84

Format for data exchange: decimal degrees to a defined precision (minus to indicate South and West), datum WGS84



# 8 Standards – For berth approaches and berths

## General

For the publication of depths by local Port Authorities the same Chart Datum should be used as in the Nautical Charts and Publications as published by the Hydrographic Office

## Seabed Area

IHO ConceptRegister: seabedArea

Definition: A region of the seabed including the material of which it is composed and its physical characteristics. Also called nature of the bottom, character (or characteristics) of the bottom, or quality of the bottom

## Nature of Seabed

IHO S-4: 423-427

* Sand
* Mud
* Clay
* Silt
* Stones
* Gravel
* Pebbles
* Cobbles
* Rock, Rocky

## Observed Depth

IHO ConceptRegister: observedDepth

Definition: The vertical distance from the sea surface to the sea floor, at any state of the tide, based on S-44 measurements

## Margin To Cater For Uncertainties of Observed Depth Accuracy

IHO ConceptRegister: marginToCaterForUncertaintiesOfObservedDepth Accuracy

Definition: Margin to cater for uncertainties of the charted water depth. This margin considers uncertainties of tidal height in tidal areas, or height with respect to the surface of still water in non-tidal areas, comprising tidal height during transit and maneuvering accuracy, sounding or dredging execution accuracy, and siltation of soundings

Format: decimal meters

## Sounding

IHO Data Dictionary Register: 594

Definition: Measured or charted depths of water (maybe a drying height) or the measurement of such depth, which has been reduced to a vertical datum

Remark: IHO resolution specifies that soundings should be taken according S-44 standards

## Maintainted Depth

IHO ConceptRegister: maintainedDepth Proposal to IHO “body of water” instead of “channel”

Definition: The depth at which a channel is kept by human influence, usually by dredging

## Overdredge

Nautical Publication 100 (NP100) Mariners Handbook Proposal to IHO: submit definition?

Definition: An additional depth margin provided by a dredging operation to ensure that the depth at a specific location is never less than the pre-determined maintained depth over the interval between programmed dredging operations

## Height of Tide

IHO ConceptRegister: heightOfTide

Definition: The vertical distance from the chart datum to the level of the water at any time

## Draft (or Draught)

IHO ConceptRegister: draftOrDraught

Definition: The vertical distance, at any section of a vessel from the surface of the water to the bottom of the keel. When measured at or near the bow, it is referred to as draft forwards and when measured at or near the stern as draft aft. The mean draft is the mean of the drafts forward and aft. These drafts are more specifically described as displacement drafts as opposed to navigation drafts which are measured to the lowest appendage to the hull as opposed to the keel

Format: decimal metres to a defined water density measured in kg/m3

## Underkeel Clearance

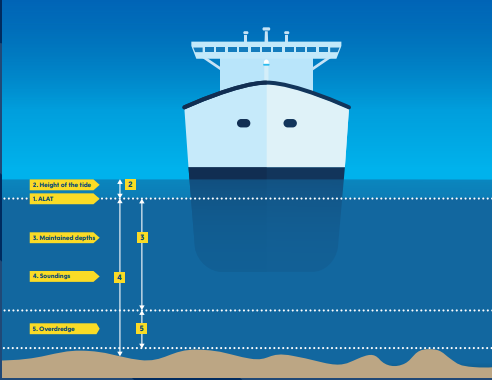
IHO ConceptRegister: underkeelClearance

Definition: The distance (usually a required minimum distance) between the lowest point of a ship’s hull and the sea bed

Format: decimal meters

## Density

IHO ConceptRegister: density

Definition: Density is equivalent to specific gravity and represents the ratio, at atmospheric pressure, of the weight of a given volume of sea water to that of an equal volume of distilled water at 4 degrees Celsius

## Maximum Draught

IHO ConceptRegister: maximumDraught

Definition: The maximum vessel draught in meters, used as basis for the calculation

Format: decimal metres to a defined water density measured in kg/m3

Proposal to IHO: “used as basis for the calculation *of UKC*”

## Maximum Permitted Draught

IHO ConceptRegister: maximumPermittedDraught

Definition: The maximum draught of a vessel permitted along a route, in a channel or dock, at a berth, or over a submerged feature

Format: decimal metres to a defined water density measured in kg/m3

Proposal to IHO: separate definitions Maximum Permitted Draught with and without the use of tide

## Maximal Permitted Length

IHO ConceptRegister: maximalPermittedLength

Definition: The maximal permitted length of a vessel or convoy according to the particular article / clause of the applicable law/regulation

## Maximal Permitted Beam

IHO ConceptRegister: maximalPermittedBeam

Definition: The maximal permitted beam (width of ship’s hull) of a vessel or convoy according to the particular article / clause of the applicable law/regulation

## Route Info Air Draft Max

IHO ConceptRegister: routeInfoAirDraftMax

Definition: Maximum vessel air draft for which the route information is applicable

Proposal to IHO: can we align the naming of definition with “Controlling depth”- so “Controlling Air Draft” : the least height in the approach or channel to an area, such as a port or anchorage, governing the maximum air draught of vessels that can enter”

# 9 Standards – For berth approaches

## Controlling depth

IHO ConceptRegister: controllingDepth

Definition: The least depth in the approach or channel to an area, such as a port or anchorage, governing the maximum draft of vessels that can enter

Format: decimal metres

Remark: controlling depth is described in S-4, for use on nautical charts. As such it would normally be given related to a given Chart Datum , and considered as any depth indication on the nautical chart

## Dynamic Draught

IHO ConceptRegister: dynamicDraught

Definition: The vertical distance from the bottom of the keel to the water line when the vessel is making way or subject to sea and swell influences.

Format: decimal metres to a defined water density measured in kg/m3

## Margin to Cater for Uncertainties of Dynamic Draught Accuracy

IHO ConceptRegister: marginToCaterForUncertaintiesOfDynamicDraughtAccuracy

Definition: Margin to cater for uncertainties in a vessel’s reported dynamic draught, or draught reading

Format: decimal metres

## Dynamic Under Keel Clearance (UKC)

IHO ConceptRegister: dynamicUnderKeelClearance

Definition: The under keel clearance when a vessel has a dynamic draught

Format: decimal metres

# 10 Standards – For berths

## Berth Pocket

IHO ConceptRegiser: berthPocket

Definition: A body of water at a berth or anchor berth, of adequate dimensions to allow a vessel to make fast to the shore, mooring buoy, berthing dolphins or to anchor

Remark: Check with IHO: “berthing dolphins” not aligned with definitions in OCIMF Mooring Equipment Guidelines, should be “mooring dolphins”

## Minimum Berth Depth

IHO ConceptRegister: minimumBerthDepth

Definition: The least depth of the body of water at the berth or in a berth pocket adjacent to the berth

Format: decimal metres

## Static Draught

IHO ConcreptRegister: staticDraught

Definition: The vertical distance from the bottom of the keel to the water line when the vessel is not making way or subject to sea and swell influences

Format: decimal metres to a defined water density measured in kg/m3

## Margin to Cater for Uncertainties of Static Draught Accuracy

IHO ConceptRegister: marginToCaterForUncertaintiesOfStaticDraughtAccuracy

Definition: Margin to cater for uncertainties in a vessel’s reported static draught, or draught reading

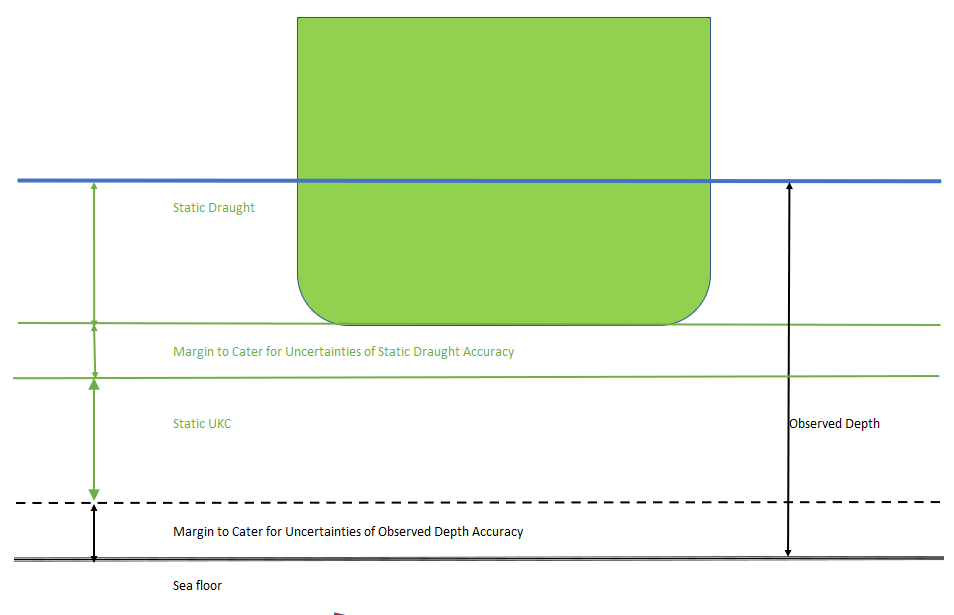
Format: decimal metres

## Static Under Keel Clearance (UKC)

IHO ConceptRegister: staticUnderKeelClearance

Definition: The under keel clearance when a vessel has a static draught

Format: decimal meteres



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