

S M D G

SMDG Terminal Code List (TCL)

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SMDG#78 Antwerp, 22-26 April 2024



Introduction



- Why SMDG Terminal Codes

- The SMDG is officially endorsed by UN/CEFACT as Child Code List Agency
- SMDG Terminal Codes are child codes (extensions) of UN/LOCODE
- Used by various players in the maritime industry (carriers, terminals, DCSA, etc.)
- Suitable for various electronic formats and technologies (EDIFACT, ANSI X.12, XML, API, data streaming, ...)

Introduction



- Scope of the SMDG Terminal Code List (TCL)

- Contains codes for **container handling terminal facilities** that are called by **seagoing cargo vessels**
- Contains codes for the facilities of a terminal, not for individual berths at the pier
- Does not cover inland terminals and depots (these are handled by BIC, which is also a child code agency of UN/CEFACT)
- River terminals may be included on a case-by-case basis

| Date | Terminals | Ports | Countries | With website | With address |
|----------|---------------|--------------|--------------|--------------|--------------|
| Sep 2019 | 891 | 439 | 106 | (14.7%) 131 | (5.1%) 45 |
| Jan 2021 | (-5.1%) 846 | (+1.4%) 445 | (+5.7%) 112 | (83.2%) 704 | (47.0%) 398 |
| May 2022 | (+23.2%) 1042 | (+31.0%) 583 | (+13.2%) 137 | (89.9%) 937 | (63.8%) 665 |
| Apr 2023 | (+4.1%) 1085 | (+5.1%) 613 | (+4.4%) 143 | (95.3%) 1034 | (81.2%) 881 |
| Apr 2024 | (+2.7%) 1114 | (+3.4%) 634 | (+0.7%) 144 | (96.5%) 1075 | (82.2%) 916 |

Terminal Codes in EDIFACT messages



- Problem: The port UN/LOCODE on its own only identifies the port, but not the terminal
- Solution: Use SMDG Terminal Codes
- Useful in BAPLIE (bayplan), COxxx (container messages), IFTSAI (vessel schedule), MOVINS (stowage instructions), ...

| S M D G | | SMDG Terminal Code List (TCL) | | | | |
|--|----------------------|--|--|--|----------------|-----------------|
| | | v20240419 | | | | |
| www.smdg.org | | Click here to view the SMDG Terminal Facilities on the world map | | | | |
| UNLOCODE | Alternative UNLOCODE | Terminal Code | Terminal Facility Name | Terminal Company Name | Latitude (DMS) | Longitude (DMS) |
| BEANR | | ACOT | ANTWERP CONTAINER TERMINAL (K730) | SEA-INVEST ANTWERP CONTAINER TERMINAL (ACOT) | N 51°19'27" | E 004°20'47" |
| BEANR | | AET | ANTWERP EUROTERRMINAL (K1329-K1347) | ANTWERP EUROTERRMINAL NV | N 51°16'38" | E 004°12'57" |
| BEANR | | 1700 | ANTWERP GATEWAY TERMINAL (K1700-K1710) | DP WORLD (ANTWERP) | N 51°17'31" | E 004°15'56" |
| BEANR | | K400 | ASSOCIATED TERMINAL OPERATORS (K400) | ASSOCIATED TERMINAL OPERATORS (ATO) | N 51°16'41" | E 004°21'06" |
| BEANR | | BNFW | BELGIAN NEW FRUIT WHARF (K184-K238) | SEA-INVEST FRUIT AND FOOD DIVISION | N 51°15'42" | E 004°22'42" |
| BEANR | | K420 | CHURCHILL TERMINAL (K416-K430) | NOVA NATIE NV | N 51°16'44" | E 004°21'55" |
| BEANR | | K524 | EUROPORTS CONTAINERS (K524) | EUROPORTS CONTAINERS Q524 NV | N 51°17'57" | E 004°19'57" |
| BEANR | | K1718 | MPET DEURGANCK DOCK EAST (K1718) | MSC PSA EUROPEAN TERMINAL | N 51°17'00" | E 004°15'22" |
| BEANR | | K1742 | MPET DEURGANCK DOCK WEST (K1742) | MSC PSA EUROPEAN TERMINAL | N 51°17'34" | E 004°15'27" |
| BEANR | | K869 | PSA EUROPA TERMINAL (K869) | PSA ANTWERP | N 51°20'18" | E 004°16'34" |
| BEANR | | K913 | PSA NOORDZEE TERMINAL (K913) | PSA ANTWERP | N 51°21'03" | E 004°15'55" |

Terminal Codes in EDIFACT messages



- SMDG Terminal Codes are typically used in LOC segments
- Example: Port of loading (9) in Antwerp (BEANR) at PSA Nordzee Terminal (K913)

LOC+9+BEANR+K913:TER:306' (D.95B)

LOC+9+BEANR+K913:TERMINALS:306' (D.00B and later)

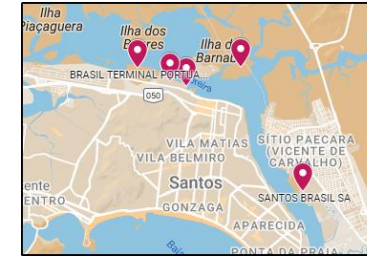
- Element C517.3225 contains the port UN/LOCODE
- Element C519.3223 contains the Terminal Code
- Code 306 in element C519.3055 stands for SMDG
- The usage of SMDG-related codes in elements 1131 and 3055 is explained in [SMDG Recommendation #07](#) (always use codes from the latest published version of a code list)

| LOC PLACE/LOCATION IDENTIFICATION | | | | |
|---|------|-------------------------------------|---|---------|
| Function: To identify a place or a location and/or related locations. | | | | |
| 010 | 3227 | LOCATION FUNCTION CODE QUALIFIER | M | 1 an..3 |
| 020 | C517 | LOCATION IDENTIFICATION | C | 1 |
| | 3225 | Location name code | C | an..25 |
| | 1131 | Code list identification code | C | an..17 |
| | 3055 | Code list responsible agency code | C | an..3 |
| | 3224 | Location name | C | an..256 |
| 030 | C519 | RELATED LOCATION ONE IDENTIFICATION | C | 1 |
| | 3223 | First related location name code | C | an..25 |
| | 1131 | Code list identification code | C | an..17 |
| | 3055 | Code list responsible agency code | C | an..3 |
| | 3222 | First related location name | C | an..70 |
| 040 | C553 | RELATED LOCATION TWO IDENTIFICATION | C | 1 |
| | 3233 | Second related location name code | C | an..25 |
| | 1131 | Code list identification code | C | an..17 |
| | 3055 | Code list responsible agency code | C | an..3 |
| | 3232 | Second related location name | C | an..70 |
| 050 | 5479 | RELATION CODE | C | 1 an..3 |

COPRAR load example



SAN MARCO MAERSK
4175



| | | |
|--------------------|---|---|
| | UNB+UNOC:3+MSC+PSAANR+240421:1415+100' | Sender MSC, receiver PSA Antwerp |
| | UNH+201+COPRAR:D:00B:UN:SMDG21' | |
| | BGM+121:::LOAD ORDER+1000078533+9' | Load order (121) |
| | DTM+137:202404211415:203' | Message date/time |
| Main voyage | TDT+20+4175+1++MSK:LINE:306+++9622215:146:11:SAN MARCO MAERSK:DK' | Main voyage SAN MARCO MAERSK 415S (BEANR-BRSSZ) |
| | LOC+9+BEANR:::ANTWERP+K913:TERMINALS:306:PSA NOORDZEE TERMINAL' | Main voyage POL BEANR, PSA Nordzee Term. (SMDG code K913) |
| | DTM+133:202404211030:203' | Main voyage ETD |
| | NAD+CA+MSK:LINE:306' | Carrier MSK (Maersk) |
| Container | EQD+CN+MSCU1234567+45G1:102:5+2+2+5' | Container is carrier supplied (2), exported (2), full (5) |
| | RFF+BN:4HEL012345' | Booking number |
| | TMD+3++1' | FCL/FCL (3), carrier haulage (1) |
| | LOC+11+BRSSZ:::SANTOS+SSA:TERMINALS:306:SANTOS BRASIL SA' | Container POD BRSSZ, Santos Brasil SA (SMDG code SSA) |
| | MEA+AAE+VGM+KGM:23178' | VGM weight |
| | SEL+SEAL-1234567890+CA' | Seal number |
| | NAD+CF+MSC:LINE:306' | Container operator MSC |
| | CNT+16:1' | |
| | UNT+16+201' | |
| | UNZ+1+100' | |

Terminal Codes and UN/LOCODEs



- A SMDG Terminal Code on its own is not unique
- It is meaningful only in conjunction with its corresponding UN/LOCODE
- Example: 4 terminals with the code “HCT”
 - LOC+9+GBHUL+HCT: TERMINALS:306:HULL CONTAINER TERMINAL '
 - LOC+9+ILASH+HCT: TERMINALS:306:HADAROM CONTAINER TERMINAL '
 - LOC+9+NOHAU+HCT: TERMINALS:306:HAUGESUND CONTAINER TERMINALS HUSOY '
 - LOC+9+QAHMD+HCT: TERMINALS:306:HAMAD CONTAINER TERMINAL (HCT) '

| S M D G | | SMDG Terminal Code List (TCL) | | | | |
|--|-----------------------|--|-------------------------------------|--------------------------------------|----------------|-----------------|
| | | v20230413 | | | | |
| www.smdg.org | | Click here to view the SMDG Terminal Facilities on the world map | | | | |
| UNLOCODE | Alternative UNLOCODEs | Terminal Code | Terminal Facility Name | Terminal Company Name | Latitude (DMS) | Longitude (DMS) |
| GBHUL | | HCT | HULL CONTAINER TERMINAL | ASSOCIATED BRITISH PORTS | N 53°44'20" | W 000°15'47" |
| ILASH | | HCT | HADAROM CONTAINER TERMINAL | TERMINAL INVESTMENT LTD. (TIL) / MSC | N 31°50'36" | E 034°38'50" |
| NOHAU | | HCT | HAUGESUND CONTAINER TERMINALS HUSOY | HAUGESUND STEVEDORING AS | N 59°20'20" | E 005°18'38" |
| QAHMD | | HCT | HAMAD CONTAINER TERMINAL (HCT) | MWANI QATAR | N 25°02'22" | E 051°36'02" |

Terminal Codes and UN/LOCODEs



- Use of UN/LOCODE clarified in [UN/ECE Recommendation 16](#) (Rev. 4, 2020 ed.)
 - UN/LOCODEs are assigned to cities, towns, etc.

“UN/LOCODE identifies an administrative or economic area, relevant to international trade and transport, as defined by the competent national authority in each country. These areas are understood in the sense of a city, a town, etc.”
 - UN/LOCODEs should not be assigned to container terminals (function of a location)

“A location with several functions should only have one UN/LOCODE code assigned. Any subset of a location such as airports, rail stations or container terminals should be identified with the appropriate function; a separate UN/LOCODE should not be assigned”
 - SMDG Terminal Codes are UN/LOCODE child codes

“Facilities which deliver services in a location identified with a UN/LOCODE can be identified by a code different from the UN/LOCODE, which is considered as a child code of the UN/LOCODE.”

Terminal Codes and UN/LOCODEs



- Only UN/LOCODEs that are ports may be used in the TCL
- These are UN/LOCODEs with the function 1 (=port)

United Nations
Code for Trade and Transport Locations (UN/LOCODE)

(CN) CHINA

| Ch | LOCODE | Name | NameWoDiacritics | SubDiv | Function | Status | Date |
|----|--------|-------------------------------------|-------------------------------------|--------|----------|--------|------|
| | CN SGH | Shanghai | Shanghai | SH | 12345--- | AS | 1401 |
| | CN SHA | Shanghai Hongqiao International Apt | Shanghai Hongqiao International Apt | SH | ---4--- | AS | 1601 |
| | CN SHG | Shanghai Pt | Shanghai Pt | SH | 1----- | AS | 1601 |
| | CN PVG | Shanghai Pudong International Apt | Shanghai Pudong International Apt | SH | ---4--- | AS | 1401 |
| | CN SHZ | Shanghai Railway Station | Shanghai Railway Station | SH | -23----- | AS | 1601 |

1.6 Column "Function"

This column contains a 8-digit function classifier code for the location, where:

| | |
|---|--|
| 0 | A value "0" in the first position specifies that the functional use of a location is not known and is to be specified. |
| 1 | Specifies that the location is a Port, as defined in UN/ECE Recommendation 16. |
| 2 | Specifies that the location is a Rail terminal. |
| 3 | Specifies that the location is a Road terminal. |
| 4 | Specifies that the location is an Airport. |
| 5 | Specifies that the location is a Postal exchange office. |
| 6 | Value reserved for multimodal functions, ICDs etc. |
| 7 | Value reserved for fixed transport functions (e.g. oil platform). |
| B | Specifies that the location is Border crossing. |

Terminal Codes and UN/LOCODEs



- Example: both LOC+9 refer to the same terminal Shanghai East Cont. Term.

LOC+9+CNSGH+SECT:TERMINALS:306' (main/primary)

LOC+9+CNSHG+SECT:TERMINALS:306' (secondary/alternative)

| SMDG | | | | SMDG Terminal Code List (TCL) | | |
|--|-----------------------|--|---|---|----------------|-----------------|
| v20230413 | | | | | | |
| www.smdg.org | | Click here to view the SMDG Terminal Facilities on the world map | | | | |
| UNLOCODE | Alternative UNLOCODEs | Terminal Code | Terminal Facility Name | Terminal Company Name | Latitude (DMS) | Longitude (DMS) |
| CNSGH | CNSHG | SECT | SHANGHAI EAST CONTAINER TERMINAL | SHANGHAI EAST CONTAINER TERMINALS CO., LTD. | N 31°20'21" | E 121°39'02" |
| CNSGH | CNSHG | SGICT | SHANGHAI GUANDONG INTERNATIONAL CONTAINER TERMINAL | SHANGHAI GUANDONG INTERNATIONAL CONTAINER TERMINAL CO., LTD. | N 30°36'48" | E 122°04'30" |
| CNSGH | CNSHG | SMCT | SHANGHAI MINGDONG CONTAINER TERMINAL | SHANGHAI MINGDONG CONTAINER TERMINALS CO., LTD. | N 31°19'48" | E 121°40'07" |
| CNSGH | CNSHG | SPICT | SHANGHAI PUDONG INTERNATIONAL CONTAINER TERMINAL | SHANGHAI PUDONG INTERNATIONAL CONTAINER TERMINALS CO., LTD. | N 31°22'06" | E 121°35'35" |
| CNSGH | CNSHG | SHENG | SHANGHAI SHENGDONG INTERNATIONAL CONTAINER TERMINAL | SHANGHAI SHENGDONG INTERNATIONAL CONTAINER TERMINAL CO., LTD. | N 30°37'57" | E 122°02'52" |
| CNSGH | CNSHG | SIPGSD | SIPG SHANGDONG CONTAINER TERMINAL | SHANGHAI INTERNATIONAL PORT (GROUP) CO., LTD. SHANGDONG CONTAINER TERMINAL BRANCH | N 30°39'10" | E 122°01'28" |
| CNSGH | CNSHG | WAIG | SIPG ZHENDONG CONTAINER TERMINAL | SHANGHAI INTERNATIONAL PORT (GROUP) CO., LTD. ZHENDONG CONTAINER TERMINAL BRANCH | N 31°22'30" | E 121°34'46" |

Alternative UN/LOCODEs



- A second, alternative UN/LOCODE may be assigned when
 1. A UN/LOCODE exists for the city and another for the port.
Example Shanghai: CNSGH for the city and alternative code CNSHG for the port.
 2. A terminal is located in a small town, located close to a metropolis.
Example New York: USNYC for the metropolis and alternative codes USEWR and USUYU for the small towns.
 3. A UN/LOCODE exists for the city and another for the terminal.
Example Istanbul: TRIST for the city and alternative codes TRKMX, TRMAD, TRMPT for the terminals.
Deprecated. UN/LOCODEs will no longer be assigned to terminals, see UN/ECE Recommendation 16
- Recommend to use the primary UN/LOCODE

Publication of the TCL



- Download latest version as Excel at <https://smdg.org/documents/smdg-code-lists/smdg-terminal-code-list/>
- View on Google Maps, [click here to view the map](#)



SMDG on GitHub



- TCL available at <https://github.com/smdg-org/Terminal-Code-List>

A screenshot of the GitHub repository page for 'smdg-org / Terminal-Code-List'. The page shows the repository name, navigation tabs for Code, Issues (1), Pull requests, Actions, Projects, Security, and Insights. The main content area displays the commit history for the 'master' branch, with the most recent commit by 'marklim1' titled 'SMDG Terminal Code List 2024-04-19' at 7a24e1d, 13 hours ago, with 43 commits. Below the commit history is the README section, which includes the title 'Terminal-Code-List', a description of the latest version, and details about the SMDG Terminal Code List (TCL) and its recognition by the UN/CEFACT. The right sidebar shows repository statistics: 7 stars, 0 watching, 0 forks, and 0 releases published. Contributors listed include marklim1, smdgorg Admin, cmsdroff, and MarkLimHSD.

Joint API for BIC/SMDG facilities



- BIC developed an API that provides BIC and SMDG facility details
- Maintained by BIC, see <https://www.bic-code.org/api-information-page/>

A screenshot of the SwaggerHub interface for the 'Facility-Codes' API version 1.1.0. The interface is divided into three main sections: 'Info', 'Tags', and 'Servers'. The 'Info' section is active and displays the following details:

```
1 openapi: 3.0.1
2 info:
3   title: Facility Codes
4   description: >-
5     A common API to provide the details of a facility used in International
6     trade comprising of the BIC Container Facilities and SMDG Terminal Codes,
7     these codes are managed under the ownership of each organisation
8     independently but provided under a single API to industry. Bureau
9     International des Containers (BIC) are responsible for providing the inland
10    container facilities within a country, or location. SMDG are responsible for
11    providing the terminals that container vessels call at within a country or
12    location. Both codes are an extension of the UN/LOCODE designed to give
13    granularity of facilities contained within the area identified by the
14    UN/LOCODE. Both the BIC Facility Codes and the SMDG Terminal Codes are child codes of the UN
15    /LOCODE. For further information and to request an API key visit the terms of service website
16    for details.
17  termsOfService: https://www.bic-code.org/api-terms-of-use/
18  version: 1.1.0
19  contact:
20    name: BIC API Support
21    email: bic@bic-code.org
22    url: https://www.bic-code.org/bic-facility-codes/
```

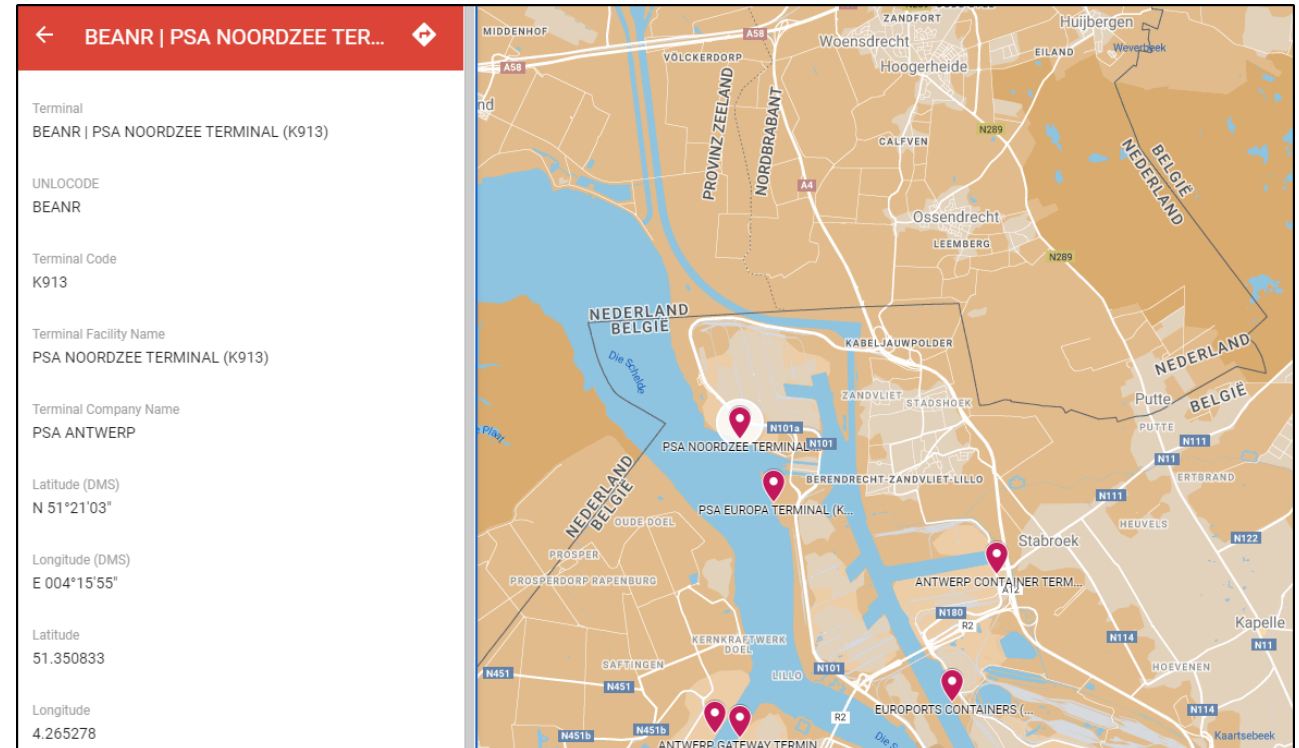
The 'Servers' section shows a 'default' server with several endpoints:

- GET /facilities/byCountry/{countryCode}/{codeProvider}
- GET /facilities/byName/{countryCode}
- POST /facilities
- GET /facilities/byLocation/{unLocode}/{codeProvider}
- GET /facilities/{code}
- GET /facilities/inGeofence/{latitude}/{longitude}/{container_number}

Joint API for BIC/SMDG facilities



```
{
  "code": "BEANRK913",
  "codeProvider": "SMDG",
  "unLocode": "BEANR",
  "countryCode": "BE",
  "operator": {
    "name": "PSA ANTWERP"
  },
  "codeListProviderCode": "K913",
  "alternativeUnLocode": "",
  "remarks": "K901-K913",
  "aliasCode": "",
  "facility": {
    "geographicalCoordinate": {
      "latitude": "51.350833",
      "longitude": "4.265278"
    },
    "name": "PSA NOORDZEE TERMINAL (K913)",
    "address": {
      "street": "",
      "city": "Antwerpen",
      "state": "",
      "postcode": "",
      "country": "Belgium"
    }
  },
  "formattedAddress": "Scheldelaan 601, Haven 901-913, 2040 Antwerp, Belgium"
}
```



BIC geofencing project



- Ongoing BIC project to geofence BIC and SMDG facilities
- See <https://www.bic-code.org/facility-codes/the-global-container-geofence-library/>

Global Container Geofence Library - Review Tool

Apply for Permissions Logout

Registered Facility Code:
BEANRK913

FACILITY
PSA NOORDZEE TERMINAL (K913)

CODE PROVIDER
SMDG

ADDRESS
Antwerpen
Belgium

OPERATOR
PSA ANTWERP

GEOFENCE METADATA
Approval
Review Panel
Remarks
<httpswebapps.portofantwerpbruges.comarogis-portalappswebappviewerindex.htmlid35b2a783a9d944f2bb007176e3afa3ebcenter147000,221000,31370scal>
Version
March 22, 2024

{ } Copy geofence

Handling of Canals/Straits



- Request from carriers to add codes for Canals/Straits (both ends)
 - Canals (man-made): Kiel, Panama, Suez, ...
 - Straits (natural): Bosphorus, Canakkale, Dardanelles, Gibraltar, Magellan, ...
 - Other waterways and „waypoints“?
- Use cases
 - Vessel schedules
 - Geofencing for IoT devices
 - Routing/Distances design and accuracy
 - ...

Handling of Canals/Straits



- Some UN/LOCODEs already have been assigned to canals/straits
 - They violate UN/ECE Recommendation 16
 - Cannot be used for SMDG Terminal Codes as per current definition
 - Assigned function(s) inconsistent/incorrect (1, 3, 6)
 - New UN/LOCODEs for canals/straits should not be approved at this point

| Ch | LOCODE | Name | NameWoDiacritics | SubDiv | Function | Status | Date | IATA | Coordinates | Remarks |
|----|--------|--------------|------------------|--------|----------|--------|------|------|--------------|---------|
| DE | CKL | Kiel Canal | Kiel Canal | SH | 1----6-- | RL | 2101 | | 5353N 00908E | |
| EG | SCN | Suez Canal | Suez Canal | | -----6-- | AA | 2301 | | 4218N 03220E | |
| PA | PCN | Panama Canal | Panama Canal | 8 | --3----- | RQ | 1207 | | 0904N 07940W | |
| TR | DAN | Dardanelles | Dardanelles | | --3----- | RL | 1407 | | 4012N 02624E | |

- Add a new function to accommodate canals/straits/...?
- Other considerations
 - What are the coordinates?
 - Where do canals/straits begin and end?
 - What area to geofence?
 - ...

Handling of Canals/Straits



- Potential conflict with country code assignments
 - Straits of Gibraltar: ES or MA?
 - Strait of Magellan: AR or CL?
 - Straits of Malacca: ID, MY, SG, or TH?
- A UN/LOCODE sub group was created at the 2024 UN/LOCODE Advisory Group Meeting in Hamburg to explore solutions
- Input from the community on this topic is welcome

How to get involved



- Everyone in the community is welcome to contribute
- Use the request form at <https://smdg.org/documents/smdg-code-lists/smdg-terminal-code-list/>
- Email it to codelists@smdg.org
- **Code requests MUST contain geo-coordinates of a reference point on the terminal**
- Help to improve data quality by informing us about incorrect/outdated entries
- Use the TCL world map as visual aid

Useful links



- SMDG Terminal Code List
<https://smdg.org/documents/smdg-code-list/smdg-terminal-code-list/>
- SMDG Terminal Facilities on the world map
<https://www.google.com/maps/d/viewer?mid=1nbJI9NkpAayVp5Jqy13qJ2xhatclKQJK>
- Usage of Code Lists in EDIFACT messages maintained by SMDG (Recommendation #07)
<https://smdg.org/documents/smdg-recommendations/>
- SMDG EDIFACT Mapping Implementation Guidelines (MIGs)
<https://smdg.org/documents/edifact-migs-message-implementation-guidelines/>
- UN/ECE Recommendation 16 for UN/LOCODEs
<https://unece.org/trade/publications/recommendation-ndeg16-united-nations-code-trade-and-transport-locations>
- API to query the SMDG TCL (provided by BIC)
<https://www.bic-code.org/api-information-page/>
- Geofencing project (by BIC)
<https://www.bic-code.org/facility-codes/the-global-container-geofence-library/>



Thank You

Presented by: Mark Lim

SMDG#78 Antwerp, 22-26 April, 2024

SMDG e.V.

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Board members: Ann-Christin Fröhmkke (co-chair), Sönke Witt (co-chair), Heiko Meyer (treasurer), Jasmin Dröner, Mark Lim, Shin Shin Lung, Jost Müller, Robert Roestenburg, Michael Schröder, Julien Vangeon, Paul Wauters