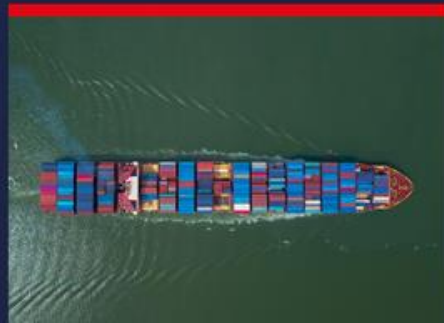


S M D G

SMDG Terminal Code List (TCL)

Mark Lim

SMDG#76 Helsinki, May 10-12, 2022



Introduction



- Why SMDG Terminal Codes?

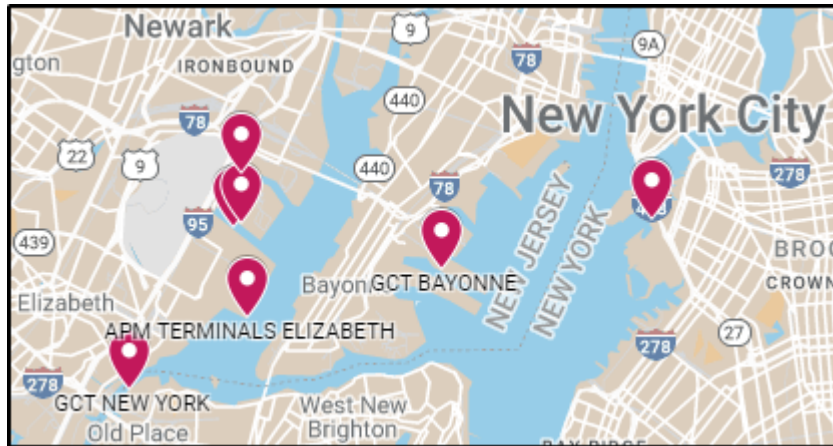
- Other adequate international standard code list for terminals does not exist
- The SMDG is officially recognised by UN/CEFACT as Child Code List Agency
- SMDG Terminal Codes are child codes (extensions) of UN/LOCODE
- Already used by various players in the maritime industry (carriers, terminals, TradeLens, DCSA, etc.)
- Suitable for various electronic formats and technologies (EDIFACT, ANSI X.12, XML, API, ...)

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 contain inland terminals and depots (these are handled by BIC)
 - River and barge terminals are not in scope

Terminal Codes in EDIFACT messages



- The port UN/LOCODE on its own is insufficient to identify a terminal
- Example: Vessel calls multiple terminals in a port
- Solution: Use SMDG Terminal Codes in addition to the port UN/LOCODE
- Useful in BAPLIE, COARRI, CODECO, COPARN, COPRAR, COREOR, IFTMBF, IFTSAI, MOVINS, TPFREP, ...

SMDG		SMDG Terminal Code List (TCL)				
		v20220501				
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)
USNYC	USEWR	APMT	APM TERMINALS ELIZABETH	APM TERMINALS ELIZABETH	N 40°39'36"	W 074°08'56"
USNYC		GTC	GCT BAYONNE	GLOBAL CONTAINER TERMINALS	N 40°40'21"	W 074°04'57"
USNYC	USUYU	NYCT	GCT NEW YORK	GLOBAL CONTAINER TERMINALS	N 40°38'27"	W 074°11'21"
USNYC		MAHER	MAHER CONTAINER TERMINAL	MAHER TERMINALS, LLC	N 40°40'59"	W 074°09'14"
USNYC	USEWR	PNCT	PORT NEWARK CONTAINER TERMINAL	PORTS AMERICA	N 40°41'03"	W 074°09'02"
USNYC	USEWR	RHBT	RED HOOK BARGE TERMINAL NEWARK	RED HOOK TERMINALS	N 40°41'50"	W 074°09'02"
USNYC		RHCT	RED HOOK CONTAINER TERMINAL	RED HOOK TERMINALS	N 40°41'07"	W 074°00'36"

Terminal Codes in EDIFACT messages



- SMDG Terminal Codes are typically used in LOC segments
- Example: Port of loading in New York (USNYC) at terminal "Port Newark CT" (PNCT)

LOC+9+USNYC+PNCT:TER:306' (D.95B)

LOC+9+USNYC+PNCT: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*)

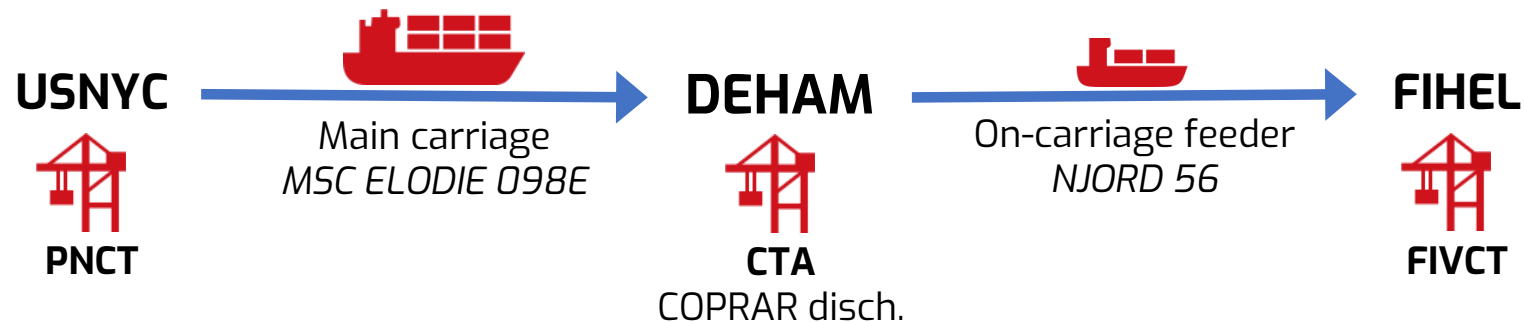
LOC	PLACE/LOCATION IDENTIFICATION		
	Function: To identify a place or a location and/or related locations.		
010	3227 LOCATION FUNCTION CODE QUALIFIER	M	1 an..3
020	C517 LOCATION IDENTIFICATION	C	1
	3225 Location name code	C	an..25
	1131 Code list identification code	C	an..17
	3055 Code list responsible 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 discharge example



- (Fictional) Use case for COPRAR discharge

- Hamburg Süd instructs HHLA (operates multiple terminals in DEHAM) to discharge a container
- Container was loaded in USNYC, Port Newark CT (PNCT), on main carriage MSC ELODIE
- Discharge from main carriage in DEHAM, HHLA Altenwerder CT (CTA)
- On-carriage feeder to FIHEL, Vuosaari Stevedeco CT (FIVCT), on Unifeeder vessel NJORD



COPRAR discharge example



UNB+UNOC:3+HAMSUD+HHLA+220509:1345+753'	Sender HAMSUD, receiver HHLA
UNH+978+COPRAR:D:00B:UN:SMDG21'	
BGM+118::DISCHARGE ORDER+1000078533+9'	Discharge order (118)
DTM+137:202205091345:203'	Message date/time
TDT+20+098E+1++MSC:LINE:306+++9704972:146:11:MSC ELODIE:PT'	Main carriage USNYC-DEHAM with MSC ELODIE 098E
LOC+11+DEHAM::HAMBURG+CTA:TERMINALS:306:HHLA ALTENWERDER'	Main carriage POD DEHAM, HHLA Altenwerder CT (SMDG code CTA)
DTM+132:202205130930:203'	Main carriage ETA
NAD+CA+HSD:LINE:306'	Carrier HSD (Hamburg Süd)
EQD+CN+HASU1234567+45G1:102:5+2+6+5'	Container is carrier supplied (2), transshipped (6), full (5)
RFF+BM:XYZ9876543210'	B/L number
TMD+3++1'	FCL/FCL (3), carrier haulage (1)
LOC+9+USNYC::NEW YORK+PNCT:TERMINALS:306:PORT NEWARK CT'	Container POL USNYC, Port Newark CT (SMDG code PNCT)
MEA+AAE+VGM+KGM:23178'	
SEL+SEAL-1234567890+CA'	
FTX+AAA+++FURNITURE'	
TDT+30+56+1++UFE:LINE:306+++9349227:146:11:NJORD:NL'	On-carriage DEHAM-FIHEL with Unifeeder vessel NJORD, voyage 56
LOC+152+FIHEL::HELSINKI+FIVCT:TERMINALS:306:VUOSAARI STEVECO'	On-carriage next POD FIHEL, Vuosaari Steveco CT (SMDG code FIVCT)
NAD+CF+HSD:LINE:306'	Container operator HSD (Hamburg Süd)
CNT+16:1'	
UNT+19+978'	
UNZ+1+753'	

Terminal Codes and UN/LOCODEs



- A SMDG Terminal Code on its own is not unique
- It is meaningful only in conjunction with its corresponding port UN/LOCODE
- Example APM Terminals: 12 terminals with the code “APMT”

SMDG		SMDG Terminal Code List (TCL)				
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)
CRM0B		APMT	APM TERMINALS MOIN	APM TERMINALS MOIN	N 10°00'33"	W 083°00'15"
DKAAR		APMT	APM TERMINALS AARHUS	APM TERMINALS	N 56°09'15"	E 010°14'29"
DKKAL		APMT	APM TERMINALS KALUNDBORG	APM TERMINALS KALUNDBORG	N 55°39'44"	E 011°03'58"
GEPTI		APMT	APM TERMINALS POTI	APM TERMINALS POTI SEA PORT	N 42°09'08"	E 041°39'12"
INPPV	INPAV	APMT	APM TERMINALS PIPAVAV	APM TERMINALS (GUJARAT PIPAVAV PORT LTD.)	N 20°55'13"	E 071°30'39"
MAPTM		APMT	APM TERMINALS TANGIER	APM TERMINALS TANGIER	N 35°53'24"	W 005°29'48"
MXLZC		APMT	APM TERMINALS LAZARO CARDENAS TERMINAL DE CONTENEDORES II	APM TERMINALS LAZARO CARDENAS S.A. DE C.V.	N 17°58'28"	W 102°10'21"
NGONN		APMT	WEST AFRICA CONTAINER TERMINAL (WACT)	APM TERMINALS	N 04°40'21"	E 007°09'12"
OMSLI		APMT	APM TERMINALS SALALAH	APM TERMINALS	N 16°56'29"	E 053°59'43"
USLAX		APMT	APM TERMINALS LOS ANGELES PIER 400	APM TERMINALS	N 33°43'53"	W 118°14'55"
USMOB		APMT	APM TERMINALS MOBILE	APM TERMINALS MOBILE	N 30°40'05"	W 088°02'02"
USNYC	USEWR	APMT	APM TERMINALS ELIZABETH	APM TERMINALS ELIZABETH	N 40°39'36"	W 074°08'56"

Terminal Codes and UN/LOCODEs



- Only UN/LOCODEs that are ports are eligible for 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.

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 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.
 3. 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.
- Example: both LOC+9 refer to the same terminal Port Newark CT
 - LOC+9+USNYC+PNCT: TERMINALS:306' (main/primary)
 - LOC+9+USEWR+PNCT: TERMINALS:306' (secondary/alternative)
- SMDG and UN/CEFACT recommend to use the primary UN/LOCODE

UN/ECE Recommendation 16



- The TCL is aligned with [UN/ECE Recommendation 16](#)

“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.

These child codes can be built either by adding characters to the UN/LOCODE of a location or created as an autonomous, structured code which provides a link to the UN/LOCODE itself”

- Separate UN/LOCODEs should not be assigned to port or terminal facilities

“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”

The TCL on the world map



- Google Maps interface, [click here to view the map](#)



The TCL on the world map



- Detail view

← DEHAM | HHLA CONTAINER... ↻

Terminal
DEHAM | HHLA CONTAINER TERMINAL ALTENWERDER (CTA)

UNLOCODE
DEHAM

Terminal Code
CTA

Terminal Facility Name
HHLA CONTAINER TERMINAL ALTENWERDER (CTA)

Terminal Company Name
HHLA (HAMBURGER HAFEN UND LOGISTIK AG)

Latitude (DMS)
N 53°30'03"

Longitude (DMS)
E 009°56'11"

Latitude
53.500944

Longitude
9.936306

Common API for BIC/SMDG facilities



- BIC developed a common 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', 'Servers', and a list of endpoints. The 'Info' section is active, showing the API title 'Facility Codes' and a detailed description. The description explains that this is a common API for BIC and SMDG facilities, managed by BIC. It also provides contact information for BIC API Support, including an email address and a website URL. The 'Servers' section shows a 'default' server configuration. The endpoints list includes several GET and POST methods for retrieving facility details based on various criteria like country, name, location, and geofence.

```
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/
```

Common API for BIC/SMDG facilities



```
{
  "code": "USNYCPNCT",
  "codeProvider": "SMDG",
  "codeListProviderCode": "PNCT",
  "alternativeUnLocode": "USEWR",
  "aliasCode": "USEWRPNCT",
  "unLocode": "USNYC",
  "countryCode": "US",
  "facility": {
    "name": "PORT NEWARK CONTAINER TERMINAL",
    "address": {
      "street": "",
      "city": "New York",
      "state": "",
      "postcode": "",
      "country": "United States"
    },
    "formattedAddress": "241 Calcutta Street, Port Newark, NJ 07114, USA",
    "geographicalCoordinate": {
      "latitude": "40.684167",
      "longitude": "-74.150556"
    }
  },
  "operator": {
    "name": "PORTS AMERICA"
  },
  "remarks": ""
}
```

Current status



- Ongoing data quality control
 - Manually verify new and existing entries (terminal name/company, GPS coordinates, website, address)
 - Remove obsolete and duplicate entries
 - All code requests must contain GPS coordinates of a reference point on the terminal
 - Difficult to verify some entries: no website/address/contacts, ambiguous names, etc.
- Areas to explore
 - Enrich/enhance data content (e.g. geofences)
 - Usage of SMDG Codes in ANSI X.12
 - ...

Current status



Requesters since 2020		
Carriers	Terminals / Ports	Other
<ul style="list-style-type: none">- CMA CGM- COSCO- Hamburg Süd- Hapag-Lloyd- Imoto Lines- Maersk- MSC- Seaboard Marine- Yang Ming	<ul style="list-style-type: none">- APM Terminals- Bolloré Ports- CMA CGM Kaohsiung Terminal- CSP Zeebrugge Terminal- DR Congo Maritime Administration- Eurogate- GCT Canada- Hutchison- Port Burgas- Ports of Stockholm- PSA Antwerp/Zeebrugge- South Van Phong Port- TMGE Terminales Multipropósito de Guinea Ecuatorial- Zhejiang Four Ports Union	<ul style="list-style-type: none">- 1-Stop Connections- Bring Cargo- Grieg Connect- Kamigumi- Mitsui-Soko- SMDG- Times-End "C" Computers Ltd- TradeLens- Wisetech Global

Current status



Date	Terminals	Ports	Countries	With lat/long	With website	With address
Sep 2019	891	439	106	(39.4%) 351	(14.7%) 131	(5.1%) 45
Jan 2021	(-5.1%) 846	(+1.4%) 445	(+5.7%) 112	(100.0%) 846	(83.2%) 704	(47.0%) 398
May 2022	(+23.2%) 1042	(+31.0%) 583	(+13.2%) 137	(100.0%) 1042	(89.9%) 937	(63.8%) 665

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 coderequest@smdg.org
- Help to improve data quality by informing us about incorrect/outdated entries
- Use the TCL world map as visual aid to identify the terminals

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=1nbJI9NkpAayVpSJqy13qJ2xhatclKQJK>
- 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/>
- API to query the SMDG TCL (provided by BIC)
<https://www.bic-code.org/api-information-page/>
- UN/ECE Recommendation 16 for UN/LOCODEs
<https://unece.org/trade/publications/recommendation-ndeg16-united-nations-code-trade-and-transport-locations>



Thank You

Presented by: Mark Lim

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