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SMDG Terminal Code List (TCL)

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SMDG#77 Singapore, April 18-20, 2023



Introduction



- Why SMDG Terminal Codes?

- Other adequate international standard code list for container terminals does not exist
- 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

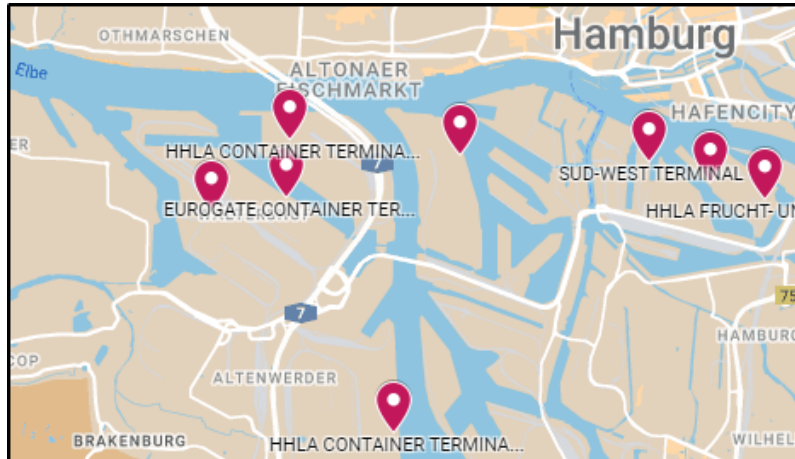


- Scope of SMDG Terminal Codes?

- 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 currently not in scope
 - However, there is an increasing number of code requests for river terminals

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
Apr 2023	(+4.1%) 1085	(+5.1%) 613	(+4.4%) 143	(100.0%) 1085	(95.3%) 1034	(81.2%) 881

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
- Useful in BAPLIE, COxxxx, IFTxxx, TPFREP, ...

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)
DEHAM		EGH	EUROGATE CONTAINER TERMINAL HAMBURG	EUROGATE CONTAINER TERMINAL HAMBURG	N 53°31'45"	E 009°54'53"
DEHAM		CTA	HHLA CONTAINER TERMINAL ALTENWERDER (CTA)	HHLA (HAMBURGER HAFEN UND LOGISTIK AG)	N 53°30'03"	E 009°56'11"
DEHAM		CTB	HHLA CONTAINER TERMINAL BURCHARDKAI (CTB)	HHLA (HAMBURGER HAFEN UND LOGISTIK AG)	N 53°32'10"	E 009°54'56"
DEHAM		CTT	HHLA CONTAINER TERMINAL TOLLERORT (CTT)	HHLA (HAMBURGER HAFEN UND LOGISTIK AG)	N 53°32'03"	E 009°57'00"
DEHAM		FRU	HHLA FRUCHT- UND KUEHL-ZENTRUM	HHLA FRUCHT- UND KUEHL-ZENTRUM GMBH	N 53°31'44"	E 010°00'41"
DEHAM		RMH	RHENUS MIDGARD HAMBURG	RHENUS MIDGARD HAMBURG GMBH	N 53°31'39"	E 009°53'59"
DEHAM		SWT	SUD-WEST TERMINAL	C. STEINWEG	N 53°32'00"	E 009°59'16"
DEHAM		UCT	UNIKAI - UCT (O'SWALDKAI)	UNIKAI LAGEREI- UND SPEDITIONSGESELLSCHAFT	N 53°31'51"	E 010°00'01"

Terminal Codes in EDIFACT messages



- SMDG Terminal Codes are typically used in LOC segments
- Example: Port of loading (9) in Hamburg (DEHAM) at the Eurogate Terminal (EGH)

LOC+9+DEHAM+EGH:TER:306' (D.95B)

LOC+9+DEHAM+EGH: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



- Use case for COPRAR discharge (fictional)
 - Maersk sends a container discharge order (COPRAR) to PSA Singapore
 - Container was loaded in DEHAM, Eurogate CT (EGH), on main carriage EMMA MAERSK
 - Discharge from main carriage in SGSIN, PSA Pasir Panjang Terminals (PSAPPT)
 - On-carriage to MYPKG, Northport terminal (NPM), on X-Press Feeders vessel SKY WIND



COPRAR discharge example



	UNB+UNOC:3+MAERSK+PSACORP+230418:1415+753'	Sender Maersk, receiver PSA Corp.
	UNH+978+COPRAR:D:00B:UN:SMDG21'	
	BGM+118::DISCHARGE ORDER+1000078533+9'	Discharge order (118)
	DTM+137:202304181415:203'	Message date/time
Main vessel	TDT+20+309E+1++MSK:LINE:306+++9321483:146:11:EMMA MAERSK:LR'	Main carriage EMMA MAERSK 309E (DEHAM-SGSIN)
	LOC+11+SGSIN::SINGAPORE+PSAPPT:TERMINALS:306:PSA PASIR PANJANG'	Main carriage POD SGSIN , PSA Pasir Panjang (SMDG code PSAPPT)
	DTM+132:202304181030:203'	Main carriage ETA
	NAD+CA+MSK:LINE:306'	Carrier MSK (Maersk)
Container	EQD+CN+MAEU1234567+45G1:102:5+2+6+5'	Container is carrier supplied (2), transhipped (6), full (5)
	RFF+BM:XYZ9876543210'	B/L number
	TMD+3++1'	FCL/FCL (3), carrier haulage (1)
	LOC+9+DEHAM::HAMBURG+EGH:TERMINALS:306:EUROGATE'	Container POL DEHAM , Eurogate CT (SMDG code EGH)
	LOC+152+MYPKG::PORT KLANG+NPM:TERMINALS:306:NORTHPORT'	Container next POD MYPKG , Northport CT (SMDG code NPM)
	MEA+AAE+VGM+KGM:23178'	Weight
	SEL+SEAL-1234567890+CA'	Seal number
	FTX+AAA+++FURNITURE'	Description of goods
On-carriage	TDT+30+17N+1++XPF:LINE:306+++9854480:146:11:SKY WIND:PA'	On-carriage X-Press Feeders vessel SKY WIND 17N (SGSIN-MYPKG)
	LOC+11+MYPKG::PORT KLANG+NPM:TERMINALS:306:NORTHPORT'	On-carriage POD MYPKG , Northport CT (SMDG code NPM)
	NAD+CF+MSK:LINE:306'	Container operator MSK (Maersk)
	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 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)'

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		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



- 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.

Terminal Codes and UN/LOCODEs



- Example: both LOC+9 refer to the same terminal Shanghai East Container Terminal

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

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

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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"

UN/ECE Recommendation 16



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

- SMDG Terminal Codes are child codes of the UN/LOCODE

“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”

- 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”

Alternative UN/LOCODEs

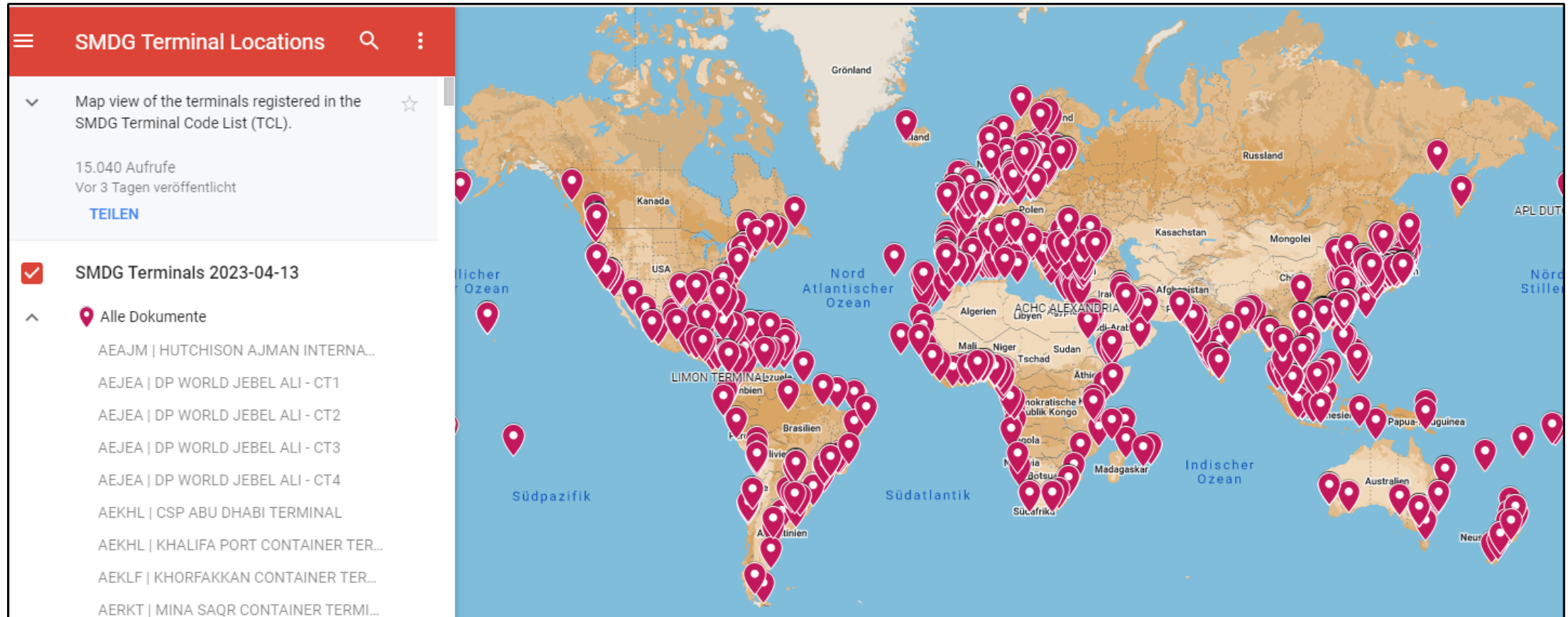


- A second, alternative UN/LOCODE may be assigned when
 1. A UN/LOCODE exists for the city and another for the port.
Example Shanghai: CNSGH for the city and alternative code CNSHG for the port.
 2. A terminal is located in a small town, located close to a metropolis.
Example New York: USNYC for the 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.
-> Might be removed because this does not comply to Recommendation 16 and makes the use of a SMDG Terminal Code obsolete
- SMDG and UN/CEFACT recommend to use the primary UN/LOCODE

The TCL on the world map



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



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/>

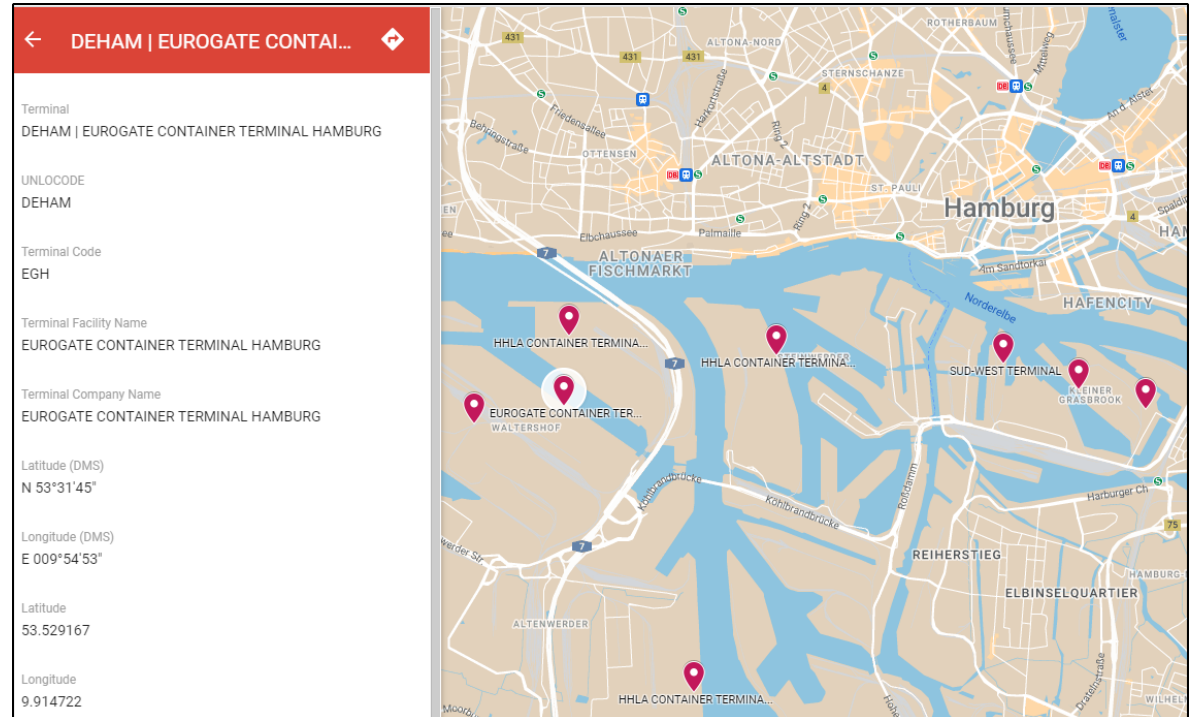
A screenshot of the SwaggerHub interface for the 'Facility-Codes' API version 1.1.0. The interface is divided into a left sidebar and a main content area. The sidebar contains sections for 'Info', 'Tags', 'Servers', and a search bar. Below the search bar, a list of API endpoints is shown under the 'default' group, including GET requests for facilities by country, name, location, and code, and a POST request for facilities. The main content area displays the API's metadata, including the title 'Facility Codes', a detailed description of the API's purpose and the roles of BIC and SMDG, the terms of service URL, the version number '1.1.0', and contact information for BIC API Support.

```
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/
```

Joint API for BIC/SMDG facilities



```
{
  "code": "DEHAMEGH",
  "codeProvider": "SMDG",
  "unLocode": "DEHAM",
  "countryCode": "DE",
  "operator": {
    "name": "EUROGATE CONTAINER TERMINAL HAMBURG"
  },
  "codeListProviderCode": "EGH",
  "remarks": "",
  "aliasCode": "",
  "facility": {
    "geographicalCoordinate": {
      "latitude": "53.529167",
      "longitude": "9.914722"
    },
    "name": "EUROGATE CONTAINER TERMINAL HAMBURG",
    "address": {
      "street": "",
      "city": "Hamburg",
      "state": "",
      "postcode": "",
      "country": "Germany"
    }
  },
  "formattedAddress": "Kurt-Eckelmann-Str. 1, 21129 Hamburg, Germany",
}
```



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 geo-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
 - ...

Handling of code requests




- Code requests cannot be processed
 - Missing website/address/contacts, ambiguous names, etc.
 - Unable to verify because some terminal websites (esp. China) are not reachable from Europe
 - Wrong coordinates (not within the terminal geofence)
 - Invalid coordinates (returns error when pasted into e.g. Google Maps)
 - **Therefore:**
 - **Verify coordinates in Google Maps (Apple Maps, OpenStreetMap, ...) before submitting the application**
 - **Or send screenshot of terminal location**

Handling alternative UN/LOCODEs



- “A second, alternative UN/LOCODE may be assigned when a UN/LOCODE exists for the city and another for the terminal”. Example SGPPT.

United Nations Code for Trade and Transport Locations (UN/LOCODE)									
(SG) SINGAPORE									
Ch	LOCODE	Name	NameWoDiacritics	SubDiv	Function	Status	Date	IATA	
	SG BKM	Bukit Merah Estate	Bukit Merah Estate	01	1-3----	RL	1401		0117N 10349E
	SG CHG	Changi	Changi		1-34----	RL	0901		0119N 10400E
	SG CCK	Choa Chu Kang	Choa Chu Kang		----6--	RQ	1001		0117N 10351E
	SG CLE	Clementi	Clementi		----6--	RQ	1001		0117N 10351E
	SG JUR	Jurong/Singapore	Jurong/Singapore		1-3----	RL	0207		0120N 10342E
	SG KEP	Keppel Wharves	Keppel Wharves		1-----	QQ	8103		
	SG PPT	PASIR PANJANG Terminal	PASIR PANJANG Terminal	05	1-3----	RL	1601		0117N 10346E
	SG PAP	Pasir Panjang Wharves	Pasir Panjang Wharves		1-----	RL	0401		0116N 10347E
	SG SIN	Singapore	Singapore		1--45--	AI	9601		
	SG SCT	Singapore Container Terminal	Singapore Container Terminal		1-----	QQ	8103		

- Use SGSIN because SGPPT violates Recommendation 16 and makes the SMDG Terminal Code redundant
 LOC+11+SGPPT::PASIR PANJANG TERMINAL+PSAPPT:TERMINALS:306:PSA PASIR PANJANG ' 
 LOC+11+SGPPT::PASIR PANJANG TERMINAL '
- Proposal: Do not allow a UN/LOCODE as alternative code if it already specifies a terminal

Handling of river terminals



- Increasing number of code requests for river terminals (pending requests in blue)
- Should codes for river terminals be maintained by SMDG?
- How to determine if a river terminal is called by seagoing container vessels?
- Potentially very large number of new entries (how to maintain and manage?)
- What criteria/filters to apply?



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

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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