Bureau International des Containers

SMDG Meeting
Helsinki, 11 May 2022

Facility Codes API
Geofencing of Facilities

About the BIC

- Non-profit NGO, founded in 1933 under auspices of the ICC
- 2500+ members in over 130 countries
- Promoting safety, security, standardization, and efficiency
- Official NGO Observer status at IMO and WCO, UN/ECOSOC
- Active at ISO, CEN and UNECE
- Based in Paris

BIC – Data Resources

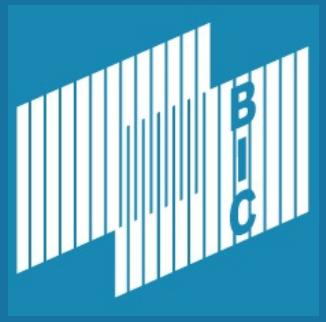
BIC Digitization Offering

BIC Code Register
(Unique Prefix for Containers)

Global Container Database
(Technical Container Details)

BIC Facility Code
(Coded Container Facilities)

DEHAMHCSA



API for BIC Facility Codes and SMDG Terminal Codes

Facility Code List – Web and API

REGISTERED LOCODE: **USOAKNWDA**

Facility:
United Intermodal Services Inc

Address:
1195 A Middle Harbor Rd
Oakland
CA 94607
United States of America

Operator:
United Intermodal Services Inc

Human Readable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{
    "code": "USOAKNWDA",
    "codeProvider": "BIC",
    "unLocode": "USOAK",
    "countryCode": "US",
    "facility": {
        "name": "United Intermodal Services Inc",
        "address": {
            "street": "1195 A Middle Harbor Rd",
            "city": "Oakland",
            "state": "CA",
            "postcode": "94607",
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    }
}
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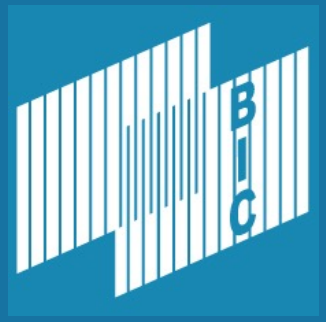
Machine Readable



Geofencing Pilot

Geofencing Pilot Objectives

- Demonstrate the industry benefits of a single, API-accessible platform containing agreed geofencing coordinates of terminals, depots and other zones of interest in the supply chain.
- Prove the data-collection process and establish best-practices for governance and collection of Geofences

Business Case

With the increasing adoption of smart containers, the need to geographically define the facilities and zones through which containers travel in the supply chain is increasing rapidly.

Today a multitude of different parties (IOT providers, individual carriers, terminals) maintain geofencing coordinates; this information is held in many different systems, in different formats, and there is no single source of truth for the geofencing coordinates of any facility.

Why Collaborate on Geofencing?

- A single, **agreed definition of each facility** regardless of which carrier or which IOT provider is being used.
- A standard method of accessing **geofencing data using a standard API.**
- **Reduction in time** to utilise library of Geofences
- **Reduces duplication** of effort.
- Strengthens the case for smart containers, leading to faster adoption.
- **Multi-regional collaboration** means a standard can be used throughout supply chain.
- Mapping zones-of-interest (e.g. specific areas within terminal, restricted zones, M&R on terminal) further supports collection and measurement of KPIs; and collecting and exchanging data for the purposes of improving efficiency, productivity and safety.

Platform for GeoFencing

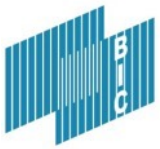
The pilot will leverage the **BIC Facility Code database**, a global database containing over **17,000** container depots, the **SMDG database**, containing over 1,000 ocean terminals. Both are child codes of the UN/Locode.

It will utilize the joint BIC-SMDG **Facility Code API** as a **neutral repository** for the storage and delivery of the geofence areas which will be attached to the Facility Code they define.

In North America, the project benefits further from the **IANA terminal database**, recently harmonized with the BIC Facility Code database.

Why the Facility Code API

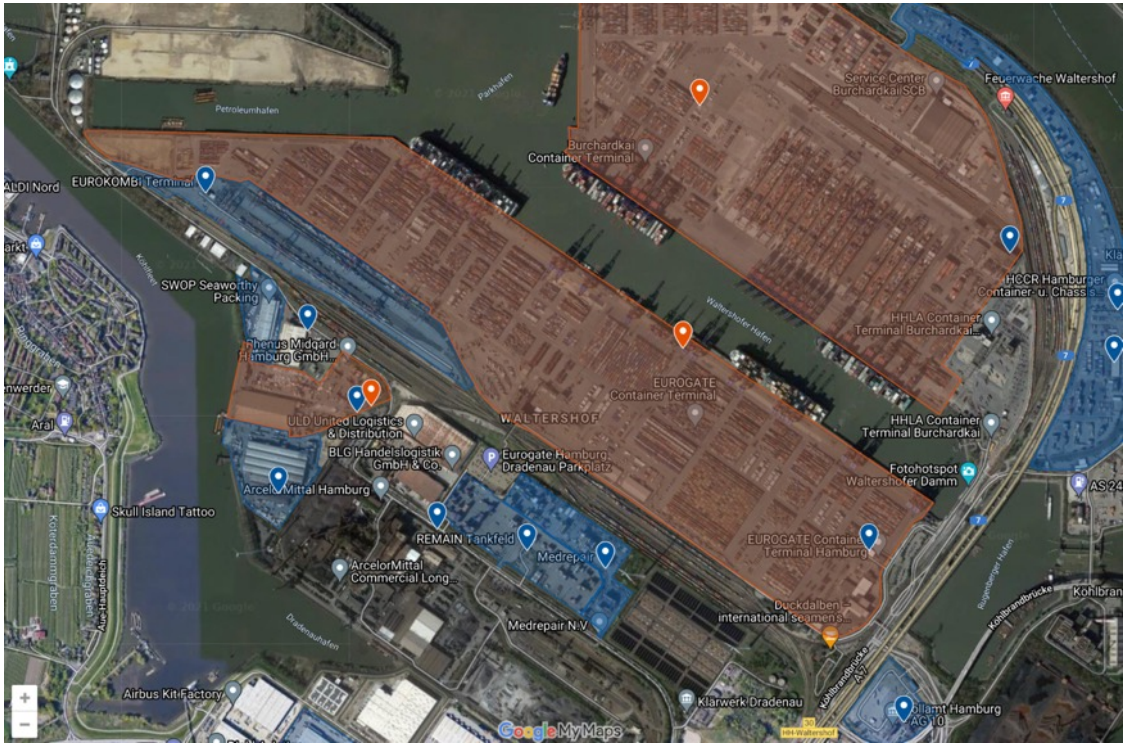
1. Facility Code Database already contains coded global locations with lat/long points.
2. Already Harmonized with Stakeholders:
   a. DCSA Members (Ocean Carriers)
   b. IANA for North America
   c. IPCSA for NoTN (Port Communities)
   d. Container Lessors
   e. Multiple Software Vendors
3. Neutral Repository – already accessible by API



Planned Deliverables

1. Governance and geofence ground rules for facility polygons
2. New functionality for the facility code API
   a. Storage of geofence against the appropriate BIC/SMDG Facility Code
   b. Retrieval of the geofence for a given BIC/SMDG Facility Code
   c. Query if GPS is within a geofence and which one
3. A visualization depending upon the data of events taking place ‘real time’ for historical data points.

Geographical Feature – Examples – SMDG and BIC



- **SMDG** Point is Center of Terminal.
- **BIC** is location of building or facility
- **Geofence Polygons** overlap, BIC only map the developed container storage land.

BIC: DEHAMEGHA

SMDG: DEHAMEGH

Blue = BIC Facility Code, Red = SMDG

Geofence Pilot – Hamburg

Geofence Pilot – Rotterdam

Geofence Pilot– Liverpool - Example

Good example with two facilities located immediately next to each other

GBLIVJMDA

GBLIVWKDV

Geofence Pilot – SMDG Example Rotterdam

Geofencing Pilot Next Steps?

- Working with industry participants to define the user stories, and ground rules for geofencing container facilities
- Evaluate the data-collection process and establish best-practices for governance and collection of Geofences
- Providing access to geofences against the BFC via the API for a live pilot

Facility Code List – Get Access

Start using the API today

Details to access to the API are available at:
https://www.bic-code.org/bic-facility-codes

Questions:

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