LTE and OpenCelliD for geolocation?

Background

- This is a report on an idea that we had and the feasibility of it, hence the question mark in the title.
- The idea was to take the information returned by an LTE Modem and map it to the geolocation of the mobile tower where it is connected to in that point in time.
- The mapping would be done using the information from the available OpenCelliD databases which can be downloaded.
- http://wiki.opencellid.org/wiki/Menu_map_view

First Test - South Africa

- We tested using the reply from this command **uqmi -d /dev/cdc-wdm0 –get-system-info**.
- From it we could get the following:

Item	Value
mcc	655
mnc	07
tracking_area_code	18
cell_id	80

- Doing a search through the CSV file for that combination unfortunately resulted in none found 😕.
- This test was using a **Cell C** sim card. We also tried a **Vodacom** sim card that also returned no results.
- The next test we did was in Greece with the hope that the OpenCelliD database for Greece will have more up to date and complete information.

Second Test - Greece

- In Greece we used the following for our search, based on the reply from our LTE router.

Item	Value
mcc	202
mnc	05
tracking_area_code	4024
cell_id	808449

- Searching through the available data for Greece from OpenCelliD also yielded no results.

Third test - API

- We then fed the values to OpenCelliD's API.
- Finally we got results but with this message in the reply

```
{
    "status": "ok",
```

```
    "balance": 4998,
    "lat": -26.535781,
    "lon": 27.907425,
    "accuracy": 35377,
    "message": "This cell tower was not found in OpenCelliD. However, we
served a location from the Unwired Labs LocationAPI (unwiredlabs.com), an
Enterprise Geolocation service with over 100 million cell towers.",
    "aged": "1",
    "address": "Ilona Road, Debonair Park, Emfuleni Ward 21, Emfuleni Local
Municipality, Sedibeng District Municipality, Gauteng, 1884, South Africa"
}
```


Conclusion

- OpenCelliD had to use a third party to locate the tower (with an accuracy of 35km).
- We realized that it is currenlty not possible or practical when using the downloadable data from OpenCelliD.