



# Comtain 5G Positioning Engine

5G Positioning Engine (Location Management Function, LMF)  
for accurate network positioning in Private Networks

The Comtain 5G Positioning Engine is a location calculation engine that enables a 5G Location Management Function (LMF) in Druid Software's core 4G/5G platform Raemis targeted for Private Networks. The LMF is a cutting-edge solution for precise indoor and outdoor positioning. Utilizing the high-speed and low-latency capabilities of 5G networks, this function provides accurate location information in real-time, making it ideal for a wide range of applications.

The Comtain 5G Positioning Engine features:

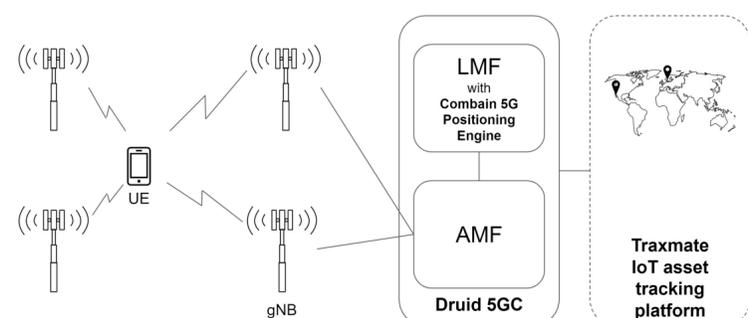
- **Precise Location:** The LMF provides accurate location information in real-time, with an average accuracy of less than 1 meter. This makes it suitable for use in indoor and outdoor environments, providing precise location tracking for people, vehicles, and assets.
- **Low Latency:** With 5G networks, the LMF provides real-time location information with extremely low latency, making it ideal for use in real-time applications such as vehicle tracking and safety alerts.
- **Increased Capacity:** The LMF has the ability to support a large number of devices and users, making it suitable for use in large-scale deployments such as smart cities, campus networks, and industrial parks.
- **Integration with Other Systems:** The LMF can, through Druid's Raemis platform, easily be integrated with other systems, such as inventory systems, existing location-based services, providing a seamless user experience. Comtain also offers an IoT asset tracking system, Traxmate, to create a complete asset tracking solution for Private Networks. Read more at [www.traxmate.io](http://www.traxmate.io).
- **Global Positioning Option:** If the devices are roaming outside the private network, the LMF can seamlessly track all the devices globally using Comtain's global positioning.

## 5G LMF

Private Network Location Applications:

- **Asset Tracking:** The LMF is ideal to track the location of assets such as containers, equipment, and inventory in real-time.
- **Industry 4.0:** The LMF can be used in industrial parks to track the location of vehicles and assets, improving efficiency.
- **Security & Emergency Services:** The LMF can be used by security personnel, to locate people and assets in real-time for improved safety.
- **Campus Networks:** The LMF can be used to create smart campuses, providing real-time location information for vehicles, people, and assets, and enabling the creation of new location-based services.

Overall, the LMF plays a crucial role in 5G networks, as it enables a variety of location-based services and supports the efficient management of a device's location. The 5G positioning engine will also support 4G positioning as part of the E-SMLC in Druid's Raemis 4G core platform. In 4G, the accuracy is in the 50m range.

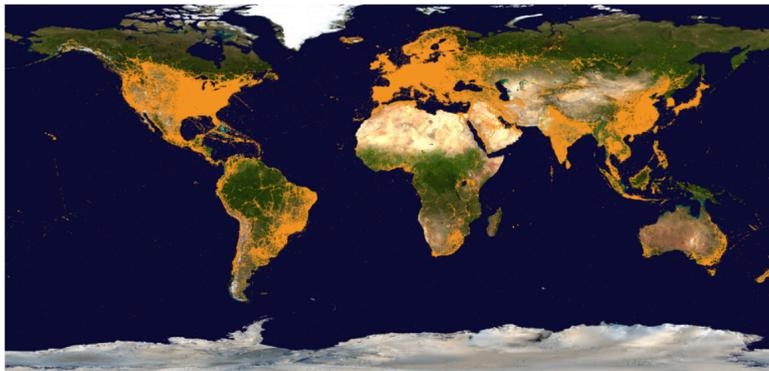


Comtain 5G LMF  
in partnership with



## About us

Combain provides a range of global positioning solutions. One of the core assets is the huge crowdsourced global location database.



Combain provides access to this database by

- Combain Location API
- Combain On-Prem Location Server

and improve the indoor positioning accuracy by

- Combain Indoor
- Combain Positioning Engine

### Seamless Indoor & Outdoor

Combain products and services help you to locate devices or people carrying a device, either indoor or outdoor. GNSS has no or poor indoor coverage. Combain has crowdsourced indoor positioning data and created accurate indoor positioning in millions of buildings. Combain also has the Combain Indoor tools to enhance indoor accuracy.

### Global Coverage

Combain's products and services help you locate devices globally. Combain has coverage in all 195 countries in the world. One world - one API. Combain works with customers and crowdsourcing partners that help collect data from millions of devices. The data continuously helps to improve the coverage and accuracy of the Combain Location API service.

### Private & Secure

By using Combain's products and services, your positioning usage will not be shared with any third party. Your data will not be used for any type of profiling or advertising. Your positioning results, the location of your devices or personnel are your personal data.

TOTAL NUMBERS	
GSM	> 31 000 000
WCDMA	> 69 000 000
CDMA	> 2 000 000
LTE	> 41 000 000

REGION	NUMBER OF CELLS
EUROPE	51 000 000
USA	14 000 000
NORTH AMERICA	19 000 000
ASIA	45 000 000
PASIFIC	13 000 000
AFRICA	6 000 000
SOUTH AMERICA	9 000 000

STATISTICS PER FEBRUARY 2023. SEE [WWW.COMBAIN.COM](http://WWW.COMBAIN.COM) FOR LATEST STATS.

### World-class accuracy

Since the beginning, Combain has had a strong focus on building an accurate location service. Combain began researching and developing proprietary and patented algorithms to process incoming crowd-sourced data and for providing accurate location.

Combain often provides a better median error than other geolocation services. Typical median error seen in urban areas with cell id is about 100 meters. For indoor environments using Wi-Fi and/or Bluetooth, you can get 2-5 meters and correct floor after some optimizations with Combain Indoor, or 10-20 meters "out-of-the-box".

### Contact Combain

Visit us at [www.combain.com](http://www.combain.com) and sign-up for a free trial. Please send an email to [sales@combain.com](mailto:sales@combain.com) for commercial inquiries.

Combain head office:  
 Scheelevägen 27, 223 63 Lund, Sweden  
 Latitude: 55.71766, Longitude 13.21357, 14th floor