



Mobile Positioning Platform

2023 AUGUST



Whether it's public emergencies or the intricacies of day-to-day business, we find ourselves in dire need of finding where people are located. Modern technologies serve as new tools that grant us vision.

In this brochure, we will describe to you how Defne's Mobile Positioning Platform can help you on a variety of occasions, from addressing safety concerns in the public sector to keeping up with digital trends in the world of business.

Mobile Positioning: Enhancing Public Security and Business

Solutions for the People:

Emergency Dispatch:

Life threatening criminal or medical crises require dispatch officials to pinpoint the location of mobile devices. Using Defne MPP's positioning platform, emergency responders can save lives in times of disaster.

Mass-Emergency Management:

Rescue squads such as firefighters or public safety officials such as police can react to mass-emergency situations with advanced accuracy by monitoring location information of user devices through Defne MPP.

Public Warning:

Mobile positioning data can augment existing emergency management technologies like CBC (Cellular Broadcast Center) and E-SMSC (Emergency SMS Center), and provide spot-on warnings based on location, increasing effectiveness and eliminating redundant alerts.

Solutions for Businesses:

Business Potential:

Mobility data is the name of the game. As the era of 5G networks and IoT rolls in, Defne MPP will be contributing to data-driven services, revolutionizing markets in sectors such as Banking, Retail, and Tourism.

AI Driven Insights:

Big data, generated by Defne MPP, can be integrated with artificial intelligence tools, to provide critical business insights which can affect major business decisions, and champion growth in the AI driven future.





Business Impact of Defne MPP

Transform Markets with Mobile Data

The modern world is becoming increasingly data-driven. New wells of data have sprung up and companies are looking for ways to utilize them. Statistical methods and artificial intelligence provide the means of tapping into this data to create life saving applications for users, in sectors such as: fintech, retail and tourism. Let's see how Defne's mobility data can help.

Fintech & Banking

Mobile positioning is used to secure high value transactions.

Mobility big data is used to train AI to **detect fraud** in fintech operations.

With Defne MPP's mobile positioning, unusual transactions made from foreign locations can be spotted immediately by the bank's Fintech to request increased security measures.

Fintech AI can study users' payment history together with location data provided by Defne MPP, and learn what fraudulent activity looks like for each user. AI specializing in fraud detection can alert the bank faster than any human personnel could.

Retail

Mobile location data creates new business opportunities for Retail companies, who can send users specialized offers and **advertisements based on location**. This data can also be used for **customer behavior analytics** such as: store visits, advertisement exposure, customer demographics, buying rates and interests.

With 5G networks, the precision of network based positioning systems has increased. This has allowed Defne MPP to create valuable footfall data from locations where GPS has traditionally been ineffective, such as indoors.

Combining precise positioning with subscriber profiles from the network, Defne MPP can enrich travel data with demographic information. AI tools can analyze the combined data and create insights for Retail companies, such as where the most profitable locations are.

Tourism

Tourism companies can benefit from **mobile positioning** by using its insights to make anticipatory business decisions. By **analyzing current travel data** of mobile subscribers, travel companies can **predict future customer preferences** and market their services accordingly.

Defne MPP is a highly customizable solution that can fit a variety of needs. It provides the ability to do selective queries, such as putting certain criterias on data. It can ignore select data sources and focus on sources of interest.

Defne MPP's customizability is especially useful for Tourism, since not all travel data is of interest to travel companies. If unwanted metadata mixes into a dataset, it can mislead important business decisions. By adapting mobile positioning to fit the needs of travel companies, Defne MPP can maximize the business potential of its metadata.





Emergency Services with Defne MPP

Safeguard Communities with Information

Emergency Responders (Police, Firefighters, Ambulance)

Emergency responders need to **verify the location** of callers in order to **prevent fraud** and **potentially dangerous situations**. Emergency responders may need to **gather location information** themselves, when people in danger may not be able to provide it to them.

In both scenarios, Defne MPP serves as the primary tool for gathering location data. By accessing and servicing information over the mobile network, Defne MPP can allow public officials to enhance their operations with much-needed clarity of vision.

Advantages of Network-Based Positioning for Healthcare Emergencies

Network-based mobile positioning can provide location information in situations where **GPS has no access or accuracy**. Such situations may include indoor spaces, cities, or regions with low satellite coverage.

Augmenting GPS with network-based positioning technologies like **Defne MPP** can be life saving for a variety of solutions, especially in healthcare.

Remote Patient Monitoring (RPM) represents a healthcare solution that can benefit from network-based mobile positioning. This technology remotely detects when a patient goes into a medical emergency and alerts healthcare providers automatically. Network-based positioning is important for an RPM system, as it needs to access location information in any condition.

Public Warning

Mass emergencies are critical situations where many people situated over a large area may require assistance. Public officials need to **coordinate response efforts** across all their teams while simultaneously **communicating with people in danger**.

Defne's Mobile Positioning Platform assists with both these objectives by providing **reliable** and **fast location information** for all **cell phones within the emergency area**. This capability enables officials to better assess the emergency situation in order to organize operations and issue proper warnings.





Mobile Positioning: Creating Data for the 5G Era

Defne's Mobile Positioning system can find the position of mobile devices accurately, in 2G, 3G, 4G and 5G standard networks. Valuable location data is created by discovering the position of the device as it moves through the network, which is then utilized by novel data management solutions to drive compounding business growth in the 5G Era.

Defne's Mobile Positioning Data is utilized by the latest data management platforms focused on data access and ease-of-use principles, as part of the "data fabric" approach. Creating and manipulating important location data propels businesses in many sectors, such as Banking, Retail and Tourism.

Defne's Mobile Positioning Technology enables critical public services, such as Healthcare or Defense. By closely monitoring the needs of the government and the private sector, Defne has developed the positioning system to provide essential information required in disaster situations and other public safety threats. Defne's Mobile Positioning Technology has proven itself as a worthy tool for emergency management.





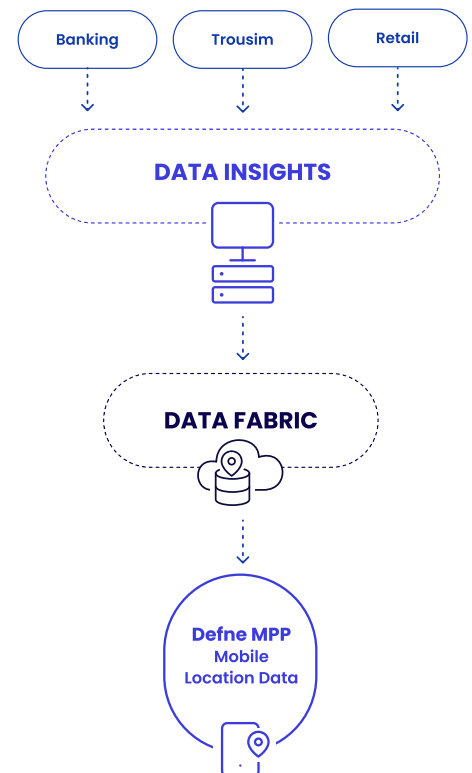
Technical Profile

Network Capabilities and Data Management

Defne employs the mobile positioning methodologies that best utilize network capabilities to offer the most comprehensive mobile positioning solution for the market.

Combining positioning techniques that employ parameters such as Timing Advance, Round-Trip Time (RTT), and Angle of Arrival (AoA) forms the basis for a precise mobile location tracking methodology.

	2G	3G	4G	5G
Timing Advance (TA)	•		•	•
RTT/Multi-Cell RTT		•	•	•
Power		•	•	•
Quality		•	•	•
Angle of Arrival (AoA)			•	•
TDOA	•			•
OTDOA			•	•



Defne's Mobile Positioning Platform

Allows Mobile Operators to get the precise location of a mobile device.

High TPS and frequent positioning turns Defne MPP into a valuable source of location data.

New data solutions can be used in various public safety functions and marketing opportunities. Data generated by Defne MPP can integrate into novel data management platforms called data fabric, to maximize business potential while maintaining ease-of-access.

5G Network Capabilities

- ✓ Defne MPP accuracy increase with 5G, Frequent sampling for larger data

Leverage Data Insights

- ✓ Data Fabric platforms convert location metadata into insights
- ✓ Network-based location data synergizes with data like demographics

Enhancing Digital Landscape

- ✓ Mobile positioning fits in 5G IoT frameworks seamlessly



Defne Company Profile

We're Developing Global Solutions for Mobile

The era of data is fast approaching. As **5G networks** develop, more and more smart IoT devices are popping up, and the world becomes increasingly online. **Digital marketing** rises up as a giant of its era, while the newly **digitized public sector** rolls out new ICT based services. As every available service gets attached to a mobile app, **network-based mobile positioning** presents itself as a valuable tool that can overlook the whole digital landscape.

Defne builds global solutions for the mobile world. We have delivered state of the art solutions to mobile operators on multiple continents, and we work with leading MNOs of Türkiye to form the backbone of the country's mobile technologies.

5G networks have made network-based positioning much stronger, by expanding their coverage and making them more precise and accurate. Due to their potential to create useful data for AI tools, network-based mobile positioning technology like Defne MPP will continue to find applications in the new 5G era.



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