

# LBS Platforms and Technologies

**LBS Platforms and Technologies** is the third consecutive report from Berg Insight analysing the latest developments on the global market for LBS platforms and middleware.

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## The global market for LBS platforms and middleware to double in the next 5 years

Mobile location platforms enable mobile network operators to offer location-based services (LBS). Location platforms typically comprise software extensions to network infrastructure components that together can calculate the position of a handset. Many mobile operators also deploy location middleware that functions as a mediator between the location platform, applications and support systems – and more importantly, provides centralised control of privacy settings for all applications.

Mobile location platforms enable three categories of services: public safety services, national security and law enforcement applications, as well as commercial LBS. Nearly 70 percent of all emergency calls are today placed from mobile phones and it can often be difficult for the caller to convey their location accurately to first responders. Automatic location platforms can reduce the time to find the location of the caller. They also enable more efficient handling of simultaneous calls from people reporting the same incident to distinguish single accidents from multiple events. Another use area is public warning systems that can locate and send messages to all mobile users within a geo-fenced area. Government agencies can also use location platforms and data mining systems for border security, critical infrastructure protection and location-enhanced lawful intercept.

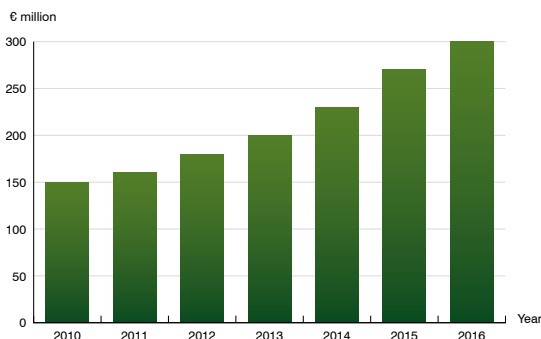
LBS are services that in some way utilise the geographic location of a handset, either to enhance existing applications, or enable new types of applications. An example of the first case is search services that use the subscriber's known location as a filter for presenting relevant content. In the second case, location is used as an enabler for new applications that are fully dependent on knowing the location of a user or an asset; examples include navigation and tracking services. Today, countless consumer and corporate services make use of automatic location of handsets or other assets. However, a majority of the services use location data obtained directly from GPS receivers in the handset or various third party location databases rather than directly from operators.

Location technologies can be divided into handset-based technologies (such as GPS) with intelligence in the handset, network-based technologies (for instance Cell-ID, Enhanced Cell-ID and U-TDOA) with intelligence in the network and hybrid technologies (for instance A-GPS) with intelligence in both the handset and the network. Handset-based and ►

► hybrid technologies often require additional hardware and software in the handset, while network-based technologies require deployment of hardware and software in the mobile network. Each technology has different characteristics and ultimately, no single technology performs best in every aspect.

The Federal Communications Commission's (FCC) E911 mandates for location of mobile emergency calls released in 1996 was a major driver behind the development of location platforms for the North American market. In Europe, as well as in other developed countries such as Japan and South Korea, the early deployment of location platforms focused on supporting commercial services due to the lack of a clear mandate for emergency services. In the first deployment phase, lasting from 2000 to 2003, operators invested in platforms and ready-made location services. The results were in many cases limited uptake whereby many operators lost interest in LBS as a mass-market proposition. However, governments and telecom regulators in many regions worldwide are now introducing some form of emergency call and lawful intercept mandates that require at least basic location platforms and technologies. Although the regulators have typically not yet imposed any specific location accuracy requirements as part of the mandates, it is highly likely that more stringent location accuracy will be demanded in the future as technologies mature and costs decrease.

An estimated 30 percent of the mobile network operators worldwide have now deployed at least some type of basic location platform. Additional deployments and updates of existing platforms can be expected in most markets in the coming years, primarily driven by government mandates since commercial LBS increasingly rely on alternative location sources including GNSS, Wi-Fi location and third party Cell-ID databases. Berg Insight forecasts that total global annual revenues for GMLC/MPC, SMLC/PDE and SUPL A-GNSS location systems and services will grow from € 150 million in 2010 to € 300 million in 2016. These revenues comprise integration fees and licenses for new platform deployments as well as capacity and technology upgrades, maintenance and associated services.



Location platform and middleware revenue forecast, € million (World 2010–2016)

### This report answers the following questions:

- What is the current status of the global mobile LBS platform market?
- Which mobile operators have deployed LBS platforms and middleware?
- How is GPS-technology altering the conditions for providers of location-based services?
- What is the current status of E112 in Europe and similar programs in other regions?
- How is GPS-technology affecting network-based location technologies?
- How will lawful intercept requirements affect technology choice for operators?
- Which location platforms and technologies are best suited for location-based advertising?
- Which vendors provide location platforms and middleware today?

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