

## Summary

# Executive summary

Modern people monitoring solutions rely on GPS and wireless communication technologies to determine the location of a person and transmit the data to a third party. Technological advancements have enabled substantial improvements in GPS receiver performance and cost. Dedicated people locator devices are available in a wide range of form factors including boxes, pendants, bracelets, watches and handsets designed for different use cases. The growing installed base of GPS-enabled smartphones have opened up the market for location based mobile apps, which are used in a number of people monitoring segments to various extents.

Consumer-oriented people locator solutions range from family locator services that provide peace of mind for parents of children and teenagers, to solutions that assist caregivers of seniors and people suffering from various medical conditions. The market for handset-based family locator services is dominated by freemium apps. Location sharing functionally is also offered by numerous widely-used apps such as Google Maps, Facebook Messenger and Apple's Find My Friends. A growing number of companies market GPS-enabled devices for children that are too young to use mobile phones. The market is still in its infancy, but has grown notably in recent time. Vendors including Filip Technologies, hereO, LG Electronics and Tinitell have designed locator devices in the form of wristbands and wristwatches. More than a dozen companies including Weenect, WTS and Yepzon have furthermore launched locator devices that are aimed at several consumer oriented applications such as asset, child and pet tracking.

Over a hundred million households in Europe and North America own at least one dog. The installed base of active pet locator devices reached close to 400,000 in 2016. The addressable market is large as a new generation of pet owners emerge on the market that are more likely to try new technology and use social media to connect with brands and other pet owners. In Europe, Tractive has grown rapidly to become the clear market leader. Whistle Labs, which was acquired by Mars Petcare in Q1-2016, is the largest player on the North

American market. Both companies have launched new versions of their pet locator devices recently, which in addition to location tracking measure the pet's activity to enable health monitoring.

Telecare service providers are showing increasing interest in new mobile telecare solutions that are better suited for certain user groups. Incumbents such as Philips Lifeline, Tunstall and Doro have in recent time launched new products in this category. Many start-ups are further entering the market with new innovative solutions, mainly in the form of wearables. Over time, mobile telecare devices are likely to replace conventional telecare systems among seniors as the devices become more attractive and better suited to their increasingly mobile lifestyles. The number of active mobile telecare systems in Europe and North America grew to over 500,000 in 2016.

People locator solutions addressing the needs of businesses are available from companies in industries such as fleet and asset tracking, as well as IT and specialist vendors. Mobile workforce management applications enable workers to report time, collect data in the field, access back-office information and communicate with managers. Berg Insight estimates that the market for mobile workforce management software in Europe and North America amounted to € 1.35 billion (US\$ 1.49 billion) in 2016. Moreover, a growing number of countries are adopting regulations that specifically address the safety of lone workers. Lone worker protection services primarily focus on ensuring the security of employees. The market for lone worker devices and services in Europe and North America reached € 120 million (US\$ 130 million) in 2016.

Electronic monitoring (EM) of offenders is still relatively rare in the context of European and North American corrections systems. EM is used to provide alternative ways of sentencing offenders and reduce the escalating costs for the corrective systems. EM is employed at various stages of the criminal justice system, including at pre-trial, at sentencing and following a period of incarceration. The use of GPS technology in EM programmes has grown rapidly in North America in recent years and is starting to gain ground in Europe. The average daily caseload of monitored individuals in Europe and North America amounted to approximately 180,000 in 2016.