Summary

Executive summary

Navigation solutions for car and pedestrian navigation can be divided into multiple categories. Car manufacturers offer factory installed in-dash navigation systems as standard or optional equipment on a majority of their models sold in developed markets. Drivers that want to add a navigation system to their existing vehicle can choose among numerous aftermarket solutions, including in-dash navigation and infotainment systems, Personal Navigation Devices (PNDs) and navigation apps for handsets. At the end of 2012, there were 230 million dedicated car navigation systems in use globally, including an estimated 80 million factory installed or aftermarket in-dash navigation systems and 150 million PNDs.

Even though the share of new cars fitted with factory installed in-dash navigation systems will grow fast as prices decline, the penetration among vehicles in use will grow slowly. The average age of vehicles in North America and Europe has grown to 9 years. Aftermarket navigation solutions will thus account for a majority of navigation systems in use in the foreseeable future. Since the different solutions are tailored for slightly different use-cases, multiple navigation-capable device solutions can be expected to co-exist in the future. Many consumers are also likely to own and use more than one navigation capable device.

The PND device category is facing increasing competition from low cost in-dash navigation systems, as well as aftermarket products ranging from in-dash systems to navigation apps for smartphones and tablets. Moreover, the penetration rate for PNDs is already high in many markets. Global shipments of PNDs fell 15 percent to 28 million units in 2012, which marks the third year of decline from the peak of 40 million units sold in 2008 and 2009. Sales will continue to decline in developed markets, but some emerging markets are still showing growth even though emerging markets will not compensate for the decline in mature markets. Berg Insight forecasts global PND shipments to decline to 17 million units in 2017.

The intense competition in the PND segment has led to market consolidation. Several vendors have already exited the market – either in the most competitive markets or altogether, while others have acquired competitors. MiTAC has acquired the PND operations of Navman and the consumer product division of Magellan Navigation. United Navigation, which began operations in early 2010, has licensed the rights to use the Falk and Becker brands for navigation solutions. Garmin completed the acquisition of Navigon in July 2011. On a global level, the PND market is now dominated by the three vendors Garmin, TomTom and MiTAC that together hold 73 percent market share. In Western Europe and North America, these brands have about 90 percent market share. These companies have highly integrated operations ranging from hardware and software development to distribution. There are also some vendors that hold strong positions on a local or regional level such as United Navigation in Germany, Prestigio in Eastern Europe and Panasonic in Japan. As the market is declining, the leading PND vendors Garmin, TomTom and MiTAC, as well as the leading white-label PND software developers Elektrobit and NNG are increasingly focusing on developing in-dash navigation systems for the automotive industry.

Navigation services for mobile phones have been available since 2002, but have only become a serious threat to PNDs in the last few years as smartphone performance has improved and device adoption accelerated. The global active installed base of smartphones grew to 1.2 billion units at the end of 2012. Smartphone adoption – i.e. the share of all handsets in use – had reached about 23 percent worldwide, over 50 percent in North America and more than 40 percent in the EU27+2. Berg Insight estimates that the number of monthly active users of navigation apps for mobile phones was 150 million worldwide at the end of 2012.

The growing usage of mobile navigation apps has largely been driven by broader availability of free services. Starting in late 2009, all the leading smartphone platform and device vendors have introduced free navigation apps for end-users. Apple, Google and Nokia have developed their navigation apps in-house, while other device vendors such as BlackBerry, HTC, LG, Samsung and Sony Mobile cooperate with navigation app developers like Appello, Navmii, NDrive, ROUTE 66 and TeleCommunication Systems. Besides handset vendors, app developers also use distribution channels including app stores and mobile operators. As competition from free apps has intensified, app developers are increasingly focusing on freemium business models where the core turn-by-turn navigation service is free and users have the option to purchase additional content and features. Advertising is also slowly becoming a source of revenues for developers with large active user bases.