

Summary

Executive summary

Smart homes and home automation are ambiguous terms used in reference to a wide range of solutions for controlling, monitoring and automating functions in the home. Berg Insight's definition of a smart home system requires that it has a smartphone app or a web portal as a user interface. Devices that only can be controlled with switches, timers, sensors and remote controls are thus not included in the scope of this study. Smart home systems can be grouped into six primary categories: energy management and climate control systems; security and access control systems; lighting, window and appliance control systems; home appliances; audio-visual and entertainment systems; and healthcare and assisted living systems.

North America recorded strong growth in the smart home market during 2016. The installed base of smart home systems in the region increased by 58 percent to reach 31.2 million at the year-end. An estimated 5.4 million of these were multifunction or whole-home systems whereas 25.8 million were point solutions designed for one specific function. As some homes have more than one smart system in use, the installed base totalled an estimated 21.8 million smart homes at the end of the year. This corresponds to 16.7 percent of all households, placing North America as the most advanced smart home market in the world. Between 2016 and 2021, the number of households that have adopted smart home systems is forecasted to grow at a compound annual growth rate (CAGR) of 27 percent, resulting in 73.0 million smart homes. Market revenues reached US\$ 9.9 billion (€ 9.0 billion) in 2016, an increase of 33 percent year-on-year. The market is expected to grow at a CAGR of 22 percent between 2016 and 2021, reaching US\$ 27.2 billion (€ 25.0 billion) in yearly revenues at the end of the forecast period.

The European market for smart home systems is still in an early stage and a few years behind North America in terms of penetration and market maturity. At the end of 2016, there were a total of 10.9 million smart home systems in use in the EU28+2 countries, up from 6.1 million in the previous year. Around 1.4 million of these systems were multifunction or whole-home

systems whereas 9.5 million were point solutions. This corresponds to around 8.5 million smart homes when overlaps are taken into account, meaning that 3.8 percent of all households in the region were smart at the end of the year. The number of European households that have adopted smart home systems is forecasted to grow at a compound annual growth rate (CAGR) of 57 percent during the next five years, resulting in 80.6 million smart homes by 2021. Market revenues grew by 69 percent to € 2.7 billion (US\$ 3.0 billion) in 2016. The market is forecasted to grow at a CAGR of 49 percent between 2016 and 2021 to reach € 20.1 billion (US\$ 22.0 billion) at the end of the forecast period.

A point solution will in most cases constitute the consumer's first smart home purchase. Compared to whole-home systems, point solutions generated 62 percent of the combined market revenues in North America and Europe. The most successful point solutions to date include smart thermostats, security systems, smart light bulbs, network cameras and multi-room audio systems. These products are marketed by incumbent OEMs such as Philips Lighting, Honeywell, Danfoss, Belkin, Chamberlain, Kwikset and Assa Abloy; service providers such as SFR and Centrica; and newer entrants such as Nest, Ecobee, Somfy, Sonos, Canary, Proove, Netatmo, IKEA and D-Link. In the whole-home system market, traditional home automation system vendors such as Crestron, Control4, Gira and Jung are facing new competition as companies from adjacent industries have entered the market. Communication and security service providers such as Vivint, ADT, Comcast and AT&T have established themselves among the largest whole-home solution vendors in North America. Major vendors in Europe include eQ-3, Verisure, RWE, Deutsche Telekom and Loxone.

Smartphone apps are today the most common user interface for smart home solutions. Users are however unwilling to launch a number of individual apps to be able to use their connected devices. Instead, cross platform compatible and voice driven user interfaces have the ability to connect and control a wide range of devices and services using simple voice commands. Several ICT industry giants are now betting on voice driven user interfaces to make it easier to control smart home solutions. The Alexa service from Amazon has quickly become popular and Apple's HomeKit platform supports the company's voice driven digital assistant Siri. Google has recently launched Google Home powered by its digital assistant. Microsoft will push its Cortana service as a foundation for controlling connected devices and services. There are numerous additional players launching smart speaker products as well.