

# Smart Homes and Home Automation

**Smart Homes and Home Automation** is the fourth consecutive report from Berg Insight analysing the latest developments on the connected home markets in Europe and North America.

This report in the M2M Research Series provides you with 220 pages of unique business intelligence including 5-year industry forecasts and expert commentary on which to base your business decisions.

## ***Highlights from the fourth edition of the report:***

- **Insights** from 30 executive interviews with market leading companies.
- **360-degree** overview of the smart homes & home automation ecosystem.
- **Summary** of industry trends in key vertical market segments.
- **Statistical** data on adoption of smart home systems in Europe and North America.
- **New** market forecasts lasting until 2020.
- **Detailed** reviews of the latest initiatives launched by industry players.
- **Updated** profiles of the key vendors on this market.

## **Berg Insight's M2M Research Series**

What are the key business opportunities in the emerging wireless M2M/IoT market? Berg Insight's M2M Research Series is a unique series of 25 market reports published on a regular basis. Each title offers detailed analysis of a specific vertical application area such as smart metering, fleet management or vehicle telematics. Once per year we also publish summaries of our research with detailed forecasts for the Global and European wireless M2M markets, respectively.

[www.berginsight.com](http://www.berginsight.com)

See inside for further details →



**Order now!**

Please visit our web site to order this report and find more information about our other titles at [www.berginsight.com](http://www.berginsight.com)

## 91 million homes in Europe and North America will be smart by 2020

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.

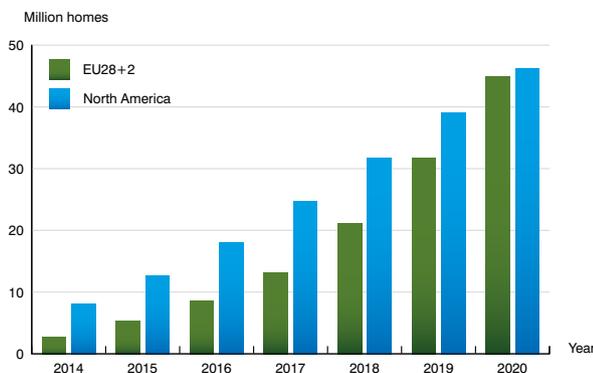
North America recorded strong growth in the smart home market during 2015. The installed base of smart home systems in the region increased by 62 percent to reach 16.9 million at the year-end. An estimated 2.8 million of these were multifunction or whole-home systems whereas 14.1 million were point solutions designed for one specific function. As some homes have more than one smart system in use, the installed base totalled an estimated 12.7 million smart homes at the end of the year. This corresponds to 9.7 percent of all households, placing North America as the most advanced smart home market in the world. Between 2015 and 2020, the number of households that have adopted smart home systems is forecasted to grow at a compound annual growth rate (CAGR) of 30 percent, resulting in 46.2 million smart homes. Market revenues reached US\$ 6.2 billion (€ 5.4 billion) in 2015, an increase of 42 percent year-on-year. The market is expected to grow at a CAGR of 31 percent between 2015 and 2020, reaching US\$ 24.3 billion (€ 21.2 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 2-3 years behind North America in terms of penetration and market maturity. At the end of 2015, there were a total of 6.6 million smart home systems in use in the EU28+2 countries, up from 3.3 million in the previous year. Around 0.8 million of these systems were multifunction or whole-home systems whereas 5.8 million were point solutions. This corresponds to around 5.3 million smart homes when overlaps are taken into account, meaning that 2.4 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 54 percent during the next five years, resulting in 44.9 million smart homes by 2020. Market revenues grew by 157 percent to € 2.4 billion (US\$ 2.7 billion) in 2015. The market is forecasted to grow at a CAGR of 40 percent between 2015 and 2020 to reach € 12.8 billion (US\$ 14.7 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 58 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, MyFox, Sonos, Canary, Netatmo 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 Verisure, eQ-3, RWE, Deutsche Telekom and Loxone.

Smartphone apps are today the most common user interface for smart home solutions. In the future, users are however unlikely to be willing to launch a number of individual apps to be able to use their connected devices. A cross platform compatible and voice driven user interface would instead 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. Microsoft has indicated that the company will push its Cortana service as a foundation for controlling connected devices and services and Google announced its conversational digital assistant named Google Assistant in May 2016.



Total number of smart homes  
(Europe and North America 2014–2020)

### This report answers the following questions:

- Which are the main verticals within smart homes and home automation?
- What are the main drivers behind growth in Europe and North America?
- What are the challenges and roadblocks towards widespread adoption?
- What are the business models and channels-to-market for smart home solutions?
- Which are the leading whole-home system vendors in Europe and North America?
- How are product OEMs and whole home solution vendors positioning themselves?
- What home connectivity technologies are smart home system vendors betting on?
- What is the potential market size for cellular M2M in home automation?
- How will the smart home market evolve in the next five years?

### Executive summary

|   |  |  |
|---|--|--|
| <b>1 Smart homes, connected homes and home automation</b>                         |  |  |
| <b>1.1 Introduction</b>   |  |  |
| <b>1.2 Types of home automation</b>   |  |  |
| 1.2.1 Energy management and climate control systems                               |  |  |
| 1.2.2 Security and access control systems   |  |  |
| 1.2.3 Lighting and window control systems   |  |  |
| 1.2.4 Home appliances   |  |  |
| 1.2.5 Audio-visual and entertainment systems                                      |  |  |
| 1.2.6 Healthcare and assisted living  |  |  |
| 1.2.7 Multifunction and whole-home automation systems                             |  |  |
| <b>1.3 Home automation market segments</b>  |  |  |
| 1.3.1 Mainstream houses and multi-family dwellings                                |  |  |
| 1.3.2 The custom (luxury) segment   |  |  |
| 1.3.3 New homes versus existing homes   |  |  |
| <b>1.4 Channels to market</b>   |  |  |
| 1.4.1 Professional installation   |  |  |
| 1.4.2 Retail  |  |  |
| 1.4.3 Service providers   |  |  |
| <b>2 Networks and communication technologies</b>                                  |  |  |
| <b>2.1 Overview</b>   |  |  |
| 2.1.1 Different approaches to establishing interoperability                       |  |  |
| 2.1.2 Technology choices of product OEMs  |  |  |
| 2.1.3 Technology choices of whole-home solution vendors                           |  |  |
| 2.1.4 The role of smart home platform vendors is changing                         |  |  |
| <b>2.2 Smart home networking technologies</b>                                     |  |  |
| 2.2.1 ANT   |  |  |
| 2.2.2 Bluetooth   |  |  |
| 2.2.3 DECT ULE  |  |  |
| 2.2.4 EnOcean   |  |  |
| 2.2.5 HomePlug  |  |  |
| 2.2.6 HomeGrid  |  |  |
| 2.2.7 Insteon   |  |  |
| 2.2.8 lo-homecontrol  |  |  |
| 2.2.9 KNX   |  |  |
| 2.2.10 LPWA   |  |  |
| 2.2.11 OpenTherm  |  |  |
| 2.2.12 Thread   |  |  |
| 2.2.13 Wi-Fi  |  |  |
| 2.2.14 X10  |  |  |
| 2.2.15 ZigBee   |  |  |
| 2.2.16 Z-Wave   |  |  |
| <b>2.3 Smart home middleware and ecosystems</b>                                   |  |  |
| 2.3.1 AllSeen Alliance  |  |  |
| 2.3.2 Amazon Alexa Voice Service  |  |  |
| 2.3.3 Brillo and Weave  |  |  |
| 2.3.4 HomeKit   |  |  |
| 2.3.5 IFTTT   |  |  |
| 2.3.6 Open Connectivity Foundation  |  |  |
| <b>2.4 Smart home platforms</b>   |  |  |
| 2.4.1 Alarm.com   |  |  |
| 2.4.2 Arrayent  |  |  |
| 2.4.3 Greenwave Systems   |  |  |
| 2.4.4 iControl  |  |  |
| 2.4.5 Technicolor   |  |  |
| 2.4.6 ThroughTek  |  |  |
| 2.4.7 Zonoff  |  |  |
| <b>3 Technology providers and OEMs</b>  |  |  |
| <b>3.1 Market overview</b>  |  |  |
| 3.1.1 Compatibility with whole-home systems                                       |  |  |
| 3.1.2 Point solutions are gaining traction among consumers                        |  |  |
| 3.1.3 Smart home strategies for product OEMs                                      |  |  |
| 3.1.4 Connectivity enables new value propositions                                 |  |  |
| 3.1.5 New entrants challenge incumbents with connected experiences                |  |  |
| <b>3.2 Security and access control system vendors</b>                             |  |  |
| 3.2.1 Assa Abloy  |  |  |
| 3.2.2 August  |  |  |
| 3.2.3 Canary  |  |  |
| 3.2.4 Chamberlain   |  |  |
| 3.2.5 FortrezZ  |  |  |
| 3.2.6 Groupe HBF (Otio)   |  |  |
| 3.2.7 iSmartAlarm   |  |  |
| 3.2.8 Kwikset   |  |  |
| 3.2.9 MyFox   |  |  |
| 3.2.10 Schlage  |  |  |
| 3.2.11 Tyco   |  |  |
| 3.2.12 UTC Climate, Controls & Security   |  |  |
| <b>3.3 Home appliances</b>  |  |  |
| 3.3.1 BSH   |  |  |
| 3.3.2 Electrolux  |  |  |
| 3.3.3 Haier   |  |  |
| 3.3.4 LG Electronics  |  |  |
| 3.3.5 Whirlpool   |  |  |
| <b>3.4 Lighting and window control system vendors</b>                             |  |  |
| 3.4.1 Centralite  |  |  |
| 3.4.2 Leviton   |  |  |
| 3.4.3 LIFX  |  |  |
| 3.4.4 Lutron  |  |  |
| 3.4.5 Osram   |  |  |
| 3.4.6 Philips Lighting  |  |  |
| 3.4.7 Somfy   |  |  |
| 3.4.8 View  |  |  |
| <b>3.5 Audio-visual and entertainment system vendors</b>                          |  |  |
| 3.5.1 D+M Group   |  |  |
| 3.5.2 Kaleidescape  |  |  |
| 3.5.3 Logitech  |  |  |
| 3.5.4 Naim  |  |  |
| 3.5.5 Niles Audio   |  |  |
| 3.5.1 Sonos   |  |  |
| 3.5.2 Sony  |  |  |
| <b>3.6 Energy management and climate control system vendors</b>                   |  |  |
| 3.6.1 Climote   |  |  |
| 3.6.2 Danfoss   |  |  |
| 3.6.3 Diehl Connectivity Solutions  |  |  |
| 3.6.4 Ecobee  |  |  |
| 3.6.5 Honeywell   |  |  |
| 3.6.6 Netatmo   |  |  |
| 3.6.7 QGate   |  |  |
| 3.6.8 Radio Thermostat Company of America   |  |  |
| 3.6.9 Schneider Electric  |  |  |
| 3.6.10 Tado   |  |  |
| <b>3.7 Healthcare and assisted living</b>   |  |  |
| 3.7.1 Doro  |  |  |
| 3.7.2 GreenPeak Technologies  |  |  |
| 3.7.3 Hidea   |  |  |
| 3.7.4 Legrand   |  |  |
| 3.7.5 Lively  |  |  |
| 3.7.6 Tunstall Healthcare Group   |  |  |
| <b>4 Service providers and whole home system vendors</b>                          |  |  |
| <b>4.1 Market overview</b>  |  |  |
| 4.1.1 The European market   |  |  |
| 4.1.2 The North American market   |  |  |
| 4.1.3 Attach rates per application area in whole-home systems                     |  |  |
| <b>4.2 Market segments and go-to-market strategies</b>                            |  |  |
| 4.2.1 Professionally monitored security   |  |  |
| 4.2.2 Traditional home automation   |  |  |
| 4.2.3 DIY systems   |  |  |
| 4.2.4 Fee-based home control  |  |  |
| <b>4.3 Whole-home system OEMs</b>   |  |  |
| 4.3.1 Belkin  |  |  |
| 4.3.2 Bosch   |  |  |
| 4.3.3 Control4  |  |  |
| 4.3.4 Crestron Electronics  |  |  |
| 4.3.5 D-Link  |  |  |
| 4.3.6 Essence Group   |  |  |
| 4.3.7 eQ-3  |  |  |
| 4.3.8 Fibaro  |  |  |
| 4.3.9 Gigaset   |  |  |
| 4.3.10 Ingersoll Rand   |  |  |
| 4.3.11 Loxone Electronics   |  |  |
| 4.3.12 M2M Solution   |  |  |
| 4.3.13 MiOS   |  |  |
| 4.3.14 Nest   |  |  |
| 4.3.15 Samsung SmartThings  |  |  |
| 4.3.16 Viva Labs  |  |  |
| 4.3.17 Wink   |  |  |
| 4.3.18 TP-Link  |  |  |
| <b>4.4 Smart home service providers</b>   |  |  |
| 4.4.1 ADT   |  |  |
| 4.4.2 AT&T  |  |  |
| 4.4.3 Centrica (British Gas)  |  |  |
| 4.4.4 Comcast   |  |  |
| 4.4.5 Cox Communications  |  |  |
| 4.4.6 Deutsche Telekom (QIVICON)  |  |  |
| 4.4.7 RWE   |  |  |
| 4.4.8 SFR   |  |  |
| 4.4.9 Time Warner Cable   |  |  |
| 4.4.10 Verisure   |  |  |
| 4.4.11 Vivint   |  |  |
| <b>5 Market forecasts and conclusions</b>   |  |  |
| <b>5.1 Market trends and analysis</b>   |  |  |
| 5.1.1 Focus on attractive use cases, user friendliness and interoperability       |  |  |
| 5.1.2 Voice controlled user interfaces anticipated to break down mobile app silos |  |  |
| 5.1.3 Greater consumer awareness benefits all players                             |  |  |
| 5.1.4 Lower price points opens the doors to the mass market                       |  |  |
| 5.1.5 Cloud-based systems and the integrated hub opportunity                      |  |  |
| 5.1.6 Open versus closed smart home ecosystems – getting the timing right         |  |  |
| 5.1.7 Smart homes and the Internet of Things                                      |  |  |
| 5.1.8 Professional security leads the North American smart home market            |  |  |
| 5.1.9 Smart thermostats gain traction in Europe and North America                 |  |  |
| 5.1.10 Cellular M2M in the smart home market                                      |  |  |
| <b>5.2 Europe</b>   |  |  |
| 5.2.1 Revenues  |  |  |
| 5.2.2 Shipments   |  |  |
| 5.2.3 Installed base  |  |  |
| <b>5.3 North America</b>  |  |  |
| 5.3.1 Revenues  |  |  |
| 5.3.2 Shipments   |  |  |
| 5.3.3 Installed base  |  |  |
| <b>Glossary</b>   |  |  |



## About the Author

**Johan Svanberg** is a Senior Analyst with a Master's degree from Chalmers University of Technology. He joined Berg Insight in 2007 and his areas of expertise include Industrial M2M focusing on the oil & gas industry and industrial automation as well consumer electronics, smart homes and wearables.

**Berg Insight** offers premier business intelligence to the telecom industry. We produce concise reports providing key facts and strategic insights about pivotal developments in our focus areas. Berg Insight also offers detailed market forecast databases and advisory services. Our vision is to be the most valuable source of intelligence for our customers.

### Who should buy this report?

**Smart Homes and Home Automation** is the foremost source of information about the emerging market for connected home applications. Whether you are a product vendor, service provider, telecom operator, investor, consultant, application developer or government agency, you will gain valuable insights from our in-depth research.

### Related products

- Smart Metering in Europe
- mHealth and Home Monitoring
- The Global M2M/IoT Communications Market
- Connected Care in Europe

## Order form – TO RECEIVE YOUR COPY OF SMART HOMES AND HOME AUTOMATION

You can place your order in the following alternative ways:

1. Place your order online in our web shop at [www.berginsight.com](http://www.berginsight.com)
2. Fax this order sheet to us at fax number: +46 31 711 30 96
3. Mail this order sheet to us at: Berg Insight AB, Viktoriagatan 3, 411 25 Gothenburg, Sweden
4. Email your order to: [info@berginsight.com](mailto:info@berginsight.com)
5. Phone us at +46 31 711 30 91

### Choose type of format

- Paper copy ..... 1000 EUR  
 PDF 1-5 user license ..... 1500 EUR  
 PDF corporate license..... 3000 EUR

|                |          |          |          |
|----------------|----------|----------|----------|
| Family/Surname | Forename | Position | Company  |
| Address        |          | Country  | Postcode |
| Telephone      | FAX      | Email    |          |

VAT is chargeable on all orders from Sweden. Orders from all other countries in the European Union must include the buyer's VAT Registration number below in order to avoid the addition of VAT.

|                |                                  |
|----------------|----------------------------------|
| Your PO number | Your VAT/TVA/IVA/BTW/MWST number |
|----------------|----------------------------------|

### Please charge my credit card

- VISA    Mastercard

|                   |                     |         |
|-------------------|---------------------|---------|
| Card number       | Expiry date (MM/YY) | CV code |
| Cardholder's name | Signature           |         |
| Billing address   |                     |         |
| Postcode          | Country             |         |

- We enclose our cheque payable to Berg Insight AB  
 Please invoice me

|           |      |
|-----------|------|
| Signature | Date |
|-----------|------|

Reports will be dispatched once full payment has been received. For any enquiries regarding this, please contact us. Payment may be made by credit card, cheque made payable to Berg Insight AB, Viktoriagatan 3, 411 25 Gothenburg, Sweden or by direct bank transfer to Skandinaviska Enskilda Banken, 106 40 Stockholm, Sweden.

Account Holder: Berg Insight AB  
 Account number: 5011 10 402 80  
 BIC/SWIFT: ESSESESS  
 IBAN: SE92 5000 0000 0501 1104 0280

