Home Automation

ON World

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Executive Summary

North America home automation will be a $13.5 billion market in the next five years. Today, it is a $7.5 billion market with safety and security capturing the largest percentage of the revenues. In 2024, North American Home Automation unit shipments will reach 335.6 million up from 58.6 million. The United States will make up 89% by this time but Canada will increase 18% faster.

Smart home lighting products such as smart light bulbs, lamps, fixtures and light strips will make up 47% of home automation units (156 million) in 2024 up from 12 million in 2017, a 44% compound annual growth rate (CAGR).

In 20224, security will capture 60% of the North America home automation revenues, reaching $8.1 billion, followed by energy (26%) and lighting (14%). In 2024, Amazon will sell 31% of the Home Automation unit shipments followed by professional (21%), Home Center (19%), Mass Market (17%), Electronics outlets (10%) and Hardware (2%).

Smart Home Lighting

North American Smart Home Lighting will reach $1.9 billion with 156.2 million annual units in the next five years. Units will increase by 13X and revenues will grow 4X from 2017 levels. The high growth rates captured in the 2018 Smart Lighting & Accessories Study were again verified in the current 2019 study. Data in this report illustrates a continued movement from early adopter to early majority consumers. By 2024, 1 in 3 North American households will have an average of 6 smart bulbs, lamps, light strips or fixtures. One in six North American households will have an average of 3.5 smart light switches by this time.

One of the main drivers of this growth is the North American Smart Speaker (voice assistants) market which continues to grow at 40%. Amazon Echo leads the smart speaker market, but Google continues to dominate in search, voice and AI technologies. The Google Assistant which is the AI voice technology of Google Home has been installed on over 1 billion devices.

ON World's Q3 2019 survey with early adopting smart bulb buyers found that 77% purchased their first smart bulb within the past year. Of these new buyers, 1 in 4 have returned at least 1 smart bulb and 30% indicated that it was "moderately difficult" to "nearly impossible" to install their smart bulb. Two thirds of consumers surveyed for this report are interested/very interested in hub-less control and deployment. Voice user interfaces (VUI) that eliminate app and hub complexity has the potential to drive mass market adoption of smart home lighting.

Smart bulb buyers are most interested in bundles that combine smart lighting devices with smart thermostats, motion sensors, and smart speakers. Our survey with 147 retail salespeople found half (46%) of their customers would prefer a hub-less solution with 42% saying that customers prefer a central control point for their smart home devices.

Smart Bulb/Lamps/Fixtures/Strips

Smart bulbs are the largest segment by unit shipments. North America smart bulbs, lamps, light strips and fixtures will ship 131 million annual units by 2024 with revenues of $1.3 billion. Overall smart bulb ASPs dropped by 17% even though RGB color smart bulb sales continue to make up 40% of smart bulb sales. This is attributed to growing product offerings and sales of low-cost smart bulbs using WiFi or Bluetooth. The largest portion of color smart bulb sales is currently from Amazon, Mass Market and Electronics outlets.

The 2019 retail store average grew by 25% from 2018, with the Home Center channel growing the fastest at 30%. Electronics continues to lead unit sales with (35.8/week). Best Buy smart bulb sales grew by 20% with 2019 sales at nearly 40 per store/week.

Home Depot increased nearly 50% and Lowes started offering smart bulbs focused on smart speaker integration. Walmart grew from 4.1 to 8.1 units per store/week as they leverage their relationship with Google (Google home) to compete with Amazon (Alexa) and their online ecommerce dominance.

Smart Switches/Dimmers

Smart switches and dimmers are dominated by four channels: Professional installers, Amazon, Home Center and Electronics stores. In 2024, 25.2 million smart switches and dimmers will ship in North America with revenues of $593 million. Dimmers will make up 52% of the switch market by this time but on/off switches will increase faster with more rapid price declines.

In 2024, retail channels such as Amazon, Home Center and Electronics outlets will capture $400 million in smart switch revenues (67%) as DIY and contract electricians continue to displace sales sold through professional smart home installers. Online sales are growing rapidly with nearly 1 million online reviews for smart home products that we analyzed for this report. Amazon continues to lead the online smart home market but other chains such as Best Buy, Home Depot and Walmart are increasing faster.

Smart Home Safety and Security

North American Smart Home Safety and Security will reach $8.1 billion with 116.1 million annual units in the next five years. Units will increase by 3.7X and revenues will grow 2.4X from 2017 levels. The robust North American unit growth rates are occurring as retail grows faster than professional services. This is happening because consumers are buying smart video doorbells, locks, garage door openers and cameras from chains and installing it themselves or hiring chain approved contractors.

Even though retail/DIY with free or inexpensive cloud service offerings are challenging professional services, their unit sales are still growing 17%. The professional installers/dealers surveyed for this study are predicting 25% growth this year.

Smart video doorbells, sensors and access controls are relatively new devices that will grow 22% in 2019. These products are targeted at consumer's smart phones and home automation systems and are not a complete replacement of security alarm systems. Smart safety and security systems are benefiting from smart speakers, but it is the cloud connected smart sensors, access controls and doorbells that provide real-time home awareness that has made this such an enormous home automation category.

Video Doorbells/Cams

Ring (Amazon) and Nest (Google) dominate this market. Video doorbells and IP/WiFi cameras will reach $4.5 billion with 38.7 million units in the next 5 years. IP/WiFi cameras sell slightly more devices as consumers buy several cameras versus one doorbell and professional services also drive sales. The Electronics and Home center channels are the largest sellers with 13 units sold per week (Electronics outlets) and 11.5 units/week (Home Center).

Our research shows that video doorbells are the most demanded smart safety and security device through retail channels with salespeople seeing video doorbells outsell security cams by 2:1. By 2024, 36% of North Americans will have an average of 1.25 video doorbells and 22% will have an average of 2.5 IP/WiFi cameras. Video doorbells with motion control, messaging and free cloud services is extremely disruptive to security service providers as many consumers see them as a nearly complete security system with no monthly service obligation.

Access Control

Smart door locks and garage door openers will reach $2 billion with 20.4 million units in the next 5 years. Cloud connecting a garage door opener is an example of how a simple solution quickly becomes a new home automation segment and drives other solutions such as smart door locks.

Consumers are buying millions of these units a year with Electronic stores selling 9.4/week and home centers selling 5.4/week.

Smart Sensors

Smoke detectors, motion sensors, contact and water leak sensors make up this safety and security category and collectively will reach $1.4 billion with 54.8 million units in the next five years. The retail market for smart motion and contact sensors is growing rapidly due to the emergence of smart home security kits especially in the Electronics and Home Center channels. Contact and motion sensors will grow to 41 million units by 2024 with Electronics stores and Home Centers selling about 5 units/week.

Smart Home Energy

North American Smart Home Energy will reach $3.3 billion with 58.4 million annual units in the next five years. Units will increase by 4X and revenues will grow 2X from 2017 levels. The healthy North American growth rate is coming from strong consumer retail as well as professional services. Consumers are purchasing smart energy devices and either DIY or hiring contract installers to integrate into their home automation and energy systems. By 2024, the professional channel will make up 27% of the units shipped (51% of the revenues). Units will increase by a 20% CAGR in the professional channel from 2017 to 2024 versus 23% in retail channels.

T-Stats and Temp sensors

Smart thermostats were the most mentioned bundle for smart home device in our 2019 study of smart lighting and safety/security consumers. Smart thermostat DIY and contract installation is taking market share from professional installers and service providers (Comcast, Vivint etc.), still, professional installer/dealers and service providers made up 42% of the units and 55% of the revenues in 2017.

In 2024, the professional channel will make up 39% of the total units shipped (54% of the revenues). Electronics retailer Best Buy is selling 3.3 smart thermostats and 2.7 temperature sensors per store/week. The next largest is Home Center chains such as Lowe’s and Home Depot that are currently selling about 1 smart thermostat every other day and 1 remote temperature sensor every three days.

Increasing rebate offerings by utilities, lowering hardware costs and the emergence of new product categories such as remote battery-powered smart thermostats will drive 29% of North Americans to adopt an average of 2.2 smart thermostats per household by 2024.

Smart Plugs

Smart plugs are devices that turn on/off plugged in electrical devices with some brands monitoring energy consumption. Retail will make up 90% of the smart plug/outlet shipments over the projection period and 84% of the revenues. In the next five years smart plug units will grow to 26.5 million units with $271 million in revenue.

Smart plugs are some of the most popular smart home products today with Best Buy selling 10 smart plugs per store/week followed by Home Depot (4.9) and Lowe's (2.9). Off-shore smart plug manufacturers continue to flood this market and push ASP's down with advanced WiFi voice-controlled plugs that do not require a dedicated hub.

Within the next five years, 23% of North Americans will have an average of 2.5 smart plugs/outlets assuming 22% of unit sales during this period are returned or replaced.

Methodology

ON World has published research on the smart home for the past 15 years. Our forecasts are refined, benchmarked and calibrated with ongoing investigations and studies as well as verification and feedback from OEMs (e.g. Nest, Signify, Ecobee) as well as industry groups and home service providers (e.g. Comcast, Vivint).

This report covers North America home automation products in three market categories: Smart Lighting, Smart Safety and Security and Smart Energy[1]. The forecasts are based on current and historical product data, extensive evaluation of online products, several surveys and interviews with retail sales reps in September-October 2019. These include the following:

Phone Interviews:

- 427 retail store outlets (77% US and 23% Canada): Home Depot, Lowe's, Menards, RONA, Walmart, Target, Bed Bath & Beyond, Canadian Tire, Best Buy, The Source, Ace Hardware and True Value.
- Phone interviews and online survey with 132 North America professional installers/dealers, electricians and contract installers.

Consumer Surveys:

- 1,455 early adopters: 500 smart bulbs, 555 smart security, 400 smart thermostats
- 3,500 early majority consumers: 1,500 lighting, 1,500 security, 1,000 energy

Product Analysis:

We analyzed 1,000+ home automation online product listings on Amazon.com and the other retail chain websites representing >500,000 reviews including growth trends, pricing, vendor, product type and product features. In addition, we interviewed security service providers, device manufacturers, chipset suppliers and industry alliances (Zigbee Alliance, Thread Group) to get their feedback on home automation growth and adoption trends.

Forecast Model:

Using the data collections above, we use biases to determine the base year's market size in units and revenues for each product segment, channel and country. Then we use weightings combined with our control model to determine likely growth rates for each segment in each distribution channel and country (US and Canada).

[1] "Smart"= Internet connectable, either directly or through a hub including Bluetooth devices that may not be used with a hub.

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ON World provides global business intelligence on Internet of Things markets. Founded in 1996 in the San Francisco Bay Area, ON World is headquartered in San Diego, California.

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