SMART HOME SOLUTION MARKET ANALYSIS , TRENDS AND CURRENT ENGAGEMENTS

OVERALL FLOW

Home Automation Evolution: Past Present and Future
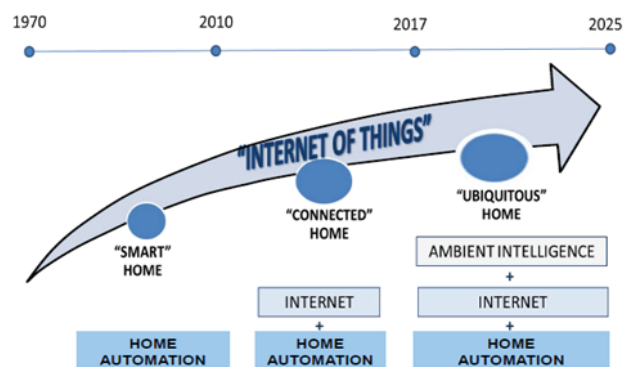
The Smart Home market has reached a critical mass from where it seems set to break-through to the mass-market.

Internet connectivity and standard, multifunctional, elements present an opportunity that is being seized by Telecoms and Utilities to offer a range of "connected home" solutions.

With the "Internet of Things" the market will move to the "ubiquitous Home"
- where sophisticated systems learn user behaviour / lifestyle and respond accordingly.

Source: BSRIA

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HOME AUTOMATION MARKET UNDERSTANDING:

Technology is a critical factor in the way we function today; disruption through technology has bought forth some of the most efficient solutions in many aspects of life today. From smart phones, internet banking, e-commerce, to new age innovations such as wearable technology and smart homes, technological innovation is impacting our lives like it has never before; stitching together people, systems and solutions Seamlessly.

Home automation has its roots in smart home appliances which has over the years led to the development of integrated smart homes. Home automation today largely consists of four functional segments –Lighting, Security, Audio/Video and HVAC (Heating, Ventilating and Air Conditioning). Residential usage is the highest in the market and accounts for nearly 60% of the home automation industry.
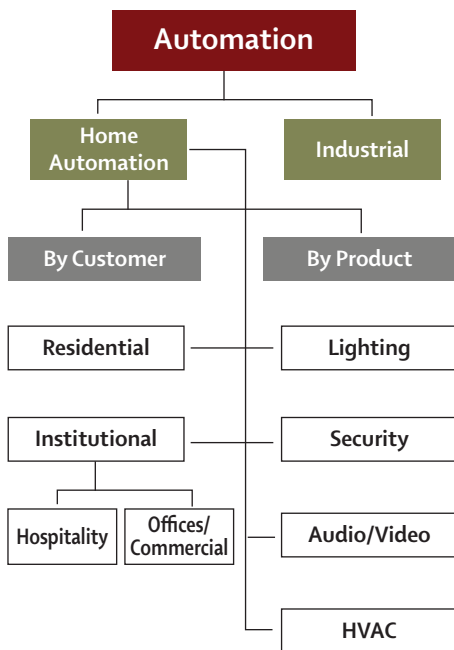
Functional segments in home automation

The home automation market in India is expected to reach INR 8800 crores by 2017. The key growth drivers for this demand are increasing consumer awareness and financial ability, product innovations (like smart phone apps), builders' requirement for

market differentiation and an increase in the preference for energy efficient systems. However the market is still in its growth phase with a significant gap for more innovative and connected systems. Some of the key constraints include high product costs and moderate levels of satisfaction among the customers.
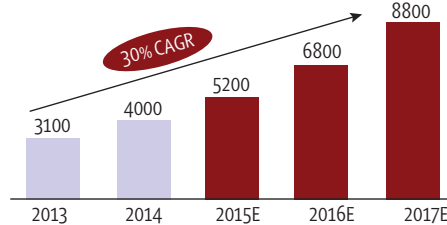
Home automation market growth in India in Cr. INR

Functional Segments:

The four functional segments of home automation in India include **Lighting, Security, Audio/Video and HVAC (Heating, Ventilating and Air Conditioning).** Major driving forces for installing smart home systems are convenience, energy conservation and security. Smart home systems today, help control anything from climate/temperature, security cameras, locks, sensors and entertainment systems among others. A detailed segment wise breakdown of the systems are given below:

	Items controlled and functions	Control options
Lighting	**Items:** Bulbs, fans, shades (advanced) **Functions:** Scenarios, Dimmers, Energy saving, Motion sensors	**Wired:** Switches, Touch plates, wall mount, interactive screens **Wireless:** Remote Controls, Table tops, Phone/Tab apps
Security	**Items:** Alarms, Cameras, Door Phones, Locks **Functions:** Motion sensors, Room-based, Voice based control	**Wired:** Switches, Touch plates, wall mount, interactive screens **Wireless:** Remote Controls, Table tops, Phone/Tab apps
Audio/Video	**Items:** Home Theater systems, TV, Music Systems (esp. iPod) **Functions:** Volume, Recording, Channels Centralized heating systems, AC (Thermostat)	**Control options Wired:** Switches, Touch plates, wall mount, interactive screens **Wireless:** Remote Controls, Table tops, Phone/Tab apps
HVAC	**Items:** Centralized heating systems, AC (Thermostat) **Functions:** Temparature control, climate control	**Control options Wired:** Switches, Touch plates, wall mount, interactive screens **Wireless:** Remote Controls, Table tops, Phone/Tab apps

Market Analysis by Customer segment

The residential segment accounts for nearly 60% of India's home automation industry (out of which individual homes and villas account for 75-80% of market and builders account for ~20% of market). This segment has the highest growth and is currently growing at a CAGR of 35-40%. The market for residential home automation is highly fragmented, especially in home security systems.

Commercial spaces contribute to 30% of the home automation market. This segment is largely driven by security and access systems. Large companies like Samsung, Bosch and Honeywell dominate this segment in India. Efficient building management systems are fast gaining popularity in India as well.

The hospitality industry also uses home automation and accounts for 10% of the market. Security and lighting systems are popular in this sector due to the growing need for differentiation.

Market Analysis by product segments

a) Lighting Market

The lighting market makes for 39% of the home automation market thus being the second largest segment in the market (the first being the security market at 45%).The lighting market is highly fragmented with 60% of the market captured by the organised players and the rest by unorganised players. Legrand leads the market followed by the next 25 players. The unorganised market largely constitutes of local players who import sensors, switches, control boxes and remotes from other markets such as China.
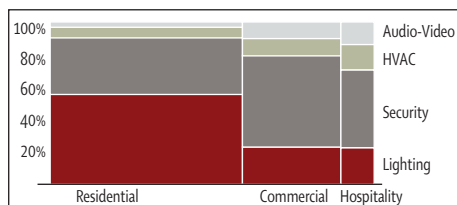
b) Security Market

The security systems market is the largest product segment in India's home automation market. The market is dominated by organised players; nearly 70% of the market is made up of organised players. Zicom, Honeywell and Bosch lead the market this segment. The unorganised market includes players who sell CCTVs, alarm systems,door sensors and video phones imported from China.

The security and surveillance and market in India stands at INR 9000 crores . The industrial and government security market accounts for 85% of the security market.

Market share by product segment and players
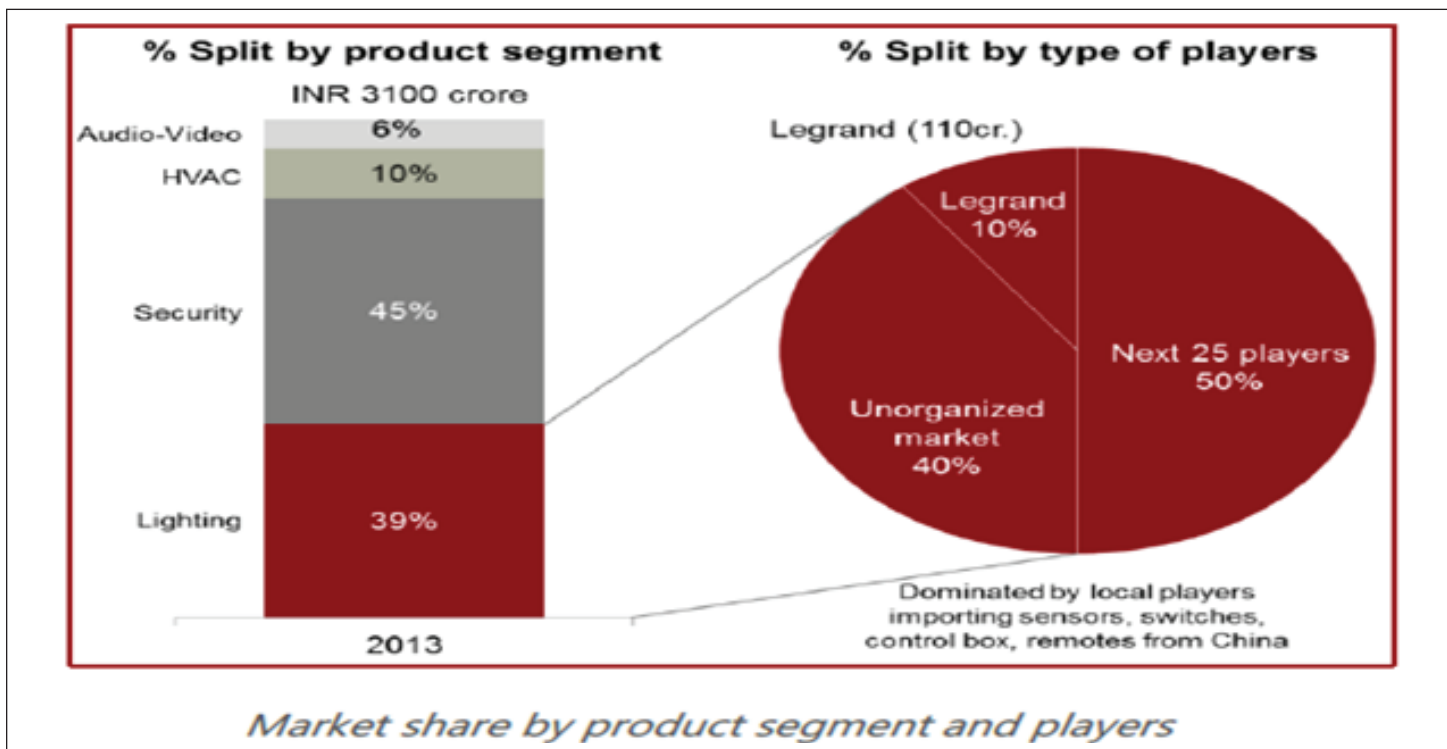
Lighting and security are the top selling products in home automation, accounting for nearly 80-85% of the market.


Market split by customer and functional segments

It can be seen from the chart that lighting is the largest component of the residential market while security is the largest component of the commercial market.

Overall, the market is highly fragmented, largely due to the low entry barriers. Availability of open source technologies makes it easy to enter the market. Innovation is the driving force of the industry and the market is evolving fast both in terms of technology and features (mobile apps etc.). In India, the home automation market is expected to grow significantly over the next few years and will witness growth both in terms of number of players and technologies offered

INDIAN MARKET ANALYSIS AND DEEP DIVE INTO FUTURE TRENDS :

Leading markets in India The market is currently concentrated in top-10 cities and few smaller cities; companies are looking at tier-2 cities for their next level of growth. Market share by geography. It can be observed that certain areas have shown higher growth and this can largely attributed to two factors – growth of IT Hubs and HNIs (high net-worth individuals). HNIs are concentrated in NCR, Punjab and Gujarat and IT Hubs are located in Pune, Hyderabad, Bangalore, Noida and Coimbatore.

Market share by geography.
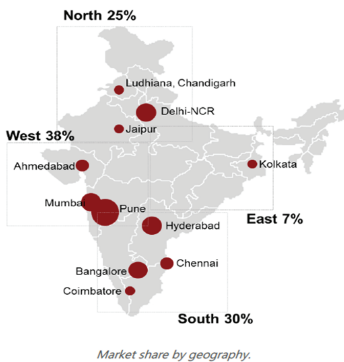
Pune currently is the biggest market for home automation in India.

The market shares for key markets are as follows:

Key markets	% Share
Delhi-NCR	13%
Jaipur	4%
Chandigarh	2%
Ludhiana	2%
Mumbai	12%
Pune	15%
Ahmadabad	7%
Kolkata	4%
Hyderabad	9%
Bangalore	7%
Chennai	6%
Coimbatore	2%
Cochin	2%
Others	15%

Market share by region

Market trends – technology

Some of the key problem areas in India are issues with wired systems and foreign players. Some of the main pain points with wired systems are as follows:

1 Difficult to retro-fit

2 Lack of inter-operability between different products

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3   Lack of remote management from outside

4   Settings to be configured only by company engineers

5   Lack of flexibility for adding new products

6   High installation time

Although foreign players are entering the market, the process of purchasing and maintaining a system sold by a foreign player is still not smooth.

Some of the drawbacks of foreign players in India are as follows:

1. roduct replacement times are as high as 4 weeks

2. Lack of service infrastructure as 1 service engineer services up to 400 clients

3. Lack of support for 'India-models' of products as codes are written for US models

4. Lack of support for system integrators

Unsuccessful wireless solutions by MNCs is leading to system integrators creating their own protocols or switching to open source products. This in turn leads to higher margins for the integrators.

Wired Vs. Wireless systems

The home automation market worldwide is making a shift from wired to wireless systems. Some of the key features of both systems are listed on the chart below:

wired	wireless
• A reliable and most durable technology, fits the budget of most of the customers	• Can seamlessly operate without congestion of wires
• Can handle large bandwidth • Durable-work for years • Quick response time	• Ease of access • Quick installation • Retrofitting is easy • Smooth technology
• Troubleshooting is a difficult task in case any issues arise	• Decrease in response time by few seconds after few months of installing

Key insights for both systems across important factors:

1. Installation – Installation time for a wired system is less than a day, in some cases it could get up to a week`s time. A wireless system requires fewer hours of installation time and is very convenient to install

2. Warranty – Warranty of 2 years is provided by most home automation brands. Some system integrators do provide additional warranty on services

3. After sales services – AMC of 8-10% of total project cost is common in the market. Many customers are not very much concerned about hardware and do not feel the need of AMC.

4. Brand importance – Brand is a very important parameter for end users, especially in the security domain. However, brand is not a very important factor for builders as price is the most important consideration for builders

Schematic of a Smart Home

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BASIC LEVEL FUNCTIONS:

1) Lights(ON/OFF)   2) Curtain   3) HVAC   4) CCTV and VDP   5) Ipad contol

Categorization of Smart Home systems

Residential home automation is broadly categorized into 3 types

1. Entrance Management   2. Safety and Security   3. Smart Device-Life Style Management

Smart Devices Management

Entrance Management

This is the smartest way to know what's happening at your door step. The integrated camera, mic, and speaker let you see who is at the door, talk to the person and let him in. All without even moving from your seat, as you can control the features remotely from your smart devices.

- Video Doorbell Indoor
- Video Doorbell Outdoor
- Digital Lock
- Surveillance Camera

Safety and Security Management

The system consists of multiple sensors installed at various points in the home. On detecting a safety and security mishap, it raises an alarm and alerts you through SMS, mail, and pre-recorded messages. You can create various security profiles and arm/disarm the home from your smart devices remotely.

- Gas Leak Detector
- Heat Detector
- Panic Button
- Door Intrusion Sensor
- Motion Sensor
- Glass Break Detector

Smart Device Management

Control your lights, AC, curtains, TV, entertainment system at a touch of one button. The integrated control lets you manage the devices remotely from anywhere. You can program the devices to work under different moods and schedule for automatic activation/deactivation as per time.

- Dimmer & Lights Control
- AC Control
- Curtain Control
- Home Entertainment Management System
- Sprinkler Control

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Segmentation Matrix (Basic Level Amenities in smarthomes)

	Affordable (<2La k h)	Premium (2 - 5 Lakh)	Luxury (5 - 15 Lakh)	Villas (>15 Lakh)
Entrance Management				
Video Door phone		★	★	★
Surveillance Camera	★	★	★	★
Door Lock	★	★	★	★
Lifestyle				
Dimmers and Light control	★	★	★	★
HVAC		★	★	★
Curtain Controls	★	★	★	★
Home Entertainment Management system			★	★
Sprinkler System				★
Security				
Gas Leak detection	★	★	★	★
Fire alarm		★	★	★
Home intrusion Alarm			★	★

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STL Engagements with IOT based home automation companies

OEM'S

1. CRESTRON

Crestron manufactures, and delivers the world's most advanced control and automation technology. there solutions set the standard for performance and reliability for Fortune 500® companies, government organizations, leading hospitals and universities, and prestigious homes across the globe.

It is one of the leading OEM's in home automation space across the globe with HQ in New jersey USA.

2. SILVAN

OEM working in Builder Driven Home automation space based out of Bangalore . Silvan's solutions for home automation has been welcomed by several big players in the field of housing – Sobha, Brigade, Nambiar Builders, Total Environment, Tata Housing, and Lodha to name a few.

Spurred on by the magnitude of success the company has achieved in home automation in the Indian market, Silvan is now looking to expand into other geographies. It is also working on new products that would increase its footprint amongst the consumers.

IOT Based solution companies

3. IRAM

Start Up Technology Company with IOT Focus On-Going Research and Development for Industry Leading IOT Solutions . Funded by DIT/ERNET Closely working with DIT/ERNET for IOT Policy making, IPv6, Smart City Initiatives Contributing to IEEE, IETF All solutions are Home grown– Manufacturing Facility in Bangalore .

4. ZEESENSE

ZeeSense is a technology company run by IT industry veterans and focused on being the leading player in the IOT space. they use wireless smart sensors and internet/ cloud/ mobile connectivity to deliver solutions that enrich lives and make homes and communities safer, more secure, more comfortable and environment friendly.

5. Intellicon:

Intellicon, an integrated technology solutions company functioning in the Enterprise Communication and Information Technology domains. Intellicon's pan India presence, combined with its acknowledged capability to optimize its core capabilities across diverse technology platforms, and commitment to quality and support facilitates the delivery of best in class solutions.

6. StereoTrend:
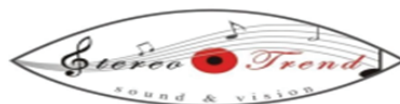
7. Build Track

BuildTrack Labs has been awarded the **LEED Commercial Interiors Platinum Rating** by U.S. Green Building Council. The labs and offices use the entire BuildTrack™ brand of products to provide elements of energy efficiency, safety, security, comfort and convenience and serve as a product demonstration showroom for all the products developed. Buildtrack is the first indian company to receive the globally recognized internet of things award 2015 in connected home category. We have also received the most innovative product award for energy savings. Having received the IESA

(India Electronics & Semiconductor Association) award for the Most Promising Company 2014-2015 recently, it is with great honor that we present ecofriendly and automated products for the generation today.