

Connected Living for Better Business

Showing service providers the way to business growth?



Creating a Profitable Environment for Service Providers

The “Smart” home is not new. It’s been in place in high end homes for more than two decades. What is new is that the advances in cloud computing, high speed Internet, and wireless connectivity including Wi-Fi have brought connected home devices to mass production and affordability, and thus adoption.

The early adopters are generally more tech savvy, so they have a greater ability to connect and manage a multitude of devices from multiple manufacturers.

Now the average consumer wants to take advantage of the myriad benefits smart home systems offer:



Energy saving

Programmable thermostats that can be remotely adjusted on the fly based on occupancy plans



Security

Remote entry and exit and zone control to monitor who is in the home and when



Safety

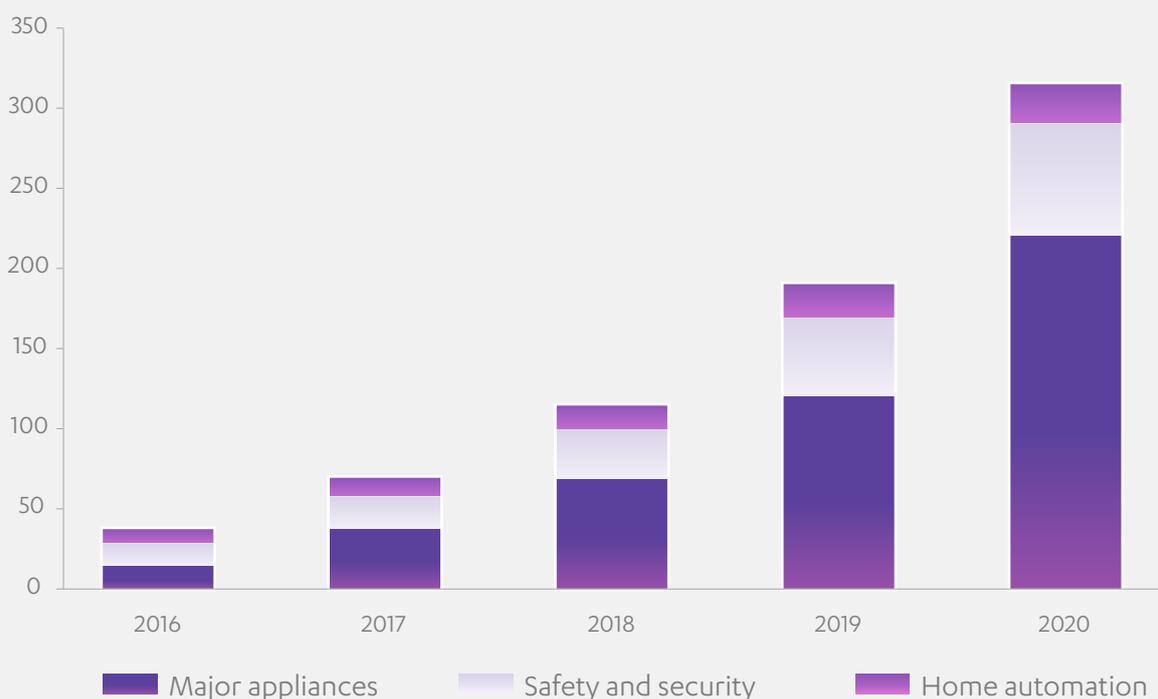
Flood and fire monitoring that alerts both the consumer and relevant third parties



Management

Controlling the home’s multimedia and appliances

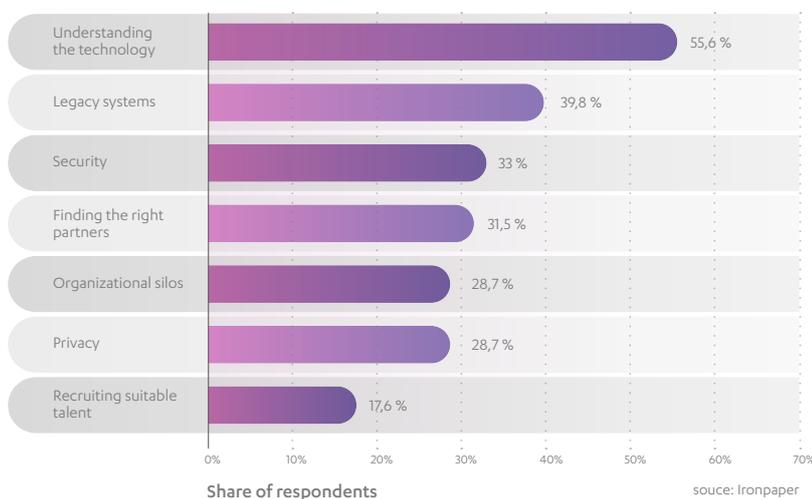
Recent reports show that in 2016 consumer adoption of connected home devices experienced a huge leap forward. [IHS Markit estimates](#) that 80 million smart home devices were purchased by consumers in 2016, a 64% increase over 2015. According to [‘2016: Year of the Smart Device’](#), a consumer survey commissioned by [PlumChoice](#) and the [Z-Wave Alliance](#), 97% of consumers already know what a smart device is (versus 67% in 2015), while 79% report owning one or more. If we compare the numbers, it is clear that device adoption is on the rise and that consumer expectation about connected living tech is growing and evolving.





Most consumers getting on board are going via the fastest and easiest way, which is to simply buy one of the many point devices and gadgets that are readily available through retail channels. However, they quickly find themselves overwhelmed with devices in which they've invested quite a bit of money but are now simply collecting dust because they don't know how to integrate them into a single system, and some are not compatible with each other.

According to [PlumChoice's research](#), "Consumers expect more help and support from the brands they're buying from." In fact, consumers' decision to buy from a brand again is overwhelmingly influenced by the brand's ability to provide the help they need to use and enjoy their products. More specifically, installation support is cited as a top need by 68% of consumers. As the report states, "This data presents smart device manufacturers, distributors and brands with an opportunity to become a true partner for consumers who need more information and help."



The solution to consumers' confusion is service providers offering a complete package: service, interoperability, continuity, products and support. Providing consumers with integrated smart home solutions is the biggest opportunity that service providers (SP) have had in years.

Most of us do not have the expertise to buy various security and automation components and ensure that they all work together. The benefit of buying from a service provider is that they will give the customer a system that works, devices that are interoperable, and ensure that in the event of technical

problems they will always have a single point of contact that will offer support.

Simply by offering the customer a system that works, service providers across industries can leverage existing consumer relationships to add a completely new and highly profitable line of business – the connected life.

Connected home technologies offer these market players a unique chance to further engage with their customers by enriching their offerings with a whole ecosystem of smart home devices and new long-term services based on data analytics.

Getting Down to Business

The potential for IoT revenue profit is waiting for service providers across verticals – insurance, telco, security, utilities, and healthcare management organizations. Offering end-to-end IoT lifestyle solutions is a rapid way to increase ARPU and expand their customer base. It's a matter of appealing to the customers' personal values they want to gain from their smart home management systems to take advantage of the growth and business expansion opportunities in the connected home market.

By using a service provider, consumers get not only a system that works but also ongoing support and connectivity to another service already offered by the service provider, such as:



Insurance

Reduced premiums



Telco

Bundled with other services



Energy

Usage of power saving products is incentivized by reduced energy costs



Healthcare

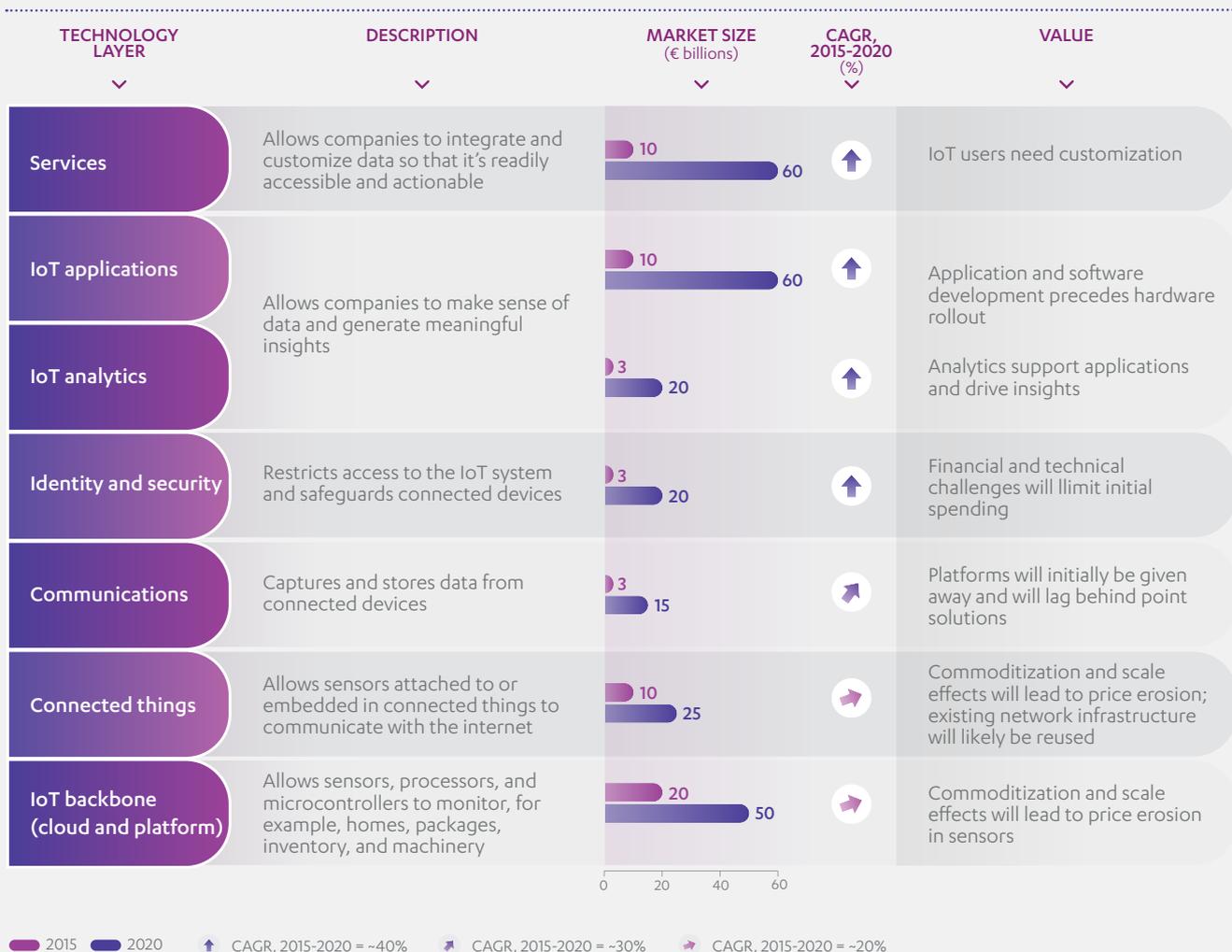
Lowered long-term costs



Security

24/7 monitoring or monitoring on demand

Services and IoT applications and analytics will capture some 60% of IoT spending



Sources: IDC; Gartner; ABI Research; BCG Internet of Things buyer survey, expert interviews; BCG analysis.

IoT & the Insurance Business

Insurance companies are in a win-win when offering connected home safety technologies. Smart smoke detectors, water sensors, and alarm systems prevent accidents and mitigate risks – lowering claims.



An intelligent thermostat will automatically turn the heat up to prevent the pipes from freezing when the outside temperature drops to a dangerously low level.



A smart water shutoff valve will stop the water flow when a flood or water leak is detected.

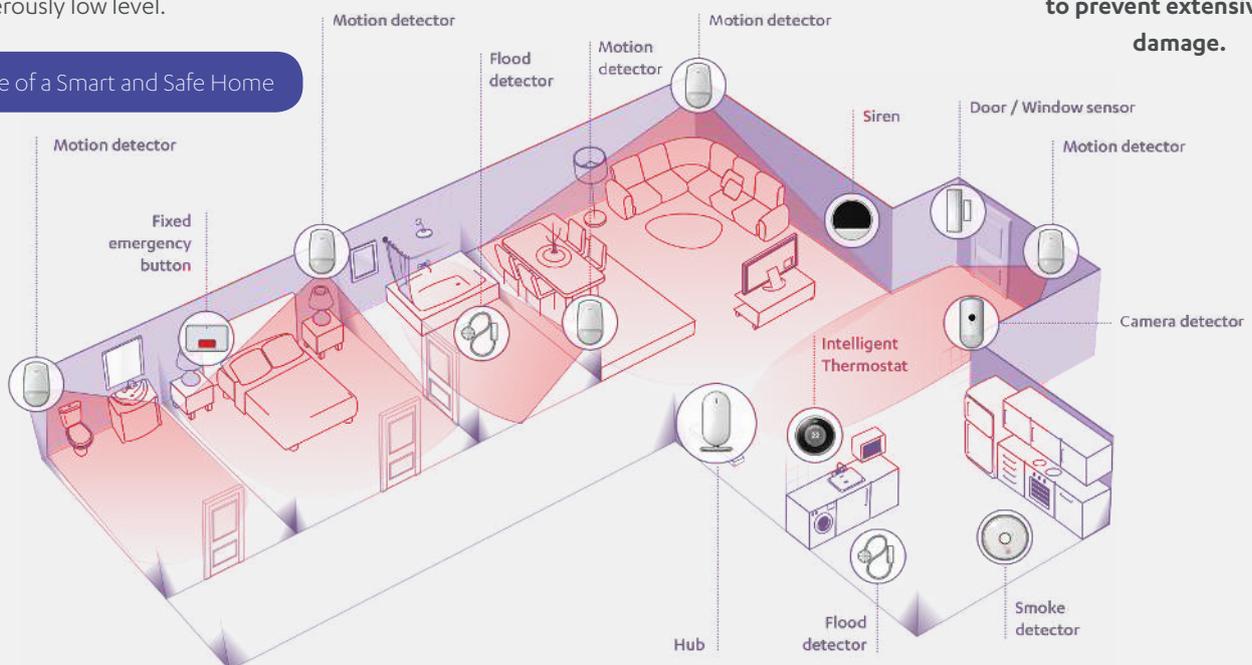


A connected alarm will help stop a burglar from entering a house and stealing valuables.



A smart smoke detector will send an alert to the user's mobile phone the moment it detects an anomaly, **allowing immediate action to be taken to prevent extensive fire damage.**

Example of a Smart and Safe Home



Insurers in the United States are already offering their customers incentives to install certain connected devices such as video doorbells and water leakage sensors. Some will even send smart sensors free of charge if a consumer signs a contract with them.

Liberty Mutual Insurance supplies Nest's smart smoke alarms out to customers free of charge and then takes up to five percent off customers' insurance premiums once installed. Considering that the average claim for a residential fire is over \$35,000, this implies significant savings for the insurer.

Big data analytics also play a huge role in insurance provider as connected home SP. Data interpretation and analysis will help insurance companies identify patterns, optimize their offerings, perfect risk assessment and control losses, so they can focus on prevention instead of reaction.

By analyzing the data regarding the ways consumers use their connected devices, insurance companies can get a greater understanding of consumer behavior and underwrite risks accordingly – better serving individual customers with highly tailored offers.

Insurance companies all over the world have a unique opportunity to take the lead in offering this type of services to their customers and gain a significant competitive advantage in an otherwise very homogeneous market, differentiating themselves from competitors, while building a tighter relationship with their customers and reinforcing their loyalty.

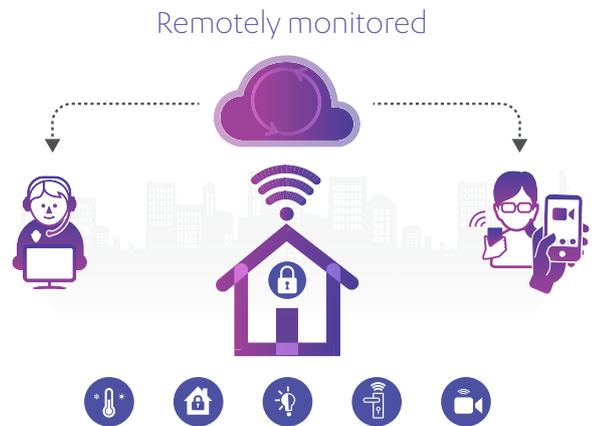
IoT & Security for Peace of Mind

Security providers have an automatic edge when it comes to adding smart home devices and services to their core services. They already have the installation and monitoring infrastructure in place. Consumers are already used to their consistent reliability for delivering a quick response.

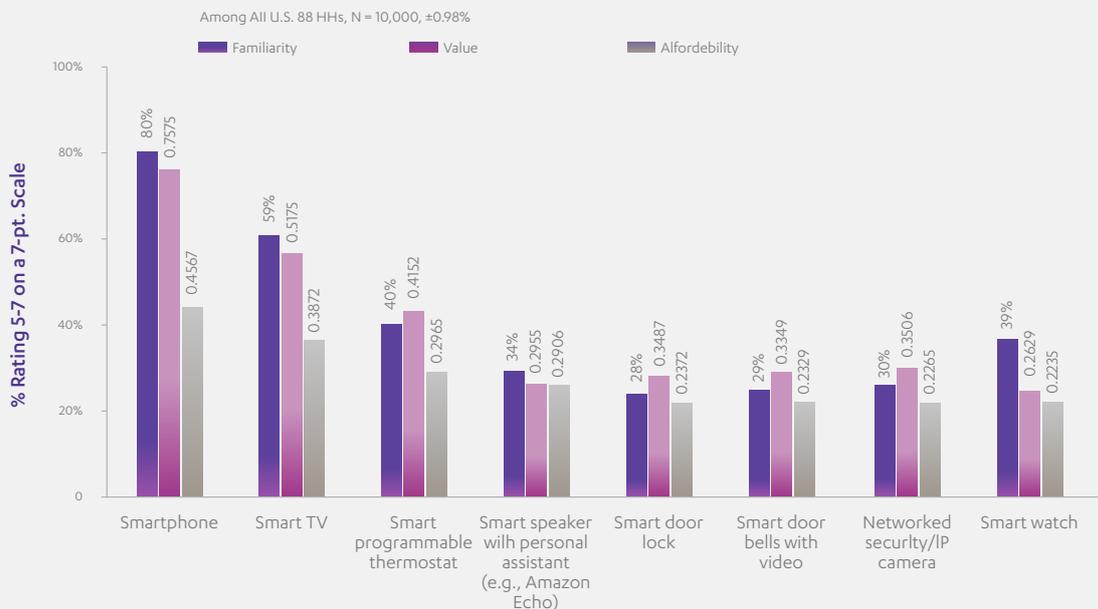
The security industry can gain a competitive edge by expanding their business focus on IoT. Smart security gives consumers more flexibility. The same solution can be either remotely monitored by a security company, self-monitored by the homeowner, or a combination of the two with a “pay-as-you-go” monitored security model.

Connected devices can be easily integrated into a smart security system. For example, a motion sensor set in alarm mode can detect an intruder in a matter of seconds and send an alert to the homeowner or the monitoring station. The same motion sensor can be set up to work with a smart thermostat that automatically adjusts the heating when the house is empty.

Smart technologies also offer a great variety of options for consumers, with flexibility to easily switch among professionally monitored security, DIY solutions or even security on demand. Thanks to IoT technology and always-on mobile connectivity, if the alarm goes off, not only will the central station be notified, but the homeowner will also receive an immediate alert on his phone, so he can be in the know of what is going on and act on his own accord. He can even dismiss the alert on the go, in case it was a false alarm.



Smart Devices: Familiarity, Perceived Value and Affordability (Q4/16)



Source: American Broadband Households and Their Technologies 102017 Parts Associates

Integrating smart home devices such as a smart lock combined with motion sensors or smart lights can strengthen the security experience. A smart lock can be opened remotely for a repair person while the motion sensors ensure that he doesn't leave the first floor. Smart lights can be set to turn on and off randomly when no one is home or be set to go on if an intruder is detected.

Most of the infrastructure is already in place to allow security service providers to adapt to each customer's needs and provide homeowners with full control over their homes, home or away.

IoT & Telcos

It wouldn't be that farfetched to claim that 99.9% of consumers today are telecommunications providers' customers. Telcos offer consumers well-known brands that they recognize and trust, years of experience, and the confidence that they will receive technical support with their services.

Consumers are already used to being offered OTT services by their mobile operators within various service bundles and subscription models. Operators providing connected home service offerings on top of mobile, broadband, cable, triple-, or quad-play services simply gives them another way to satisfy their customers' lifestyle needs.



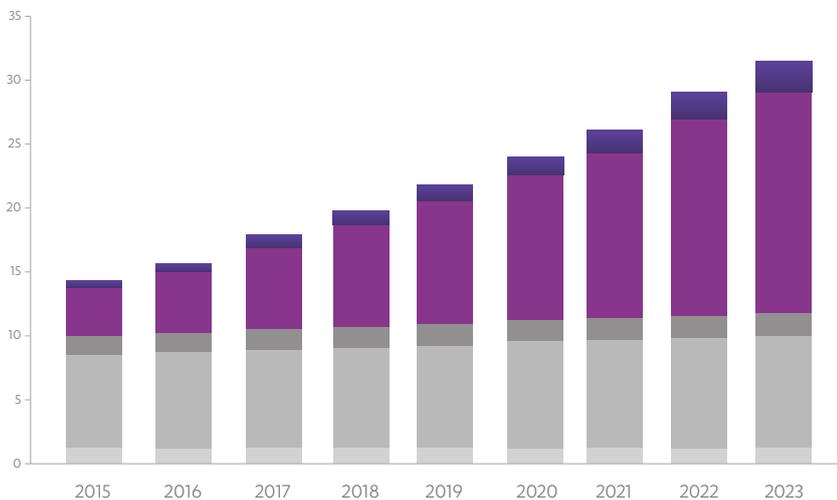
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Connected Devices (billions)



	2017	2023	CAGR
Wide-area IoT	0.6	2.4	26%
Short-range IoT	6.4	17.4	18%
PC/ laptop/ tablet	1.6	1.7	0%
Mobile phones	7.5	8.8	3%
Fixed phones	1.4	1.3	0%
	17.5 billion	31.6 billion	

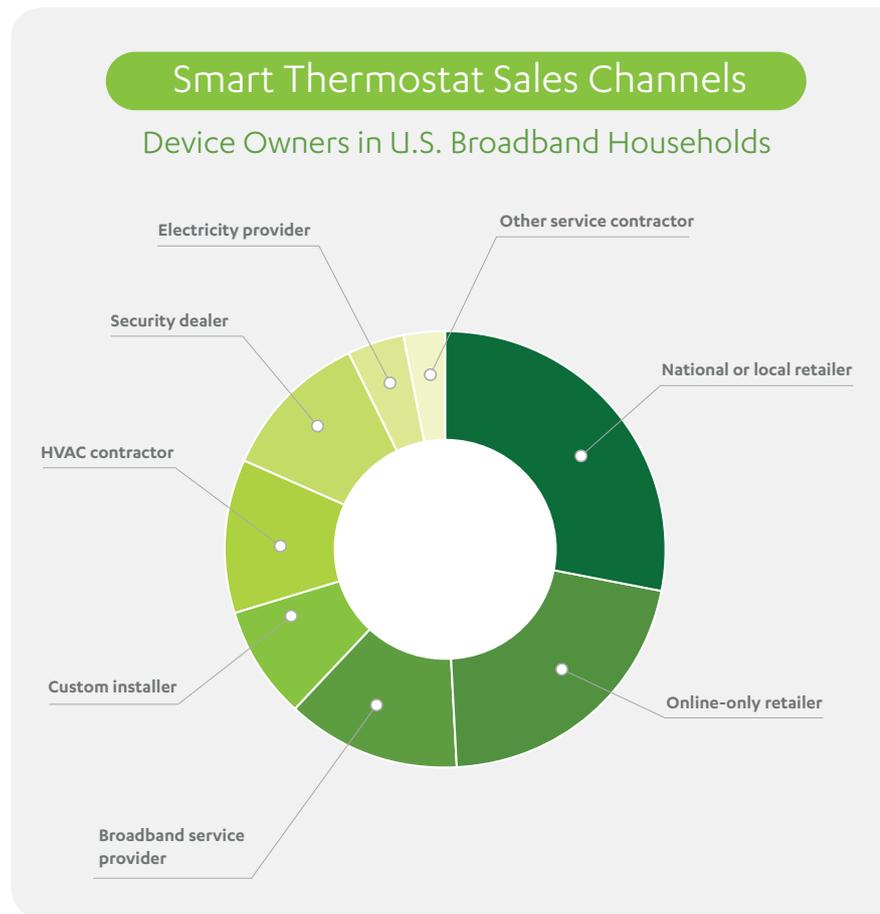
IoT & Energy Reduction

Many electric companies have installed smart meters to gather customer data to be able to offer a variety of specialty services, such as on-demand pricing. At present, energy companies in Europe are focusing on basic monitoring, with the goals of helping reduce customers' monthly energy bills and better manage the power grid.

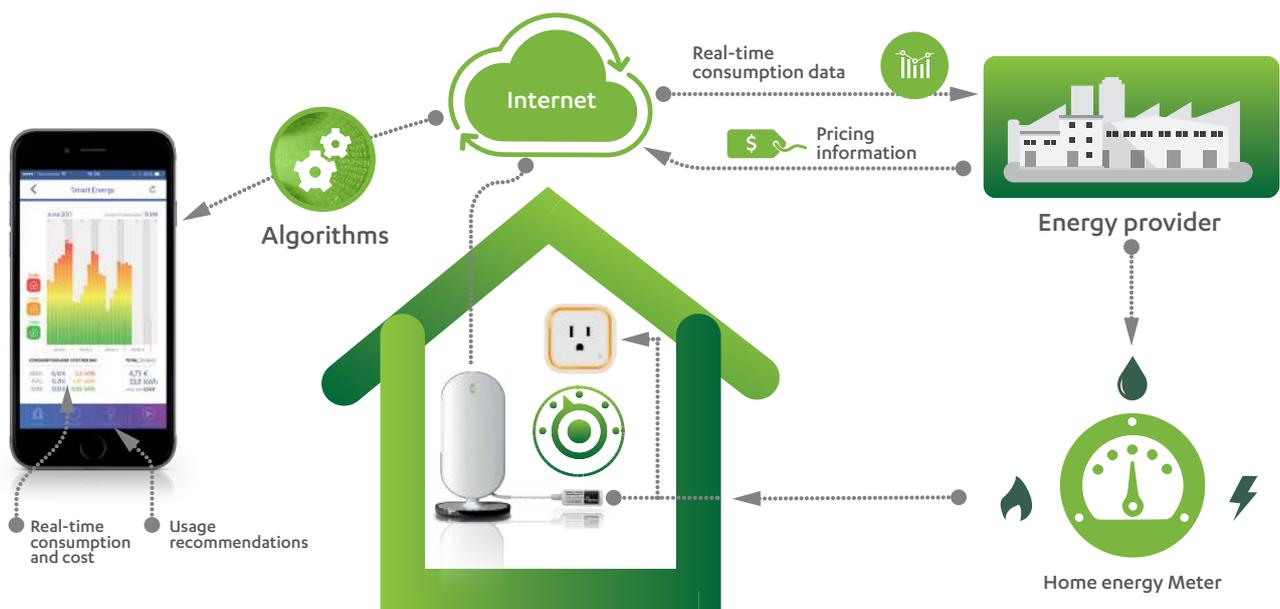
The demand is growing: the global smart thermostat market is forecast to reach \$2.99 billion by 2022, according to a study conducted by Grand View Research Inc. There's a reason Google paid \$3.2 billion for Nest.

As the customer base of energy companies keeps growing, the market may even experience a reduction in wholesale energy costs if consumers begin to shift to off-peak times, saving significant amounts of energy and money in the long run.

"The global smart thermostat market is forecast to reach \$2.99 billion by 2022"



© Parks Associates



IoT for Better Health

Instead of having to get your step update from the machinery at the gym, many of us are already walking around with step counters. Healthier people mean lower costs for insurance companies – fewer chronic conditions, procedures, prescriptions, and hospitalizations. John Hancock partnered with Vitality to distribute free Fitbits and added incentives like offering entertainment, shopping, and travel rewards and discounts.

“Standard hospital admissions cost \$16,000, and ICU admissions range between \$31,000-\$65,000**”*

According to recent studies, standard hospital admissions cost \$16,000*, and ICU admissions range between \$31,000-\$65,000**. When seniors living alone are equipped with smart devices that send an alert immediately after a fall or dispatch timely help in case of an emergency, they recover more quickly, significantly reducing expenses. Self-learning systems for seniors, which learn their patterns and report anomalies, reduce costs further by catching illnesses in the early stage – like someone suddenly increasing bathroom visits or reducing trips to the kitchen due to illness – before they require hospitalization.



Falls are the leading cause of death, injury, and hospital admission among the elderly population.

Causes of falls



LACK OF PHYSICAL
ACTIVITY



IMPAIRED VISION



MEDICATIONS



DISEASES



SURGERY



ENVIRONMENTAL
HAZARDS

After reducing operating costs with healthier customers, fewer claims, single operational administration systems, and monitoring fees, there's still money on the table. The profit in IoT isn't about selling and integrating hardware once or even offering a growing number of compatible devices, it's with service providers creating value to enable recurring revenue. The future and real value of the IoT is in the data. The winners will be those who can collect and analyze the data, and innovate, becoming data-centric.

The Big Data Opportunity

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The second step is to define a way to extract meaning from the huge amounts of collected data to improve decision making. Comparing all analytics possibilities might be a daunting task but, in broad terms, they can be categorized into three types:



Descriptive

Uses data aggregation and mining to provide insights on past or present events.



Predictive

Learns from historical data and builds relevant statistical models for future insights.



Prescriptive

A set of techniques attempting to quantify the consequences of future decisions, providing recommendations based on predictions.

BIG DATA



Analyzing customer usage of the service provider's IoT system allows the service provider to improve customer loyalty and reduce churn by getting a complete understanding of how the customer is using the system. If the customer isn't optimizing usage, support personnel can reach out, both increasing the customer's usage and strengthening the relationship between the SP and the customer.

Companies might give added value to their products by understanding real-world usage and consumers' needs, so they can design better, more useful products instead of creating redundant, unattractive, or hard-to-use-features.

Another utilization of the data would be to learn about problems directly from their own product and remotely discover, diagnose, and fix issues as they happen. Taking such action will reduce warranty claims and achieve greater customer satisfaction.

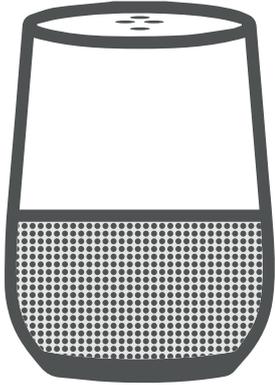
By adopting standard protocols and data formats, companies should integrate with third-party data providers to produce more accurate and precise services. For example, a home security company would like to sell sensors that warn about window glass breaking but won't produce false alarms due to bad weather. One solution might be to integrate its data with the data for weather forecasts or with real time meteorological events. In this way, IoT companies could commit to delivering top quality precision services.

Companies should learn from their historical data, using predictive analytics to prevent glitches. The effective way to do so is to collect substantial specific problem-related data, and, thanks to the efforts of data scientists, build learning models that will be able to predict future behavior. These statistical models could, for example, optimize the role of service technicians by designing

routes including geographically grouping of the areas anticipated to need visits. On the commercial side, predictions based on customer data will improve marketing campaigns by making audience targeting more effective; for example, through classifying needs by gender, usage, geographic, or even demographic properties.

The devil is in the details, and the money is in the data.

The Powerful Voice – A Revenue Bonus



As technology advances, service providers have the opportunity to add value by offering new features within solutions already in place.

Voice interactivity is becoming the new interface to do many online functions such as



Searching for information



Scheduling



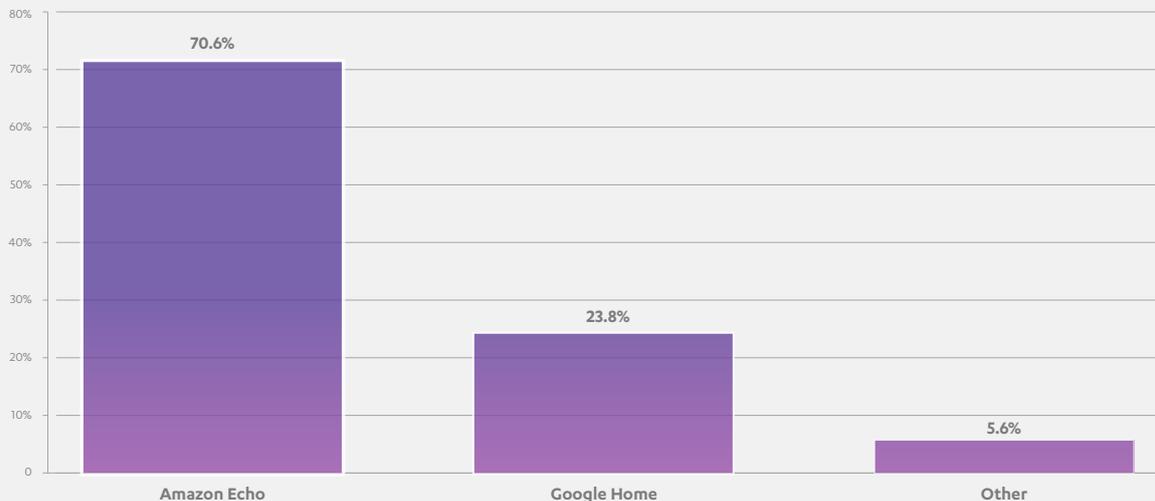
Choosing entertainment content

According to comScore’s U.S. Connected Home data, the smart speaker category has hit a “critical adoption threshold.” Among US households with Wi-Fi connections, comScore said, 11% had smart speakers in October, up each month since at least June, when the measure was 8.1%.

The popularity of smart speakers will have a ripple effect on the smart home market, as consumers discover the benefits of voice-activated home automation. CTA expects sales in the category – including smart thermostats, smart smoke and carbon monoxide detectors, IP/Wi-Fi cameras, smart locks and doorbells, smart home systems, and smart switches, dimmers and outlets – to reach 40.8 million units in 2018 (41% increase over 2017), earning \$4.5 billion (34% increase).

USER SHARE OF VOICE-ENABLED SPEAKERS IN THE US

Individuals in the US who use a voice-enabled speaker at least once a month in 2017



Source: eMarketer

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Where the added profits lay are making voice a premium option within the existing safety and security system and/or a complete home management solution.

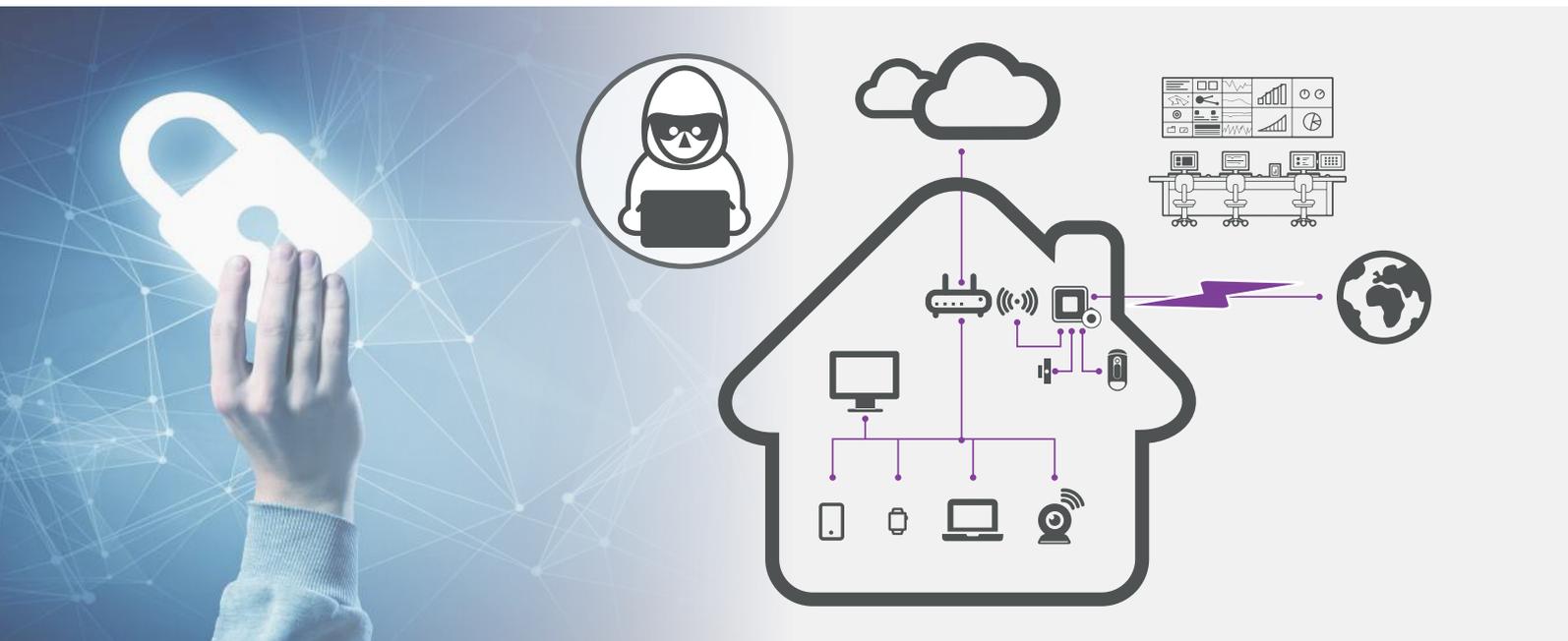
Voice security can be implemented in a few ways. One – the system can be armed and disarmed only by predesignated individuals. Two – it can be used in two-way communications with the monitoring center. Three – Specific code words can designate the level of emergency, be it suspicious noises, fire, or medical emergency. Four – Voice can be used to set up the system itself.

Within home management solutions, voice delivers true customization and personalization. With hands-free control, customers don't have to remember where they left their mobile device or tablet. They simply state their instructions, and it happens.

Cybersecurity for Protection & Profit

The last thing any service provider needs is for a frantic customer call that his home IoT system has been breached, allowing a cybercriminal entry into his home network.

Mirai, Persirai, IoT_reaper (a.k.a., IoTroop) are just a few of the recent malware attacks using IoT devices to create a massive botnet for spamming and denial of service attacks (a botnet is a collection of Internet-connected devices that are infected and can be remotely controlled by a third-party, without their owner's knowledge). It affected cameras, alarm systems, and personal routers, spreading quickly and inflicting substantial damage. Hacking through IoT devices allows hackers access to personal and sensitive information and even allows hacking other sites through our IoT devices



The combination of technological advancement and rising cybercrime has resulted in contradictory implications affecting the smart home market. On one hand, there has been an increase in the use of IoT devices and the recognition by consumers that a smart home can really help to make their life easier. On the other hand, media coverage of cybercrime has raised awareness about the importance of protecting privacy and personal information, causing potential customers to fear IoT, which has slowed market penetration. Therefore, vendors are in a crucial position to integrate built-in cybersecurity solutions that will protect the entire system with all its connected channels and interactions. The advantage of these platforms is that they have transparency for every element connected to the system. These platforms can therefore provide users with alerts when any part of the system has been breached or shows a weakness. Service providers can promote these additions as well as offer other cybersecurity services encompassing the consumers' digital devices as well, not just their computers and smartphones, but also their smart televisions and any other peripherals.

By providing a unified, holistic security solution to customers, providers will profit from delivering consumers the peace of mind by combining solutions from the worlds of IoT and physical security into a single user experience, providing a completely safe zone.

Having the Right Tools & Technology in Place

IoT connected living technologies will empower SP business models with innovation, high quality, reliability and profitability. Their ability to offer cost-efficient and easy-to-integrate home security, smart home, and elderly monitoring services will be critical to the long-term strengthening of their customer relationships and ultimately, their bottom lines.

Service providers have a wide range of options when it comes to choosing hardware and software providers. The wealth of choice comes at a price, though. Time most definitely equals money when it comes to accelerating IoT adoption within the service providers infrastructure.

At the end of the day, service providers simply need to choose the direction they wish to take, sourcing both the hardware and software they need to quickly and easily serve the consumer. Solutions that come with top-tier professional, cloud, hosting, and operations and logistics services, as well as go-to-market strategies and planning, will accelerate the success of their activities.

“Our 360° connected living technologies are enabled by the Internet of Things”



Footnotes

IHS Markit: <http://news.ihsmarkit.com/press-release/technology/rapid-expansion-projected-smart-home-devices-ihs-markit-says>

2016: Year of the Smart Device: <https://www.plumchoice.com/research-points-big-uptick-smart-home-device-adoption-awareness/>

Plum Choice research: <https://castercomm.com/wp-content/uploads/2017/04/IoT-Consumer-Survey-041717.pdf>

IoT & Insurance – <http://ins.accenture.com/rs/accentureifs/images/the-connected-home-new-opportunities-for-property-and-casualty-insurer-POV.pdf>

IoT & Energy Reduction

Grand View Research: <https://www.grandviewresearch.com/research-insights/smart-the-most-at-market-insights-energy-saving-home-automation-growth-avenues>

Google-Nest Acquisition: <https://www.forbes.com/sites/greatspeculations/2014/01/17/googles-strategy-behind-the-3-2-billion-acquisition-of-nest-labs/#6e69daa41d45>

IoT for Better Health

Standard Hospital Admission Cost & ICU Admission Cost: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4024320/>

Powerful Voice

comScore: <https://retail.emarketer.com/article/digital-voice-assistants-prove-they-not-just-gimmicks/5a25ced4ebd4000570c897f4>

Consumer Technology Association: [https://www.cta.tech/News/Press-Releases/2018/January/2018-Tech-Industry-Revenue-to-Reach-Record-\\$351-Bi.aspx](https://www.cta.tech/News/Press-Releases/2018/January/2018-Tech-Industry-Revenue-to-Reach-Record-$351-Bi.aspx)

Cybersecurity

Netflix: <https://www.incapsula.com/blog/how-to-identify-a-mirai-style-ddos-attack.html>

About Essence

Essence is a global provider of IoT connected-living solutions for communication, security and healthcare service providers, serving households and small medium businesses. Leveraging 23 years of experience and innovation, Essence has global presence and 20 million devices deployed worldwide.

Essence is committed to developing and supporting solutions that both enhance partners' businesses and enable people to live fuller, better lives.

Essence has garnered recognition both by consumer and industry experts as being the recipient of the IoT Breakthrough Award, the Internet of Things Award, ESX Innovation Award, European Consumers Choice Award, Broadband Infovision Award, IoT Business Impact Award and others.



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