



# Home is Where the Smart is

## ABSTRACT

P&C Insurers continue to seek opportunity with home automation and real-time telematics data while trying to stay ahead in their deeply competitive space. The proliferation and increasing adoption of IoT (Internet of Things) devices and “smart home” products by consumers gives carriers an interesting new way to innovate and develop new products and incentives for a new generation of insureds.

*This extraordinary growth is already affecting how insurance coverage is being written. The impact of smart devices is more than an incremental change. It is bound to change the nature of the property and casualty insurance market. In fact, change is already underway.*

## About IoT Devices

The Internet began as a network that college professors used to stay in touch, but it has now grown to become an inseparable part of daily life in cultures throughout the world. Its most recent expansion has occurred during the last few years as an increasing number of devices have connected to the Internet that control, report on or manipulate other physical devices. These “Internet of Things,” (IoT) devices have become so popular that by 2020 Cisco estimates [1] more than 250 IoT devices will be connecting to the Internet for the first time every second. Statista.com projects the total installed base of IoT devices will reach 75.44 billion by 2025. [2] That's more than ten times the population of Earth.

**These ubiquitous devices can be classified in many ways. For the purposes of this paper we'll divide them into three principal groups:**

### IIoT

The first deals what's been called “Industrial IoT.” [3] It allows a manufacturer to embed sensors and actuators in machines, then to connect those assets, vehicles and other equipment so they can be remotely monitored and/or controlled as an “ecosystem” via the Internet. For instance, a factory could install noise, temperature and vibration sensors on high-cost capital equipment (machinery) to report out-of-spec operation that would damage the equipment, reduce its useful life or increase maintenance costs.

### Smart Home Assistant

A second group of devices that come as no surprise are those designed as personal assistants and smart home controllers with voice control. Think of the Amazon Echo family of products, or the Google Home and Apple HomePod smart speakers. All of them use various forms of artificial intelligence to answer questions, entertain and control smart home devices.

With artificial intelligence and machine learning advancing so quickly, it's reasonable to predict that certain IoT devices will gradually learn to recognize patterns and work autonomously. Today, for instance, smart refrigerators allow you to use your voice to add items to a shopping list. In the future they may recommend what to add and, conceivably, could place the grocery order for you.

### IoT

A third group of IoT devices guard against various perils. A water leak detector or a smoke detector that alerts a consumer via her cell phone are but a couple of examples. Additionally, this can include wearable technology or “Fit Tech” devices that track health and wellness metrics. While all three types of IoT device will have impact on insurance underwriting, it's this third type that will dominate.



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## How IoT is Affecting P&C Coverage

While asking Alexa or similar devices to turn on lights or raise the window blinds is a high-tech convenience, IoT devices have their greatest impact on protecting a property from perils that result in a claim. A few examples...

- Underwriters have recognized the value of a home security system for years. Now, using IoT devices, homeowners can not only lock doors electronically from anywhere there's Internet access. They can configure their smart door locks and garage door openers as part of an "ecosystem" that includes security cameras, glass-breaking sensors and motion detectors. They may even be configured to notify law enforcement under certain specified conditions. Such devices can make a single-family home or an apartment nearly impervious to bad actors.
- Fire damage claims are among the costliest, so preventing fire is an important goal. Smart smoke detectors can offer comprehensive protection against fire, just as security devices protect against break-ins and theft. Some smart detectors also trigger when they detect carbon dioxide, while still others [4] can detect natural gas, propane, methane and other explosive gases that leak into the living space.
- Water damage claims are the most common across the P&C spectrum. Consumers can now install reasonably-priced devices in the laundry room, under sinks and in basements to detect water and send alerts to a cell phone. Some offer the option of turning off the main supply line to the home remotely, thereby rendering a claim unnecessary.

*Each of these strategies can factor into the underwriting process, although deciding how much weight to give each of them as "peril-reducing" will require considerable research and analysis. However, including premium discounts for smart home initiatives can bring consumers more closely into partnership with insurers. Realizing that the investment in protecting one's home can be recaptured through lower premiums may be compelling if the payback period is short and/or the discount is large.*

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## Is Anyone Writing Smart Home Coverage Today?

Yes, and the trend is growing. There are two formats being offered today. One offers a discount on the P&C policy while the other offers a discount on the smart home devices. Some insurance companies offer both, however, offers vary from state to state. One of the most talk-ed-about partnerships that accommodates smart homes took place in October 2018 when Travelers and Amazon announced a partnership. [8] It provides new insureds buying home insurance a discount on a bundle of products designed to reduce claims. The kit contains security cameras, water sensors, motion detectors and a smart home hub that wirelessly connects a various smart device so they work together in as an "integrated smart home." Finally, for eligible

customers, the plan also offers discounts on policy premiums and a free Amazon Echo Dot.

*Moving on...*

- USAA offers discounts on ADT security systems, some of which include smart home options. [9]
- Allstate, Liberty Mutual and State Farm all offer discounts on the Canary indoor surveillance camera, which sends alerts and high-def video to your cell phone based upon motion detection. [10]
- American Family Mutual Insurance offers a discount on a Ring video doorbell and a 5 percent premium discount. [11]
- Nest, makers of the Nest Protect smoke and carbon dioxide alarm, partner with several insurers including Liberty Mutual and American Family. [12,13]

## P&C Coverage and the Advent of UBI

A new trend toward Usage Based Insurance (UBI) is rising from the use of IoT devices providing new Pay-As-You-Go models that are particularly appealing to a wave of younger consumers. In fact, there's a trend among the largest U.S. population cohort, Millennials, as well as other age groups. [5, 6] They are seeking Usage Based Insurance coverage for their vehicles because it often lowers their premiums. According to a 2017 survey of 1,005 drivers born between 1920 and 1992, some 88 percent "agreed" or "strongly agreed" that UBI gave them lower premiums. [6] That almost enthusiastic acceptance of UBI parallels what is likely to develop in the P&C arena. *Here's why...*

UBI is priced entirely differently than traditional insurance. It relies upon telematics equipment installed in the insured vehicle that monitors driving behaviors, mileage driven, time of day driving takes place and other parameters — rather than relying on driving records, age, gender, marital status, credit score and other historical, aggregate static data.

UBI is personalized for each insured, which is what gives UBI its broad appeal. Drivers perceive that it gives them more control over the cost of their insurance, and they perceive it as “fairer” than traditional rating methods. Further, the same survey found that more than half of Baby Boomers, nearly two-thirds of Gen-X and more than three-quarters of Millennials would be likely to share their driving behavior via telematics in return for personalized insurance quotes and lower premiums.

With success and increased demand for UBI models for auto insurance, carriers are now leveraging the smart home phenomenon to pilot new products in the homeowner's arena. For homeowner's insurance to enjoy the same increased interest in personalized quotes, the insurer could look at two alternatives.

One would calculate discounts based upon the peril-reducing smart home equipment actually installed, much like offering discounts for having a traditional home security system. Another approach would connect the insurer to each of its insured's smart home systems to gather real-time data on water leaks, smoke alarms and other such perils. Clearly, this would be a costly proposition for insurers who would likely need new and substantial IT resources as well as legal work that assured protection of homeowners' privacy rights.

## Preparing for the Future

**It's certain that insurers face a competitive landscape that will continually evolve. Finding ways to stay competitive will (continue to) challenge every company.**

First, an insurer will need to understand the smart home market and what relevant data various devices and “ecosystems” can provide. For instance, how does a “stand-alone” smart home differ from an “integrated smart home?” The latter enables the “ecosystem” approach where many networked devices can be interconnected through a central control unit (hub) with one another. The former does not use a hub and tends to use single-purpose devices — smart door locks, for example.

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Bold and innovative insurers will test programs in which insureds' data is sent directly to the company, just as automotive UBI is done today. However, before they embark on such a project, they'll need to conduct studies, much like that referenced above. Those studies need to quantify consumer interest and willingness to connect their smart home directly to an insurance company. Trading smart-home-produced data for policy and equipment discounts will not appeal to the majority until all vestiges of mistrust are wiped away. After all, many consumers perceive insurance and insurers to be "necessary evils" which can be a psychological barrier for carriers to attract new consumer to new products.

Speaking of psychological barriers to be surmounted, the creators of the Net Promoter Score, a measure of customer satisfaction, searched for an "ultimate question" that would most accurately reveal customers' true satisfaction with a business. They determined it was this: On a scale of zero to ten, how likely are you to recommend (company, brand, product, service) to a (friend, colleague, relative)? [17]

A 2015 TeleTech "P&C Customer Satisfaction Survey" [15] found that more than 30 factors contribute to customer satisfaction, but of those, one stood out above the rest. Customers satisfac-

tion levels were most influenced when they perceived that "the insurance company acted in my best interest."

That's good news because what delivers the greatest customer satisfaction comes naturally from accommodating smart home customers. It allows insurers to build partnerships that personalize relations and that gives customers real influence over their premium rates — which is a great description of "acting in their best interest." Technology will continue to improve and prices for smart home devices will most likely fall. That will encourage growing numbers of homeowners to adopt smart home equipment. According to Statista.com, smart home devices that focus specifically on security and reduction of perils are forecast to nearly double from a market penetration of 18.3 percent in 2019 to 32.7 percent by 2023. [14,16]

Insurers can help accelerate smart home adoption by rolling out programs that encourage customers to adopt smart home technologies so they can save premium dollars. With more than 75 billion IoT devices forecast by 2025, insurers have a real opportunity to build ever-closer relationships with their customers for the benefit of both parties.



## For Fact Checking:

<http://blogs.cisco.com/news/cisco-connections-counter>

<https://www.statista.com/statistics/471264/iot-number-of-connected-devices-worldwide/>

<https://www.softwebsolutions.com/resources/scada-system-vs-iot.html>

<https://www.amazon.com/WiFi-Getecor-Natural-Leak-Detector/dp/B07D5PGCWV/>

<https://www.cccis.com/upscale-millennials-likely-adopt-usage-based-insurance/>

<https://www.willistowerswatson.com/en-US/insights/2017/05/usage-based-auto-insurance-a-new-technological-dawn>

<https://www.consumerreports.org/smart-home/discounts-smart-home-products/>

<https://www.businesswire.com/news/home/20181010005458/en/Travelers-Teams-Amazon-Provide-Smart-Home-Solutions>

<https://www.adt.com/>

<https://canary.is/insurance/>

<https://myapps.amfam.com/amfamring/#/landing>

<https://nest.com/insurance-partners/>

<https://www.gearbrain.com/homeowners-insurance-savings-tips-technology-2585596713.html>

<https://www.statista.com/outlook/279/109/smart-home/united-states>

<https://www.ttec.com/articles/what-drives-customer-satisfaction-during-insurance-claims-process>

<https://www.statista.com/outlook/281/109/security/united-states>

<http://www.netpromotersystem.com/about/why-net-promoter.aspx>

[https://www.naic.org/cipr\\_topics/topic\\_usage\\_based\\_insurance.htm](https://www.naic.org/cipr_topics/topic_usage_based_insurance.htm)

<https://www.postscapes.com/internet-of-things-award/connected-home-products/>

<https://internetofthingsagenda.techtarget.com/blog/loT-Agenda/Why-insurance-is-the-next-big-opportunity-for-smart-home-adoption>

<https://insuranceblog.accenture.com/smart-home-insurance-key-elements-and-players-shaping-the-market>

<https://ihsmarkit.com/research-analysis/smart-home-technology-claims-the-insurance-industry.html>

<https://ihsmarkit.com/research-analysis/smart-home-technology-claims-the-insurance-industry.html>



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