

# Insurance, Innovation and IoT: Insurers have their say on the Internet of Things



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The insurance industry has been adapting to a shifting digital landscape that has changed the roles of agents, companies and clients. The digital data revolution has created more opportunities for information collection and sharing, plus increased competition based on data-driven insights. Another shift is poised to change the industry and again disrupt existing relationships between customers, their data, and their insurance providers.

The Internet of Things (IoT) is the concept of connecting devices to the internet in order to expand the collection, control, access and use of data. Consumers may use these devices to play their favorite music as soon as they walk in the front door or track their health as they begin a new exercise regimen. Almost everything in the modern world can become connected, from cars and washers to ovens and smoke alarms.

Most, if not all, insurers have some kind of research or monitoring activity going on for IoT initiatives. It clearly parallels the Big Data efforts of two to three years ago, with much coverage still in the “Wild West” phase where ideas are exciting, but it is unclear what will survive.

Insurers are hedging their bets and monitoring as many applications as they can rather than pinning their hope to one application, because they don't know the true value of IoT just yet.

IoT has become a major area of study. Many different insurance markets have done their own research, showing a broader trend of adoption, information improvement, and better workflows. Top statistics and data around the role of IoT include:

- An SMA survey showed 20% of insurance companies are currently piloting, testing or deploying an IoT project. That number rose 50% over a three-year period.
- Property insurance companies are increasingly using drones to assess damages after an incident has occurred. Cognizant estimates that drones will make insurance adjusters' workflow 40% to 50% more efficient.
- By 2020, over 50 million US drivers will have tried usage-based insurance models that rely on IoT devices.
- Roughly 30% of the auto market is expected to involve telematics for the majority of policy interaction and pricing by 2025.
- Also by 2025, half of U.S. homes are expected to be connected through IoT devices for monitoring and system control.
- According to an Intel survey, 80% of respondents would be willing to share their health data anonymously to reduce health care costs

These just begin to paint the picture of where insurance and IoT intersect. The adoption of IoT will cause major changes, but proper data policies and security measures can enable insurers to exploit the benefits of IoT.

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## Areas of IoT Invention in Insurance

Telematics has been at the forefront of IoT innovation across most industries, including insurance. It provides a good reference point for continued advancement of IoT and existing adoption already provides a strong area to study for value-added services. In broad terms, the industry will test and determine consumer preference for sensors – coming from Original Equipment Manufacturers (OEMs), tech companies, open-source initiatives, or insurers themselves – and the extent to which they can be used.

Telematics will continue to be a tightrope walk, especially as insurers try to balance benefits to their customers with benefits to the bottom line. This is especially true as auto lines increasingly rely on IoT technology.

Some auto insurers, who are offering a discount for good behaviors calculated by telematics, also have plans for surcharges for bad driving. When this goes live, it could present a significant concern for customers and harm an insurer's image. Insurers are using their customers to harvest data and to perform analytics based on it.

The give-and-take of this relationship cannot be based solely on the use of data; customers will demand to be compensated for the collection as well. That discussion will play a role in many of the new opportunities IoT can bring.

## The Connected Home

The home may be the next area to see IoT integration because consumers are using a variety of devices to control everything from their smoke alarms and air conditioners to locks and automated home security systems. For consumers, the technology is focusing on the smartphone and is relatively inexpensive to acquire and manage. Google is seen as the first major provider to work in this area and have a large potential customer base, but players exist for certain regions and wealthier citizens.

Half of U.S. homes are expected to be connected by 2025, but insurers will need a strong value proposition to capitalize here. Visibility will be essential to proper integration.

The questions that insurers wishing to leverage home connectivity must answer are: Who owns and controls this data? Who is responsible when data must be used to contact law enforcement, fire, or other civil services?

When discussing the installation of systems into homes, consumers will need to become comfortable with the data and the tracking. To avoid privacy concerns, smart home technology will need to be extremely transparent. Value will also need to be a chief discussion point even though it may come with a non-insurance focus such as presenting a single hub to control all of a home's systems.

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## Connected Life Policies

Insurers are looking to life policies as a potential honeypot when IoT starts to take off in people's daily lives. Injecting IoT into these policies will allow insurers to measure behavior they have not been able to measure before. The technology is there but consumer use may not be, yet.

Wearables are at the heart of life policy hopes, but insurers may need to wait for more precise data and sensors to become available. There is also a question on their overall viability. Research has found that between 33% and 50% of people who own wearables lose interest and stop wearing them in the first year. It's unclear if today's wearables for the average consumer – outside of the workplace – can provide enough data to make up for a lack of use.

At the moment, IoT is being used to provide discounts for individuals who exercise or perform other healthy habits. The eventual reality is that consumers who have habits deemed "unhealthy" will be penalized, which may cause a backlash against such methodology.

The next stage in personal IoT evolution appears to be pills and other swallowable sensors – or even injected devices – that will look for chronic health conditions and play a role in health insurance. It may provide a clearer picture of health, but there will be significant education needed for customers to embrace the technology and related pricing.

## Commercial Policies

Companies have already shown their willingness to pay to track assets and employees for their own management purposes. Insurance can act as another layer on these existing dashboards with an initial incentive for safer job sites or employee practices.

Commercial lines may have the easiest entrance if they leverage existing customer wants, such as system designs that reduce energy consumption or improve the organization of manufacturing processes. The main objective in this rollout must be an understanding of the business at hand and where savings outside of insurance are achieved.

Commercial policies also represent a significant opportunity as loss control is improved through new sensors, such as infrared detection of heat anomalies in electrical equipment, HVAC monitoring, water usage analytics for crops, and even construction equipment that checks for irregular vibrations to alert before there is significant damage.

A core trend of IoT adoption in other industries has been the adoption of consumer electronics by employees. Their use under the Bring-Your-Own-Device (BYOD) policies has helped businesses become more comfortable with these devices and more trusting of their security and safety in a business setting.

Insurance can capitalize on this because we've seen the use of home, auto and other IoT devices in commercial settings. The chief pain point of this setup,

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however, is that insurance companies are struggling to process the traditional data they're able to collect, so it will take a shift for most to find the true value of such an IoT expansion.

## New Markets

IoT is projected to play a major role in a wide variety of sectors, giving insurers data and control that was not previously possible. Every corner of the industry is looking to this data and connectivity as a way to dramatically improve service and control costs.

An area that has become a top discussion point is the realm of micro-insurance. One example is the concept of "connected crops" for small farms and third-world scenarios. Devices may allow policyholders to predict rainfall, flooding, or other issues related to an adverse season, helping farmers to plan for their crops and helping insurers to price risk properly.

As IoT expands, drones and cameras and other devices can create a digital crop portfolio and give a broader national picture that may help expand the risk pricing in industrialized nations where crop insurance is subsidized.

Every market, no matter how new or ingrained, will face challenges, and insurers will only see large-scale adoption when they can provide the answers.

## 5 Key Challenges of IoT Strategies for Insurance

The inclusion of IoT isn't standardized. Every insurer who wishes to include IoT sensors, data and products will have to create a specific regimen to ensure proper operation, security and analysis. Insurers will need to work on each capability, starting with the capacity to store and process all of this new data while maintaining proper control over third-party partners.

Every advancement in IoT must remain cost-effective. The common inclination with new data and IoT is to lower premiums and provide discounts, which means less revenue. In an existing climate of reduced growth and profitability, insurers must be cautious about IoT inclusion. This report has identified five areas where the cost-risk-opportunity conversation may be the most difficult.

## Handling the Data Flood

Even small pilot projects generate huge amounts of data. The size and scale of data in an environment where IoT has been made fully available could potentially dwarf anything the industry has seen. Analytics platforms that rely on Hadoop can process some of this, but a wide-scale collection will likely require a solution not yet known or developed.

Insurers will have to move their rollouts in stages. This runs the risk of customers jumping to the first to offer coverage in their area, or a company having too much information to handle if its rollout isn't properly managed.

Data is also heavily fragmented and success in IoT will require significant work to overcome this. Analytics programs need a strong governance program to ensure

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that data is properly cleaned and cared for so as to be usable. In IoT, there are no standards for recording or reporting. That means that every potential product to support will require a significant time and monetary investment to add to a data collection and processing program so that all of the information is reliable.

Customers are driving the demand for IoT in general. They are also likely to drive demand for support of the devices they want to use. This could put insurers in a tough spot in terms of what devices to support. Insurers will have to weigh the cost of adding support for new devices versus the revenue increases that will come from that support.

It's unclear if there is enough available information for insurers to make more than a semi-educated guess.

## **The Industry Must Consider New Product Options**

The world is becoming a safer place and that can be bad for a traditional view of insurance and its common products. Data and the emergence of IoT must be embraced in a way that looks beyond what the industry is used to today.

Often, insurers offer the risk adverse an opportunity to reduce their premiums, and that means less revenue. Competition from data-centric services and organizations is also pushing commoditization in more areas because they compete – largely based on data – for low-hanging fruit.

The industry must face the decline in revenue by looking for a way to diversify its offering. IoT plays on the connectivity that is driving down price, but all of the machine-to-machine connections can provide new data to help insurers develop new products or pricing models.

## **Maintaining Value in Brand**

Google's Nest smart smoke detector builds up the company's brand as a top Internet company that is able to bring the Internet to new devices and activities. It's part of a clear Web-first strategy that can easily be linked to its broadband service and Android mobile platform.

Insurers, however, don't have the Web or monitoring as a core value of their business proposition. The industry is embracing connectivity as a new method.

Not having the value proposition properly created in the customer's mind means an insurer fully embracing the IoT landscape may be viewed as a glorified alarm company. As the business model includes delivery and installation of sensors and capabilities, the face most consumers will see is that installation team.

IoT may mean insurers lose some branding around risk mitigation services. If customers view an insurer as a protection service for immediate assets and not protection of long-term assets and growth (i.e. burglary prevention instead of mitigating liability related to a faulty product), then the insurer will likely be restricted into a competition of price.

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## Meeting the Skills Gap

IoT has a heavy reliance on analytics and almost every industry is facing a shortage of analytics professionals. Larger insurers will have more capital and thus a better chance to bring in top analytics talent, but smaller and mid-size insurers may find staffing difficult.

Unfortunately, most insurers don't have staff on hand that can learn the data science and advanced techniques to make full use of analytics capabilities. So, for the industry at large, it may be best to focus on attracting new talent to insurance analytics or finding a way to work with independent parties to perform the necessary data work in a way that doesn't compromise customer information.

## Cyber Risks Are on the Rise

There's a growing concern that IoT rollouts will attract more cyber risks and fraud. The conversation is about both how to detect fraud and where to stop coverage or exclude risks. In general, cyber fraud is seen as prevalent across home, auto, and small commercial policies; but IoT presents a new and quickly moving avenue for fraud in these areas.

And risk isn't always going to be overly complex. For instance, how does an insurer control for a person who gives a wearable to someone else to wear during a workout?

There will need to be a balance in what data is tracked, how well it is tracked, and the benefit the customer perceives. Ask too much and they may walk away; ask too little and data may not be robust enough for proper analytics.

## IoT and the Vendor Ecosystem

The vendor ecosystem rests between a main challenge and benefit of IoT in insurance.

Currently, the market is fragmented and the push for a standard is minimal. Certain players in the market who are able to work with multiple systems, such as the chip maker Qualcomm, are pressing for basic standards to work with open-source codes. This can allow for greater security in the future but increase security fears of device vendors in the near term.

Insurers will need to work with vendors known specifically for their ability to track and report accurate, useful data while maintaining a secure environment. It will be a gamble for many.

While the risk is great, insurers who choose well and support a small section of devices, or those who can build powerful systems to integrate with many platforms and find out ways to make the data comparable, can turn the vendor marketplace into an advantage.

The main concern will be cost relative to gained value, but that equation is at the heart of all major IoT benefits for insurance.

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## 5 Expected Benefits of IoT Strategies for Insurance

A connected ecosystem through customer adoption of IoT provides a wealth of benefits in and outside of the insurance realm. Insurers have the chance to join industries that use IoT devices to provide benefits to their customers and leverage collected data to improve products and processes.

IoT is poised to change the landscape of risk and products as consumers are made more aware of their risks and options. It can be daunting for a conservative industry to begin large-scale adoption of new technologies. Insurers will likely be pushed into adoption as consumers use more connected devices, but early adoption by insurers can come with many benefits.

This report has identified five top expected benefits of IoT adoption, all of which can provide a stronger competitive edge the sooner IoT integration occurs.

### Potential to Reduce Severity and Frequency of Claims

As more data is collected and modeling gets better through machine learning and other processes, insurers can expect to see gains related to claim frequency and severity. IoT will allow insurers to keep tabs on risks over longer periods of time as well as perform real-time analysis on the likelihood of loss.

This is expected to lead to better controls for loss that can help insurers properly price assets and policies that are more exposed to risk. If customers are inclined to variable products, it could also allow insurers to reduce pricing during times of low risk and raise prices as dangerous seasons begin or as frequency rises.

### Better Risk Assessment

Insurers won't be able to gain additional control over an outside environment, but IoT monitoring and historical information will provide a better picture of risk. Not only does this relate to the benefit above, but it can also help an insurer track a customer's lifetime value. Risk assessment can be expanded beyond individual products and take a broad look at either a customer or an industry.

New data will improve the underwriting process and allow insurers to make better initial assessments. Extensive data monitoring from multiple sources will also enable underwriters to have a clearer picture of each customer. As more data is collected and processed, it becomes harder for a prospective client to hide risks or past fraud.

### Service and Satisfaction Improvements

Telematics can already let every party know when an auto accident occurs. Loss notification is swift and automatic, which can start a claims process immediately. As sensors grow more sophisticated, they'll be able to tell a better picture of damage; reducing the time to start claims, verify damage, and potentially the expenses related to loss adjustment.

An improved claims process that lifts some of the responsibilities off of customers is likely to improve their satisfaction with the overall process and their insurer. As

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IoT expands to buildings and other installations, insurers can expect further reductions and a greater potential for improved reputation and customer management.

Customer service may also be inclined to improve as the claims process becomes easier to understand for the customer. Visibility and transparency can help customers feel like they're being treated fairly and automated processes give insurers more opportunities to provide customers with specific, relevant education.

## Growth in Cybersecurity Markets

As noted earlier, cybersecurity is a growing concern in the insurance world. While IoT may present new security challenges, it also gives us new opportunities. Customers are looking to insurers to analyze the risk they face.

The wealth of information from IoT systems can provide a better understanding of the new risks and exposure points in the flow of data, but only if insurers participate in the system. It is a big area of potential growth, many experts agree, but it is one that will require immediate action to start handling, processing and protecting.

## The Omni-Channel Insurer

Improved data collection allows for the diversification of products and services. This reality may allow Google, Walmart, and other data-intensive companies to enter the market, but it also allows insurers to expand into new markets based on existing customer preferences.

Analytics provides a wealth of information on customer preference, including the channels where they want to receive different types of information. IoT can provide the avenue for insurers to deliver on-demand products and services. Consumers who allow their information to be shared across multiple lines can see bigger savings and other IoT benefits, including the ability to have every insurance partner contact them using their preferred method.

Data itself will also be more holistic, allowing insurers to use IoT data to build larger profiles and look for more trends across lines. Connections, such as an increase in aggressive driving being linked to poorer health or exercise, can allow insurers to properly price across both of those lines and recommend changes that can improve the insured's quality of life.

These are just a few of the many potential benefits available through IoT. Unlike existing analytics, IoT isn't limited in its scope. When analytics adoption increases and companies unify device data, every part of the industry can become a link in a large value chain for each insurer.

## Who Is Leading IoT for Insurers?

The one question that seems to have too many possibilities but not true definite answer is: who should be leading IoT initiatives for insurers?

While other industries will turn to Chief Data Officers and even Chief Analytics Officers, insurance needs a new connected head that doesn't exist at most

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companies. Consider telematics projects that involve teams from underwriting, claims, I.T. and customer service. Each area has its own set of data around each customer and wants to take ownership of that information, but the system works best when everyone shares.

Few insurers currently have a team or leader in place who can manage all of these areas in both daily operations and long-term goal setting.

Speculation may say that an I.T. head would provide the best view of the data or that claims leadership might help secure the highest long-term value, but there is no clear industry standard. Nor is there enough data to say one unit will be best able to manage data and value.

IoT is moving much of the information and decision making upstream, so many experts believe insurers need a new role. The key combination of this role is the ability to direct the processing of data and then tie any insights to direct business goals and processes.

The industry may see IoT adoption in the P&C markets first if the adoption of other technologies can be a good guide. These insurers will need to test a variety of management structures and find the flexibility to change what doesn't work. They may even be at less of a risk because insurers who wait and watch for too long may have the right management structure but lose out on the competitive edge that IoT can bring.

## The IoT Future of Insurance

The true potential of IoT for insurance is not yet known. The one unifying theme, regardless of lines offered, is opportunity. Because the technology is so nascent, its final application in auto, home, life, commercial and specialized policies may look very different from today's expectations.

What is clear is that the data available through IoT represents a significant fountain of knowledge that may better shape the way insurers understand risk. Through understanding can come better pricing, improved customer service, and new lines of business that address risks so far missed. Data is the key.

Companies who are better equipped to work with data will have an advantage as IoT moves forward. This advantage may be tempting enough to pull in competition from outside of the insurance space. Retailers and tech companies have a significant advantage in the data and analytics space, but they don't have insurance knowledge.

Competition will increase and insurers will need to bank on industry knowledge and new data sets to match companies like Google or Walmart who have millions of consumers giving them information every day. Outsiders will come with different customer expectations and will have to adapt their existing brand to meet the new realities that insurance proves.

Insurers can maintain their competitive advantage by embracing the industry's tradition of creating opportunity from uncertainty. Like the processing of risks for

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existing policies, IoT may turn out to be more hype than expected or have much more far-reaching consequences than we can imagine.

Future success for insurers lies in adapting to the data IoT can provide, creating paths for each asset or line, and being flexible enough to differentiate or adjust the response of consumers to policies. Smart insurers will be open to the disruption of IoT and adapt to the demands that come from consumers and competition alike.

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### **FC Business Intelligence's Insurance IoT USA conference and exhibition**

will take place on **December 1-2, 2015 at the Ritz-Carlton Coconut**

**Grove, Miami.** Due to a need for more fine-tuned understanding around the opportunities of IoT for risk and claims management, product design and development, marketing, distribution, pricing and profitability, Insurance IoT USA will facilitate a dialogue that aims to help insurers prepare for the next iteration of insurance. Over the two day event over 25 speakers will explore the obstacles preventing more widespread adoption of IoT by insurers, as well as the solutions being developed to harness the disruptive potential of IoT. This is the only event focusing on the challenges and opportunities of IoT for the insurance industry, so join 150+ insurers and secure your place now.

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