Quarterly InsurTech Briefing Q2 2020

July 2020

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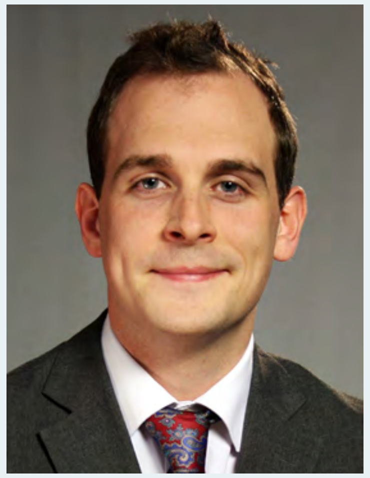
Contents

Foreword



The unlikely drivers of change

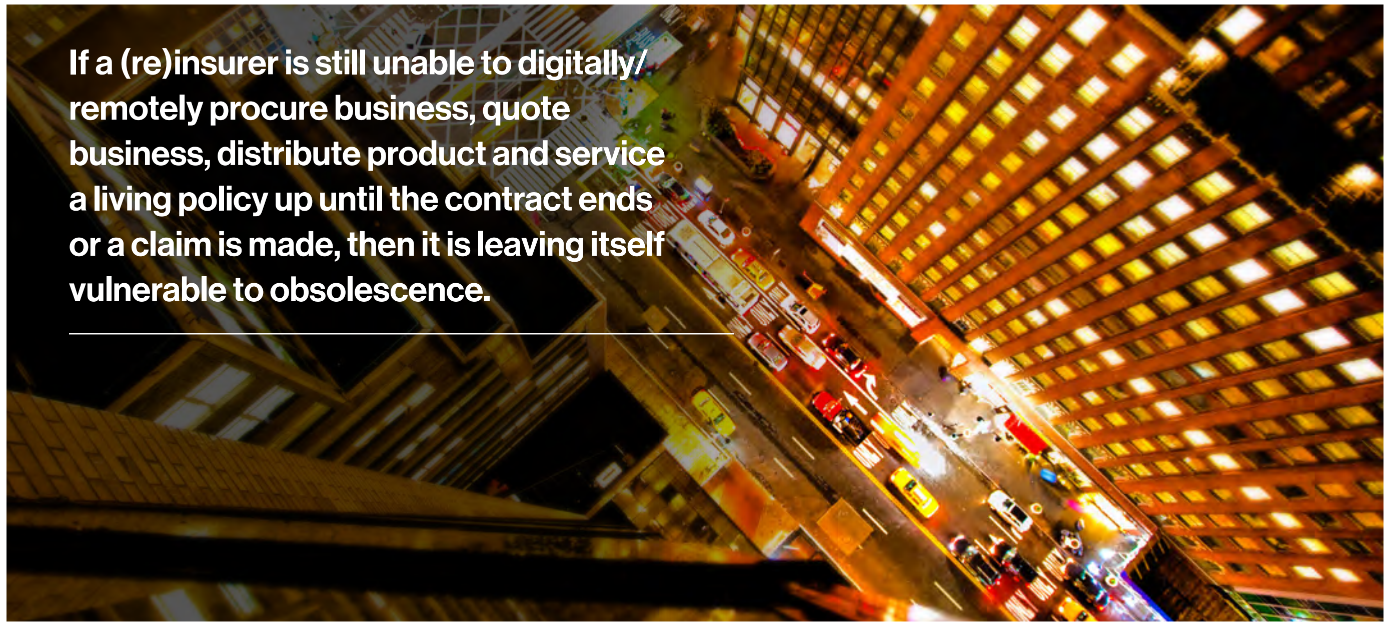
Dr. Andrew Johnston
Global Head of Willis Re InsurTech,
Quarterly Briefing Editor

"The best-laid plans of mice and men often go awry."
Robert Burns

The past few months have set our industry back and forward, simultaneously. We are in both pause mode and fast-forward mode. The industry is facing unprecedented historical losses, and yet the value of (re)insurance has never been clearer. The strength and reliance on technology has never been greater, and yet poor market investment performances and focus on COVID-19-related priorities could see a downturn in technology investments from (re)insurance industry players over the next few years. In this foreword, we will examine the possible short-, medium- and long-term impacts of COVID-19 on our industry and more specifically on the role of InsurTech. This examination of COVID-19 looks only through the lens of its commercial and spatial impact to our industry. We are, however, acutely sensitive to and aware of the loss of life and human distress that COVID-19 has caused so many.

To say that we are in uncharted territory would be an understatement beyond measure. For (re)insurance, (re)insurance firms and their staffs, (re)insurance markets, investable markets in general and individual InsurTech vendors/start-ups, most "best-laid plans" for 2020 have probably been put on hold (or scrapped altogether). And yet as the world around us seems unfamiliar and strange, perversely from a technological perspective at least, we are achieving the goals that we have been opining on for decades at a lightning-quick pace. We have gone "digital."

Businesses in our industry are now either fully floating on the digital rafts they have been inflating for years or digitizing increasingly and relying more and more on remote systems (increasingly cloud-based) that can support electronic quoting, policy binding and issuance, and claim paying technology, to name but a few functions. It may be trivial to state, but now more than ever there seems to be so much truth in the expression, "Necessity is the mother of all invention." If a (re)insurer is still unable to digitally/remotely procure business, quote business, distribute product and service a living policy up until the contract ends or a claim is made, then it is leaving itself vulnerable to obsolescence.



A contemporary cartoon (that has been widely distributed) illustrates a "COVID-19" labelled wrecking ball heading toward an office where those inside are discussing the role of technology in their business. A staff member boldly states, "Digital transformation is years away. I don't see our company having to change anytime soon." The most important feature of the cartoon is that those discussing the topic cannot see the wrecking ball for the bricks and mortar of their offices. As humorous as the cartoon is intended to be, many a true word is spoken in jest. Most firms will have had a carefully drawn-out technology agenda for slowly moving core systems over to cloud-based platforms over a series of years. The luxury of time is no longer on our side.

This all begs the question, will COVID-19 kill the term *InsurTech* once and for all? Even before the dawn of COVID-19, many had begun to question the ongoing validity of *InsurTech* as a stand-alone term. It was then, and continues to be, a valid question: If, in order to survive and remain relevant, a (re)insurer's core operations are wholly supported by technology, and our industry becomes completely synonymous with technology, then what function does the term *InsurTech* serve? The answer to this remains multifaceted, but it essentially orbits around one's preferred definition of *InsurTech* to begin with. If one believes it to mean "the use of technology in the (re)insurance industry," then the term *InsurTech* is arguably redundant. If, however, we understand the term to reflect more a cultural awakening of innovative technology being developed, supported and funded by "nontraditional/industry" activists for the benefit of the (re)insurance industry (and its clients), then it still holds value as a term in its own right.

Perhaps the best way to start dealing with the term is to bifurcate it into *InsurTech* and *InsurTechs*. *InsurTech* as a term refers to the cultural shift of adopting technology throughout the entire (re) insurance vertical, that has been occurring (at pace) in our industry for the past decade. Recognizing that this has been driven by a significant number of nontraditional actors, coupled with a growing realization from incumbents that technology is a necessity, not a luxury. *InsurTechs* as a term refers more to the individual firms themselves that may test our traditional definitions of what we believed *InsurTech* to mean but are InsurTechs nonetheless. *InsurTechs* as a term also allows us to accommodate the inclusion of those self-identifying InsurTechs that existed before 2010.

As we will demonstrate this quarter, there has certainly been no lack of global activity in Q2. While it is not for us to say definitively that the term no longer holds the same value as perhaps it once did, COVID-19 has undoubtedly achieved the aspirations that no single InsurTech firm, or InsurTech strategy, could have done alone. As we wrote in a previous *Quarterly Briefing*, the ability to define and examine the meaning of a word against its contemporary taxonomy is a vital aspect of truly gauging what is going on in a real sense in any evolving market.

This quarter's data highlights

Global InsurTech funding recovers after a tough Q1 2020.

In Q2 2020, global InsurTech funding saw a 71% quarter-on-quarter increase to US$1.56 billion across 74 deals, as later-stage investors, and corporate venture capital (CVC) investors, recalibrate activity following a cautious Q1 2020. While this quarter's deal count was 23% lower than Q1, the increase in funding came as a result of four mega-rounds (over US$100 million) from Duck Creek (US$230 million), Oscar Health (US$225 million), Pie Insurance (US$127 million) and States Title (US$123 million). Running just shy of the mega-round status were Bought By Many (US$98 million) and Coalition (US$90 million).

Share of L&H funding grows as interest in life insurance and telemedicine accelerates.

Property & casualty (P&C) deals continued to comprise the bulk of funding, representing 68% of dollars invested this quarter. Compared with Q1 2020, however, funding into life & health (L&H) start-ups grew to 32%, up 17 percentage points, amid the possible rush to get life insurance coverage and the movement toward telehealth brought on by COVID-19. Bestow, a Texas-based direct life insurance provider, which raised a US$50 million Series B, enables customers to apply for coverage online and eliminates the need for medical exams and blood tests. Alan, a Paris-based digital health insurer, also raised a US$54 million Series C and offers telemedicine through its partnership with Livi.

Investors divert attention away from Seed/Angel deals.

As we have been commenting on for some time now, investments are going further up the stage ladder. With greater participation from CVCs this quarter, this has only been compounded. Early-stage deals (Seed/Angel and Series A) accounted for 42% of overall deal count (a record low) and a nine-percentage-point decline from Q1 2020. The decrease came almost entirely from a reduction in Seed/Angel deals, the stage at which a start-up is most unproven, while Series A deals stayed flat. Series C deals grew to 11% up from 6% in Q1 2020.

Direct insurers look to carrier acquisitions to expand capabilities and geographies.

Compared with the prior quarter, distribution-focused start-ups saw an 11-percentage-point increase in deal share, while B2B start-ups decreased by 10 percentage points. Unsurprisingly, direct insurers continue to be the smallest segment given the capital intensity and the regulatory process for obtaining approval.

A notable development this quarter, however, was the number of InsurTechs that obtained or plan to obtain carrier status through acquisitions, including Hippo's acquisition of Spinnaker, Buckle's acquisition of Gateway Insurance Co., and Pie Insurance's US$127 million round that earmarks US$100 million to purchase licensed insurance companies. We featured Buckle in our last *Quarterly Briefing*, and there is much more information on Hippo's acquisition in this quarter's Transaction Spotlight.

Lemonade becomes the first public U.S. InsurTech unicorn.

This license acquisition strategy coincides with U.S.-based D2C renter and homeowner InsurTech Lemonade filing to go public, a major exit event for the modern InsurTech era. In early July, the company's stock opened at US$50.06, up 72% from its US$29 per share target. Lemonade's course is still yet to be determined, but it is often cited by many as the poster child for brand-building InsurTechs; the fate of Lemonade could well indicate where much of the investment future is heading.

Rest-of-the-world deal activity gets a boost as uncertainty continues to loom in top markets.

While the majority of activity continues to be concentrated to the U.S., U.K. and China, Q2 2020 saw deals across 25 countries – a record number since this publication started recording. This included several new geographies such as Taiwan, Croatia and Hungary. In contrast, the previous quarter saw the least geographic diversity since Q3 2018 with only 15 countries represented. As the top markets continue to work toward recovery, investors may continue to place bets in newer regions to diversify risk.

As we are presenting, the InsurTech investment in Q2 is certainly an uptick when compared with Q1, but most of the underlying issues that affected Q1's downturn have not gone away. Whether Q2's surge comes from a handful of mega-deals or a genuine play by many investing in L&H InsurTechs to capitalize on life insurance and telemedicine solutions, the impact of COVID-19 is likely to continue for many quarters to come. The ways in which this manifests itself into future investments is yet to be seen.

While it is very difficult to gauge the true impact that COVID-19 will have on the future of InsurTechs (at an individual level), we offer a view on how things could well play out for InsurTech (at a macro level) and for our industry more broadly.

In the short term, we anticipate that consumer and industry investment confidence will test the status quo. In addition to the speculation of short-term returns and survival speculation of some highly leveraged InsurTechs, certain risks and their associated vectors have fundamentally changed — and could be changed forever. Will the travel insurance industry ever be as buoyant again? Will we ever drive as much again? Will we all have offices in our home? The short answer is possibly yes, possibly no. As such, we anticipate seeing a fairly unpredictable next 12 months of activity.

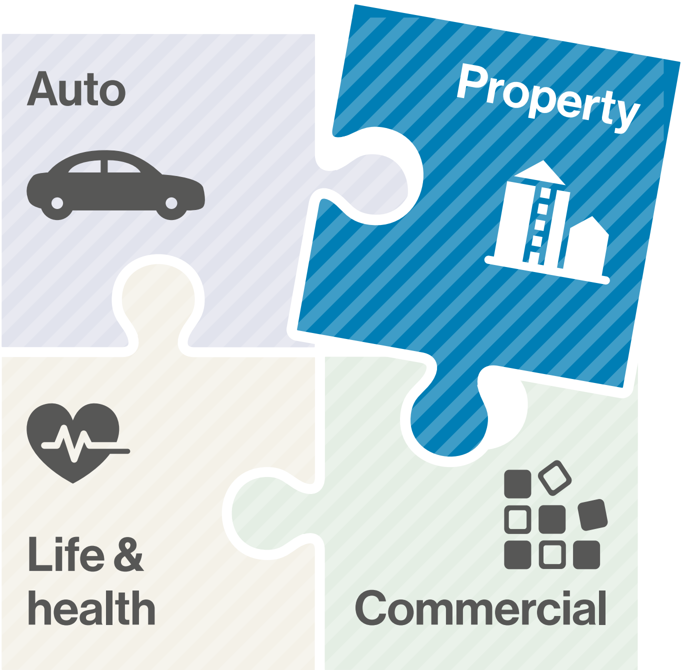
In the medium term, we will likely see a different kind of constraint affecting the status quo. Changing risk classes might be being better understood, and consumer optimism might be starting to rise (driving an increase in leisure activity and asset purchasing), but the true economic impact of COVID-19 will most likely not be really felt until 2021 and 2022. This will in part be driven by changing market rate prices, but more importantly it will be impacted by the longer-term effects of poorly performing market investment returns. This will undoubtedly impact the view of many (re)insurers, and their shareholders regarding how much they are prepared to invest in technology — and technology firms themselves.

The other thing to consider in the medium term is the survival prospects of many global InsurTech businesses. While InsurTechs are probably much more adept at hibernating than their incumbent relatives, if the use case of a business has been lost forever through fundamental change, or the prospect of ever "making it" now seems (more) unlikely, then many founders may cut their losses and move on. As is the case for many recession-like waves, certain assets may become more affordable, and it is quite possible that highly innovative and impacting technology will be available at lesser prices. This could well be someone's opportunity.

In the long term, somewhat ironically, it will be technology that helps our industry survive this situation, and (re)insurers will come to realize this if they do not know it already.

Funding into technology will be a fixed budget item; legacy systems will have been jettisoned, and we will most likely observe a true convergence between technology and balance sheet activity. Technology will help to evolve and shape our industry, and InsurTech businesses will most likely be valued more realistically. It will be less about finding the next unicorn and more about a search for appropriate technology that supports a firm's core digital strategy. If we think back to the Gartner Hype Cycle, this is where the "trough of disillusionment" will bottom out and then rise again as technology continues to be an embedded feature, function and commodity of our industry. We are arguably at the peak of expectations with this latest initial public offering (IPO) with VC, CVC and now public interest capital all circling the pool of opportunity with very different expectations and differing financial relationships with InsurTech. When sympathetic industry capital is replaced by much more demanding public investors, there is likely to be a very rude awakening for InsurTechs that simply do not deliver financial performances associated with their valuation.

Before we move on, it is worth noting that time and time again, our industry comes under fire for being slow and unable to "do the right thing" from a technology perspective, but take a moment and look at how so many (re)insurers have reacted to this COVID-19



situation. One of the most fascinating facets of COVID-19 is not so much that we had no other choice but to go remote or digital, but that we *could* and can continue to do so. If COVID-19 had happened 100 years ago or even 20 years ago, many of us would have been forced to go back to offices and commuting because the economic pressures not to would have been unsurmountable. What COVID-19 has been, however, (again, this is through the commercial/functional lens; we acknowledge the impact at a human level for those affected) is an enormous experiment and validation of the technology that we have been investing in for over a decade. Many of the firms in our industry went remote because it was a feasible (albeit intimidating) option.

This *Quarterly Briefing's* contents

As mentioned in our prior briefing, this briefing will focus on property insurance as it relates to technology and InsurTech. Property insurance is the second-most dominant line of insurance business in P&C/non-life.

This quarter we will be featuring **Openly**, a managing general agent that offers personal homeowners and landlord products for single-family properties; **handdii**, a digital platform that automates the property insurance claim process from first notice of loss (FNOL) to claim finalization; **Arturo**, an InsurTech that provides structured data observations and predictions for commercial and residential properties; **Hometree**, a provider of home cover contracts to homeowners and landlords; and **Insurdata**, a provider of high-resolution, accurate, risk-specific exposure data in real time.

As a continuation of our newest feature for the *2020 Quarterly InsurTech Briefing* series, we will be speaking to an investor directly engaged in the InsurTech investment space. This quarter, we speak with Kyle Beatty of American Family Ventures (AFV). We discuss AFV's investment focus and Kyle's overall take on InsurTech in the world of property insurance.

In this quarter's Incumbent Corner section, Adam Schwebach, executive vice president at Willis Re, speaks with Paresh Patel and Kevin Mitchell, creators of HCI's TypTap InsurTech initiative – a solution for flood insurance.

This quarter's Thought Leadership comes from Desmond Carroll, executive vice president and head of catastrophe R&D, Willis Re North America. Desmond considers the institutional hurdles that most InsurTechs will need to overcome in order to successfully penetrate property catastrophe insurance.

We will also be featuring in our Technology Spotlight section, Structure Insurance Scoring (SIS), a Willis Towers Watson partnership with e2value. SIS is used to capture unique characteristics that property insurers deploy to determine replacement cost.

Our Transaction Spotlight examines the US$123 million Series C funding round into States Title, a title insurance and escrow service provider, and the acquisition of Spinnaker Insurance Company by Hippo, the smart insurance coverage provider for homeowners.

Finally, we wish to repeat our messaging from our prior *Quarterly Briefing*. While we do not have a history in this report of mentioning current affairs not related to InsurTech, we feel it would be remiss not to acknowledge the global pandemic we are all experiencing at a human level. While we have taken time to discuss the current and future impact of COVID-19 at a business level, we recognize this indiscriminate virus is creating unprecedented uncertainty and concern for all of us and the broader global community. We hope this briefing finds you and your loved ones in good health. Please stay safe and conscious of doing your utmost to curb further contagion and outbreaks.

As ever, we thank you for your continued support.

Introduction

The global property InsurTech world

This edition of the *InsurTech Quarterly Briefing* focuses on property insurance. Property insurance is the second-most bought and sold line of P&C insurance globally. Specifically, we will be assessing the various ways in which technology and InsurTech are attempting to revolutionize this major line of (re)insurance business, the extent to which they have been successful and the expectations for the future.

Before we dive into the application of technology on this significant line of business, we first want to address what we mean (in this context) when we are referring to property insurance.

Property insurance in its broadest term can refer to pretty much any insurance product or peril that relates to the physical damage and/or theft that impacts a structure or personal item(s). Even more broadly, it covers all the non-casualty facets of property damage or injury (where an individual would otherwise be legally liable for property damage or injury caused to another party). Somewhat confusingly, some property insurance products do include degrees of casualty/liability within them.

Certain distinctive lines of insurance business are placed under the property vertical, for example, motor/auto insurance, some lines of specialty insurance and commercial products for specific property structures. In our Q1 2020 briefing, we covered motor/auto insurance; we will focus on commercial insurance (including commercial property-related issues) in Q3. Consequently, in this briefing we will be placing a loose fence around the term *property insurance* to refer largely to, and include, the following vectors:

- Coverage: Personal structures and personal contents
- Product: Homeowners, renters, apartment, personal item, flood, fire, earthquake and boiler
- Peril: Open perils, natural catastrophes, weather, general damage and theft
- Listed events: All risk events/perils and named events/perils
- Insurance indemnification for coverage: Replacement cost, extended replacement cost and actual cash value

We are therefore focusing mainly on property insurance as it relates to personal lines insurance for private residences and personal property.

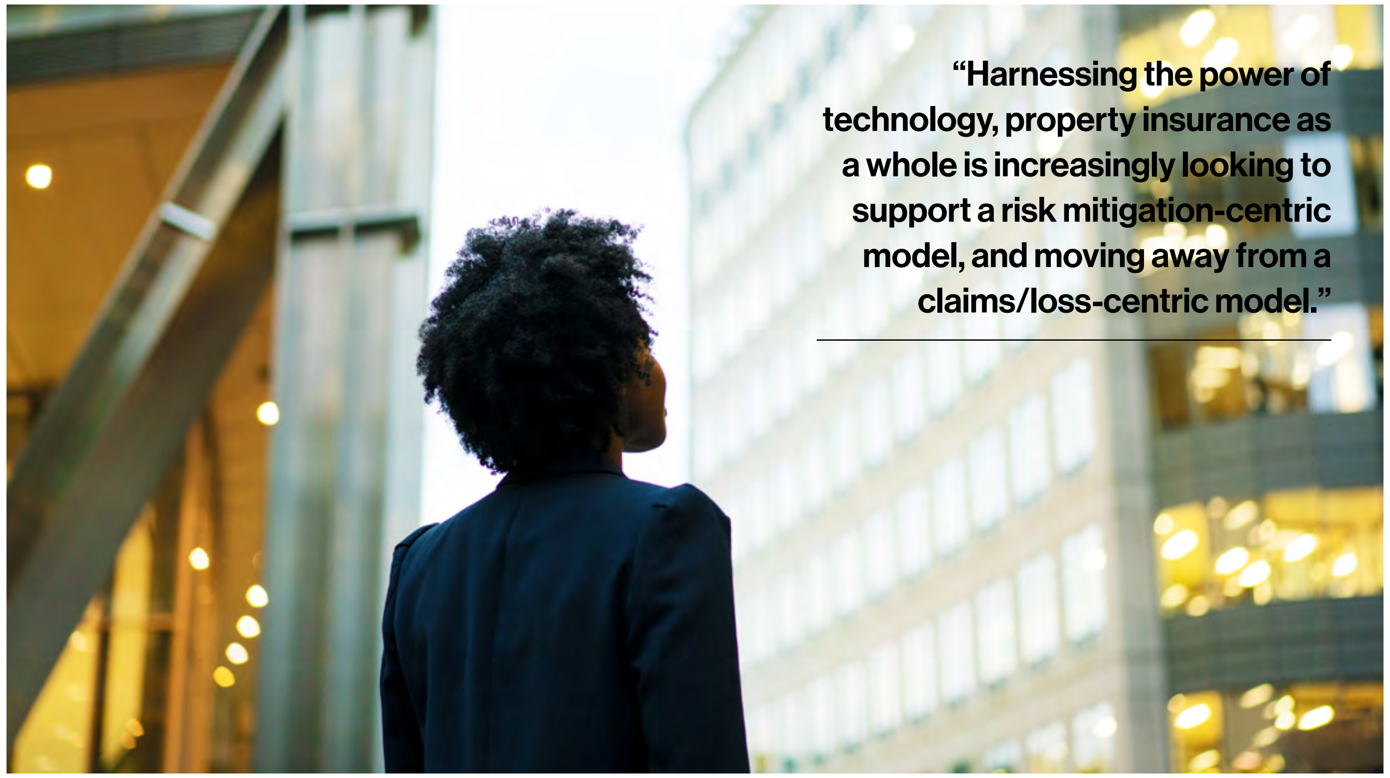
The history of property insurance

The origins of modern property insurance can be traced to the Great Fire of London: In 1666 more than 13,000 houses in London burned to the ground, leaving many dead and approximately 70,000 people homeless. The resulting insurance proposition came in the form of the first fire insurance company, The Insurance Office for Houses, founded in 1681. Upon its creation, 5,000 homes were insured.

In the U.S., Benjamin Franklin supported the motion to make standard the practice of insurance, particularly property insurance, to spread the risk of loss from fire. In 1752, he founded the Philadelphia Contributionship for the Insurance of Houses from Loss by Fire.

From this point on until the mid-20th century, separate policies had to be purchased by property owners to cover perils such as fire, theft and damage to personal items. In the 1950s, "homeowners" policies, as we now know them, came into being, offering umbrella coverage for a broader set of risks as they pertained to the average person's home (and personal property). These products have been evolving ever since that time. At the peak of umbrella products for homeowners, most perils were covered, but increasingly these products were unprofitable (due in part to natural catastrophes causing enormous losses and the regulators' desire to keep premium costs low). These products have slowly started to include fewer coverages, and consequently, we have observed a growth in peril-specific products (e.g, flood). Homeowners policies have a deep penetration rate, especially in countries where applying for a mortgage is contingent on having some form of property insurance cover. It is estimated that in 2019, over 85% of all U.S. homeowners purchased a property insurance product, at the cost of approximately US$1,000 (the average claim cost was US$13,000).

Jumping back in time once again to the early pioneers of property insurance, many (re)insurers were set up to be mutuals. In order to be approved, there were prerequisite conditions. In Philadelphia, for example, in order for a property policy to be agreed upon, certain property specification criteria had to be met — invariably meeting the "more fire resistant than the average structure" criteria (creating a self-selecting risk pool carved out from the general public). This typically required buildings to be constructed from stone. During that era, however, the majority of homes in early America were made of wood, as they also were in England.



In certain countries the mutuals model of insurance has endured and many of the leading insurers are mutuals. What is particularly interesting is that within the past few years, in countries that have corporation models of insurance provision, the "mutual model" has come back in vogue with a bang with the aid of technology, offering the opportunity to reward conscientious and similar-risk profile members or surface demand and improve bargaining power for niche interest groups. Furthermore, harnessing the power of technology, property insurance as a whole is increasingly looking to support a risk mitigation-centric model, and moving away from a claims/loss-centric model. While our industry orbits around the premise of shared risk, the power of technology can allow risk bearers a better view of who in the risk pool (better) represents lower and higher risks. It would seem that history is repeating itself.

The rise of IoT

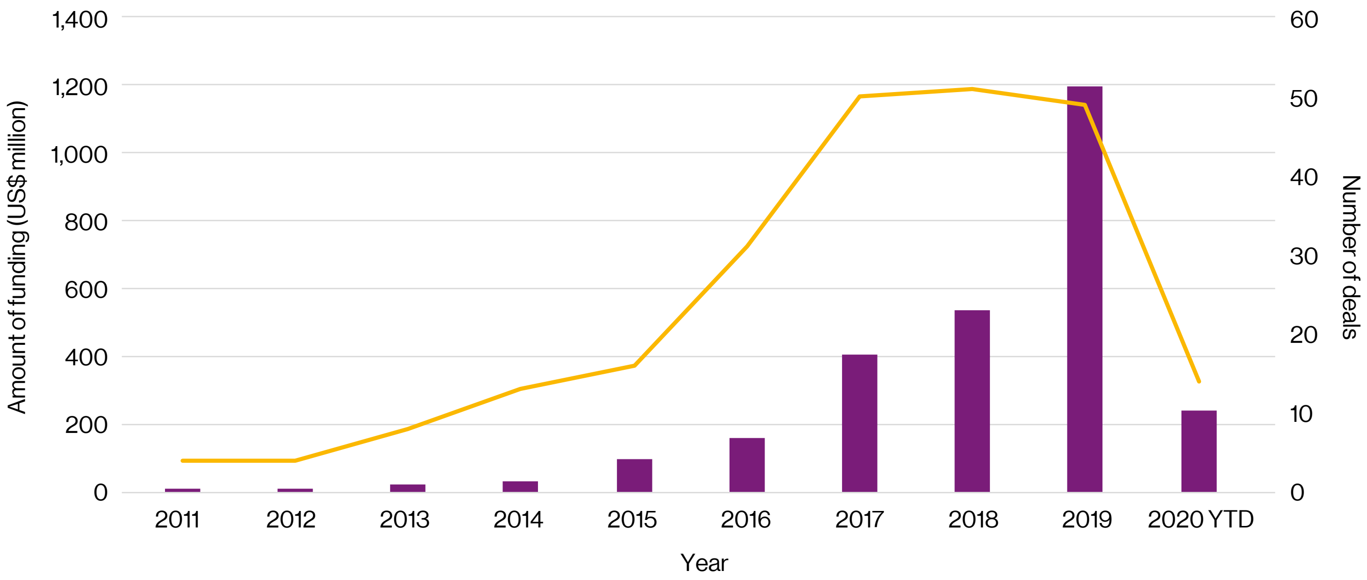
It could be argued that for individual insureds and (re)insurers, the proliferation of sensors in series creating an internet of things (IoT) community of data capture and detection/trigger functions, including mobile phones with smart capabilities and sensors, has created a significant opportunity to transform products and how risk is managed. The rise of smart buildings, and in particular smart homes, has given an individual identity and risk scoring to property that was unimaginable even 10 years ago.

At a base level, the value of a smart home to those who own and/or live in the property can be for simple conveniences (and nothing more), such as automated lighting and climate controls that respond to a timer or when a person is detected as present. In isolation, the value of these devices (and their output) is limited to the day-to-day comfort of those who dwell in or use the property.

There are also sensors that are less geared toward convenience and more focused on security and damage limitation/mitigation, including alarm systems and leak detection units on pipes (some of which are sophisticated enough to stop a mains supply of water once a leak has been detected). When connected with the Internet, these types of home devices are an important constituent of the IoT. Again, in isolation, these risk-related devices are only really of value on a one-off basis.

With so many devices abounding, however, we are starting to see the real value of IoT in the broader connection of devices that do not just speak to one another (or trigger a specific action), but also give a broader picture of the property, visible to more than just the insured. Through a visualization dashboard, we can actually ascribe behavior to a property that is a reflection of both those who live there and the general age and performance of a structure. Consequently, we can make smarter decisions about energy, efficiency, comfort and, most important, risk. These systems are usually connected through a central gateway — a user interface to control individual sensors and build up a portfolio view. These interfaces can be projected on mobile phones, computers or even screens in the property itself.

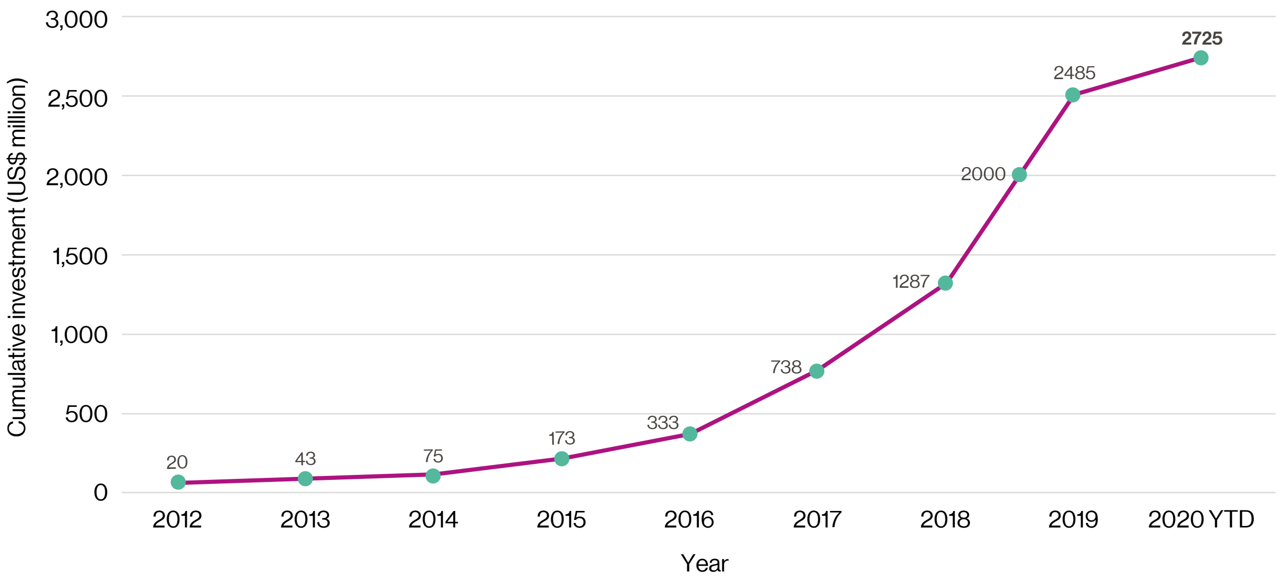
Graph 1: Total amount of funding per year (purple) vs. number of deals (yellow)



The graph above illustrates the annual investment into property InsurTechs alongside the total deal count.

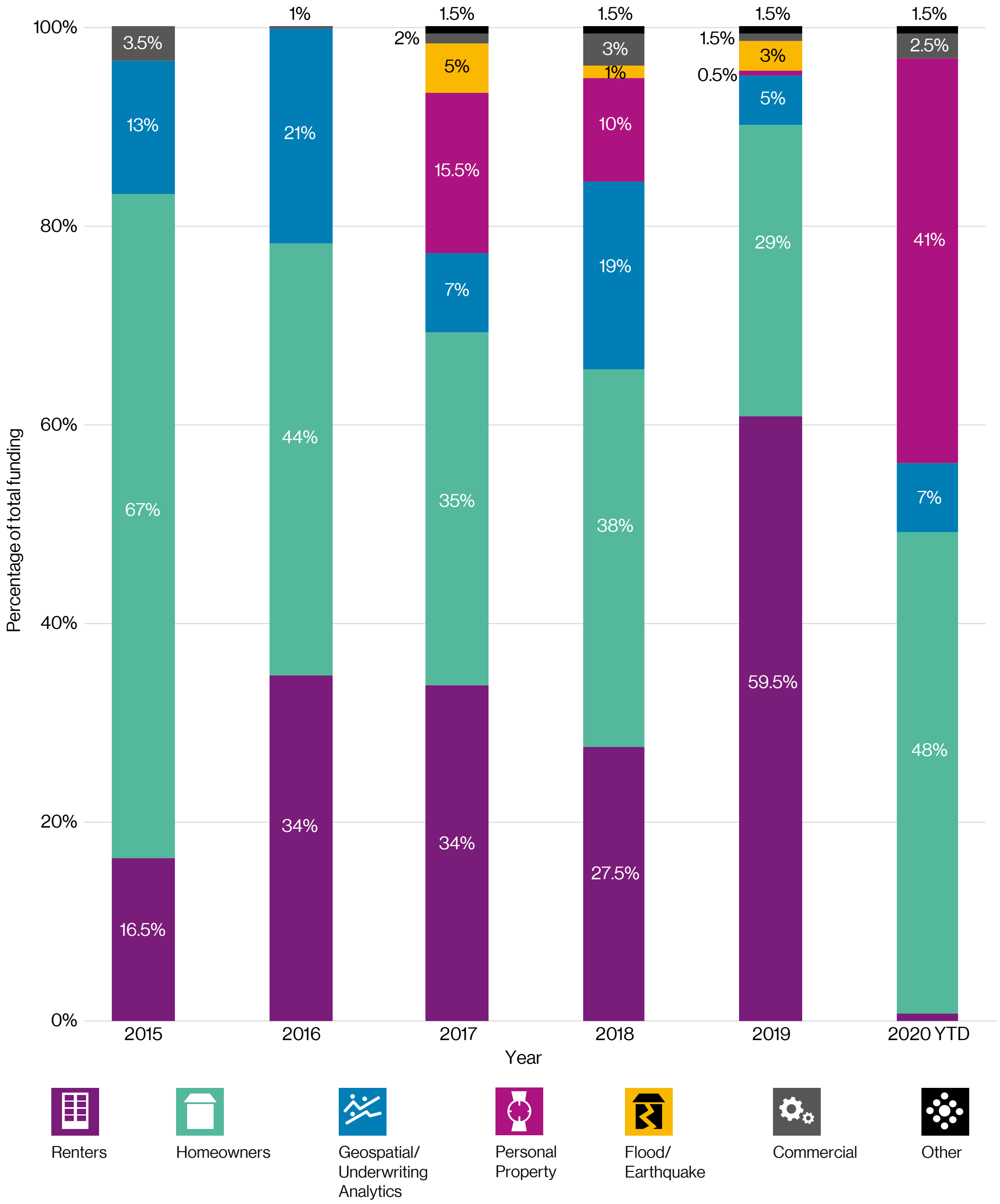
From 2017 to 2019 the number of deals remained consistent around 50 deals a year. The amount of funding was increasingly in incremental steps; however, in 2019, there was a 118% jump in funding amount, with over US$1 billion raised across just under 50 deals. The largest deals of 2019 included Lemonade, Hippo, CoverHound and Kin Insurance. These companies were responsible for 42% of 2019's funding. So far this year, 60% of 2020 deals have been in early-stage. Policy Genius' Series D round in Q1 2020 is responsible for 42% of 2020's YTD funding.

Graph 2: Cumulative investment in property InsurTech (US$ million)



This graph illustrates the cumulative investment into property InsurTechs since 2012. Notably, the property InsurTech market has raised less funding than its auto InsurTech counterpart. Cumulative investment in property InsurTechs is 20% less than its auto counterpart.

Graph 3: Property InsurTech funding broken down by primary focus



The graph above illustrates the breakdown of property InsurTech deals relative to their product or service provision. The renters and homeowners-focused companies have dominated the property InsurTech market. The top six largest deals since 2012 have all been to renters or homeowners-focused companies, and those six deals are responsible for 39% of all funding since 2012.

Despite renters and homeowners dominating in the funding amounts, when deal count is considered, renters lags significantly behind that of homeowners. Homeowners focused InsurTechs are responsible for 35% of all property InsurTech deals since 2012; geospatial and underwriting analytics start-ups are responsible for 26% of all deals, and renters-focused InsurTechs are responsible for only 13% of deals. Renters dominance in funding amounts is largely driven by Lemonade.

A non-exhaustive look at some of the sensory device applications in properties

It is estimated that by the end of this year, there will be in excess of 30 billion IoT devices that have been installed in and around homes and other properties globally. By 2022, the smart home IoT market is expected to grow to US$53.45 billion. It is also estimated that 95% of the world's data has been produced in the past three years, and this is only set to rise. Data being produced by properties are at an all-time high, so the opportunities for insureds and (re)insurers alike to make better-informed decisions as they relate to risk are unprecedented.

If each, or any combination of, the devices shown on the graphic on the previous page can be used to create a behavioral identity (in consort) that a homeowner can then "read," he or she will be able to make decisions in the home that can directly lower risk. Going a step further, providing a (re)insurer with this information can be a significant step forward in procuring the right coverage and price for a homeowners policy.

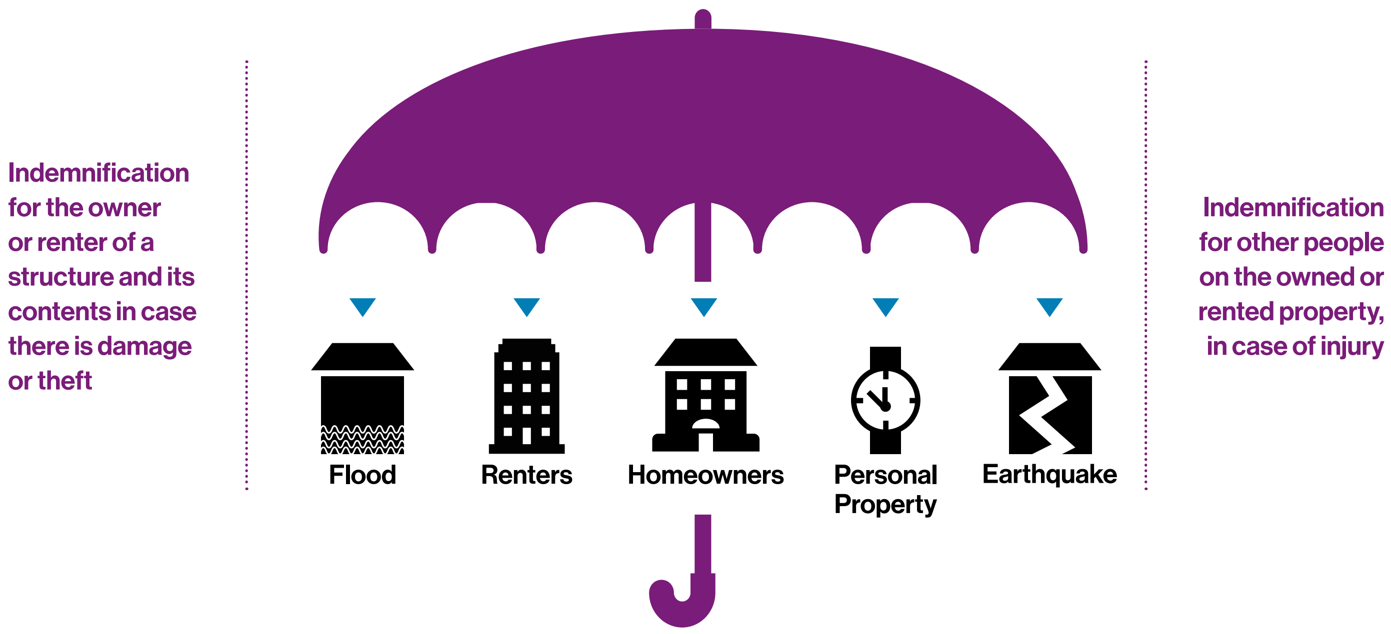
If enough insureds are able to provide this level of granular insights to a (re)insurer, then (re)insurers will be able to truly evolve their own products, pricing and underwriting in real time. Imagine a situation where (re)insurers are able to unequivocally prove that a certain combination of sensors in situ, reading certain degrees of activity, lead to certain types of losses (the causes of which were previously unknown or thought to be simply a coincidence).

The impact that these kinds of insights can have on claim loss data, risk profiles of individuals and even the pricing biases of entire postal codes is significant. Five years ago, it might have been enough to say that "these customers are willing to put a sensor in their house, so by law of averages they are probably a lower risk." If every single house and structure now has at least one sensor inside it, then it is no longer simply its presence that is the key indicator; the data it produces will be the real value to a (re)insurer. As (re)insurers increasingly move to risk mitigation-centric models, these types of eyes and ears in a property are going to be part of a significant step forward. Ultimately (re)insurers will be looking to use technology to move analysis, pricing and servicing from a proxy to source data.

It is worth noting, however, somewhat perversely that the increased usage of sensors will lead to increased loss-costs should damage arise. A truly digital house, if damaged, is probably many multiples the cost of a traditional house in order to be made new. Similarly, if we continue to move into and live in increasingly densely populated areas, is it not in fact a reading from a road or borough (rather than an individual apartment in isolation) that has a greater potential to impact a (re)insurer's ability to price risk? This naturally depends on what is being insured at the time, but it is certainly worth thinking about.

A whole host of other applications of technology can be applied to property insurance, which we will now attempt to look at through the lenses of product (and coverage), perils, losses and methods of indemnification, before being projected onto the functional chain of (re)insurance. Finally, we will present a snapshot of logos of some of the InsurTechs that are looking to innovate in and around property insurance before diving into our global case studies. Given the breadth and complexity of property insurance, we will be unable to review every single facet of interest but will at least break down technology's application against core functions.

Property insurance: Property protection coverage or liability coverage for property owners and renters



1a. Property products: The main characteristics

Flood

- Flood insurance has historically been unprofitable or prohibitabively expensive in high risk areas in many nations and has subsequently forced national/government involvement.
- In the event of a flood, a flood policy is designed to cover direct physical losses to a structure and belongings.
- For a policy to be triggered, water affecting a property must be as a direct result of a flood. For example, damage caused by a sewer backup is covered if the backup is a direct result of flooding. If the sewer backup is not caused directly by flooding, the damage is not covered.
- Globally since 1980 flooding has accounted for roughly 40% of all loss-related natural catastrophes, with losses worldwide totalling more than US$1 trillion. According to Munich Re, only 12% of these losses were insured.

Renters

- Renters insurance provides financial reimbursement to cover a tenant's lost or damaged possessions as a result of fire, theft or vandalism. It also covers a tenant's liability in the event that a visitor is injured on the premises.
- Renting is now more common among individuals and heads of households aged between 35 to 64 and those with children, who in the past were more likely to own their homes.
- It is therefore a product most commonly bought in densely populated areas by a similar social and age demographic.

Apartments/condo

- Apartment/condo insurance is designed to cover personal items, in addition to covering the interior structure of a residence in conjunction with the insurance policy carried by an apartment association.

Homeowners

- Homeowners policies are designed to pay to repair or rebuild a home if it is damaged or destroyed by fire, hurricane, hail, lightning or other disasters that are covered. Increasingly, a standard policy will not pay for damage caused by a flood, earthquake or routine wear and tear but will include coverage (up to a fixed limit) for one's personal belongings, liability protection and increasingly coverages for additional living expenses.

Personal items/belongings

- Coverage for personal belongings can include coverage for furniture, clothes, sports equipment and other personal items if they are stolen or destroyed by fire, hurricane or other insured disasters. The coverage is generally 50% to 70% of the insurance that can be bought on the structure of the house.
- Personal belongings coverage can include items stored off-premises.

Earthquake

- Earthquakes are generally not covered under standard homeowners policies where they are a known/common risk. Coverage is available either in the form of an endorsement or as a separate policy for homeowners and renters.
- Similar to flood insurance, there are some countries internationally that have government programs for earthquake. Coverage for other kinds of damage that may result from earthquakes, such as fire and water damage due to burst gas and water pipes, is often covered by standard home policies; consequently, (re)insurers not writing these risks can still be economically impacted by their occurrence.

1b. Property products: The major technology breakthroughs/applications

Renters

- On-demand coverages for goods that are rented or borrowed
- Video technology to confirm personal belonging ownership
- The use of technology platforms to make buying an insurance product for one good "affordable"
- Video imagery as a proxy for losses
- 24/7 chatbots for product purchasing and loss triggering

Flood

- Digitized mapping against known coordinates of fixed topography
- AI and satellite data to fill in gaps of unknown input data (for maps, elevation, levee sizes, checking of address locations and story locations)
- Visual imagery at a ground level to assess drainage, height of buildings relative to the ground, habitational risk on ground floor and the like
- Better understanding of future flooding projections using machine-learning (ML) algorithms
- IoT device plug-ins from other properties and associations that can measure river depth (e.g., canoe or sailing associations)
- Parametric solutions for known flood heights

Apartments/condo

- IoT devices to impact policy prices driven by individual and property behavior
- Internet platforms for online purchases (particularly, AI-based platforms will be able to customize and personalize policies and the online experience)
- Use of chatbots for 24/7 communication
- GPS/IP tracking to see a customer's location
- Municipal data pulling for public/social records
- Instantaneous claim settling — possible use case for parametric from known weather events
- Increased availability of bundle/umbrella policies — (many insurers are trialing the theory that the use of sensor data in the home can be used as a proxy to sell motor insurance)
- Data verification through video tech and third-party imagery
- On-demand coverages for goods that are rented or borrowed
- Video technology to confirm personal belonging ownership
- The use of technology platforms to make buying an insurance product for one good "affordable"
- Video imagery as a proxy for losses
- 24/7 chatbots for product purchasing and loss triggering

Homeowners

- IoT devices to impact policy prices or reduce risk driven by individual and property behavior
- Internet platforms for online purchases (particularly, AI based platforms will be able to customize and personalize policies and the online experience)
- Use of chatbots for 24/7 communication
- GPS/IP tracking to see a customer's location
- Municipal data pulling for public/social records, data from geographic-focused databases, and aerial images and topography
- Instantaneous claim settling or approval — possible use case for parametric from known weather events
- Increased availability of bundle/umbrella policies — (many insurers are trialing the theory that the use of sensor data in the home can be used as a proxy to sell motor insurance)
- Data verification through video tech and third-party imagery

Personal items/belongings

- Use of video to create live "belonging" inventories
- On-demand coverages for goods that are rented or borrowed
- Video technology to confirm personal belonging ownership
- The use of technology platforms to make buying an insurance product for one good "affordable"
- Video imagery as a proxy for losses
- 24/7 chatbots for product purchasing and loss triggering

Earthquake

- Geo-seismic readings to determine where earthquakes are likely to occur and what forces they will generate
- Improvements in fortification engineering to provide design and construction techniques so that buildings and other structures can survive the tremendous forces of earthquakes
- AI/ML algorithms to deter loss estimations on a fixed land mass (taking into account building stock, local geology, the location and size of potential earthquakes, economic data and other information to estimate losses from a potential earthquake all through proprietary or third-party sources)
- Hypothetical earthquake simulation to estimate the violence of ground shaking, the number of buildings damaged, the number of casualties, the amount of damage to transportation systems, disruption to the electrical and water utilities, the number of people displaced from their homes, and the estimated cost of repairing projected damage and other effects
- App technology to warn policyholders of incoming earthquakes so they can exit buildings and remove valuables (and make sure open fires are extinguished)
- Parametric claim solutions when a certain Richter magnitude is recorded in a designated area

2. Perils and drivers of loss in property insurance

Depending on which country or region is being focused on, or the type of insurance products that are being bought or are available, insurance (incurred) losses relating to property insurance can vary from specific peril class to class.

When placed into broad verticals, however, weather-related perils are undoubtedly the largest source of loss for property insurance worldwide. Globally, natural catastrophe losses caused an estimated US$150 billion of economic losses in 2019. In 2018, losses such as these caused total economic losses of US$24 billion. In the U.S. alone, over half of all filed claims for property insurance were either directly or indirectly caused by weather. Winds, freezing and bursting pipes, roof and flashing leaks and ice dams are among the major drivers of loss in the U.S. In 2018, natural catastrophe events in Japan caused total economic losses of at least US$24 billion, of which only US$14 billion were insured.

Globally, hail, drought, cyclones, hurricanes, typhoons, floods, earthquakes and tsunamis have all been major drivers of natural weather-related losses. In 2018, the largest weather-related perils that drove global economic insurance losses were tropical cyclones at approximately US$72 billion. Typhoon Jebi, which hit the west coast of Japan, was the most expensive on record causing losses estimated at US$5.2 billion. Last year, tropical cyclones in the U.S. caused US$16 billion worth of damages paid out by property (re)insurers. In a time where weather and climate are becoming increasing unpredictable, technology has never had a bigger role to play in helping (re)insurers understand the quickly changing risk vectors and their associated loss costs.

The next drivers of loss (that are not weather-related) are wear and tear/appliance faults and issues (this often includes plumbing issues). This accounts for approximately 10% of total insured losses in property insurance. After appliance faults, the next most significant driver of loss comes from theft, at approximately 6%.

What is particularly interesting is that although weather-related claims (as an entire vertical) are the most common reasons for losses in property insurance, the single biggest driver of losses from a cost perspective is in fact not (directly) weather-related. Approximately 25% of all loss costs are caused by fires. Insured losses from fires are typically the result of poorly performing appliances, electrical malfunctions and badly positioned items in the home (relative to common sources of fire). Great strides have been made in constructing fire-resistant buildings and improving fire-suppression techniques, both of which have reduced the incidence of fire; however, in terms of property losses, these advances have been somewhat offset by increases in the number and value of buildings.

From a pure expense perspective, hail, wind, and plumbing or appliance leaks follow fire in terms of total losses paid out by (re)insurers; 2019 was the fourth straight year in which convective storm-caused insurance payouts topped US$20 billion globally, with most of them driven by U.S. hail and wind outbreaks.

The best-defined drivers/perils of insured losses as they relate to property insurance are:

- Accidental water damage
- Aircraft or vehicle collision
- Artificially generated electricity
- Burglary, break-in damage
- Earthquake
- Explosion
- Falling objects (e.g., tree limbs)
- Fire
- Flood
- Freezing of plumbing
- Intentional acts
- Lightning
- Neglect
- Nuclear hazard
- Ordinance of law
- Power failure
- Riot or civil commotion
- Smoke
- Vandalism
- War
- Weight of ice and snow
- Windstorm or hail

As we have already addressed, many of these perils are either included in general property policies (e.g., homeowners) or offered as separate products and lines of business. As perils that drive losses, many of those listed above are handled under the umbrellas of "all perils," "specialty perils," or specific "named perils."

Major technology breakthroughs/applications:

- Improved forecasting
- Better building standards
- Early damage detection and remediation
- Increased risk sharing with customers through wind and hail deductibles
- Parametric insurance offerings, such as those triggered by wind speeds

3. Insurance indemnification for coverage

There are three types of insurance coverage:

(1) Replacement cost coverage pays the cost of repairing or replacing a property with like kind and quality regardless of depreciation or appreciation. Premiums for this type of coverage are based on replacement cost values and not actual cash value.

(2) Actual cash value coverage provides for replacement cost minus depreciation.

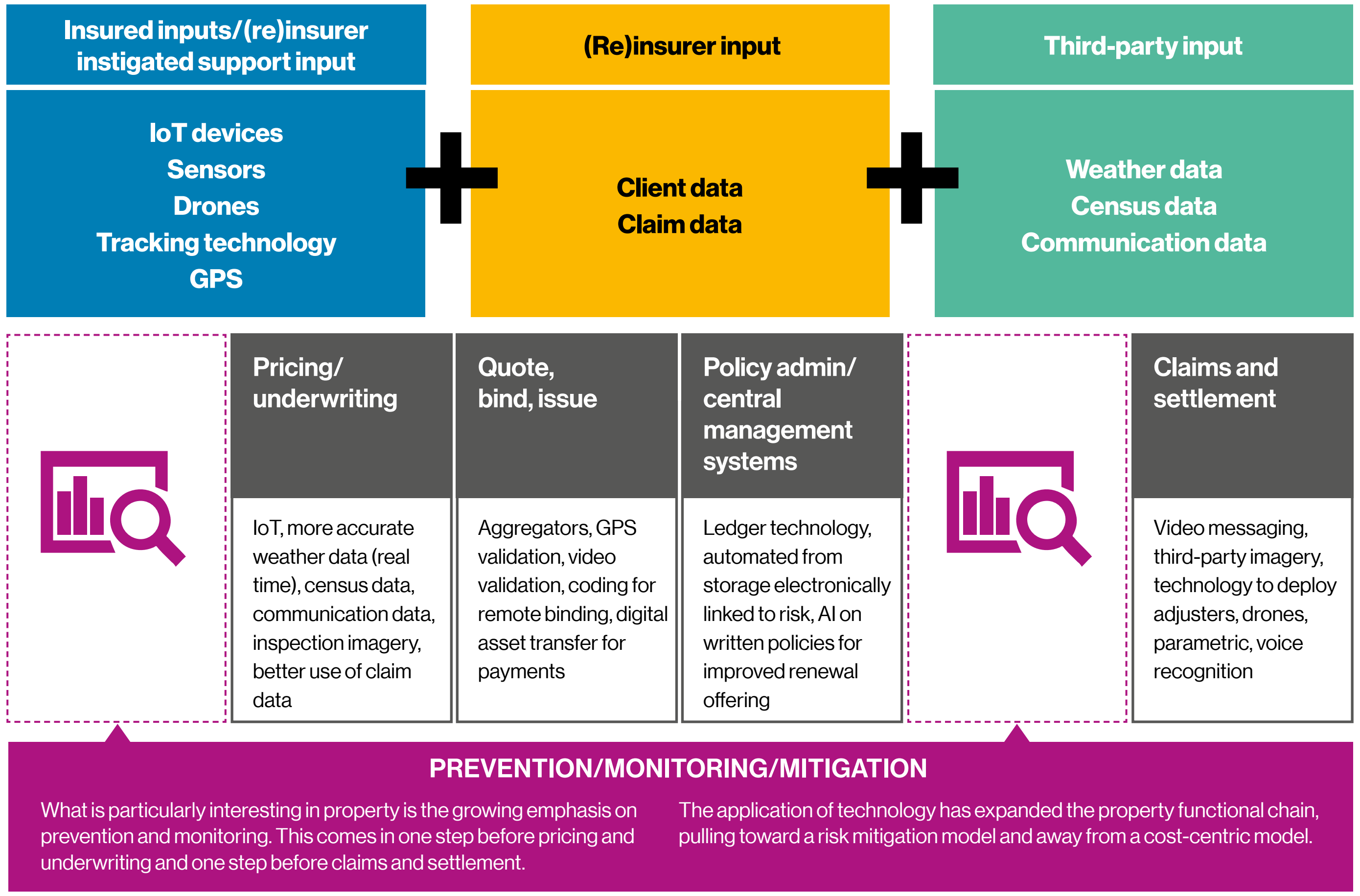
(3) Extended replacement cost will pay over the coverage limit if the costs for construction have increased. This generally will not exceed 25% of the limit. When an insurance policy is obtained, the limit is the maximum amount of benefit the insurance company will pay for a given situation or occurrence. Limits also include the ages below or above when an insurance company will not issue a new policy or continue a policy.

Major technology breakthroughs/applications:

- Better use of data to assess risk damages and costs
- Video imagery to assess damages immediately
- Parametric tools as a solution to deliver capital
- Reimagining the claim payment model (e.g, the first 10% of the covered loss is paid immediately to cover lifestyle requirements [achievable remotely through proxy video], giving the (re)insurers the ability to deploy adjusters for the remaining 90% investigation)
- Focusing on parametric for large perils, specifically, the following processes can be supported entirely by innovative technology:
  - Based on the use of a set parameter against weather or a natural catastrophe event, technology can correlate an event against a client's loss (in this case, property).
  - The fixed pre-agreed claim payment can be made once triggered and settled digitally via e-payment.
  - Measurable data can create an index against which a policy can be designed and agreed upon (e.g., a smart contract between parties to agree on the amount to be settled against certain indexed parameters being met, and finally the triggering of a payment from a third party once the trigger has been verified by at least one independent adjudicator).

Property insurance on the functional chain

If we look at a relatively straightforward impact, for example, on pricing, underwriting and assessing initial risk, we can observe how insureds, insurers and third-party InsurTechs can work together for the benefit of pricing risk appropriately. The ability to share data is really the crux of the success story here.



Some noteworthy property InsurTech partnerships, deals and funding from Q2 2020:

1. Root Insurance introduced Root Home, a homeowners insurance product

- The launch of Root Home adds to the products available through Root's mobile platform, which also includes auto and renters insurance. Root Insurance customers who bundle with new or existing auto policies will save 10% on homeowners insurance. The product is available in 13 states.

2. Lemonade files for IPO on the New York Stock Exchange

- Lemonade, a New York based and Softbank Group-backed renters and homeowners provider, filed to go public.

3. Urban Jungle raises a Seed VC

- London-based home and renters insurance provider Urban Jungle raised a US$3.1 million Seed VC round from Eka Ventures and other undisclosed investors. This takes the company's total funding to US$7.69 million.

4. Spruce closes a Series B funding round

- Spruce, a digital title InsurTech, has raised US$29 million in a Series B round. Scale Venture Partners led the round, with Zigg Capital and Bessemer Venture Partners also participating. This takes the company's total funding to US$49 million.

5. Betterview adds new features for property detection

- Betterview, a San Francisco-based property risk analytics start-up, has added "detection polygons" to its product to better translate computer vision of properties. The patent-pending technology creates greater transparency on Betterview's generated risk scores for insurers, allowing them to take appropriate actions easier and quicker.

6. Chubb and Hartford Steam Boiler deploy IoT for wine collections

- Through a partnership with Hartford Steam Boiler, Chubb has been deploying temperature and moisture sensors with certain clients who have collections that are at particular risk for damage.

7. Hippo announced two new partnerships with Handdii and Westhill

- The partnerships are aimed at increasing the efficiency of Hippo's end-to-end customer claim handling and will allow Hippo to match claimants with top-tier contractors to deliver high-quality work, real-time updates and a faster reconstruction timeline.
- Handdii focuses on minor repairs such as exterior wind damage, water leaks and general equipment breakdown. Westhill focuses on mid- to large-size property claim fulfilment and partners with contractors that have the expertise to mitigate or repair property losses with complexity ranging from single-trade roofing to total loss fires.

8. Jetty, the New York based home InsurTech, has partnered with Farmers Insurance

- Under the terms of the deal, Toggle Insurance Company, a Farmers Insurance company, will become the exclusive reinsurance provider for all new policies written under Jetty's core products: Jetty Deposit and Jetty Renters Insurance. Jetty helps property managers increase lease conversion, reduce bad debt and streamline operations. For the renter, Jetty lowers the barrier to entry, saving money on move-in costs. Jetty is available nationwide.

9. Moen purchases a majority stake in Flo Technologies

- Moen, the U.S.-based water fixture company, has acquired a majority stake in Flo Technologies, a U.S. smart water management and leak detection company. The companies have already partnered to develop the Flo by Moen Smart Water Security System.

10. massUp partners with Westland Insurance Group

- massUp, the German-based InsurTech, has partnered with Willis Re's Alternative Distribution Operation to automate a Binding Authority facility for one of its Canadian client's: Westland Insurance Group Ltd. Launched on July 1st, massUp's quote, bind, issue software will enhance the efficiency of transacting business under the facility.

A snapshot of some global InsurTechs operating in the property space:

Product provider

Homeowners

Personal property

Flood

Earthquake

Renters

Property umbrella

Aggregators/Comparison sites

Data and analytics

Service support

Claim function

Case Studies

Founded in 2017 in Boston by two industry experts, Openly is a managing general agent that offers personal homeowners and landlord products for single-family properties. Writing on Rock Ridge Insurance paper, Openly differentiates itself through its use of data, advanced pricing models and a modern quoting platform. In addition, Openly creates a more holistic coverage package for customers to ensure that their most important possessions are covered. Openly is currently available in Arizona, Illinois, Pennsylvania, Tennessee and Kentucky, with plans to enter Massachusetts, Ohio, Indiana, Georgia and South Carolina in Q3 and Q4 of this year.

Openly overview

Openly's policies are written on an HO5 contract, which allows them to provide open perils coverage for both the dwelling and personal property and means that Openly can cover many more loss types. Openly leverages a guaranteed replacement cost feature that ensures that in the event of a total loss, the policyholder is covered and his or her home will be replaced. Openly eliminates the need to determine or predict what the replacement cost of the home is and allows the agent and customer more time to focus on the tailored coverage options specific to each customer.

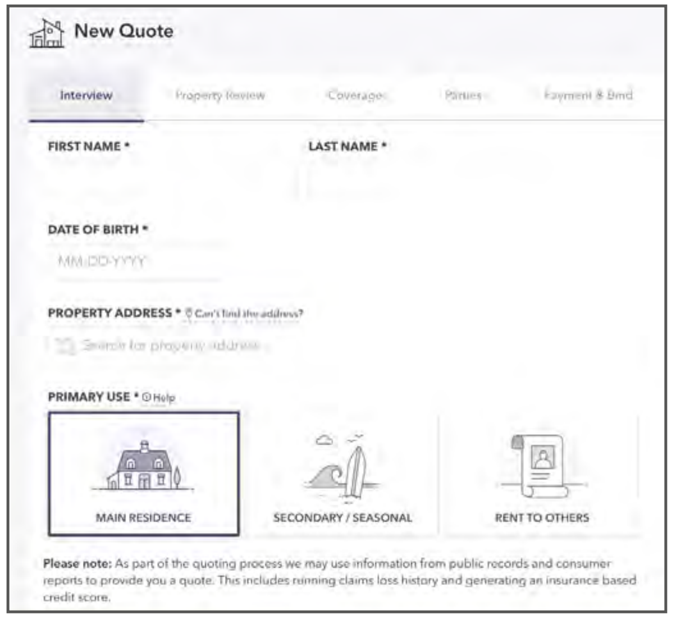
Openly's base contract is more expansive than the typical homeowners contract. Each Openly contract includes full ordinance and law coverage, US$100,000 in loss assessment coverage, limited seepage and mold coverage, personal injury liability protection, US$10,000 in medical payments and golf cart physical damage coverage as well as higher personal property sub-limits and additional coverages. In addition, Openly offers optional coverage options that complete the comprehensive coverage package. These include (but are not limited to): personal cyber coverage (including ID theft, cyber bullying, cyber extortion and the like); buried utility line coverage; equipment breakdown coverage; and full water backup coverage.

Openly's technology

Openly leverages data and technology to make the quoting process easy and simple. With just three questions and 20 seconds, a bindable rate can be generated. The user interface is agent-driven; the agent can personalize the whole process, setting its own coverage and deductible defaults. All required information is provided at the point of sale through the use of third-party data partners.

Openly's Series A round

Openly has recently closed a US$15 million Series A investment. The round was led by Obvious Ventures, with participation from existing investors, including Gradient Ventures (Google's AI-focused venture fund), Point Judith Capital Ventures and others.



"In my opinion the wave of InsurTech innovation we're seeing now is due in part to the engineering talent flooding into insurance. Many of these folks are comparing the existing insurance incumbents to the tech bellwethers in other industries and questioning why these companies aren't writing code in modern languages, using modern programming paradigms and building on the modern APIs that they've come to expect. Collide that mindset with the operationally complex and quantitative problems unique to insurance and you create ideal conditions for keeping these new developers deeply engaged. Venture capital is already leaning in and I believe we'll continue to see more start-ups tackling inefficiencies beyond just digital marketing, online quoting or data aggregation."

Matt Weilbut, Chief Technology Officer, Openly

handdii is a digital platform that automates the property insurance claim process from first notice of loss to claim finalization. Founded in Australia by two industry leaders with experience in motor and property claims and construction, handdii's founders had experienced a lack of transparency surrounding property claims and how they were managed. The founders identified that 80% of claims were relatively simple, with a value of under AUD/USD$30,000 and require only three or fewer contractors to complete the work. handdii was formed to address these claims.

handdii's platform

handdii connects insurance companies and their customers directly to a network of contractors, and enables the fast-track processing of small-value property claims.

For the insurance company, handdii's interface provides full transparency of a claim's progress and allows for detailed reporting and interaction between the adjuster, contractor and customer. Insurance brokers and/or agents have a similar interface that enables them to be the guardians of the insured and stay informed of a claim's progress. For the customer, handdii's application is easy to use, streamlines the communication between all parties and tracks the progress of the claim.

- **The contractors:** handdii's contractor application has specifically been designed to enable contractors to meet the demanding requirements of the insurance industry and allow them to deliver quality repairs for customers. Contractors who have traditionally not undertaken insurance repair work are now able to access this vertical, which opens up a key supply chain to both industries. handdii rewards high-performing contractors with fast payment terms and increased work allocation.
- **The insurers:** For handdii's insurance clients, the company is currently delivering between 15% and 20% cost saving across 80% of the insurers' claims.
- **The customers:** For customers, handdii has reduced the length of a claim from an industry standard of 40 days (inclusive of mitigation and reconstruction) to a low of 14 days.

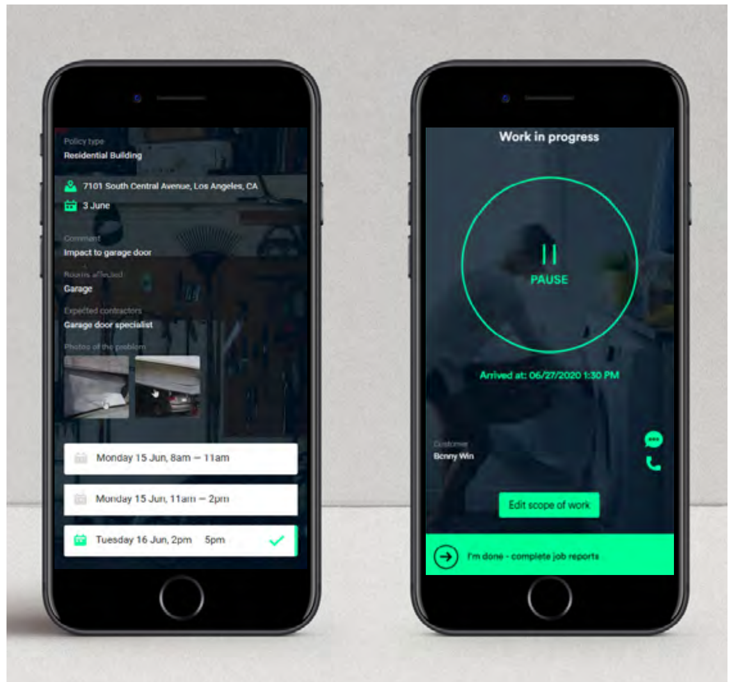
handdii's partnerships

First launched in Australia in March 2019, handdii leveraged its successful early results with Allianz to launch in the United States. The company partnered with Hippo Home Insurance to deliver the comfort and satisfaction of high-quality work from top-tier contractors and a faster reconstruction timeline for its small claims fulfillment. The success of the program for more than half a year has serviced hundreds of claims across Texas and California.

Off the back of this success, handdii has been selected to join Guidewire's PartnerConnect Solution program to develop an integration for the Guidewire Marketplace.

"At handdii we believe technology has the ability to improve service outcomes for customers and insurers. Technology helps us to solve problem areas in fulfillment of property claims by making the complex simple — handdii does this."

Christie Downs, CEO and Co-Founder, handdii



ARTURO

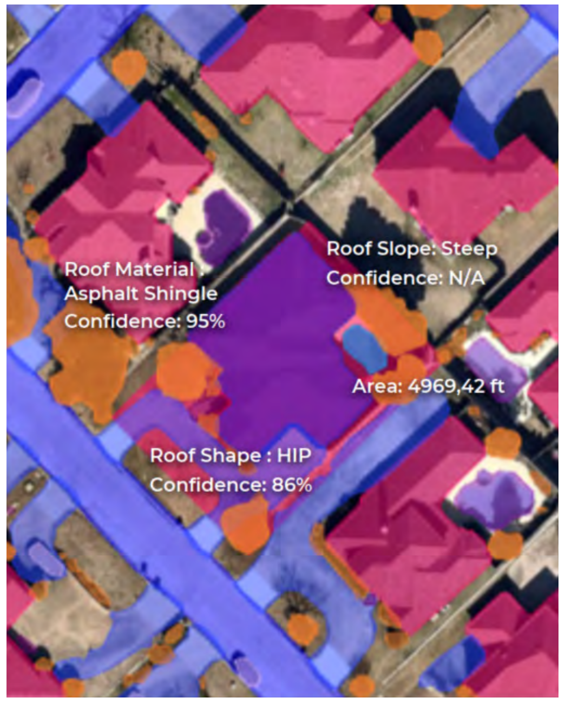
Arturo provides structured data observations and predictions for commercial and residential properties using satellite, aerial, drone and ground-level imagery. The Chicago-based InsurTech spun out of American Family Insurance in May 2019 following three years of internal research.

The company's founding

In 2016, American Family Insurance began tackling the question of whether satellite, aerial, drone and ground-level imagery combined with artificial intelligence and machine learning could substantially improve the quality and accuracy of property data used in quotation, underwriting and renewal, and subsequently improve the business and ROI.

Following 18 months of intensive research and development, the American Family/Arturo team began applying their models within American Family's business. Using up-to-date property characteristics, the deep learning models were achieving accuracy levels substantially above the previously used data sources. Arturo conducted stealth testing with innovative InsurTech start-ups, including Hippo and Roofr, which validated and confirmed the real value creation that Arturo's models were able to deliver, as well as fed into the models' development.

American Family made the strategic decision to spin out Arturo into a separate entity so that the company could serve and create benefits for American Family, the rest of the insurance industry and adjacent markets that could leverage the insights that Arturo delivered.



Arturo's competitive edge

- **On-demand processing** — Arturo can immediately obtain relevant imagery when customers request data about a property via its application programming interface (API). The company can then feed it through its deep learning models and return a result as structured data in about five seconds.
- **Confidence scores** — For each property analysis that is performed on-demand, Arturo calculates and provides per property and per attribute confidence scores (which are typically 85% or higher) for its analysis. By doing this, it substantially increases the utility of the provided data as users can assess confidence value when leveraged in the user's pricing and underwriting process.
- **Feedback loops** — Arturo has created a methodology to automatically obtain and leverage customer input to automatically measure its real performance, capture new edge-cases and training data from customer interaction, and then use the data to consistently improve its models directly from customer feedback.
- **Proprietary and unique data** — Arturo has tested and validated its models' real-world performance against years of actual claim and inspection data from American Family. This has enabled Arturo to provide models that have predictive value, e.g., the likelihood that a home might have a roof replacement soon or be involved in a wildfire.

Arturo's Series A

In April 2020, Arturo raised a US$8 million Series A funding round led by Crosslink Capital. The round was also supported by IAG Firemark Ventures, IAG Australia's largest general insurer's venture capital fund. The investment will be used to fund growth across North America and Asia Pacific.

"We are advancing AI and ML in the insurance industry. Arturo provides insight that helps our clients assess risk and mitigate exposure."

John-Isaac "jC" Clark, CEO, Arturo

Hometree

Hometree, a London-based home services InsurTech start-up, provides home cover contracts to homeowners and landlords across the U.K. The contracts provide breakdown cover on a range of essential household items, such as the boiler, heating, electrics and plumbing.

Consumer champion

The U.K. home cover market has 9 million customers who pay monthly for emergency breakdown cover should something go wrong with their homes' key infrastructure (i.e, their heating, home electrics, drainage or plumbing). Hometree spotted an opportunity to offer customers a better value offering, with far superior service rooted in technology. To launch, Hometree invested in its own digital/above-the-line marketing, as well as put into place a range of distribution deals with energy utilities, property firms (estate agents and home improvement companies) and comparison sites, where bundling home cover into a core product enhances the customer offering.

Hometree's products are currently sold as maintenance plans, but in Q3 2020, the company will be launching its insured range of products that will be underwritten by a leading A-rated Swiss insurer.

Technology: Reactive product into a proactive one

Hometree is using technology to transform the home cover value proposition for customers and automate all internal processes so it can increasingly have the lowest cost to serve in the industry. Core to Hometree's differentiation is a "No Claims, No Price Hike" promise, ensuring Hometree values rather than penalizes customer loyalty. This will also enable the company to rely less on price increases to its customers.

Fundamental to Hometree's strategy is to turn a historically reactive business model into a proactive one by using IoT devices to monitor the performance of the systems it is covering, enabling the company to predict ahead of time if the systems are likely to break down and to conduct remote diagnostics. As home hardware, such as boilers and heating controls, become increasingly connected, Hometree is at the forefront of rolling out products that monitor their performance remotely to ensure the customer is informed immediately at the point of breakdown and the engineer assigned to the job knows exactly what has broken down.

Hometree is expanding the range of products it covers in the home — with appliances, glazing, locks, roofing and pest products all launching this year. The company is also planning to launch the first electric boiler cover plan in the U.K., as well as bundling in monitored security with home cover.

Hometree's funding round

Launched in 2017, the company raised 5.5 million British pounds in its latest funding round from Anthemis and existing investors DN Capital and Literacy Capital. Hometree has raised £15.9 million in total, with other investors including AV8 Ventures, LocalGlobe, Oxford Capital, FJ Labs and a number of angel investors. Since its launch, Hometree has grown to having over 10,000 customers and 2,500 multiskilled tradespeople across the U.K.

Founded in 2017 with offices in Denver and London, Insurdata enables (re)insurers to generate high-resolution, accurate, risk-specific exposure data in real time. These accurate geocode data points and precise building attribute data are available at any point in the (re)insurance workflow, from underwriting and pricing, through to portfolio management and risk transfer. In providing peril-specific data at the highest resolution, globally and for all perils and lines of business, (re)insurers that deploy Insurdata's technology have access to highly refined data throughout the workflow. This increases (re)insurers' confidence in modeled loss estimates and thus results in better risk selection and pricing, and improved accumulation management and portfolio management.

Insurdata's overview

Insurdata's platform has been calibrated using extensive real-world, ground-truthing data. As a result, the company is now able to produce geocoding results as accurately as a human analyst, but at the enterprise-level speed and scale of the traditional geocoding engines.

- **Precise:** High-resolution, real-time, accurate property and risk attribute data are leveraged in Insurdata's proprietary technology platform to create and augment property-level exposure information.
- **Peril-specific:** Insurdata's Exposure Engine sits at the heart of its solution. It has been designed for full peril coverage. The system generates specific attribute data for any type of exposure, including flood, earthquake, wildfire, hurricane, tornado and terrorism. (Re)insurers can create exposure information from scratch or augment existing data sets.
- **Global:** Insurdata technology analyzes exposure data globally. To date, the company has created and augmented exposure data in more than 100 countries.
- **Focused:** The Exposure Engine workflow prioritizes and sequences exposure data with the greatest potential impact to clients' existing portfolio and risk appetite.
- **Relevant:** Insurdata's technology architecture is structured to deliver the most relevant data for each exposure enquiry. The Exposure Engine identifies the most efficient sequence of steps to generate precise information specific to the particular peril or individual risk, and delivers relevant data dependent on where in the (re)insurance chain the client is located.

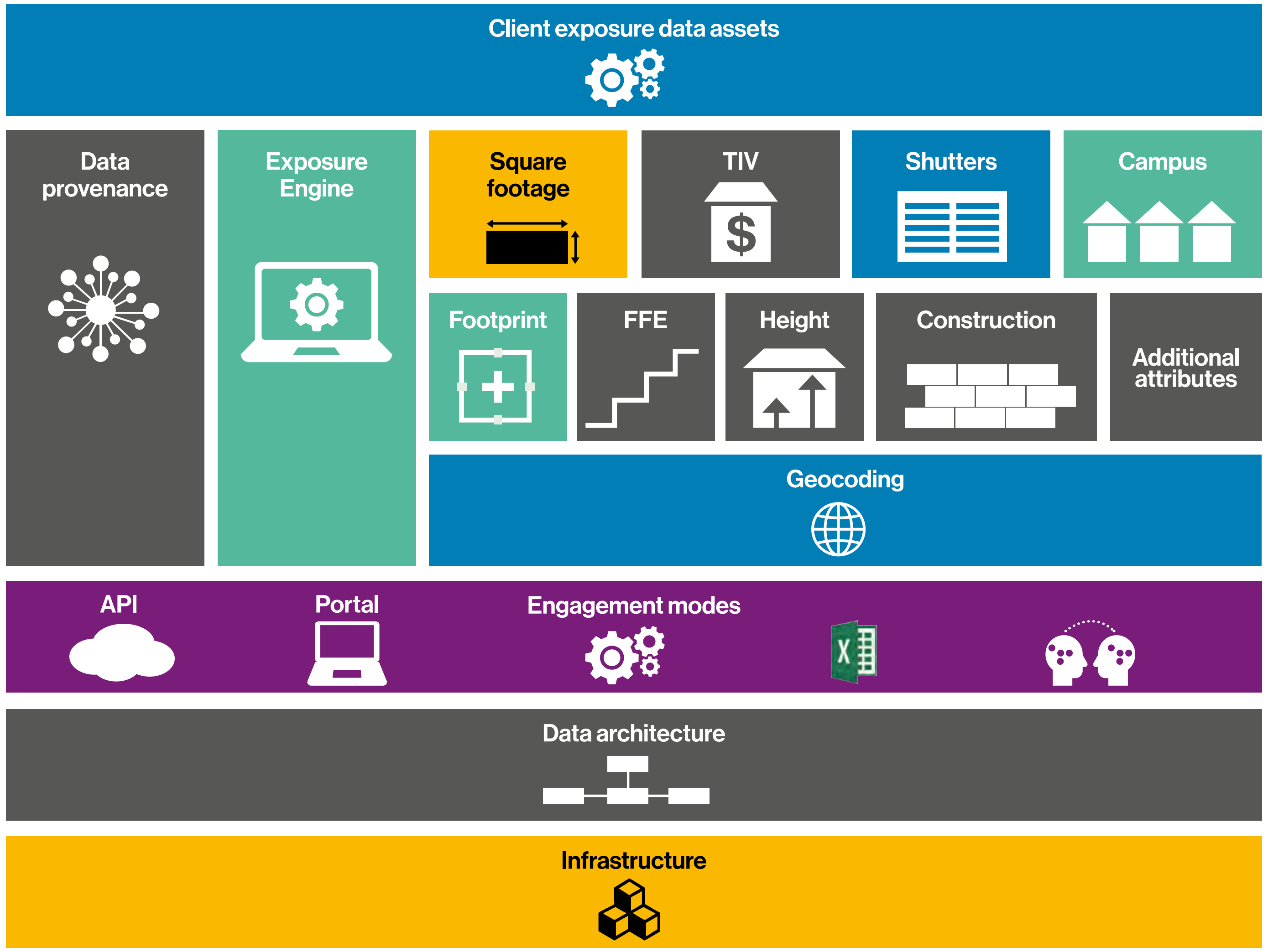
Canopius case study: Impact of geocoding on claim outcomes

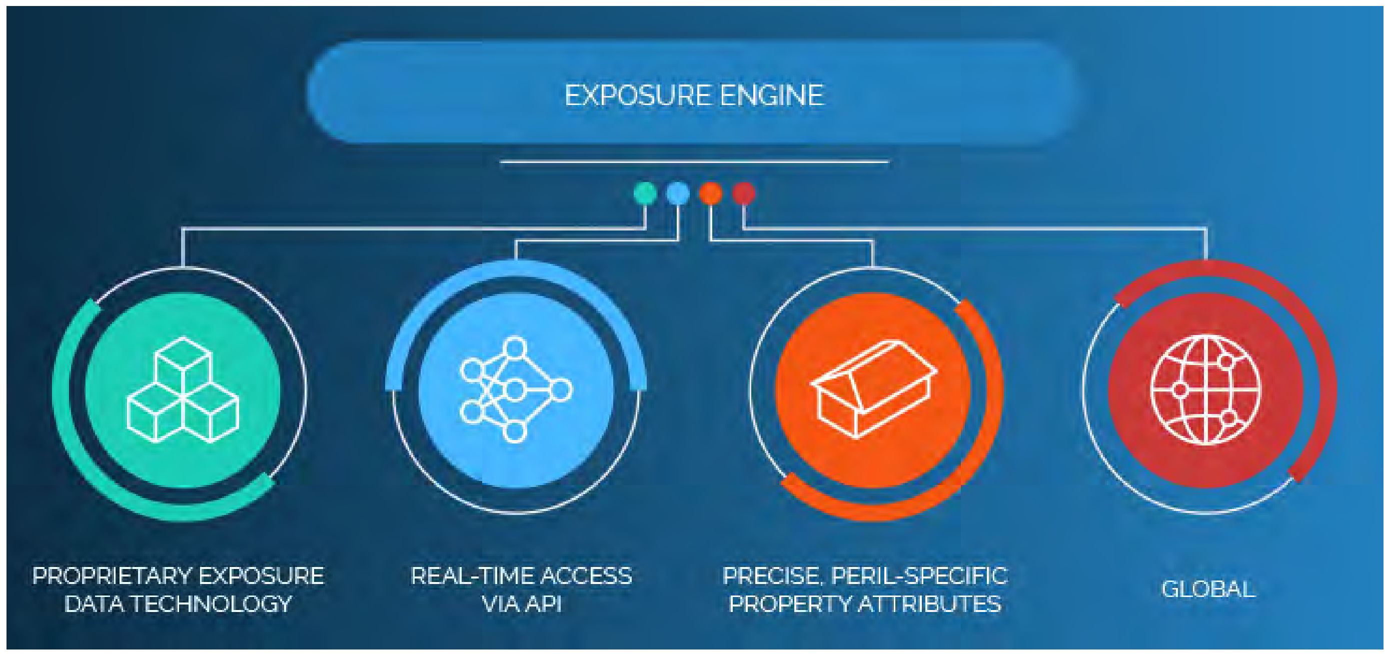
Canopius and Insurdata analyzed data from a portfolio of properties across Houston, Texas, and explored the extent to which augmented geocoding, perimeter and building attribute data affected exposure levels and annual average flood loss estimates. The study analyzed 1,024 properties, which were run through Insurdata's Exposure Engine. Of the 1,024 properties, 20% experienced a displacement of 50 meters or more in their new geocoded location from Insurdata versus their old geocoded location, and 75 locations were displaced by 1 kilometer or more. This level of displacement is common across the industry and was demonstrated in a recent test that Insurdata performed as part of the Lloyd's Lab Cohort 3.

For Insurdata and its clients, the impact of poor geocoding can make the difference between understanding whether an exposure has the potential for loss or not and whether maximum probable loss estimates are accurate.

"The misrepresentation of location data and a lack of detailed building parameter information can have a significant detrimental impact on the ability of (re)insurance companies to accurately assess exposure levels from the individual risk through to the property portfolio. Advances in technology now mean we can generate property-specific data at a granular level for every asset in a portfolio in a quick, efficient and accurate manner. Companies can therefore take steps to capitalize on this to improve risk selection and pricing, and reduce key metric volatility."

Jason Futers, CEO and Co-Founder, Insurdata





The Art of the Possible: An Investor's Perspective

Kyle Beatty
Principal, American Family Ventures

Kyle Beatty is an accomplished corporate executive, start-up founder and venture investor with extensive experience in insurance underwriting, claims and reinsurance. He joined American Family Ventures (AFV) as a senior investor at the beginning of 2018 with a focus on accelerating the insurance industry's digital transformation.

Before joining AFV, Kyle co-founded a geospatial data analytics start-up named Paper Crane in 2017 to transform how location data are built and delivered. A climate scientist by training, he has also worked at RMS, the catastrophe modeling firm; Willis Re, as an analytical leader; and Verisk Analytics, where he built data services.

Kyle specializes in investing in data analytics, property technology, InsurTech, weather/climate solutions and agriculture technology. He works closely with Branch, HOVER, Neat Capital, IngeniousIO and several other AFV portfolio companies to accelerate their growth, and with AFV's limited partners to amplify operational value from partnering with early-stage companies.

AFV is a venture capital firm currently investing out of its US$200 million Fund III, focusing on early-stage companies that it believes will affect the future of insurance. AFV prides itself on being an InsurTech pioneer:

- Among the first InsurTech-focused venture funds, founded in 2012
- A leader in broadening the scope of InsurTech, actively investing in adjacent markets
- Consistently generating value for its partners
- The first carrier-backed venture fund to form an external Limited Partner syndicate of other carriers and insurance-focused investors

American Family Ventures and its investment focus

You entered venture capital as an experienced executive and founder, as opposed to having a traditional finance or management consulting background. How has your background influenced your experience in VC thus far?

I have deep personal respect for the daily responsibility weighing on founders' shoulders. The life of a start-up CEO is hard, and I admire those who are on the journey. On the other side of the coin, my two decades of working closely with insurance companies have given me empathy for how hard it is to build and sustain a strong insurance company. It gets under my skin when start-up/VC conversations imply incumbent insurers are unsophisticated. There are many outstanding operators in the insurance industry. Start-ups and insurers can learn a lot from each other, and I view facilitating partnerships as a key part of my role.

I have discovered venture capital to be a diverse, demanding and rewarding opportunity that requires both intellect and persuasion skills. It is hard to consistently develop strong investment cases and rally others in the market to participate alongside you. For early-stage investors (like AFV), it takes over five years for a company to exit, and even if it was a headline exit, is it repeatable? The quality of your ideas and how you act is more important than if you are in a hotly contested deal. Closing an investment is the start of a long, fun and challenging journey — and on that journey, the engaged VC plays many roles, from operating partner to coach to board member, not to mention other roles within the firm. It is very hard work to excel in the art and science of venture investing, but I have found the process extremely humbling and exciting.

What is AFV's approach to InsurTech investment? Are you looking to make investments into InsurTechs that benefit the American Family Insurance (AFI) core enterprise and your limited partners from a strategic partnership/growth perspective, or are you more focused on financial returns?

Our firm's primary focus is on generating strong financial returns. Financial returns are the measure of excellence as an investor. This may sound obvious, but not every firm with a corporate origin story has this clear focus. We believe strong financial returns fuel a positive feedback loop that enhances our firm's ability to generate value for founders and strategic value for each of our limited partners.

That said, the value of our fund is not limited to the start-ups in which we invest. There are hundreds of companies in which we believe deeply but have yet to invest, and maybe never will. Despite this, we seek to create value for those start-ups, whether it's through something as simple as casual counsel or as formal as an introduction to an operating partner. Similarly, we seek to provide valuable connections for stakeholders across our insurance ecosystem, whether or not we have a formal relationship — yet another area where we deliver strategic value for founders and limited partners alike. We are in InsurTech for the long haul, and we try every day to be the most valuable connector within the market.

The strong support of American Family Insurance was critical to AFV's evolution. The leadership at AFI has steadily supported our fund's ideals, growth and expansion to include external limited partners. Personally, I believe our fund's evolution reflects AFI's bold leadership. Few corporations truly believe that a rising tide lifts all boats. Both AFI and AFV believe in sharing what they've learned to help elevate the industry and reach new heights.

What parameters do you consider when deciding on whether or not to invest?

The start-ups we consider for investment must be relevant to the future of insurance, either as a core solution or a nearby adjacent market. Most companies in which we invest are North America-based, but we have an interest in any disruptive insurance player, no matter where they are located. We tend to focus our investments at the early stages of a company's development, in what the venture market calls the Seed, Series A and Series B stages.

After confirming a start-up is in our investment scope, we focus entirely on the potential financial return. The path to an investment decision is different for every situation, but it usually requires a strong team, with a well-defined product, pursuing a large addressable market, with a clear customer acquisition strategy, and with a strong competitive moat. There will be many unknowns at the Seed or Series A stages, so we are looking to develop strong conviction in the team's ideas and in their preliminary evidence those ideas will work. We want to understand the four or five critical determinants of a business's success and the economic indicators that will drive that success.

What is your view on InsurTech and carrier partnerships? How can InsurTechs successfully work with incumbents to enable digital transformation?

It is not uncommon to walk the halls of InsureTech Connect, OnRamp or another conference and hear a start-up complaining about how difficult it is to work with an insurer or vice versa. In my view, this is from inaccurate expectations on both sides. We counsel InsurTech companies to prepare for up to an 18-month sales cycle when working with any large enterprise, including insurers. This can create a substantial challenge for start-ups that may only have a year or two of runway. We work with start-ups to help them understand insurers' buying processes, connect them to the right buyers and give them the best at-bat we can. At the same time, we counsel insurers to reduce the complexity of pilot contracts with start-ups, to have clear business owners invested in pilots and to evaluate with the pace of the start-up in mind. This often means assessing the capability of the start-up team and their product road map more than evaluating today's product features.

This particular *Quarterly* is focused on property insurance, with a strong focus on catastrophe as a peril class of property. You obviously have a deep wealth of knowledge and expertise in the catastrophe modeling space. As you see it, what is the future of catastrophe modeling? How can InsurTechs and data analytics firms support incumbents in achieving a future state?

Catastrophe models have been central to the evolution of the industry, and yet they still have large uncertainties and are incomplete. The hurricane, earthquake or hailstorm has been simplified. Uncertainties in hazard modeling, damage modeling and insurance contract loss modeling compound in complex ways. Many risks are not modeled and models have biases in certain geographies, for certain coverages and for certain building types. Also, risk is non-stationary. The human effect on the climate, the land surface, and how or where buildings are constructed have amplified risk. Insurers and reinsurers need to continue to be cautious and thoughtful about how they use catastrophe models. It will be increasingly important that property insurers have senior, in-house talent that study model uncertainties and develop rules on how they are applied.

I also expect three primary trends in vendor software solutions surrounding catastrophe models. First, I expect cloud-based software will increasingly facilitate the preparation, analysis and transfer of property exposure and risk information. These solutions will assume some part of the role currently facilitated by brokers. Second, I expect third-party data will improve to the point that it will be a more trusted record than many insurers' in-house property

A snapshot of American Family Venture's InsurTech portfolio

inspection data. I believe data suppliers and catastrophe models will solve for integration — or will consolidate — and aggressively push for standardization around their joint ecosystems. Finally, I believe a small number of new modeling companies will emerge and reach meaningful scale, focusing on large growth areas such as climate change. I believe their successes will come first in the government, real estate and corporate risk markets, building their way into insurance as capital providers, rating agencies and a subset of influential insurers demand deeper foresight into emerging risks.

How has your experience at Verisk Analytics informed your view of data-as-a-service companies? How do you see the third-party data market evolving? Will data be a normalizing or a differentiating force for carriers in the future?

I have drawn many lessons from Verisk's businesses that guide my investing into data companies and also that make me keenly aware of the challenge a data company has to yield a venture-scale return. I have written on important features for data companies, and I also encourage reading Auren Hoffman's work on the topic. Two points that I consistently emphasize are that data companies need a realistic strategy to expand to multiple market verticals and/or multiple countries, and these companies need to evolve into software platforms that integrate their proprietary data into enterprises' decision processes. Data alone doesn't have a sufficient moat and is susceptible to price pressure over time.

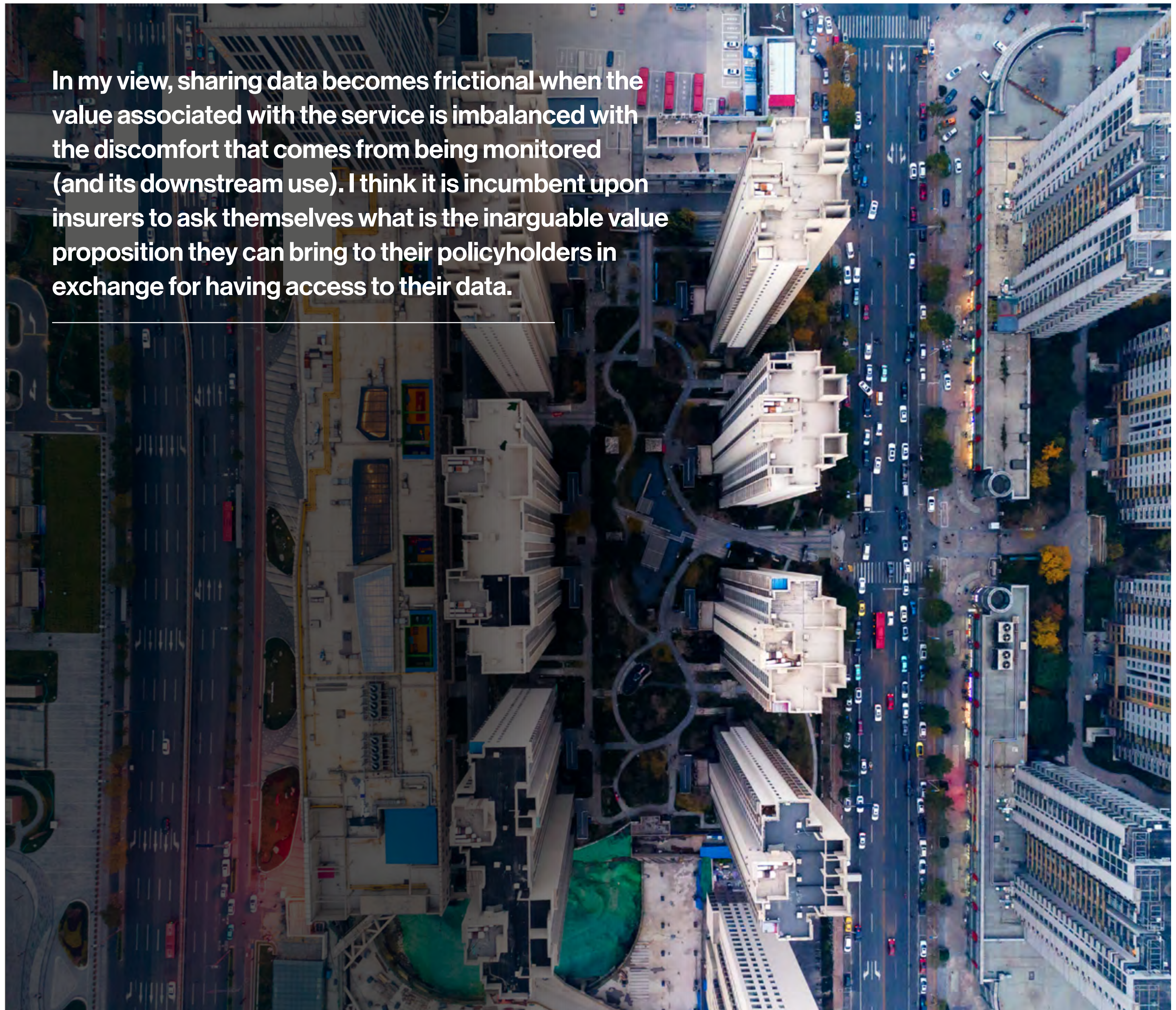
Over the next five to ten years, I expect that we will see an explosion of data describing buildings, their occupants and the context within which these buildings reside. I believe data completeness and accuracy will substantially improve, and the emergence of alternative sources will force down price. Emphasis will shift from obtaining data, to how to effectively integrate data and draw insights from it. Home-grown solutions from small, in-house data science teams won't suffice for most enterprises; these teams will increasingly lean on data management and data science automation tools to allow them to leverage data. In-house teams will specialize in accelerating application development, rather than building the underlying data science models.

Although data will increasingly become commoditized, I believe the insurance market's readiness to fully embrace data will lag substantially. Many insurers' digital transformation efforts won't move fast enough or won't fully embrace internal or external data; as a result, data will increasingly be a differentiating force for those that know how to apply it, rather than a normalizing force. One of the most valuable resources that incumbent insurers have is their historical policy and claims data. Those insurers that can systematically draw value out of their full data (submissions, inspections, claims notes, etc.) will have a disproportionate advantage. The increasing pressure on insurers to instantly quote and bind will create advantages for those that get the most out of data and draw those insights into their pricing.

One of the increasingly prevalent means for property insurers to receive customer data is through the use of internet of things devices. What are the barriers to IoT adoption from consumers, small and mid-market businesses, and industrial facilities? Will policyholders be willing to give out their data to multiple third parties on the promise of reduced insurance premiums or property risk?

The biggest challenge for consumers to purchase and maintain smart home IoT devices is having an undeniable consumer value proposition that can support referral-based adoption. Features that are intuitively interesting to insurers, such as leak sensors and water shut-off valves, are not of interest to consumers en masse. Cameras and embedded microphones, conversely, have much stronger consumer value propositions. A secondary barrier to adoption has been cost and interconnectivity. Starter packs for smart home IoT that cost hundreds of dollars were just too expensive. We are just now seeing interconnected device options, with a strong user experience, beginning at a price of $25. These features together are driving rapid consumer adoption that we believe will penetrate more than 10 million households. Finally, the underlying software has needed to catch up: The devices need to "just work," without professional installation or maintenance.

In the commercial segment, there are many opportunities for IoT hardware/software to make equipment more efficient, reduce downtime due to maintenance, improve supply chain transparency, and improve the efficiency and safety of employees. The adoption challenge here is for the building manager or business owner to assess when hardware and software have reached sufficient 1) technical maturity, 2) ease of integration, and 3) proof of value to be confident in advocating that their organization commit to significant process changes. For the start-up that wants to serve this segment, the challenge is to identify the part of the solution that is at the intersection of scalability and value capture. This may be a middleware solution rather than hardware or an end-user application.



In my view, sharing data becomes frictional when the value associated with the service is imbalanced with the discomfort that comes from being monitored (and its downstream use). I think it is incumbent upon insurers to ask themselves what is the inarguable value proposition they can bring to their policyholders in exchange for having access to their data.

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What areas are you most passionate about outside of your day-to-day investing and operating efforts?

While I believe hazardous events are natural, their catastrophic impacts are man-made based upon the decisions we make and how we show up to respond. Organizations like All Hands and Hearts, and Build Change are doing outstanding work to empower local communities to recover and increase their resilience.

I am passionate about advancing the dozens of strategies that exist today to reverse global warming. I am a huge fan of Project Drawdown® and other organizations that are providing climate solutions.

I am committed to improving ocean health, with particular focus on our world's fragile coral reefs. I am inspired by the work of organizations like MissionBlue to protect these diverse ecosystems.

Finally, our understanding of the physical and engineering aspects of disaster risk and recovery has substantially outpaced our understanding of societal risk. There are huge opportunities for us to increase the resilience of communities and society in the face of natural, technological and human hazards.

Incumbent Corner

HCI Group's TypTap — **Innovation in flood insurance, driven by Incumbents**

Interview with Paresh Patel, Founder, Chairman and CEO of HCI, and Kevin Mitchell, President of TypTap
By Adam Schwebach, Executive Vice President of Willis Re

TypTap is a member company of HCI Group, Inc., whose largest subsidiary (Homeowners Choice Property and Casualty Insurance Company) is a leading provider of property and casualty insurance.
HCI Group also operates a real estate subsidiary, Greenleaf Capital, LLC, that owns and operates multiple properties in Florida, including office buildings, retail centers and marinas.

Paresh Patel
Founder, Chairman and CEO of HCI

Kevin Mitchell
President of TypTap

Adam Schwebach
Executive Vice President of Willis Re

1. Could you please share with us about how HCI Group was started? What triggered its creation? And how has HCI grown in what is a difficult market?

The concept for HCI Group was developed during a breakfast meeting in Tampa, Florida. Four local businessmen were discussing the challenges they were personally facing to secure homeowners insurance following the 2004 – 2005 Florida hurricane seasons. The HCI founders saw an opportunity to assist Florida homeowners who were left with limited options beyond Citizens Insurance Company, the state-run insurance carrier of last resort. The founders assembled a management team and developed a business plan in early 2006. Eighty-nine different investors raised almost US$13 million to start a carrier known as Homeowners Choice. In 2007, Homeowners Choice wrote its first homeowners policy. The initial business plan was focused on the depopulation of Citizens Property & Casualty Insurance Company. At the time, Citizens sought out insurance companies to acquire policies from their portfolios in a process they called policy assumptions.

Homeowners Choice applied an innovative method to approach this process. We developed a series of algorithms to make objective decisions about risk.

Over the next few years, we selected policies from Citizens and continued to refine our selection criteria. During this time, we faced plenty of headwinds during the financial crisis in 2008 and the subsequent hardening of the reinsurance market. We remained focused on our primary goal, charging the appropriate premium for the risk. We also developed software to service our clients from a customer service and claim standpoint and built our insourced business model.

> "Eighty-nine different investors raised almost US$13 million to start a carrier known as Homeowners Choice. In 2007, Homeowners Choice wrote its first homeowners policy."

2. Was TypTap born out of the same mentality that led to the formation of HCI/Homeowners Choice? What gap did you see in the market that you wanted to fill?

In 2015 HCI management placed a pause on new business growth within Homeowners Choice based on claim trends that our technology software had identified. HCI started to evaluate potential new business opportunities in and outside of Florida. Through this appraisal of the current insurance landscape, one glaring issue was apparent: lack of technology innovation.

We asked ourselves the important question: How will insurance be transacted in 10 years? The answer to the question was fairly simple. Customers will demand a streamlined process where you only need to provide your name and address. Once a customer provides this basic information, the insurance carrier will provide a quote. In 2016 we launched TypTap Insurance Company on this premise: Simplify the insurance buying process. The positive feedback we received early on motivated us to expand our product offering. In 2018 we launched our homeowners product, and from Q4 2018 to Q1 2020 we have grown premiums in force by 2,202%. Currently, TypTap has US$75 million in gross written premiums in two different coverage lines in eight states across the U.S.

3. Homeowners Choice and TypTap use proprietary technology and data – from HCI Group's software subsidiary, Exzeo USA Inc. Why did you choose to go this route and build the system yourself?

HCI management felt having Exzeo as our in-house technology subsidiary gave both Homeowners Choice and TypTap a competitive advantage over our peers based on our ability to decrease time to market and control software development.

4. How do Homeowners Choice and TypTap work together to better serve the insureds? Or do they exist as two separate entities? Is there a clear line between start-up culture versus the incumbent culture?

Both our insurance subsidiaries, Homeowners Choice and TypTap, provide beneficial services to our policyholders in the forms of expedited quoting, improved operational workflows and claim software that is industry leading. We do treat Homeowners Choice and TypTap as two distinct operating units. Homeowners Choice is the legacy brand that historically focused on Citizens' assumptions and is based in Tampa, Florida, while TypTap is the InsurTech start-up, with base operations in Ocala, Florida. This separate office location allows the TypTap team to focus on innovation.

5. In addition to geocoding postal addresses against topological indices, what types of insights and analytics can you derive from the technology you've created as it relates to things like pricing?

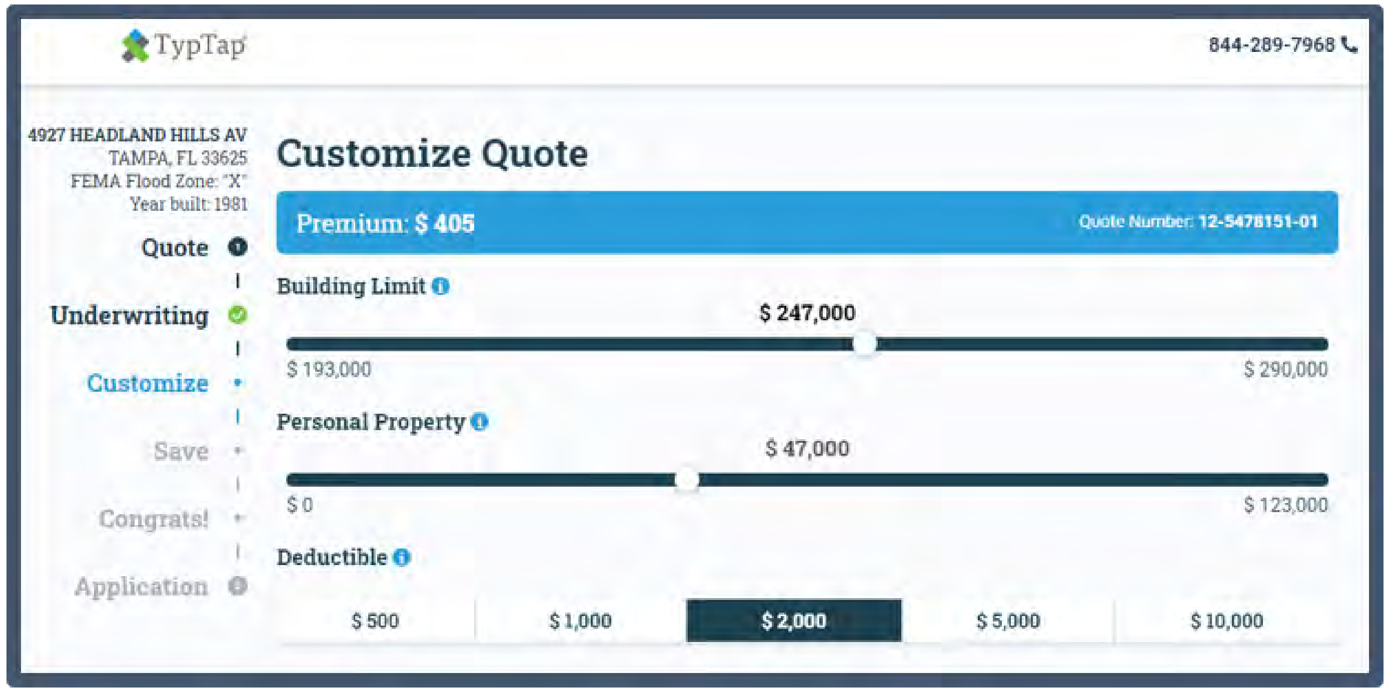
During the early stages of technology development, we believed our ability to geocode properties to the center of the rooftop was going to be critical. Once that was accomplished, we started to evaluate which data points were going to drive profitability. Using the filtered data, we are able to generate an underwriting score that drives our decision to place risk. We wanted to prove that the technology was bona fide, so we decided to test it in one of the most difficult states in which to do business: Florida. Based on our growth and success in the state since 2016, we are now looking to expand our footprint on a national level.

6. What was the public response to the technology when originally released? Were there any surprise use cases for the technology that you had not envisioned?

When we released the original technology in March of 2016, it received rave reviews from agents. Originally, we expected policyholders to drive the quoting volumes, but agents quickly became our main source of quoting. Many InsurTech companies have based their entire business models on direct to consumer. At TypTap we believe that our agents provide a valuable service. Agents help us evaluate the character of the policyholder. Considering the headwinds facing insurance companies in the areas of fraud, AOB and litigation, we value the service our agents provide during the underwriting process.

TypTap sees its long-term advantage as this: Customers will stay with TypTap over the long haul, based on the consistency of our products and the high level of customer service. This, in turn, leads to long-term, profitable relationships for TypTap and its partners.

> "We asked ourselves the important question: How will insurance be transacted in 10 years? The answer to the question was fairly simple. Customers will demand a streamlined process where you only need to provide your name and address."



7. There is clearly a growing demand for private flood coverage. Do you feel like companies such as yours are now much better positioned to deliver new products because, at least in part, of innovations in technology?

It is important to understand that not all private flood companies are created equal. Most fall into three distinct buckets. You have managing general agents or MGAs, excess and surplus lines, and admitted companies. At TypTap, we decided that requesting admitted status provides additional security to our agents and policyholders since we are regulated by each state. As an admitted carrier for flood insurance, you are subject to additional rules and regulations that excess and surplus lines carriers do not have to meet. In addition, we have developed technology that establishes elevation of every single-family home. With this critical underwriting technology, we can score and select policies that meet our profitability and underwriting guidelines.

8. Reinsurance has historically been a major consideration when entering into new lines of business or natural perils. What has been the reception from reinsurers to supporting TypTap? Do you think you benefited from previous reinsurance relationships or would this support have been there for a pure start-up as well?

When entering a new line of business in a catastrophe-prone state, reinsurance is always top of mind, especially with the peril of flood. Starting in 2016 we received a warm welcome from our reinsurance partners as we both evaluated and modeled the peril of flood. We have been fortunate to build profitable reinsurance relationships since 2007 with Homeowners Choice, and this track record has helped TypTap build a solid reinsurance program to protect policyholders.

9. Unlike many of TypTap's competitors, TypTap retains some of the risk it writes. How does this enable you to differentiate yourself from your clients, and why did you pursue this approach?

For us, we've blazed a different path. Typically, in the insurance business a standard approach is cash flow underwriting — designed to make money on the spread and hope for profitable underwriting results. In the beginning, we focused on data collection. We gathered over 50 data points for about 5.5 million homes, evaluating building construction, flood zone, roof shape, pool, pool enclosure, distance to fire station, distance to coast — all the basic underwriting characteristics. Once we collected the data, we assigned the underwriting information to the rooftop of each home so we could distinguish the difference between neighboring properties with accuracy. We essentially pre-underwrote the entire state of Florida, which allows TypTap the ability to manage risk by property.

When an event like Hurricane Irma happens, if you have this technology, think about the efficiency you can derive in a claim situation. We think this is going to help us develop a strong following for TypTap as a brand in Florida and beyond; you'll come to us and never want to leave.

For us it's really been using the technology to be thoughtful for how we grow our business. Having been successful in Florida as our test market, we are now ready to expand to a national footprint.

10. TypTap currently operates in seven U.S. states. Are there plans to expand?

TypTap has spent the last few years proving the innovative technology. We are now ready to expand to multiple states over the coming year and expect to be nationwide within a few years.

11. How do you think climate change is going to impact the market in which you are operating? Is technology a possible savior to insurers such as yourselves?

Climate change is a risk factor we evaluate on a daily basis, especially considering the peril of flood. We do have the benefit of 12-month policies that allow us to reevaluate risk. As for technology we continue to develop predictive models that forecast sea level rise and storm intensification based on sea surface temperature. At TypTap, we have incorporated sea level rise and sea surface temperature changes into our underwriting process.

12. Finally how do you think insurance will change in 10 years? And how are you preparing to respond to the next challenge?

We are constantly planning for the future as we develop technology to meet the changing behaviors of agent and policyholder. In 10 years, policyholders and agents will demand speed and ease of use during the insurance buying process. We started down this path in 2016 and are encouraged by the strides we have made over the past four years. In 2030 you will only need to speak your name and your home address into a digital voice assistant and you will then answer a very limited number of questions to secure insurance. That type of technology makes us excited for the future of TypTap. But, we need to remain focused on our ability to challenge traditional thinking while we execute on creative ideas.

"We essentially pre-underwrote the entire state of Florida, which allows TypTap the ability to manage risk by property."

Thought Leadership

Catastrophe property insurance – a high hurdle for InsurTechs

Catastrophe property insurance has not been the initial, or even secondary, focus of InsurTech start-ups seeking to disrupt the insurance industry. While advances in core business functions such as distribution and claim management have found their way into the space, as they have for almost all lines of business, core underwriting, pricing and portfolio management have not seen as significant an advancement in tech in the space. The lack of penetration in this segment, as we will discuss, is not due to the lack of opportunity to innovate in this space, but rather is largely due to the hurdles posed by the institutional experience required to create competing offerings.

Desmond Carroll
Executive Vice President – Head of Catastrophe R&D, Willis Re North America

Catastrophe modeling and InsurTech

The goal of catastrophe models was originally quite limited; they were asked to predict the probability of exceedance of a range of loss values for a portfolio of insured risks. They did that by making several key simplifying assumptions to simulate losses due to hurricanes, earthquakes, floods, wildfires and so on for many thousands of years. The simulations these models ran were the best approximations of the actual physical processes available in the scientific community, within the computational confines of the time. There have been many advancements in the underlying physical models, the computational approaches, the computing power available to run the models and the data sets over the decades, but the fundamental approach has remained shockingly similar. The use of the output of these models has evolved tremendously, however. From being originally asked to speak to the risk posed to a large portfolio of risks, they are now regularly expected to inform risk level assessments of premium adequacy for a wide range of property risks, from a single-story wooden home to a data center.

Two critical InsurTech-centric technologies, machine learning and big data, may hold the key to disrupting the tried-and-tested approach to characterizing natural perils in the property catastrophe insurance space. Catastrophe models use physical simulations of the world to determine the likelihood of future events. In fact, the more direct the simulation, the less-engineered relationships there are in these models, the more authority they carry. Simulating physics and physical processes is nothing short of a computational nightmare, and running thousands to millions of these scenarios can become very close to an intractable problem. ML algorithms can take in large volumes of input data and learn how to simulate the output of a process much more quickly than directly simulating that process. If we apply that approach to the same physical simulations on which these catastrophe models rely, we can reproduce the output very quickly, under a wide variety of different simulation parameters. So instead of creating one 50,000-year simulation once every five years, we can create a simulation whenever it's required, opening the door to a deeper understanding of the variability risk under an ever-evolving climate.

While being able to create a faster version of an already existing process is useful, it is not the real benefit that the combination of ML and big data holds for the catastrophe modeling world. Data from satellites has become ubiquitous, and the volume and variety of data that continue to be produced daily by different sensors in space are tremendous. They are so wide and so varied that they outstrip the ability of scientists to account for all the available data in the models that they publish. While it may take the scientific community decades to assimilate all this information and account for it, machine algorithms are not bound by the requirement of understanding the process they are attempting to emulate. In fact, we can train ML algorithms to consume hugely varied data sets such as those produced by satellites and learn how they can improve our predictions of natural catastrophes without knowing why they influence the result. So, our tool for short-cutting the processing time of the physical simulation can become more predictive than the original model it was trained to simulate.

This combination of big data and ML and its potential to upset traditional methods of catastrophe modeling is only one example of how InsurTech tools and approaches can potentially improve the catastrophe property insurance space. The use of these technologies could potentially provide solutions for some long-standing issues with our understanding of catastrophe risk, the most pressing of which is the effect of climate change on natural catastrophe frequency and severity.

Business dynamics impacting innovation

The number of firms that produce catastrophe models is by any measure quite small. For example, a total of six different vendors were approved by the Florida Commission on Hurricane Loss Projection for use in 2020. The market for catastrophe models is quite lucrative, with large insurers often spending millions of dollars per year for licensing a single vendor's models. Given that there is an opportunity to innovate, as well as a market dominated by a small number of entrants with high margins, it would be natural to have expected this to be an area where InsurTech would thrive, but that is certainly not the case. So what then is keeping a significant number of InsurTechs out of catastrophe modeling?

Catastrophe models, more than being simulations of natural hazards, are fundamentally insured loss models. They are evaluated on their ability to simulate losses occurring not only to a set of structures but also to the primary and reinsurance policies that indemnify these properties. Properly simulating all the idiosyncrasies of insurance and reinsurance contracts and the way they respond to catastrophic loss is exceedingly complex and requires knowledge that is far outside the realm of a data scientist's or physical scientist's expertise. This is most often referred to as the financial model of a catastrophe model, and each modeling firm has its own way of implementing these calculations. This type of domain-specific expertise required to enter the market significantly complicates the efforts of any firm attempting to transfer its knowledge into the catastrophe modeling space and certainly has contributed to the lack of InsurTech entrants in this area.

Efforts like those of the Oasis Platform for Catastrophe and Climate Change Risk Assessment and Adaptation project have sought to create an open standard financial kernel to facilitate new entrants to the field. The project, funded by a consortium of industry entities (of which Willis Towers Watson is a member) seeks to standardize and publish as open source software the logic, algorithms and code required to run a financial engine. The project has at times struggled to accommodate the diverse interests from which it serves as well as the complexity of the task it has adopted. Nevertheless it is the only serious attempt to do so in recent memory.

While the barrier to entry is high and at times may seem purposefully constructed to keep new entrants out, the property catastrophe market still remains an area in which InsurTech has an opportunity to take hold and potentially be disruptive. An entity with a solution that can reduce costs and/or generate new revenue could see previously erected hurdles disappear rather quickly as insurers seek to remain profitable in an ever-more-challenging market.

Technology Spotlight

Willis Towers Watson

Structure Insurance Score (SIS) is a product developed through an alliance between Willis Towers Watson and e2Value that captures unique characteristics that property insurers use to determine replacement cost.

e2Value is a full-service application development and technology provider that offers products to assist with structure data and valuation with a patented tool. Its tools can be used for collateral asset valuation, risk management and predictive modeling. e2Value is a leading software-as-a-service (SaaS) provider delivering valuations for residential, commercial, and farm and ranch properties in the U.S. and Canada. From a cabin in the woods, to barns, retail space and marquee buildings, e2Value is able to support its clients to ensure that they receive the correct data

In the not-so-distant past, traditional rating methods for homeowners coverage, and incremental changes made to them (such as adopting by-peril rating plans), allowed carriers to assess potential risks associated with the policies they write and maintain acceptable risk appetites. Acceptable returns led to few deviations in the broad market approach.

But, as the housing market continues to change, some carriers are recognizing that traditional rating characteristics, although still useful, typically don't go far enough to offer an accurate assessment of a home's risks. Many homes now have larger square footage and more valuables in them. The popularity of internal remodeling and refurbishment projects has also affected risk. Not only are houses larger and more intrinsically different, but in a heated housing market their values may also have significantly appreciated, typically at varying rates.

Another major change is the advent of the IoT, which creates an internet-connected environment that can either minimize or increase risk depending on how a home is connected. The use of basic home characteristics to determine replacement cost may therefore not sufficiently reflect the risk of replacing a destroyed or damaged home and its contents.

Consequently, the stakes seem set to rise for homeowners insurers. Over time, failure to accurately understand and capture a property's risks is likely to result in more inaccurate underwriting and pricing. It could also lead to potentially large claims that whittle away at profits and impede the ability of companies that fall behind to deliver a competitive return in an environment where margins are tight. A number of large insurers with sizable data pools and the ability to draw talent are already differentiating themselves in the market by updating their techniques.

New products and services, however, are being developed that make it possible for small and midsize insurers to maximize the data culled from predictive modeling to improve the accuracy of underwriting and pricing. In fact, now all insurers can benefit from analytics that bring property assessment to the next level and make their business more financially robust.

An example of how the playing field is being leveled is Structure Insurance Score (SIS), a product developed through an alliance between Willis Towers Watson and e2Value, Inc. The product was developed using a combination of Willis Towers Watson's Emblem predictive modeling software; data used by e2Value in its unique, patented approach to valuation of structures; and data provided by a pilot group of U.S. insurers.

Participating insurers provided historical exposure and claim data that was pooled to create a large, reliable data source of homes across the U.S. Willis Towers Watson's generalized linear modeling (GLM) software was used to control for the effect of traditional rating factors so that the e2Value data could be used to build a score that is truly predictive above and beyond traditional ratemaking models.

It works by assigning a home risk score based on criteria that differs from traditional building characteristics such as construction type, amount of insurance (AOI) and rating territory. (The AOI and score are not correlated.) SIS takes a more detailed look at how vulnerable a dwelling is to typical perils and the characteristics needed to determine replacement cost by looking at over 150 fields of information. So, for instance, characteristics such as the number of bathrooms, number of stories and the age of the roof might be incorporated into an analysis to assess insurance risk more accurately.

- The insurer provides the street address for a given risk via application programming interface, which is passed on to e2Value.
- Property characteristics associated with the address are passed on to Willis Towers Watson's Radar Live platform, and a score is calculated in Radar Base.
- The resulting score is passed back to the insurer.

The use of additional property characteristics is valuable because variables like these can be hard to collect. If the insured doesn't tie this information to a benefit such as a discount, it may not be accurately reported. For example, if a discount depends on installing a fire alarm, the inclination is to be very specific about the type of alarm and when it was installed so the homeowner gets the biggest discount. But without a detailed home inspection, it may not be easy to determine other specific information such as the number of entrances in a home or the age of its plumbing.

The impact of this more detailed data varies by geography and peril mix. So, for instance, an exact duplicate of a home in the U.S. Midwest could have a different peril profile than if it is located in Southern California. SIS improves underwriting for company/tier placement and renewal decisions by better evaluating risk for apparently comparable properties. It improves pricing through increased segmentation, greater pricing accuracy and more effectively tying loss costs to premiums charged. The first-generation SIS was developed using a GLM and is focused on residential property exposure.

Eventually, scores will be developed using other techniques, such as gradient boosting machines, and for farms and commercial properties.

A detailed analysis of a home's attributes can make a noticeable difference in premium. The table illustrates this variation for two homes in the same neighborhood. Although outwardly different in appearance and perhaps slightly different in scale, the nature of the factors that have been commonly used to price homeowners insurance means the premium charged would be the same for both properties. With the addition of detailed structural characteristics to the risk assessment process through the information and analysis available from SIS, a more accurate appraisal of the risk of covering each home results in a 50% premium differential between the two using property 1 as a starting point.

How SIS improves appraisal of insurance risk

	Property 1	Property 2
Age of home	14 years	14 years
Replacement cost	$340,000	$340,000
Protection class	6	6
Premium (traditional rating)	$1,000	$1,000
Structure Insurance Score	580	905
Structure Insurance Score premium	$1,200	$800

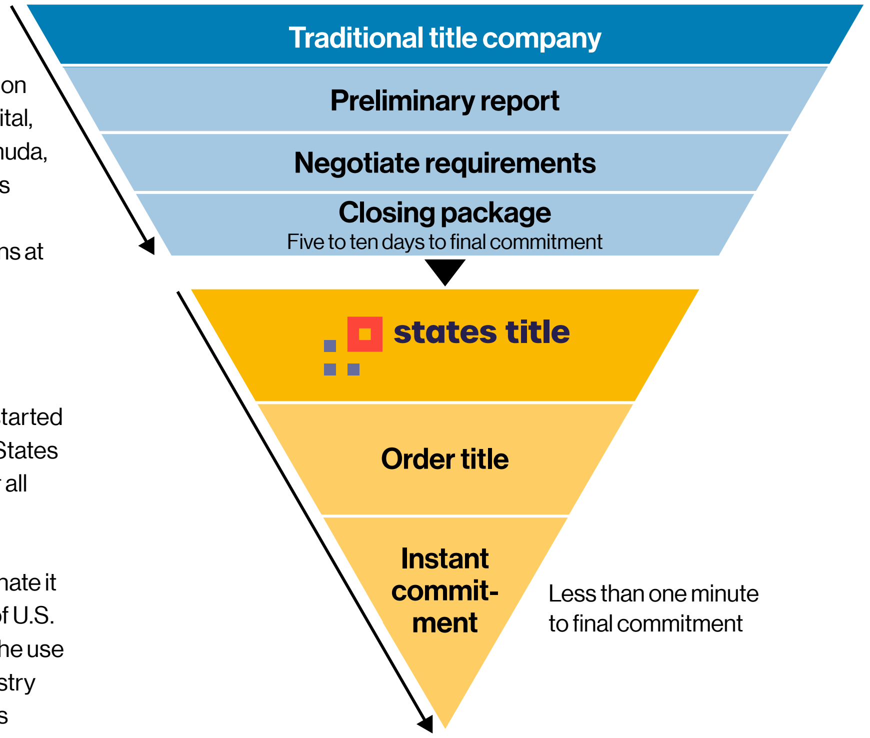
Transaction Spotlight

The raise

In May 2020, States Title announced a US$123 million Series C funding round, taking the title insurance and escrow service provider's valuation to US$623 million and total funding to US$230 million.

The round

Greenspring Associates led the round, which had participation from Horizons Ventures, Foundation Capital, Eminence Capital, Fifth Wall Ventures, Assurant Growth Investing, HSCM Bermuda, Lennar Ventures and SCOR P&C Ventures. States Title plans primarily to use the latest round of funding to accelerate technology investments to help customers close transactions at the tap of a finger.



About States Title

Founded in 2016 in San Francisco, the company originally started as a tool to instantly underwrite title insurance. Since then, States Title's patented technology solution has expanded to cover all aspects of closing and escrow.

Historically, title insurers' approach to risk has been to eliminate it completely before underwriting a policy, despite only 10% of U.S. properties having a title defect. States Title has pioneered the use of predictive analytics and machine learning in the title industry and has reduced a five-to-10-day process down to seconds in most cases. When its customers request a search, States Title immediately collects hundreds of pieces of data about the property and runs these data points through a risk model. Within seconds, the company can determine whether the property is a safe or risky investment. For those properties that States Title deems are "safe," the customer receives a title commitment instantly. For those properties that the model identifies as potentially "risky," States Title performs a traditional title search.

In 2018 States Title insured US$13 million of real estate transactions through instant predictive underwriting for title insurance. In 2019, this grew by a factor of 100 to more than US$1.3 billion of insured real estate transactions. The company now counts several of the largest lenders in the U.S., such as Sierra Pacific Mortgage, as customers. Part of this growth was fuelled by States Title's acquisition of North American Title Group and its affiliate underwriter in January 2019, a title agency with a 65-year legacy that serves 39 states and the District of Columbia.

"We are committed to further investment in our patented, industry-leading machine intelligence platform to support the goal of providing an instant closing experience at a lower cost. Right now we are witnessing an unprecedented shift in the structural foundation of the real estate industry, and this new funding will allow States Title to provide enhanced support for lenders, real estate agents and homeowners, as well as provide a solid foundation for continued technological investment in the face of future economic uncertainty."

Max Simkoff, Founder and CEO, States Title

The acquisition

Hippo, the California-based InsurTech that provides smart insurance coverage for homeowners, has acquired Spinnaker Insurance Company, a U.S. property & casualty insurer licensed in 50 states in June 2020.

Spinnaker has been Hippo's largest carrier platform since 2017, and Spinnaker-backed Hippo products are currently available to consumers in more than 18 states. Hippo will use this strategic acquisition to expand the geographical reach of its modern home insurance policies, which also includes smart home monitoring kits.

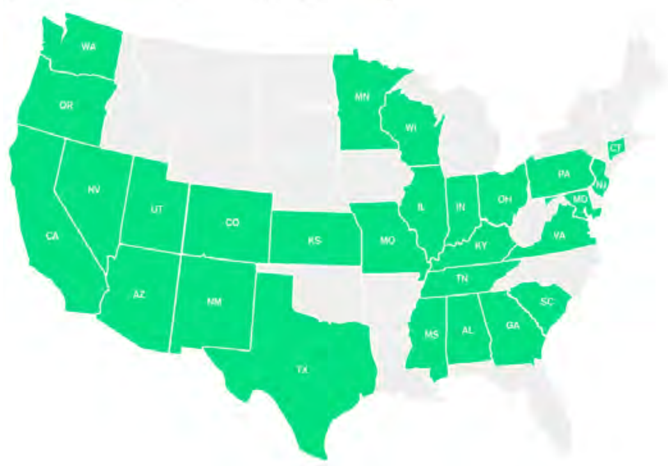
Hippo will continue to operate as a managing general agent with a portion of its premiums underwritten by Spinnaker and the remaining premiums underwritten by its carrier partners. Spinnaker will operate independently under the Hippo umbrella of companies and will continue to service its program administrators and its program platform.

The acquisition of Spinnaker comes off the back of Hippo's Q4 2019 acquisition of Sheltr, a proactive home maintenance service that helps homeowners avoid the costs and stresses of unexpected home repairs, now part of Hippo Home Care. Through its acquisition, Hippo expanded its umbrella of services to include protective home care services. The program includes home wellness checkups with trained home maintenance professionals to help homeowners identify and prevent small issues from becoming expensive repairs and costly claims.

"Bringing Spinnaker into the Hippo family is a natural next step in growing our proactive home insurance offering. Spinnaker knows the complexities of our industry; mirrors our same standards for technology innovation and customer experience; and has continued to meet, oftentimes exceeding, our expectations over the years. We're proud of the progress we've made as partners and look forward to closing the acquisition."

Rick McCathron, Chief Insurance Officer, Hippo

Hippo currently operates in the below states:



About Hippo

Hippo launched in 2017 to modernize home insurance by refocusing on the customer. Today it offers holistic home protection, helping homeowners identify and resolve issues in their homes before they become major headaches. When issues do occur, homeowners are connected to Hippo's claims concierge team to efficiently manage claims from start to finish with a single point of contact. Its policies are backed by continuous policy underwriting and are built to cover the diverse lifestyles of its customers with extra coverage for things like home office and electronics. Hippo also provides added benefits, including complimentary smart home devices, home wellness tips and home care services such as home maintenance checkups and repair support. Hippo has also built an extensive partner distribution network that spans across sectors, including real estate, mortgage and smart home, to serve its customers.

The company has raised US$209 million across five rounds of funding with its most recent US$100 million Series D funding round led by Bond Capital. The company has a valuation of US$1 billion, making it one of the elite InsurTech unicorns.

The Data Center

InsurTech funding in Q2 2020 rebounds after a tough Q1 2020

In Q2 2020, InsurTech funding saw a 71% quarter-on-quarter increase to US$1.56 billion across 74 deals, as investors recalibrate activity following a cautious Q1 2020. While this quarter's deal count was 23% lower than Q1, the increase in funding came as a result of four mega-rounds (over US$100 million) from Duck Creek (US$230 million), Oscar Health (US$225 million), Pie Insurance (US$127 million) and States Title (US$123 million). For comparison, Q1 2020 only oversaw one mega-round.

From Q2 2019, Q2 2020 recorded a 10% increase in the amount of funding and a 7% increase in the number of deals. Compared with H1 2019, H1 2020 recorded a 9% increase in the number of deals and a 14% decrease in the amount of funding.

This quarter also saw the first public U.S. InsurTech unicorn, Lemonade, filing to go public. The U.S.-based D2C renters and homeowners InsurTech is a major exit event for the modern InsurTech era. In early July, the company's stock opened at US$50.06, up 72% from its US$29 per-share target.

Q2 2020 overview

- The majority of InsurTech activity continues to be concentrated in the U.S., U.K. and China. In Q2 2020, 49% of deals took place in the U.S. — an eight-percentage-point drop from Q1 2020. The U.K. and China were responsible for 8% and 5% of deals respectively.
- Q2 2020 saw deals across 25 countries — a record number since this publication starting recording. This included several new geographies such as Taiwan, Croatia and Hungary. Respectively, these deals were a Seed investment of US$1.55 million into BlueX Trade, a US$3.26 million Series A into Amodo and a Seed investment of US$1.27 million into cristo. In contrast, the previous quarter saw the least geographic diversity since Q3 2018 with only 15 countries represented. As the top markets continue to work toward recovery, investors may continue to place bets in newer regions to diversify risk.
- Early-stage deals (Seed/Angel and Series A) accounted for 42% of overall deal count — a record low — and a nine-percentage-point decrease from Q1 2020. The decrease came almost entirely from a reduction in Seed/Angel deals while Series A deals stayed flat, when compared with Q1 2020. Series C deals grew to 11%, up from 6% in Q1 2020.
- Compared with Q2 2019, Q2 2020 had a 15-percentage-point drop in early-stage deals, a three-percentage-point increase in the number of mid-stage deals (Series B and C), and a six-percentage-point drop in the number of later-stage deals (Series D and E+).

Share of life and health funding grows as interest in life insurance and telemedicine accelerates.

Property & casualty deals continued to comprise the majority of the funding, representing 68% of dollars invested this quarter. Compared with Q1 2020, however, funding to life & health start-ups grew to 32%, up 15 percentage points from Q1 2020.

L&H start-ups accounted for 27% of the deals this quarter, a two-percentage-point increase from Q1 2020. This indicates that while the L&H funding amount has rebounded slightly from Q1 2020, the number of L&H deals, as a percentage of total deals, is still below the 2019 average of 37% a quarter.

Bestow, a Dallas, Texas-based direct life insurance provider, raised a US$50 million Series B. The company enables customers to apply for coverage online and eliminates the need for medical exams and blood tests. Alan, a Paris-based digital health insurer, raised a US$54 million Series C and offers telemedicine through its partnership with Livi.

Direct insurers look to carrier acquisitions to expand capabilities and geographies.

Compared with the prior quarter, distribution-focused start-ups saw an 11-percentage-point increase in deal share, while B2B start-ups decreased by nine percentage points. Unsurprisingly, direct insurers continue to be the smallest segment given the capital intensity and the regulatory process for obtaining approval.

However, a notable development this quarter was the number of InsurTechs that obtained or plan to obtain carrier status through acquisitions, including Hippo's acquisition of Spinnaker, Buckle's acquisition of Gateway Insurance Co. and Pie Insurance's US$127 million round that earmarks US$100 million to purchase licensed insurance companies.

- In Q2 2020, 46% of P&C InsurTech deals went to B2B-focused companies, 8% went to insurers and 46% went to distribution-focused companies. Compared with Q1 2020, this marks an eight-percentage-point drop in B2B deals and a three-percentage-point drop in deals to insurers. It marks, however, an 11-percentage-point increase in distribution-focused deals. This reverses the shift witnessed last quarter, where B2B-focused deals were becoming increasingly dominant.
- Of the L&H deals in Q2 2020, 45% went to B2B-focused companies, 15% went to insurers and 40% went to distribution-focused companies. From Q1 2020, this marks a 13-percentage-point drop in B2B funding and a seven-percentage-point increase in funding to both insurers and distribution-focused companies.

Q2 2020 recorded 11 deals of over US$40 million, an 83% increase from Q1 2020, matching Q4 2019's record high.

- 64% of the US$40 million-plus deals were recorded in the U.S. The remaining deals were evenly spread across the U.K., China, France and Israel. The 11 deals accounted for 76% of the quarter's total funding.

The largest deal of the quarter was a US$230 million Series E+ round in Duck Creek Technologies, a company that provides comprehensive P&C insurance software and services. The round had participation from Dragoneer Investment Group, Insight Partners, Kayne Anderson Rudnick, Neuberger Berman, Temasek and Whale Rock Capital Management. Duck Creek Technologies has now raised US$364 million.

The next three biggest deals of the quarter were:

- A US$225 million Series E investment in Oscar Health, a health insurance company using technology and personalized service to give members transparency into the health care system. The round had participation from Alphabet, Baillie Gifford & Co., Coatue Management, General Catalyst, Khosla Ventures, Lakestar and Thrive Capital. The company has now raised US$1.5 billion.
- A US$127 million Series B investment in Pie Insurance, a company that provides workers compensation insurance directly to small businesses. The round had participation from Aspect Ventures, Elefund, Gallatin Point Capital, Greycroft, Sirius International Insurance Group and SVB Capital. Pie Insurance has now raised US$188 million.
- States Titles, a U.S.-based modern title and escrow platform, raised US$123 million in a Series C round. The round has participation from Assurant Growth Investing, Eminence Capital, Fifth Wall Ventures, Foundation Capital, Greenspring Associates, Horizons Ventures, Hudson Structured Capital Management, Lennar Ventures and SCOR P&C Ventures.

Strategic tech investments by (re)insurers increase slightly from Q1 2020 by 18%.

Investments have not rebounded to Q3 2019 levels (the highest recorded), with Q2 2020 falling 40% behind that record.

- U.S.-based technology led this quarter, attracting 46% of investments. This is, however, a 27-percentage-point drop from Q1 2020.
  - France-based firms received 12% of investment; China, Israel and Germany-based companies each received 8% of (re)insurer investments.

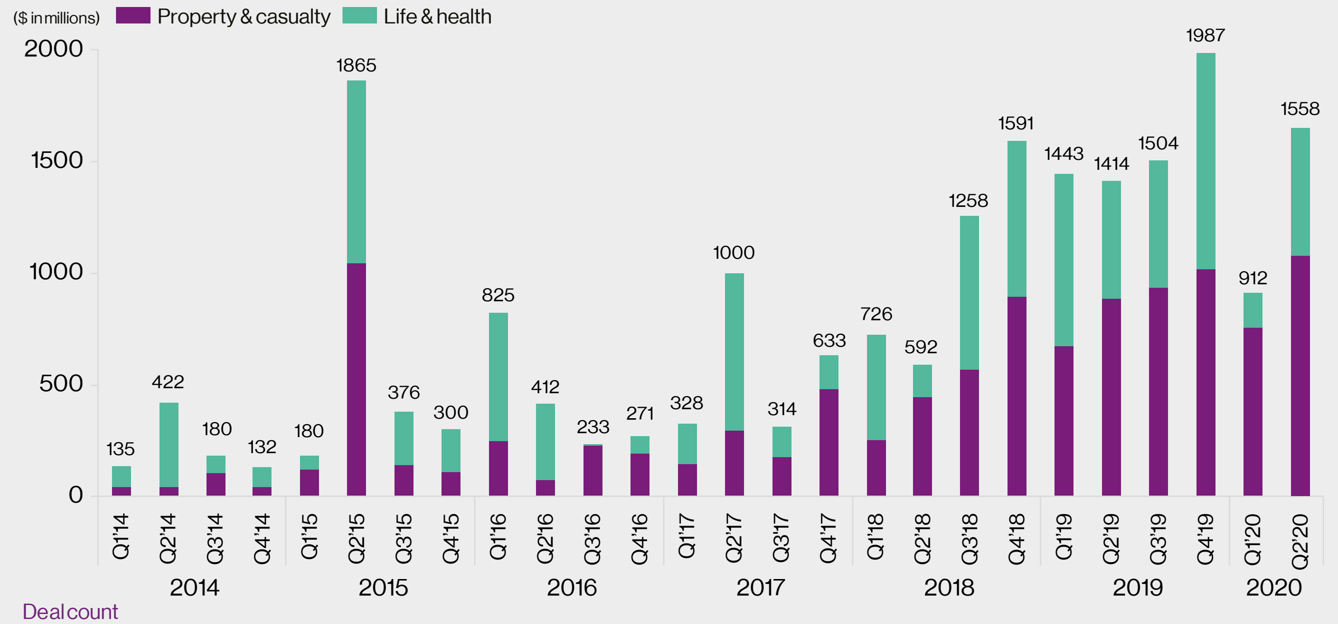
(Re)insurer partnerships logged a record high of 34, up by four from Q1 2020. The previous high was 33 in Q4 2019.

Select partnerships included the following:

- Cigna and Oscar have announced the launch of Cigna + Oscar, a new affordable and consumer-first health insurance for small businesses.
- Buckle, a rideshare insurance-focused start-up, has acquired Gateway Insurance Co., a subsidiary of Schaumburg, Illinois-based Atlas Financial Holdings, for an undisclosed price.
- Limelight Health and Reliance Standard Life Insurance have entered a strategic partnership to streamline the insurer's quoting and renewal processes for employee benefit insurance plans.

InsurTech by the numbers

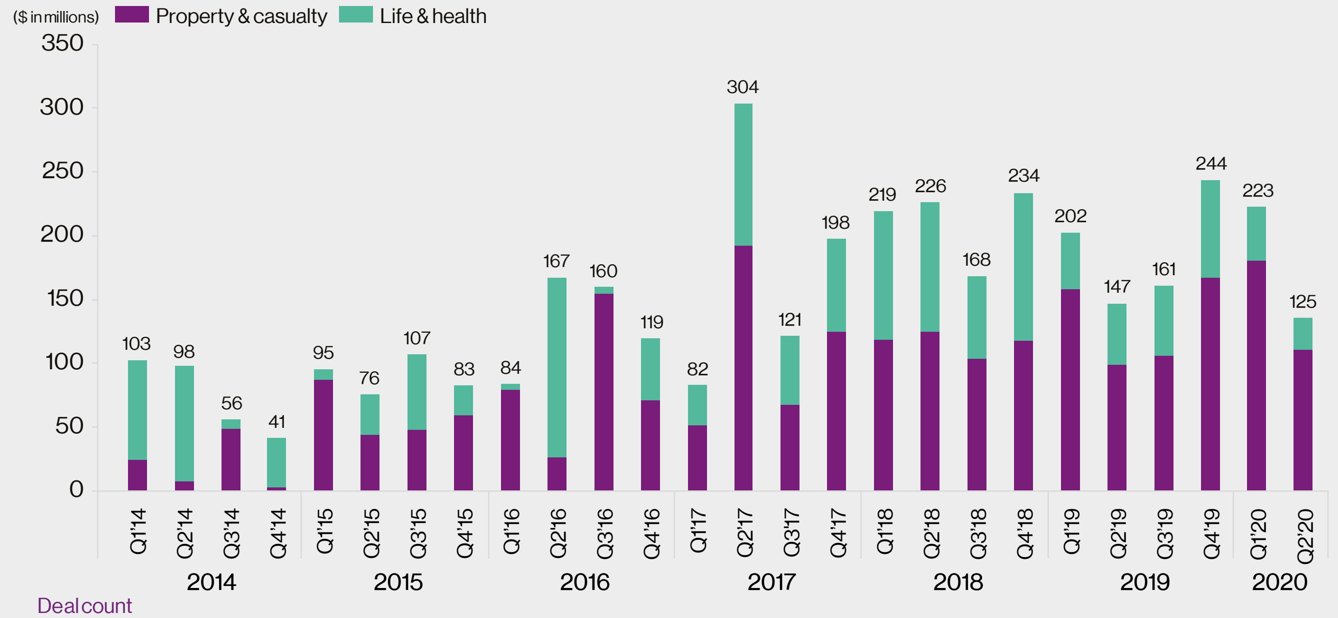
Quarterly InsurTech funding volume – all stages



Deal count

	Q1'14	Q2'14	Q3'14	Q4'14	Q1'15	Q2'15	Q3'15	Q4'15	Q1'16	Q2'16	Q3'16	Q4'16	Q1'17	Q2'17	Q3'17	Q4'17	Q1'18	Q2'18	Q3'18	Q4'18	Q1'19	Q2'19	Q3'19	Q4'19	Q1'20	Q2'20
P&C	10	7	16	8	17	13	16	21	44	18	33	29	26	37	29	45	44	46	40	41	58	49	52	40	72	54
L&H	9	15	14	15	11	19	15	20	16	17	6	13	17	32	21	11	24	27	17	23	29	20	31	35	24	20

Quarterly InsurTech funding volume – early stage

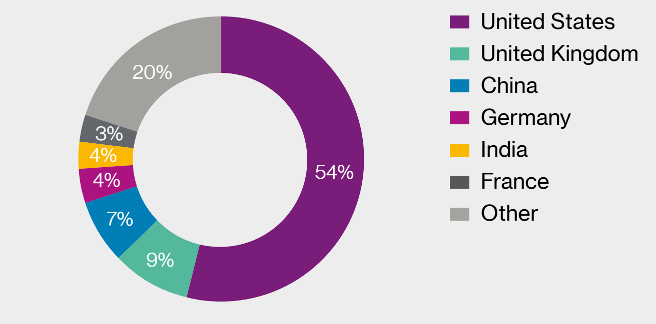


Deal count

	Q1'14	Q2'14	Q3'14	Q4'14	Q1'15	Q2'15	Q3'15	Q4'15	Q1'16	Q2'16	Q3'16	Q4'16	Q1'17	Q2'17	Q3'17	Q4'17	Q1'18	Q2'18	Q3'18	Q4'18	Q1'19	Q2'19	Q3'19	Q4'19	Q1'20	Q2'20
P&C	5	3	10	6	13	7	9	16	35	9	25	21	18	25	21	25	32	30	22	25	36	27	35	20	35	25
L&H	6	8	11	8	5	9	11	16	6	10	3	10	11	20	13	7	15	21	11	15	20	12	19	16	14	6

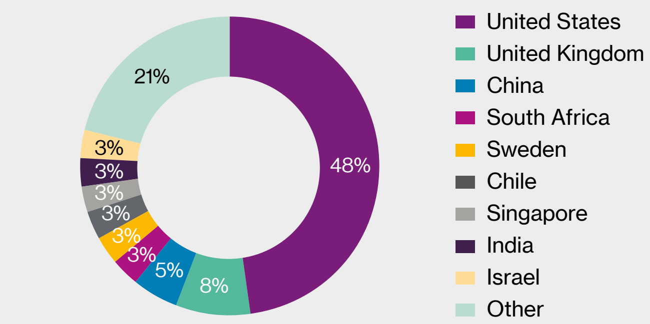
Quarterly InsurTech transactions by target country

2012 – Q2 2020



2012 – Q2 2020 Transactions: 1478

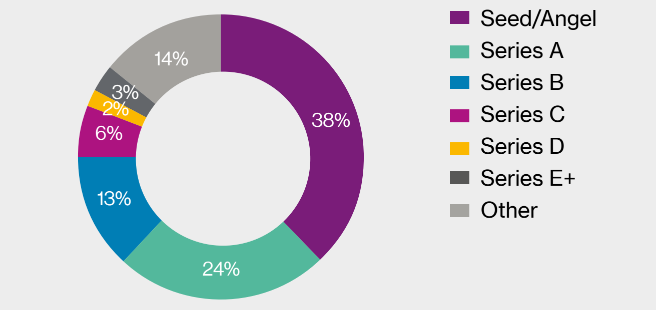
Q2 2020



Q2 2020 Transactions: 74

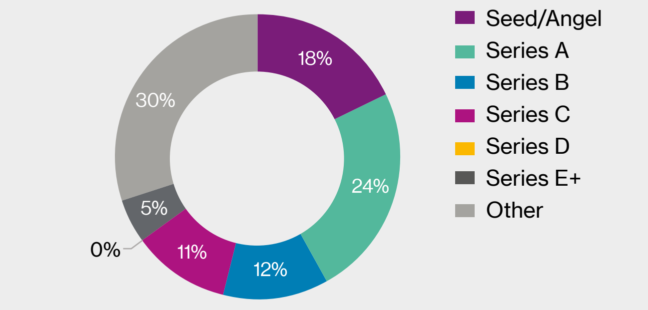
Quarterly InsurTech transactions by investment stage

2012 – Q2 2020



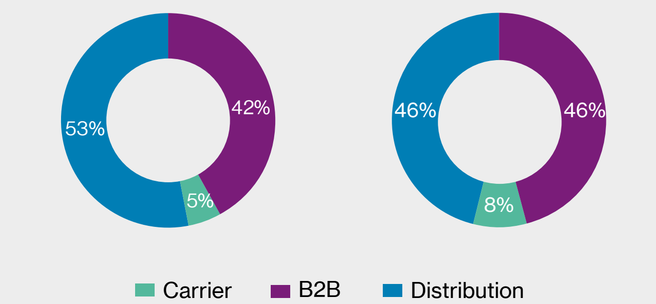
2012 – Q2 2020 Transactions: 1478

Q2 2020



Q2 2020 Transactions: 74

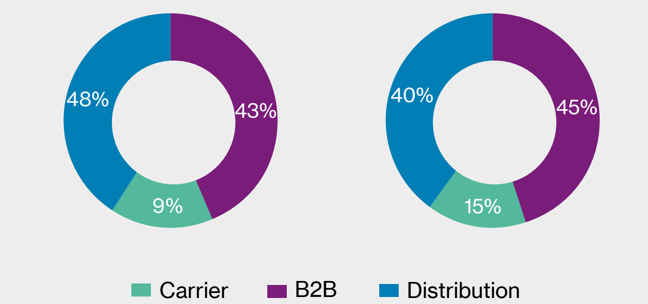
P&C InsurTech transactions by subsector



2012 – Q2 2020 P&C Transactions: 911

Q2 2020 P&C Transactions: 54

L&H InsurTech transactions by subsector



2012 – Q2 2020 L&H Transactions: 567

Q2 2020 L&H Transactions: 20

Q2 2020 InsurTech transactions – P&C

Date	Company	Funding ($M) Round	Funding ($M) Total	Investor(s)	Description
4/1/2020	Mulberry Technology	10.1	12.9	▪ Commerce Ventures ▪ Entrepreneurs Roundtable Accelerator ▪ Foundation Capital ▪ Founder Collective ▪ Pace Capital Ventures ▪ Quiet Capital ▪ Sam Hinkie	▪ Mulberry Technology works with e-commerce brands to embed extended warranty solutions into their customer journey through API and plug-ins reducing integration times from three-plus months to less than a week.
4/6/2020	Kryon	15	7.3	▪ AJJS Holdings ▪ Aquiline Capital Partners ▪ Fort Ross Ventures ▪ Oak HC/FT Partners ▪ Undisclosed Angel Investors ▪ Undisclosed Investors ▪ Vertex Ventures Israel	▪ Kryon develops virtual agents, or bots, used to automate organizational processes such as paperwork and the filings of insurance claims.
4/9/2020	Noblr	10	30	▪ Hudson Structured Capital Management ▪ Third Point Reinsurance ▪ Undisclosed Investors ▪ White Mountains Insurance Group	▪ Noblr provides consumers with real-time insurance rates and real-time feedback on driving behavior by leveraging telematics and Noblr's own technology.
4/13/2020	Habit Factory	1.63	4.19	▪ KB Investment ▪ KB Securities ▪ KB Starters Valley ▪ nTels ▪ SEMA Translink Investment ▪ TIPS Program	▪ Habit Factory is the operator of SIGNAL, a mobile application that analyzes a users' consumption patterns, helping them understand where they are spending their money and increasing their savings. With its SIGNAL engine, the application is able to aggregate consumption data and recommend services and products that are helpful to users. The company also offers SIGNAL Planner, an application that helps users to manage and compare insurance plans.
4/13/2020	Honcho Markets	0.33	3.71	▪ Barclays Bank ▪ Crowdcube ▪ InsurTech Gateway ▪ Maven Capital Partners ▪ North East Fund ▪ Tech Nation Fintech ▪ Undisclosed Investors	▪ Honcho Markets is an app for buying insurance products and services. Through Honcho's reverse auction marketplace, insurance companies make bid offers to consumers, consumers compare bids and proceed with the bid of their choice.
4/23/2020	REIN	1.5	8.8	▪ Anderson Bell ▪ Bert Roberts ▪ Christopher Ellis ▪ Jason Griswold ▪ Kiplin Capital ▪ Liberty Mutual Strategic Ventures ▪ Plug and Play Accelerator ▪ Plug and Play Ventures ▪ Steve Rabbitt ▪ Undisclosed Investors ▪ Volvo Financial Services	▪ REIN is an InsurTech company that creates products for the mobility, robotics and online ecosystems. REIN uses data, machine learning and modern tools to help companies bring new insurance products to market.
4/24/2020	Igloo	8.2	8.2	▪ Cathay Innovation ▪ Google Launchpad Accelerator ▪ InVent ▪ Linear Capital Partners ▪ Linear Venture ▪ OpenSpace Ventures ▪ Partech Partners ▪ PayPal Incubator ▪ SingTel Innov8	▪ Igloo is a licensed InsurTech firm that aims to make insurance accessible by creating digital insurance products that are simple.
4/28/2020	Qoala	13.5	15	▪ Centauri Fund ▪ Central Capital Ventura ▪ Flourish Ventures ▪ Genesia Ventures ▪ Kookmin Bank ▪ MassMutual Asia ▪ MassMutual Ventures ▪ MDI Ventures ▪ Mirae Asset Venture Investment ▪ SeedPlus ▪ Sequoia Capital India ▪ Surge	▪ Qoala offers online insurance with automated claims, fraud detection and personalization tools.

Note: Blue font denotes current round investors.

Q2 2020 InsurTech transactions – P&C

Date	Company	Funding ($M) Round	Funding ($M) Total	Investor(s)	Description
4/28/2020	Agentero	0.05	0.1	▪ BrokerTech Ventures ▪ Financial Venture Studio	▪ Agentero provides a platform for independent insurance agents. Its software gives them access to predictive pipelines and data analytics tools.
4/30/2020	Nexar	52	96.5	▪ Aleph ▪ Alibaba Group ▪ Atreides Management ▪ Corner Ventures ▪ GE Ventures ▪ Ibex Investors ▪ La Maison ▪ Micron Ventures ▪ Mosaic Ventures ▪ Nationwide Mutual Insurance Company ▪ Nationwide Ventures ▪ Plug and Play Accelerator ▪ Samsung Ventures ▪ Slow Ventures ▪ Sompo Holdings ▪ True Ventures ▪ Tusk Ventures	▪ Nexar uses smartphones to create an AI-backed vehicle-to-vehicle network that works to predict and prevent accidents. Per the company, computer vision software aims to alert drivers to help them avoid accidents or receive updates on traffic problems like blocked lanes ahead. The company partners with third-party dashboard-camera makers and then uses deep learning, which is run, per the company, on people's smartphones that are connected to their car cameras, to recognize objects in the road. The company also aims to allow users to link their Nexar accounts to their insurance providers to speed up the claim process, i.e., sending a video of an accident, along with such information as the time, date and location of the collision.
5/4/2020	yallacompare	4.25	21.1	▪ Argo Ventures ▪ Dubai Silicon Oasis Capital ▪ Gulf Insurance Group ▪ Mulverhill Associates ▪ Saned Partners ▪ STC Ventures ▪ Wamda Capital	▪ yallacompare is a comparison site where users can compare and apply for bank accounts, insurance policies, credit cards, loans, cars and more in nine markets across the Middle East and North Africa region.
5/4/2020	ClaimSpace	0.78	0.9	▪ Hartford InsurTech Hub ▪ OnRamp Insurance Accelerator ▪ Plug and Play Accelerator ▪ Undisclosed Investors	▪ ClaimSpace is a SaaS platform that allows users to bridge the communication gap between customers, insurers and stakeholders during the claim process.
5/4/2020	MetaMorphoSys Technologies	–	–	▪ Good Capital ▪ Rahul Khanna	▪ MetaMorphoSys Technologies develops a SaaS-based digital insurance platform.
5/5/2020	Bought By Many	98	127.3	▪ CommerzVentures ▪ Crispin Odey ▪ Evelyn Bourke ▪ FTV Capital ▪ Munich Re Ventures ▪ Octopus Ventures	▪ Bought By Many uses data to develop insurance policies and negotiate discounts for users with unique insurance needs.
5/6/2020	Super	2.31	2.31	▪ 500 Startups	▪ Super provides insurance solutions for natural disasters, life and health insurance, to the underserved populations in Latin America.
5/11/2020	Clyde	14	17.12	▪ Crosslink Capital ▪ Expa ▪ Rainfall Ventures ▪ Red Sea Ventures ▪ RRE Ventures ▪ Spark Capital ▪ Starting Line ▪ Techstars ▪ Undisclosed Investors	▪ Clyde has built an API for merchants that allows them to plug into the system and add product guarantee options without having to create the program from scratch.
5/11/2020	Amodo	3.26	4.3	▪ Alchemist Accelerator ▪ Lead Ventures ▪ Plug and Play Accelerator ▪ Speedinvest ▪ weXelerate	▪ Amodo has developed a technology platform that enables insurance companies to launch digital insurance products for the connected customer generation. The company collects data from smartphones and other connected consumer devices in order to build holistic customer profiles, providing better insights into customer risk exposure and product needs.

Note: Blue font denotes current round investors.

Q2 2020 InsurTech transactions – P&C

Date	Company	Funding ($M) Round	Funding ($M) Total	Investor(s)	Description
5/11/2020	EvolutionIQ	1.89	1.89	▪ First Round Capital ▪ Plug and Play Accelerator	▪ EvolutionIQ is a vertical fraud detection and investigation platform for insurance companies. The platform ingests and understands every part of a claim file, triages incoming claims and generates an actionable investigation plan.
5/14/2020	Envelop Risk Analytics	6	6	▪ Alpha Intelligence Capital ▪ Dymon Asia Ventures ▪ MS Amlin ▪ Plug and Play Accelerator	▪ Envelop Risk aims to provide cyber underwriting services to insurance and reinsurance firms by utilizing the company's own proprietary artificial intelligence-based simulation model to provide insight into cyber risks and exposures.
5/14/2020	Omocom	4	4	▪ Inventure ▪ Luminar Ventures ▪ Mundi Ventures ▪ Mustard Seed MAZE ▪ Undisclosed Angel Investors	▪ Omocom provides an on-demand, short-term, micro-insurance sharing platform.
5/18/2020	CompariSure	–	–	▪ 4Di Capital ▪ Allan Gray ▪ Umkhathi Wethu Holdings	▪ CompariSure is a platform that allows users to compare life insurance quotes from established insurers.
5/19/2020	Lingxi	6.2	6.2	▪ Bytedance ▪ GSR Ventures ▪ Junsan Capital ▪ Rocket Internet	▪ Lingxi applies machine intelligence to financial services such as debt collection and insurance sales.
5/19/2020	Urban Jungle	3.1	7.69	▪ Eka Ventures ▪ Rob Devey ▪ Simon Rogerson ▪ Undisclosed Investors	▪ Urban Jungle is a tech-first insurance broker, helping young people get access to cheaper and better-suited home insurance.
5/20/2020	Coalition	90	140	▪ Deep Nishar ▪ Felicis Ventures ▪ Greenoaks Capital Management ▪ Greyhound Capital ▪ Hillhouse Capital Management ▪ Ribbit Capital ▪ Sam Altman ▪ Valor Equity Partners ▪ VY Capital	▪ Coalition is an insurance and risk management company that provides insurance coverage, free cybersecurity tools and expert claim response to help small and midsize businesses identify and assess risk, prevent attacks and losses before they occur, and recover when all else fails.
5/21/2020	States Title	123	230	▪ Assurant Growth Investing ▪ Bloomberg Beta ▪ Eminence Capital ▪ Fifth Wall Ventures ▪ Foundation Capital ▪ Greenspring Associates ▪ Horizons Ventures ▪ Hudson Structured Capital Management ▪ Lennar Ventures ▪ SCOR P&C Ventures ▪ Undisclosed Investors	▪ States Title uses predictive analytics and technology to create a modern title and escrow platform.
5/21/2020	Spruce Holdings	29	49.08	▪ Bessemer Venture Partners ▪ Boris Khentov ▪ Collaborative Fund ▪ Joe Ziemer ▪ Jon Stein ▪ Mike Reust ▪ Munich Re Ventures ▪ Omidyar Network ▪ Scale Venture Partners ▪ Third Prime Capital ▪ Undisclosed Angel Investors ▪ Zigg Capital	▪ Spruce is built from the ground up to help make real estate transactions fast, frictionless and secure. The company provides title and settlement services that empower lenders to efficiently close loans and deliver excellent customer experience.
5/21/2020	CLARA analytics	25	47.99	▪ Aspen Capital Group ▪ Oak HC/FT Partners ▪ Undisclosed Investors	▪ CLARA analytics builds easy-to-use, AI/machine-learning-based products that can get claims teams in front of their workers compensation claims. The products unlock predictive insights from the claims data to provide key signals to the claim team to drive efficiencies and improve the claim outcomes.

Note: Blue font denotes current round investors.

Q2 2020 InsurTech transactions – P&C

Date	Company	Funding ($M) Round	Funding ($M) Total	Investor(s)	Description
5/21/2020	By Miles	18.4	26.8	▪ CommerzVentures ▪ Fintech Fast Forward ▪ Hambro Perks ▪ InMotion Ventures ▪ InsurTech Gateway ▪ JamJar Investments ▪ Octopus Ventures ▪ Undisclosed Angel Investors	▪ By Miles is a car insurance provider aimed at people who live in cities and use their car infrequently.
5/22/2020	G-HCARE	–	–	▪ Undisclosed Venture Investors ▪ UNITY VENTURES	▪ G-HCARE is a brand of Pingfuyan Healthtech that provides B2B health insurance data and management platforms for insurance companies.
5/26/2020	Archipelago Analytics	6.04	34.23	▪ Canaan Partners ▪ Ignition Partners ▪ Undisclosed Investors ▪ XL Innovate	▪ Archipelago develops interconnected technologies to efficiently capture and move critical data through the insurance value chain, from client to broker to capacity provider.
5/26/2020	GramCover	–	1	▪ EMV Capital ▪ Flourish Ventures ▪ Omidyar Network ▪ Omnivore Partners	▪ GramCover operates an India-based insurance marketplace for the rural sector.
5/27/2020	GoBear	17	97	▪ Aegon ▪ Bank Negara Malaysia ▪ Walvis Participaties	▪ GoBear is a financial products comparison site. Users can search, compare and select the plan, card or loan they want.
5/28/2020	Pie Insurance	127	188	▪ Aspect Ventures ▪ Elefund ▪ Gallatin Point Capital ▪ Greycroft ▪ Moxley Holdings ▪ Sirius International Insurance Group ▪ SVB Capital	▪ Pie Insurance provides workers compensation insurance directly to small businesses and also partners with local, regional and national insurance agencies to provide coverage to their clients.
6/1/2020	PolicyStreet	1.8	2.74	▪ Cradle Fund ▪ KK Fund ▪ pitchIN Equity ▪ Spiral Ventures	▪ PolicyStreet is a content aggregator and insurance technology company, and is now looking to sell insurance polices, including life, disability, auto, home insurance and more.
6/3/2020	Betterview	7.5	15.68	▪ 500 Accelerator ▪ 500 Startups ▪ 645 Ventures ▪ Alumni Ventures Group ▪ Arab Angel Fund ▪ Arena Ventures ▪ Chestnut Street Ventures ▪ Compound ▪ EMC Insurance Group ▪ Guidewire Software ▪ Lando Ventures ▪ Maiden Re ▪ ManchesterStory Group ▪ MetaProp ▪ Nationwide Mutual Insurance Company ▪ Nationwide Ventures ▪ Pierre Valade ▪ Plug and Play Accelerator ▪ Plug and Play Ventures ▪ Router Ventures ▪ Runway Venture Partners ▪ Teamworthy Ventures ▪ Undisclosed Angel Investors ▪ Winklevoss Capital	▪ Betterview's predictive analytics helps carriers to identify and score roof condition and other property risks through the use of machine learning and computer vision to analyze manned aircraft and satellite imagery. After, Betterview combines these data with other sources such as building permits, assessor's data and historical weather to determine the characteristics and condition of a roof to determine the risk of future losses.
6/3/2020	Seraphin	2.25	3.61	▪ Be Angels ▪ HI Investisseurs ▪ Nicolas Debray ▪ Undisclosed Angel Investors	▪ Seraphim is a digital insurance broker based in Brussels, Belgium.

Note: Blue font denotes current round investors.

Q2 2020 InsurTech transactions – P&C

Date	Company	Funding ($M) Round	Funding ($M) Total	Investor(s)	Description
6/4/2020	HyperScience	60	108.9	▪ Acequia Capital ▪ Battery Ventures ▪ Bessemer Venture Partners ▪ BoxGroup ▪ Dcode Accelerate ▪ Felicis Ventures ▪ FinTech Innovation Lab ▪ FirstMark Capital ▪ Gaingels ▪ Global Founders Capital ▪ Penna & Company ▪ Plug and Play Accelerator ▪ QBE Ventures ▪ Scott Belsky ▪ Shana Fisher ▪ Slow Ventures ▪ Stripes Group ▪ SV Angel ▪ TD Ameritrade ▪ Third Kind Venture Capital ▪ Tiger Global Management	▪ HyperScience automates manual document processing for global financial services, insurance, health care, and government organizations. Its proprietary solution classifies documents and extracts data, then structured data files are sent downstream for processing, decreasing wasted manual effort and increasing output and productivity.
6/4/2020	AgroTools	–	–	▪ KPTL	▪ AgroTools provides insights and analytics for agribusinesses that include supply chain logistics, socioenvironmental compliance, territorial CRM, brand protection, agri-digital insurance and more.
6/5/2020	The Zebra	5	105.1	▪ Accel ▪ AlphaLab ▪ Ballast Point Ventures ▪ Birchmere Ventures ▪ Daher Capital ▪ Floodgate ▪ Mark Cuban ▪ Silverton Partners ▪ Simon Nixon ▪ Weatherford Capital Management	▪ The Zebra is an online car insurance comparison marketplace. The Zebra also provides educational resources to inform consumers and help them find the coverage, service level and pricing to suit their unique needs, while simultaneously helping insurance companies connect with their consumers.
6/8/2020	Jooycar	0.7	4.7	▪ Endeavor Scale Fintech ▪ HCS Capital Partners ▪ Undisclosed Investors	▪ Jooycar develops usage-based insurance (UBI) and connected car software for Latin America. Jooycar combines data collected from devices plugged into the car, as well as a mobile app, to deliver quality-rich data about the driver and vehicle. These data include real-time vehicle information, customized maintenance reporting, loss prevention, detailed driver risk assessment and scoring, driving patterns, route optimization and the like.
6/10/2020	Duck Creek Technologies	230	364.4	▪ Accenture ▪ Apax Partners ▪ Dragoneer Investment Group ▪ Insight Partners ▪ Kayne Anderson Rudnick ▪ Neuberger Berman ▪ Pequot Venture Capital ▪ Temasek ▪ Whale Rock Capital Management	▪ Duck Creek Technologies provides comprehensive P&C insurance software and services delivered on-premise or via Duck Creek On-Demand, a differentiated SaaS model. The software is designed to work independently or as a combined approach to quickly handle the needs of insurers of all sizes worldwide. Duck Creek solutions enable clients to optimize outcomes through digital and data capabilities, streamlined operations and consistent functionality.
6/10/2020	Planck	16	28	▪ Arbor Ventures ▪ Eight Roads Ventures ▪ Hannover Digital Investments ▪ Nationwide Ventures ▪ Plug and Play Accelerator ▪ Team8 Capital ▪ Viola Group ▪ Viola Ventures	▪ Planck is a commercial insurance data platform, built to enable insurers to instantly and accurately underwrite any business. Planck's technology platform aggregates and mines large data sets, using advances in AI to automatically generate and deliver key insights customized to the commercial underwriting process. The end result is an underwriting process with greater insurer visibility into risk factors, leading to improved new business conversion and retention rates and lower loss ratios.

Note: Blue font denotes current round investors.

Q2 2020 InsurTech transactions – P&C

Date	Company	Funding ($M) Round	Funding ($M) Total	Investor(s)	Description
6/10/2020	Baywatch Technologies	0.05	0.34	▪ Undisclosed Investors	▪ BayWatch Technologies automatically records the full exterior of every vehicle that passes through the camera system to address vehicle fraud claims.
6/11/2020	Protecht	5	17.65	▪ American Family Ventures ▪ Connected VC ▪ IA Capital Group ▪ Stevens Boxpoint ▪ Undisclosed Investors ▪ Western Technology Investment	▪ Protecht is an insurance technology company that offers products across the live events space to create a constant brand offering peace of mind for attendees and their experiences.
6/11/2020	Axio	–	3.8	▪ Fin Venture Capital ▪ IA Capital Group ▪ NFP Ventures ▪ Undisclosed Investors	▪ Axio is a cybersecurity company based in New York, NY. The company's platform and services provide all stakeholders with a common framework to proactively manage cyber risk in terms that the entire organization can understand.
6/13/2020	MUST Insurance	0.12	0.12	▪ Undisclosed Angel Investors	▪ MUST Insurance develops an online insurance platform for trucks.
6/16/2020	TowerIQ	4.35	6.35	▪ Clocktower Technology Ventures ▪ DCU FinTech Innovation Center ▪ Hyperplane Venture Capital ▪ Laconia Capital Group ▪ Vestigo Ventures	▪ TowerIQ is an enterprise SAAS platform that provides communication, data insights and exposure gathering for the commercial insurance industry.
6/17/2020	Qlaims	2.89	2.89	▪ Undisclosed Investors ▪ West Hill Capital	▪ Qlaims develops technology and online solutions to bring intelligence to the claim process within the insurance industry.
6/18/2020	SingularCover	5.02	7.19	▪ Antai Venture Builder ▪ Enisa ▪ Global Founders Capital ▪ Liberty Mutual Strategic Ventures ▪ Mutua Madrilena	▪ SingularCover offers online insurance products and services for SMEs.
6/19/2020	Openly	15	22.77	▪ Gradient Ventures ▪ Greenlight Re Innovations ▪ Hanover Insurance International Holdings ▪ Obvious Ventures ▪ PJC ▪ Plug and Play Accelerator ▪ Techstars ▪ Techstars Ventures	▪ Openly offers an insurer platform selling modern products through independent agents.
6/22/2020	Sigo	0.1	0.1	▪ gener8tor	▪ Sigo develops a mobile-first auto insurance platform allowing customers with limited insurance histories to get basic liability policies directly from their phone, in English or Spanish.
6/25/2020	cristo	1.27	1.27	▪ Solus Capital	▪ cristo is a car insurance scheme in which customers pay their insurance premiums based on the actual duration of their car use.
6/29/2020	Aclaimant	4.43	12.96	▪ Aspen Capital Group ▪ EBSCO Capital ▪ KEC Ventures ▪ Mercury Fund ▪ Moderne Passport ▪ Royal Street Ventures ▪ RRE Ventures ▪ Undisclosed Investors	▪ Aclaimant has developed a platform to engage the employee, employer and insurance carrier in making workplace incidents everyone's responsibilities.
6/30/2020	BlueX Trade	1.55	5.55	▪ Greycroft ▪ Infinity Venture	▪ BlueX is a B2B freightech platform that connects ocean carriers with shippers and provides fintech and InsurTech services. The company supports ocean carriers with two products: a white-label e-booking platform and an integrated services marketplace with pay-freight-later and cargo insurance.

Note: Blue font denotes current round investors.

Q2 2020 InsurTech transactions – L&H

Date	Company	Funding ($M) Round	Funding ($M) Total	Investor(s)	Description
4/3/2020	xbAV	27	51	▪ Armada Investment Group ▪ Cinco Capital ▪ HPE Growth Capital ▪ Lars Hinrichs	▪ xbAV is a provider of corporate pension technology in Germany. Its SaaS platform provides a shared-service interface between pension product providers, insurance agents, companies and employees to create new, and manage existing, pension policies.
4/3/2020	Catch	8.08	13.3	▪ Indicator Ventures ▪ Khosla Ventures ▪ Kindred Ventures ▪ Nyca Partners ▪ Undisclosed Investors ▪ Y Combinator	▪ Catch offers a personal benefits platform, offering tax withholding, retirement plans, health insurance and more – all integrated in one place. It serves the people who don't have access to employer benefits, including freelancers, contractors, gig workers, founders and full-time employees with inadequate benefit plans.
4/9/2020	Neosurance	1.2	2.34	▪ Horizon 2020 ▪ Luiss Business School ▪ Matteo Carbone ▪ Mezzetti Advisory Group ▪ Net Insurance ▪ Pietro Menghi ▪ Plug and Play Accelerator ▪ SuperCharger Accelerator	▪ Neosurance offers AI and machine learning powered solutions for insurance companies to enable the sale of instant micro policies. Through the Neosurance solution, the insurer can send the right insurance offer when the client needs it. A personalized notification is sent to the smartphone of the potential customer proposing to cover a specific event for a short period of time.
4/10/2020	LIANREN Digital Health	71.1	71.1	▪ China Mobile Industry Innovation Fund ▪ China Pacific Insurance	▪ LIANREN Digital Health is a big data company based in China that focuses on health care data for the insurance, pharmaceutical, clinical and other industries.
4/20/2020	Alan	54.3	141	▪ CNP Assurances ▪ DST Global ▪ Index Ventures ▪ Kima Ventures ▪ Partech Partners ▪ Portag3 Ventures ▪ Power Financial Corporation ▪ Start-up Garage Paris from Facebook ▪ Temasek ▪ Undisclosed Angel Investors	▪ Alan is a Paris-based digital health insurance company that develops subscription-based software for insurance with clear pricing and transparent reimbursement policies. Alan is a primary insurer that distributes its own health plans directly to companies and individuals.
4/23/2020	Bestow	50	68.1	▪ 8VC ▪ Core Innovation Capital ▪ Morpheus Ventures ▪ New Enterprise Associates ▪ Sammons Financial ▪ Undisclosed Investors ▪ Valar Ventures	▪ Bestow is a full-stack insurance technology company that builds products and software that make life insurance accessible to millions of families. In addition to its direct-to-consumer arm, Bestow provides industry-first APIs enabling partners to offer customized life insurance coverage to their customers.
5/6/2020	Wellth	10	17.2	▪ AltaIR Capital ▪ AXA Venture Partners ▪ B-Fore Capital ▪ Beta Bridge Ventures ▪ Boehringer Ingelheim Venture Fund ▪ CD-Venture ▪ DaVita Venture Group ▪ DreamIt Ventures ▪ I2BF Global Ventures ▪ Leonard Schaeffer ▪ New York Life Ventures ▪ NFP Ventures ▪ Partnership Fund for New York City ▪ Rock Health ▪ Startupbootcamp Digital Health ▪ Tigerlabs ▪ Yabeo Capital	▪ Wellth inspires positive behavior change for patients with chronic behavioral and physical health conditions. Powered by a Behavioral Economics engine and intuitive smartphone design, Wellth uses daily financial incentives to overcome patients' Present Bias and motivate them to adhere to their daily care plan.

Note: Blue font denotes current round investors.

Q2 2020 InsurTech transactions – L&H

Date	Company	Funding ($M) Round	Funding ($M) Total	Investor(s)	Description
5/12/2020	Burn to Give	4.87	4.87	▪ Undisclosed Investors	▪ Burn to Give is a digital health and InsurTech company that uses data science and machine learning to automatically track and reward individual good habits with no-cost life insurance coverage and charitable donations.
2/12/2020	Zipari	10.3	50.2	▪ Bridge Bank ▪ Health Velocity Capital ▪ Healthworx ▪ Horizon Blue Cross Blue Shield of New Jersey ▪ Vertical Venture Partners	▪ Zipari develops solutions for carriers to engage with consumers. Powered by consumer analytics, Zipari's insurance-specific CRM and Consumer Experience Platform provide carriers with real-time insights into consumer behavior at every touch point.
5/27/2020	Inclusivity Solutions	1.3	2.86	▪ Allan Gray ▪ Catapult: Inclusion Africa ▪ Goodwell Investments ▪ MFS Africa ▪ RGAx ▪ Umkhathi Wethu Holdings ▪ Undisclosed Angel Investors	▪ Inclusivity Solutions links distribution partners (e.g, mobile operators), insurance companies and emerging consumers to deliver digital insurance solutions that meet consumer needs, make good business sense and deliver long-term impact. It provides complete solutions, including strategy, product and process design, and implementation support.
5/29/2020	SmartHR	4.6	79.8	▪ 500 Startups ▪ ALL STAR SAAS FUND ▪ BEENEXT ▪ Coral Capital ▪ DG Ventures ▪ East Ventures ▪ Jun Nishikawa ▪ Kotaro Chiba ▪ Light Street Capital ▪ NISSEN ▪ Shoko Chukin Bank ▪ Signifiant ▪ Tokio Marine Holdings ▪ Undisclosed Investors ▪ Undisclosed Venture Investors ▪ World Innovation Lab ▪ Yu Akasaka	▪ SmartHR is a crowdsourced personnel management platform. The company automates procedures related to social insurance and unemployment insurance. It was developed to free up managers or human resources representatives from tiresome and time-consuming personnel management.
6/3/2020	Friday Health Plans	–	80.7	▪ Colorado Impact Fund ▪ Eduardo Cruz ▪ Leadenhall Capital ▪ Peloton Equity ▪ Undisclosed Angel Investors ▪ Undisclosed Investors	▪ Friday Health Plans focuses on overall simplicity to offer low prices so more people can afford health insurance.
6/4/2020	Proformex	0.96	10.5	▪ Undisclosed Angel Investors ▪ Undisclosed Investors	▪ Proformex is a life insurance policy management system that ensures life insurance contracts are actively managed each year.
6/16/2020	HealthCare.com	5	41.6	▪ AXIS Capital Holdings ▪ CNO Financial Group ▪ Jeffery Boyd ▪ Monster Venture Partners ▪ Robert Mylod Jr. ▪ Second Alpha Partners ▪ Undisclosed Investors	▪ HealthCare.com is a search, comparison and recommendation tool for health care consumers. Its visitors can analyze hundreds of health insurance options in their area and get data-rich recommendations to help make smarter decisions about their health plan purchase.
6/23/2020	Apostrophe	9.58	16.9	▪ Better Ventures ▪ Cobalt Ventures ▪ Commerce.Innovated ▪ Norwest Venture Partners ▪ Royal Street Ventures ▪ Techstars ▪ Techstars Ventures ▪ Undisclosed Investors	▪ Apostrophe is a health care platform where employers and members can pay a monthly fee to have Apostrophe pay for medical bills upfront at a lower rate than insurance providers.
6/24/2020	FraudScope	7	9.07	▪ Atlanta Startup Battle ▪ GRA Venture Fund ▪ Mosley Ventures ▪ Service Provider Capital ▪ Spider Capital Partners ▪ TechSquare Labs	▪ Fraudscope provides software that gives organizations the tools to quickly identify suspicious claims, collect actionable information and collaborate across the organization to open, investigate and resolve cases quickly. It has specialized solutions for clients handling professional claims, facility waste claims and pharmaceutical fraud schemes.

Note: Blue font denotes current round investors.

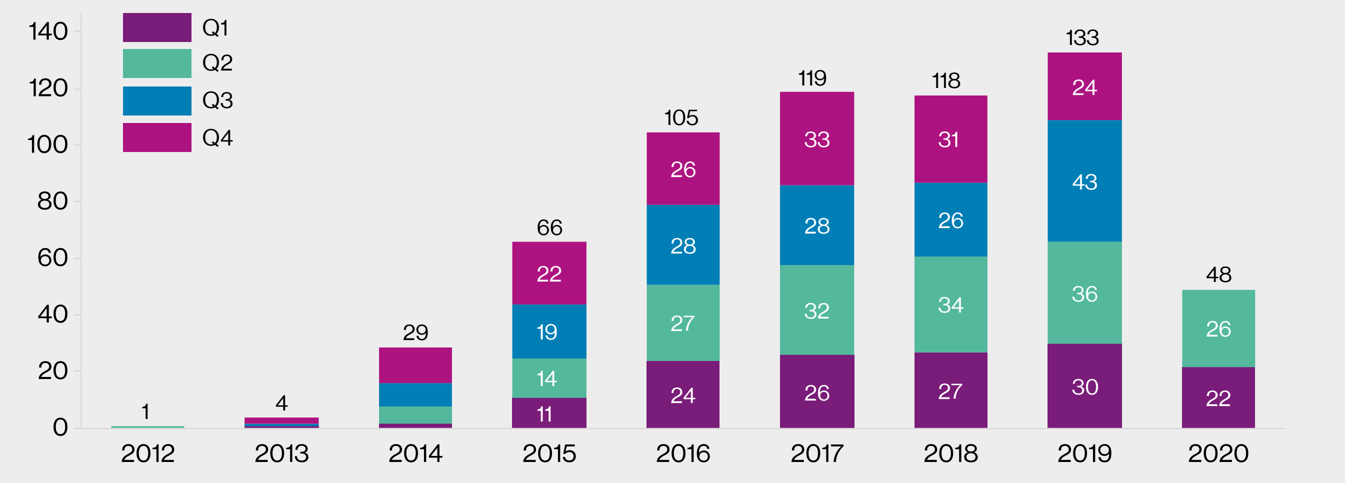
Q2 2020 InsurTech transactions – L&H

Date	Company	Funding ($M) Round	Funding ($M) Total	Investor(s)	Description
6/24/2020	Nexben	5.06	7.94	• Undisclosed Investors	• Nexben is an open insurance marketplace, helping companies of all sizes simplify the process of buying and selling health insurance.
6/26/2020	Oscar Health	225	1493	• 8VC • Alphabet • Baillie Gifford & Co. • BoxGroup • Brainchild Holdings • Breyer Capital • Brian Singerman • capitalG • Coatue Management • Darwin Ventures • Fidelity Investments • Formation 8 • Founders Fund • General Catalyst • Goldman Sachs • Google Ventures • Horizons Ventures • Khosla Ventures • Lakestar • Ping An Ventures • Red Swan Ventures • Stanley Druckenmiller • SV Angel • Thrive Capital • Undisclosed Angel Investors • Verily Life Sciences • Wellington Management	• Oscar is a technology-driven, consumer-focused, health insurance company using technology and personalized service to give members transparency into the health care system and empower them to choose quality, affordable care.
6/26/2020	Insurello	8	11.6	• Bjorn Melinder • Bo Mattsson • DHS Venture Partners • Eva Redhe • Inventure • Johan Siwers • Lars Bergstrom • Lars Lindgren • Luminar Ventures • Per Emanuelsson • Schibsted Growth • Wave Ventures	• Insurello proactively educates people about their insurances and manages as well as maximizes their claims through a simple digital solution.
6/29/2020	Huizhenbang	–	0.62	• Eagles Fund • Legend Star • Undisclosed Investors • Yiyi Tian Shi	• Huizhenbang is a service platform that helps patients find experts and helps primary hospitals with health care, education and research by sending in experts and providing legal, insurance and home visiting services.

Note: Blue font denotes current round investors.

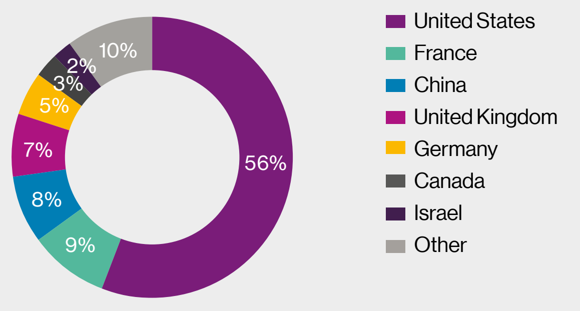
Private technology investments by (re)insurers

Private technology investments by (re)insurers



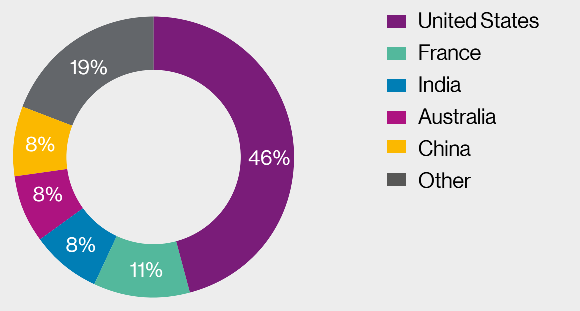
Private technology investments by (re)insurers by target country

2012 – Q2 2020



2012 – Q2 2020 Transactions: 623

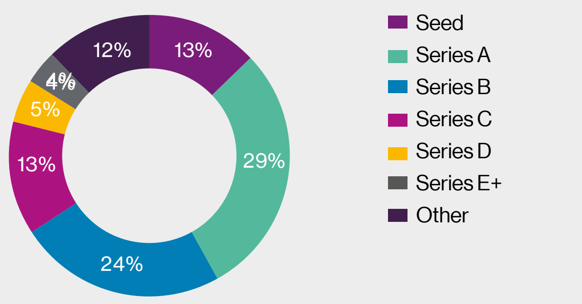
Q2 2020



Q2 2020 Transactions: 26

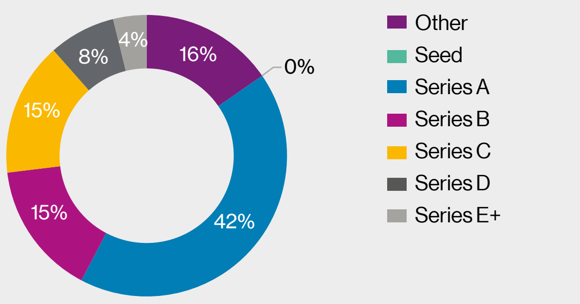
Private technology investments by (re)insurers by investment stage

2012 – Q2 2020



2012 – Q2 2020 Transactions: 623

Q2 2020



Q2 2020 Transactions: 26

Private technology investments by (re)insurers

		Funding ($M)			
Date	Company	Round	Total	(Re)insurer investor(s)	Description
4/1/2020	D-ID	13.5	17.6	▪ AXA Venture Partners	▪ D-ID uses face recognition technology to process a user's photo and creates a protected image that looks similar to the naked eye, developed to protect their photo from unauthorized, automated facial recognition.
4/8/2020	Neat	11	16	▪ MassMutual Ventures	▪ Neat is an AI-powered mobile personal financial assistant for millennials. The Neat Business dashboard gives users an overview of the state of all finances and features mechanisms for receiving payments, payroll and expense management.
4/10/2020	LIANREN Digital Health	71.1	71.1	▪ China Pacific Insurance	▪ LIANREN Digital Health is a big data company based in China that focuses on health care data for the insurance, pharmaceutical, clinical and other industries.
4/17/2020	K4Connect	7.7	30.4	▪ AXA Venture Partners	▪ K4Connect is a technology integration company focusing on smart home and on-demand apps for senior-living facilities. Its software platform can integrate any number of disparate smart devices, systems and applications into a single responsive system.
4/22/2020	Certideal	8.67	11	▪ MAIF Avenir	▪ Certideal has developed a platform that allows users to resell and buy electronics (smartphones, tablets, laptops and more).
4/28/2020	Qoala	13.5	15	▪ MassMutual Ventures	▪ Qoala offers online insurance with automated claims, fraud detection and personalization tools.
4/29/2020	InsideBoard	27.2	32.2	▪ AXA Venture Partners	▪ Insideboard is a digital platform for change management dedicated to encouraging user adoption, ongoing team performance and transformation success.
5/1/2020	NS8	123	157	▪ AXA Venture Partners	▪ NS8 is an eCommerce company that provides abuse, fraud and user experience protection tools. The company uses behavioral analytics, real-time user scoring and global monitoring to optimize and protect against threats, which give eCommerce merchants insight into their real customers.
5/5/2020	Bought By Many	98	127	▪ Munich Re Ventures	▪ Bought By Many uses data to develop insurance policies and negotiate discounts for users with unique insurance needs.
5/6/2020	Wellth	10	17.2	▪ AXA Venture Partners ▪ New York Life Ventures	▪ Wellth inspires positive behavior change for patients with chronic behavioral and physical health conditions. Powered by a Behavioral Economics engine and intuitive smartphone design, Wellth uses daily financial incentives to overcome patients' Present Bias and motivate them to adhere to their daily care plan.
5/7/2020	Hub Security	5	5	▪ AXA Venture Partners	▪ Hub Security provides signage, authentication and other cybersecurity solutions.
5/12/2020	Zenjob	29.4	55.6	▪ AXA Venture Partners	▪ Zenjob is a mobile tech company that solves short-term staffing emergencies by providing hourly workers on-demand. The company hires the workers, who earn more than minimum wage through Zenjob, and lends them out to businesses, who have less admin hassle and more flexibility than with traditional temp agencies.
5/18/2020	Tire Agent	4.97	5.57	▪ American Family Ventures	▪ Tire Agent is a search engine and aggregator for tires and wheels. Features include an "Ask The Expert" tool that guides customers in their purchases. Recommendation criteria considers location, the vehicle's purpose, average yearly mileage, budget, make, model, year and more.
5/20/2020	AmWell	134	701	▪ Allianz X	▪ AmWell is a telehealth platform in the United States and globally, connecting and enabling providers, insurers and patients to deliver greater access to more affordable care. AmWell believes that digital care delivery will transform health care. The company offers a single platform to support all telehealth needs from urgent to acute and post-acute care, as well as chronic care management and healthy living.
5/21/2020	Cinchy	7.24	10.2	▪ Manulife Financial	▪ Cinchy offers a solution for application-specific databases by building a secure on-premise cross-application data network.

Private technology investments by (re)insurers

		Funding ($M)			
Date	Company	Round	Total	(Re)insurer investor(s)	Description
5/22/2020	Wyze	10	30	▪ American Family Ventures	▪ Wyze develops smart home products. Its first product is a smart home camera that stays connected and offers 1080p full HD, night vision and two-way audio.
5/22/2020	Splash Financial	12.3	16.9	▪ CMFG Ventures ▪ Northwestern Mutual Future Ventures	▪ Splash Financial is a student loan refinancing company that provides online lending options to help college graduates consolidate and refinance their student loan debt. Its mission is to help young professionals tackle student loan debt, so they can find financial freedom earlier in their careers.
5/26/2020	Archipelago Analytics	6.04	34.2	▪ XL Innovate	▪ Archipelago develops interconnected technologies to efficiently capture and move critical data through the insurance value chain, from client to broker to capacity provider.
5/28/2020	PlusDental	35.4	46.7	▪ Ping An Ventures	▪ PlusDental treats cosmetic cases of malocclusion through its treatment approach using clear aligners.
6/3/2020	RiskIQ	15	83	▪ MassMutual Ventures	▪ RiskIQ is a provider of enterprise security solutions beyond the firewall. The company's technology intelligently interacts with websites and mobile applications, modeling user behavior to detect anomalies, policy violations and previously undetected threats.
6/16/2020	Steady	15	33.1	▪ CMFG Ventures	▪ Steady is an income advocate and financial health platform for the independent labor workforce, helping to fill income gaps of the underemployed, define an individual's portfolio of work in the Future of Work and provide for curated inclusive finance. Steady measures its income enhancement to its members via its income tracker and improves its curation models to better its delivery of increased income for low-to-moderate income Americans.
6/18/2020	SingularCover	5.02	7.19	▪ Liberty Mutual Strategic Ventures	▪ SingularCover offers online insurance products and services for SMEs.
6/18/2020	Payfone	100	216	▪ MassMutual Ventures	▪ Payfone is a digital identity authentication platform provider offering a Trust Platform that enables businesses to instantly verify customers while thwarting fraud and cyber attacks in real time, all within a privacy-first, zero-knowledge framework.
6/22/2020	Rise Up	5.63	8.12	▪ MAIF Avenir	▪ Rise Up is developing a SaaS platform for training management. Rise Up's platform enables users to create trainings, organize sessions, follow results and more.
6/23/2020	Quzhou News	–	–	▪ China Pacific Insurance	▪ Quzhou News is a news and media website based in China.
6/24/2020	OJO Labs	62.5	134	▪ Northwestern Mutual Future Ventures	▪ OJO Labs is an Austin-based company founded on the belief that complex decision making could be made better through the fusion of machine and human intelligence. The company offers personal, digital advising to deliver deeply personalized recommendations for consumers and serves as a strategic partner for brokers, agents and loan officers, creating the first-ever end-to-end platform at scale for buying and selling a home.

Q2 2020 strategic (re)insurer partnerships

Date	Company	(Re)insurer investor(s)	Description
1/6/2020	Limelight Health	• Reliance Standard Life Insurance	• Limelight Health and Reliance Standard Life Insurance have entered a strategic partnership to streamline the insurer's quoting and renewal processes for employee benefit insurance plans.
4/9/2020	Shift Technology	• Cigna	• Shift Technology, a provider of AI-native fraud detection and claim automation solutions, has partnered with Cigna, a global health service company to strengthen its fraud detection capabilities within the claim process.
4/17/2020	EIS Group	• Wellfleet	• Wellfleet, a Berkshire Hathaway insurance company, has partnered with EIS Group, a next generation insurance systems provider, on an insurance administration platform designed to meet the evolving demands of the employee benefit market.
4/22/2020	Vertafore	• Aon Edge Private Flood	• Vertafore has partnered with Aon Edge Private Flood Insurance to integrate the solution in to Vertafore's personal lines comparative rater. This partnership enables independent agents to quickly quote private residential flood coverage and provide their clients with the full range of coverage choices to address their insurance needs.
4/22/2020	Clareto	• John Hancock	• John Hancock Financial have partnered with Clareto, a provider of digital solutions. to acquire and aggregate electronic health data and improve underwriting speed and efficiency of life insurance purchase processing.
4/22/2020	CyberScout	• Tokio Marine	• Tokio Marine has partnered with cybersecurity firm CyberScout to provide cyber insurance, cyber education, identity management and resolution services to insurance companies across the U.S.
4/30/2020	PolicyBazaar	• Bharti AXA General	• Bharti AXA General Insurance has partnered with web aggregator PolicyBazaar to sell "usage-based motor insurance" policies for private car owners in India under the regulatory Sandbox project.
5/7/2020	Hi Marley	• Plymouth Rock Assurance	• Plymouth Rock Assurance and Hi Marley, a provider of AI-powered SMS software, have announced an expansion of their partnership following a pilot, where Hi Marley's software helped Plymouth Rock expedite claim resolution and improve its customers' experiences.
5/7/2020	Yolo	• MetLife	• Milan-based YOLO has partnered with MetLife to offer customers life insurance. Policy duration ranges from five to 30 years and you have to be between 18 and 75 years old to qualify.
5/13/2020	Socotra	• RGAX	• RGAX has partnered with Socotra to help develop new life insurance products. Using Socotra as its policy administration system, RGAX will look to develop new products for its subsidiary, Greenhouse Life Insurance.
5/14/2020	Zego	• RSA	• London-based InsurTech Zego has expanded its partnership with RSA Insurance to provide flexible cover for van fleets. Zego is offering usage-based policies to delivery, courier or trade van fleets of 20 – 200 vehicles in the U.K. – reducing upfront costs for these businesses.
5/15/2020	Descartes Underwriting	• Generali	• Generali's P&C unit Global Corporate & Commercial (GC&C) and Descartes Underwriting have formed a strategic partnership to develop parametric products designed to help close the growing insurance protection gap.
5/19/2020	Duck Creek	• AIG	• AIG has announced that it will implement Duck Creek OnDemand, a cloud-based policy administration system, across the company.
5/20/2020	Democrance	• AXA	• AXA has partnered with U.A.E. based technology firm Democrance to improve financial inclusion and boost the development of insurance and protection services targeting low - and middle-income individuals and families.
5/27/2020	Duck Creek	• Munich Re Specialty	• Munich Re Specialty Group, a division of global reinsurer Munich Re, has partnered with Duck Creek Technologies to develop a digital offering via the Duck Creek OnDemand platform.
5/27/2020	• Pillar • Technologies • Triax • OnSite IQ • WINT	• AXA XL	• AXA XL is launching Construction Ecosystem, a data and analytics platform for its clients in the construction sector to more closely manage their risks. The partners include: - Pillar Technologies, which provides environmental data sensors, collection and alerts - Triax, a provider of wearable sensor technology for workers - OnSite IQ, which provides construction visual data capture and risk assesment - WINT (Water Intelligence), for water leak detection using IoT and AI

Q2 2020 strategic (re)insurer partnerships

Date	Company	(Re)insurer investor(s)	Description
5/28/2020	Trov	• Seguros Sura	• Trov, an on-demand insurance platform, has partnered with Latin American insurer Seguros Sura to bring on-demand insurance products to the Brazilian market.
6/1/2020	Socotra	• IAG	• IAG, Australia's largest general insurer, has deployed Socotra's core platform to powering its recently launched Poncho Insurance brand and new auto insurance product.
6/1/2020	Roost	• American National	• Roost, a provider of property telematics for property insurance carriers, have partnered with Texas-based American National Insurance Company. This strategic agreement will help mitigate claim costs and increase customer engagement with American National offering free sensors to select policyholders through its property & casualty subsidiaries.
6/1/2020	Verisk	• AXA UK	• AXA UK is broadening its use of live video to settle commercial property claims and has signed a five-year renewal with Verisk for its Xactware claim handling software.
6/3/2020	Lime	• Allianz	• Allianz has entered into a strategic partnership with Lime, a leading provider of shared micromobility solutions, focused on improving the safety of micromobility.
6/4/2020	Greater Than	• Zurich Insurance	• Zurich Insurance has extended its partnership with Greater Than AB for dynamic usage-based insurance offering. Zurich will leverage Greater Than's AI-based platform Enerfy to offer a fleet usage-based insurance for one of its new mobility clients within the U.K.
6/5/2020	Hippo	• Spinnaker Insurance	• Home insurance InsurTech agency Hippo has acquired New Jersey-based Spinnaker Insurance Co. that is licensed in all 50 states.
6/8/2020	Neptune Flood	• Plymouth Rock Assurance	• Neptune Flood, an AI-driven flood insurance company, has partnered with Plymouth Rock Assurance to offer flood insurance coverage through its network of independent agents.
6/10/2020	Bold Penguin	• AmTrust Financial	• Bold Penguin, a commercial insurance exchange, has integrated workers compensation insurance from AmTrust Financial on the Bold Penguin exchange platform.
6/16/2020	Thimble	• Hiscox	• Hiscox has partnered with Thimble, an insurance partner that makes insurance accessible to help small businesses by offering short-term liability insurance, available by the hour, day or month.
6/16/2020	Buddy	• Berkley Accident and Health	• Buddy will be offering its accident coverage for active people nationwide in partnership with StarNet Insurance Company, an underwriting company for Berkley Accident and Health.
6/16/2020	Talage	• AF Group	• Talage, an insurance software company that allows small business owners to buy essential commercial insurance coverage online, has partnered with the AF Group. The partnership will provide a software enablement solution exclusively for independent insurance agents appointed within the AF Group network.
6/17/2020	Buckle	• Gateway (Atlas Financial)	• Buckle, a rideshare insurance-focused start-up, has acquired Gateway Insurance Co., a subsidiary of Schaumburg, Illinois-based Atlas Financial Holdings, for an undisclosed price.
6/23/2020	Breeze	• Assurity Life	• Breeze has launched the first API-driven disability insurance product with a digital application and underwriting process provided by Assurity Life.
6/23/2020	The Helper Bees	• CNA	• CNA has launched The View From Home, an innovative program offering eligible long-term care policyholders additional services to help age in place. It is offered through a partnership with The Helper Bees, an InsurTech company dedicated to easing aging in place through digital technologies.
6/24/2020	Jetty	• Farmers	• Jetty has partnered with Farmers Insurance. Under the terms of the deal, Toggle Insurance Company, a Farmers Insurance company, will become the exclusive reinsurance provider for all new policies written under Jetty's core products: Jetty Deposit and Jetty Renters Insurance.
6/24/2020	Oscar	• Cigna	• Cigna and Oscar have announced the launch of Cigna + Oscar, a new affordable and consumer-first health insurance for small businesses.
6/29/2020	Policygenius	• Brighthouse	• Brighthouse Financial and Policygenius have launched Brighthouse SimplySelect, a new term life insurance product available online through Policygenius.

Additional information

The *Quarterly InsurTech Briefing* is a collaboration between Willis Re, Willis Towers Watson's Insurance Consulting and Technology and CB Insights. Production is led by the following the individuals. For more information, or to discuss the results of this report, please direct inquiries to InsurTech@willistowerswatson.com.

Eleanor Somerville
Quarterly InsurTech Briefing
Editorial and Content Support Lead
Willis Re

Joel Fox
Global Life Product
and Solution Leader
Insurance Consulting and Technology
Willis Towers Watson

Oliver Yu
Intelligence Analyst
CB Insights

Willis Re

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WTW453671/02/2020

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