Quarterly InsurTech Briefing Q4 2019

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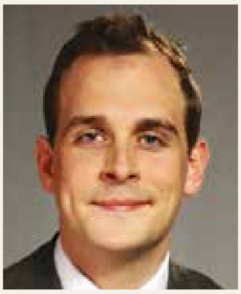


Dr. Andrew Johnston
Global Head of Willis Re InsurTech, Quarterly Briefing Editor

Foreword

The only constant is change – a trite statement for our industry to say the least, but one that feels almost reassuring to remind ourselves of as we review the passing year. 2019 began with many predicting some significant changes for InsurTech at an industry-wide level – ranging from a fundamental full-scale adoption of innovative technology across the board, to the opposite extreme of a total collapse of InsurTech as we know it. Unsurprisingly, neither extreme materialized; what we have in fact observed is that the relative successes and failures in utilizing technology from burgeoning vendors was (and continues to be) highly specific at an individual business level. This was (and continues to be) further amplified at the individual regulatory environment level. Depending on your own position, perspective and geographic jurisdiction within the value chain, InsurTech's relative applicability remains either an opportunity, a threat or irrelevant.

What has been abundantly clear for all to see is the uptick in investment over the past year. In slight contradiction to our opening statement, global investment into InsurTech had in fact started to stabilize at approximately the US$1.4 billion mark if we look from Q4 2018 to Q3 2019. Q4 2019, however, has bucked this trend as we announce that this passing quarter reached an all-time investment high of almost US$2 billion. In fact, if we look at 2019 as a whole, these last 12 months alone have produced 33.9% of total global InsurTech investment recorded to date. 2019 also saw a 90% jump in investment rounds that exceeded US$40 million when compared with 2018. Those who predicted that 2019 would secure the highest level of funding to date can rightfully boast to be sages in our midst. How this all translates to widespread value creation for our industry and consumers of insurance products and services is still largely to be determined. Perhaps 2020 will be the year to usher in some of those answers – or at least indicators to help find those answers.

Among other things, 2019 will most likely be catalogued as the year of extreme highs and lows at an individual InsurTech company level. The year recorded a whopping eight unicorn-making rounds of investment, creating five new unicorns (Clover Health, Policybazaar and Root were already unicorns before their latest funding rounds; note, there are only 10 InsurTech unicorns globally in total). Only time will tell if this past year has been an anomaly or a sign of things to come in terms of unicorn creation/fortification. On the other hand, the pendulum of success has been swinging aggressively in the opposite direction. While InsurTech news is awash with the huge valuations and postulations of the art of the possible, there is also the very real story that is not so positive: individual InsurTech company cessation. This natural feature of the InsurTech evolutionary cycle gets very little attention in pretty much any of the forums where InsurTech is being discussed, and yet it is such an important facet of what is actually going on.

While it is always extremely difficult to gauge and confirm that a company (especially a start-up) has officially ceased trading (unless the company itself announces it), our data indicates that over the past three years, some 184 InsurTechs might have closed their doors. The true number is actually likely to be much higher than this because we can only really begin tracking a company once it has raised capital; those companies that never raise any investment capital are almost certain to "not make it." Based on the number of companies that have raised some form of capital and subsequently ceased trading, relative to the number of self-identifying InsurTechs that we believe exist globally, the total number of InsurTechs that have possibly ceased to trade (or are at least considered "vulnerable") could be many times this number. One thing is clear: InsurTechs operating in obscurity have very short shelf lives if the capital injected at an early level fails to support commercial germination.

Alongside the companies that have failed to stay commercially buoyant sank the very real investment capital, intellectual capital, developed technology and time that was associated. In several cases these InsurTechs had paying customers and sold technology licenses, and with some even selling policies. While no insurer, reinsurer or traditional technology vendor is immune from cessation of trade, the significant percentage of InsurTechs that do not survive (commercial) infant mortality relative to their incumbent older cousins is an important thing to note.

Invariably these InsurTechs end commercial activity for a myriad of reasons – and in many cases, it is not because of bad business ideas, or bad tech, but simply a lack of market appetite or issues with personnel. But this does often beg the questions: Who let these companies trade in the first place? What level of due diligence was performed by investors? Do those investors associated with commercially launching these businesses into the market have the appropriate credentials to offer underweight InsurTechs a “shot” at success?

In some instances, some real damage has been done where businesses have been injected with quick capital but not properly supported in the market. It could almost be considered reckless in several cases where one or two notable investment proponents of InsurTech have backed multiple “frogs” in the hope that one of them might trampoline onto an insurance “throne.” At a high level, this portfolio approach might matter little to investment giants, but to the InsurTechs themselves and their clients, this has arguably been very irresponsible. It is rarely the investors who pick up the pieces.

Upon reflection we might also come to remember 2019 as the year when the foundations were laid for a trend that we are quite likely to observe in the future months: individual InsurTechs coming to the fore to lead specific parts of the market, whether it be in lines of business or uses of particular technology. As an industry, we are very blessed to have balance sheets that can support mature InsurTech fundraising rounds (read “more expensive rounds”). As such, proven InsurTechs could now justifiably begin attracting unprecedented levels of “InsurTech domiciled” industry capital, licensing agreements and commercial support. This will create an increasingly narrowed fence around a small number of companies being supported (relative to those that will ultimately fall off the radar). As an industry, we have a history of working with a handful of selected third-party vendors, and InsurTech is no different. To “not make it,” for many InsurTechs at least, may be nothing more than market appetite not being big or broad enough to justify the existence of hundreds of new entrants.

If we look at the dynamics of global investment trends and 2019’s trampolining of individual companies into unicorn status, this theory is already being supported in a very real way. Investment capital from traditional venture capital and private equity funds and investment from corporate venture capital vehicles is polarizing between seed/series A and series B+, respectively. Whereas “less-versed” – in an (re)insurance sense – venture capital and private equity funds are still prepared to make a number of smaller bets across a broader portfolio of companies, industry corporate venture capital vehicles are backing (relatively) fewer but clearly successful InsurTechs in later rounds. This is now leaching into licensing agreements and partnerships as we note a greater number of industry players working with an increasingly narrowing handful of individual InsurTech firms: For example, U.K.-based Concirrus is now clearly the forerunner of behavioral-based analytics for the specialty markets in this space as it continues to procure industry adopters of its solution(s). We expect to see champions in a number of different business domains coming to the boil in the coming months.

A squeezing out of the masses speaks volumes of our industry’s propensity to move together. It also reinforces the replicable nature of technology, where identical (or at least configurable) solutions can be licensed across the board. It is quite possible that in, say, five years’ time there will be a core cohort of technology vendors that were once InsurTechs, that will provide some kind of a solution suite to 70% of the global (re)insurance marketplace (alongside the “traditional” insurance technology vendors). The industry simply does not need (and cannot afford) to support hundreds of companies that all either do essentially the same thing or do it to a lesser standard than does their peer group. The standards are rising – and rising quickly.

If the winning core InsurTech cohort is being forged in today’s fires, are we actually investing enough now into these companies that might make a difference to our businesses in the long term? Are we investing enough into our own businesses to support these solutions internally? As we have noted in prior quarterlies, InsurTech has been an excellent catalyst to bring the topic of needing to invest in technology onto the agenda item list of most (re)insurance firms. Naturally for several entities this was not a revelation, but for many, the desire to innovate and not be left behind has forced the issue of technology in a very real way. While simply investing in technology and hoping for the best is not a silver bullet to success, the availability and willingness of InsurTechs to work with our industry makes technologically supported solutions an opportunity for all to partake. As the real winners are starting to pull away from the pack, is now the right time to place larger bets?

The drive to appropriately apply relevant technology should be seen as a very good thing; however, we are seeing an increasing number of (re)insurance entities struggle to reconcile the required spend against a history of quarterly focused growth. As a result, the “need to review and invest” will very often stay as a topic of conversation (only), or at best, ceremonial investments may be made but often only to sate temporary appetite with little business rationale behind them. Technological investments are long-term, ongoing concerns that are, in the short term at least, likely to impact a company’s balance sheet. With seemingly more pressing issues to contend with, technological investment invariably takes a backseat. This is a huge issue for our industry, and one that is rarely spoken about. While this issue is not truly unique to our industry, the necessity to report profits on a quarterly basis makes it very difficult for even the bravest executive committee to allocate funds that might never produce a clear ROI into technology. In this regard, one could argue that the mutual insurance model has a competitive advantage over stock companies.

As a point of reference when we compare our own industry with others in the financial services sector, in Q1 of 2019 it was reported that the top four U.S. banks had IT budgets ranging from a high of US$11.4 billion to US$8 billion. This related to approximately 0.43% of total assets held by all four banks, respectively. Furthermore, this represented

approximately 20% of annual expense budgets relative to expected revenues. Midrange banks in the U.S. (banks below US$100 billion in assets) were running at approximately 50% of this as part of their own IT spend/investment. What is not abundantly clear, however, is how much of these budgets is being allocated to designated investment funds, IT maintenance/upgrading and patching, and research and development associated with developing new products and services.

If we were to apply these metrics to a handful of the largest global (re)insurers by total assets and/or annual GWP, the expected average spends on technology-related investment would begin at US$5 billion (if relative to percentage of assets) to upward of US$9 billion (if we can crudely assume that banks and insurance companies allot a similar percentage of cash to annual expense budgets from revenue). Allianz Global published that they had an IT budget of US$4.3 billion in 2018. In addition to this figure, Allianz has put US$1.1 billion into Allianz X (their corporate venture capital arm for InsurTech investment), and an additional US$1.2 billion for "digitalization" projects. As such, one could argue that their allotted spend for InsurTech-related interests were/are not wildly out of line with that of their banking peer group. It is worth noting, however, that Allianz is often considered to be one of the most progressive (re)insurance entities when it comes to openness to technology (irrespective of size). If we consider this to be the very "top end" of carrier spend, then one could draw the conclusion that banks, on average, are likely to spend more on technology than (re)insurers are.

In addition to relatively smaller budgets for IT, the perceived lack of comparative complexities when we look at banks relative to (re)insurers adds further starkness to the investment delta – one can make a very strong case to suggest that there are fewer complex functionalities within banking when compared with the (re)insurance industry. Payments, foreign exchange, asset management, ancillary investment support and security are perhaps the major areas where technology (and FinTechs in this arena) has had the greatest impact in innovating in and around banking. (Re)insurance is a lot more complex, and the avenues for technological innovation are therefore much broader. In the past decade, international banks have essentially homogenized around the same basic offerings to clients, and where there have been FinTech-type innovations, banks have been able to partner or replicate with seemingly few hurdles. Those living in the InsurTech space know this not to be true in our industry.

Despite 2019's unicorns, we may in fact not be investing enough on relevant technology, or enough into the likely winners of the InsurTech arms race. To be clear, we are not recommending that firms go out and spend more money but simply keep the importance of technology, and technology budgets, at top of mind. The winners of the InsurTech race are slowly starting to show themselves, and as such, we are at the crossroads of a massive opportunity.

Despite our recommendations to review technology investment relative to the pressures of the short-term nature of profit reporting, and the aforementioned issue of budget size relative to value creation, we would be remiss not to acknowledge that the past couple of years have thrown some very complex issues at (re)insurers – not the least of which are several significant natural catastrophes, the ongoing impacts of climate change and emerging threat vectors that still remain largely misunderstood (e.g., cyber). We also acknowledge that many (re)insurers have had bad experiences of technology adoption and integration, which makes the conversation around additional technology spend an emotional one. It is also worth remembering that the InsurTech evolution is still a relatively nascent phenomenon. Despite this, we encourage our industry to keep technology top of mind. Bringing it into daily topics of focus and priority is invariably the right thing to do.

Let us now look with granularity at the InsurTech spend to date, by sector, investment type and geography. Before we do that, it's important to note which companies we are capturing in our analysis.

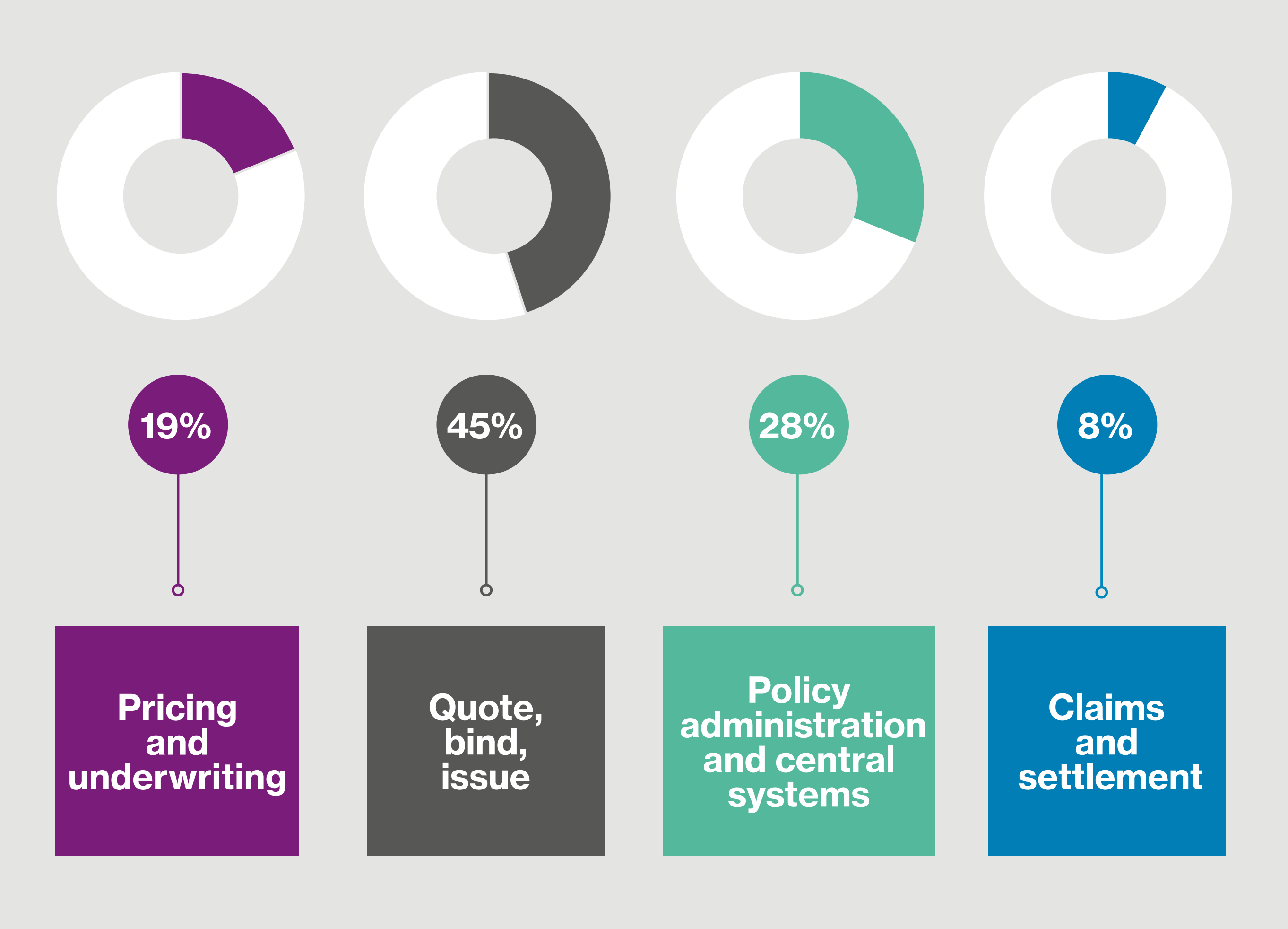
Thus far, we have been quite clear regarding our own definition of what constitutes an InsurTech; however, what we have not done (until now) is conduct comparative analysis to the level of granularity that follows. To do so, we have had to put clear parameters around the companies that have supplied the data. We will only perform detailed analysis on global InsurTechs that:

1. Provide software, data or technology primarily to the insurance industry (e.g., brokers, carriers and reinsurers)
2. Provide digital distribution of insurance products whether as lead generators, brokerage or the Managing General Agency/Managing General Underwriter (MGA/MGU) model
3. Have received some form of funding or experienced a financial event
4. Are currently a financial going concern

These parameters provide us with a list of 760 companies from which we can run our analysis. We have previously stated that there could be up to 2,000 companies that self-identify as InsurTechs globally; while this still may very well be the case, we are excluding from that list companies that do not meet the previous four points. In any case, we believe that 760 companies make up a reasonable series set from which we can provide the market with some fact-backed insights (and is therefore indicative of overall trends). Note: Only companies that are still ongoing concerns are captured in the graphs below.

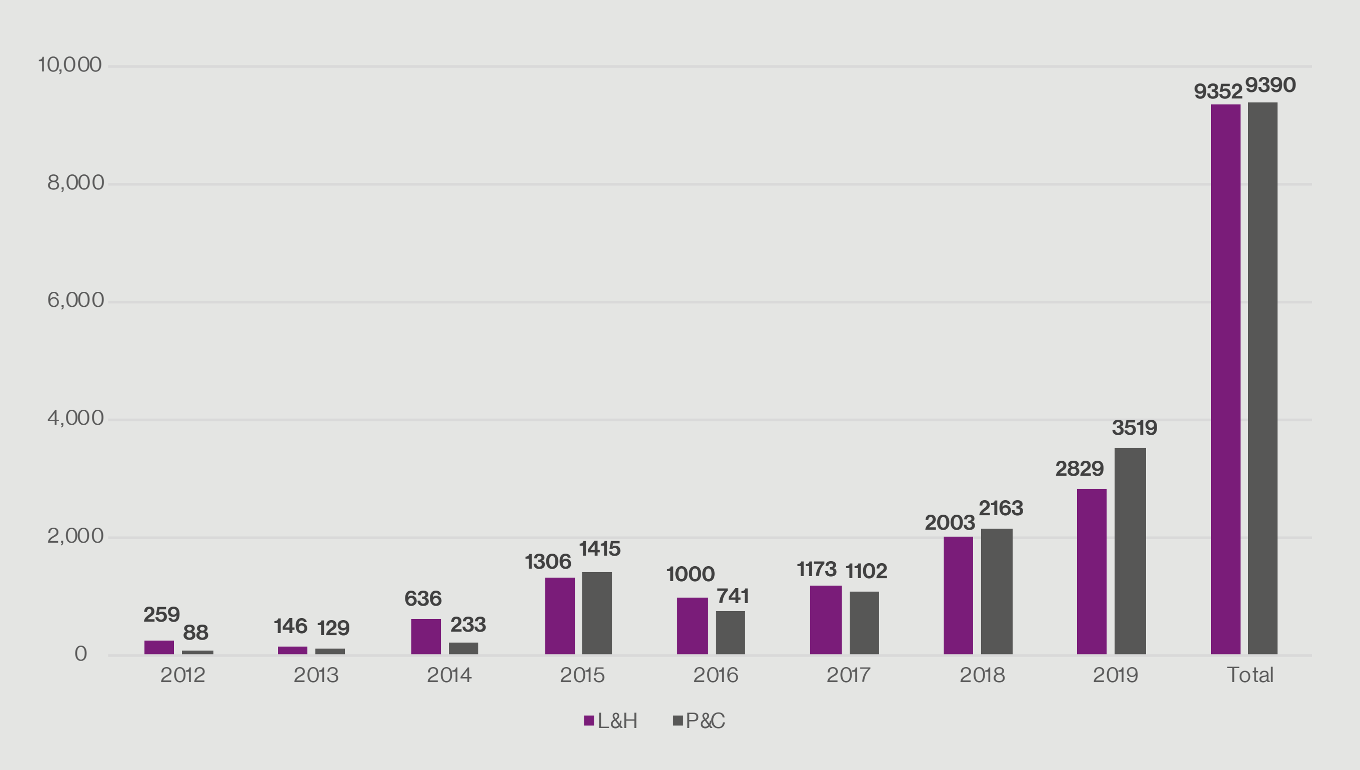
As of Q4 2019, of the 760 InsurTechs that can fit into the "functional chain" categories that we have described throughout the year, 19% are primarily focused on pricing and underwriting; 45% are primarily focused on the process of quote, bind and issue; 28% are primarily focused on policy administration and central management systems; and finally, 8% are primarily focused on claim processing. For some, having almost half of this cohort of InsurTechs focusing on the process of quote, bind, issue might come as a surprise, but if we begin to unpack why this might be, perhaps this is in fact not so surprising. Quote, bind, issue is the process where policyholders first interact with insurance companies (and a lot of InsurTech founders' primary experience with (re)insurers will have originated here); contemporary technology is well suited to support this function, and this is where revenue is arguably most easily generated (and so while claims, for example, may also be a function, of these InsurTechs, their primary goal will be to get this process most highly functioning).

Breakdown of the InsurTechs in focus in the functional chain



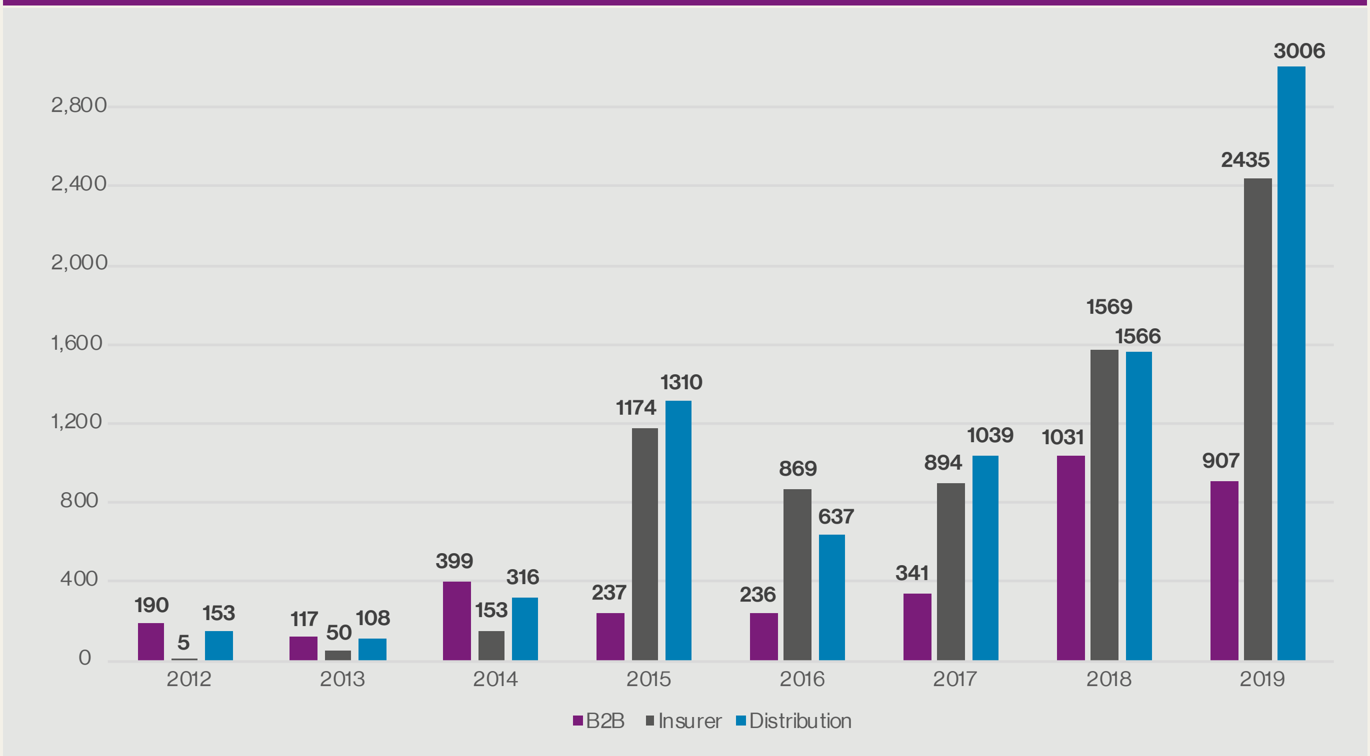
The next graph shows the rapid growth of global investment (year on year) into property and casualty (P&C) and life and health (L&H) InsurTechs. Of worthy note is the almost even split between the two. This reaffirms our message that with the right application, InsurTech businesses can have a role to play in almost any part of our industry.

InsurTech spend to date (US$ million)



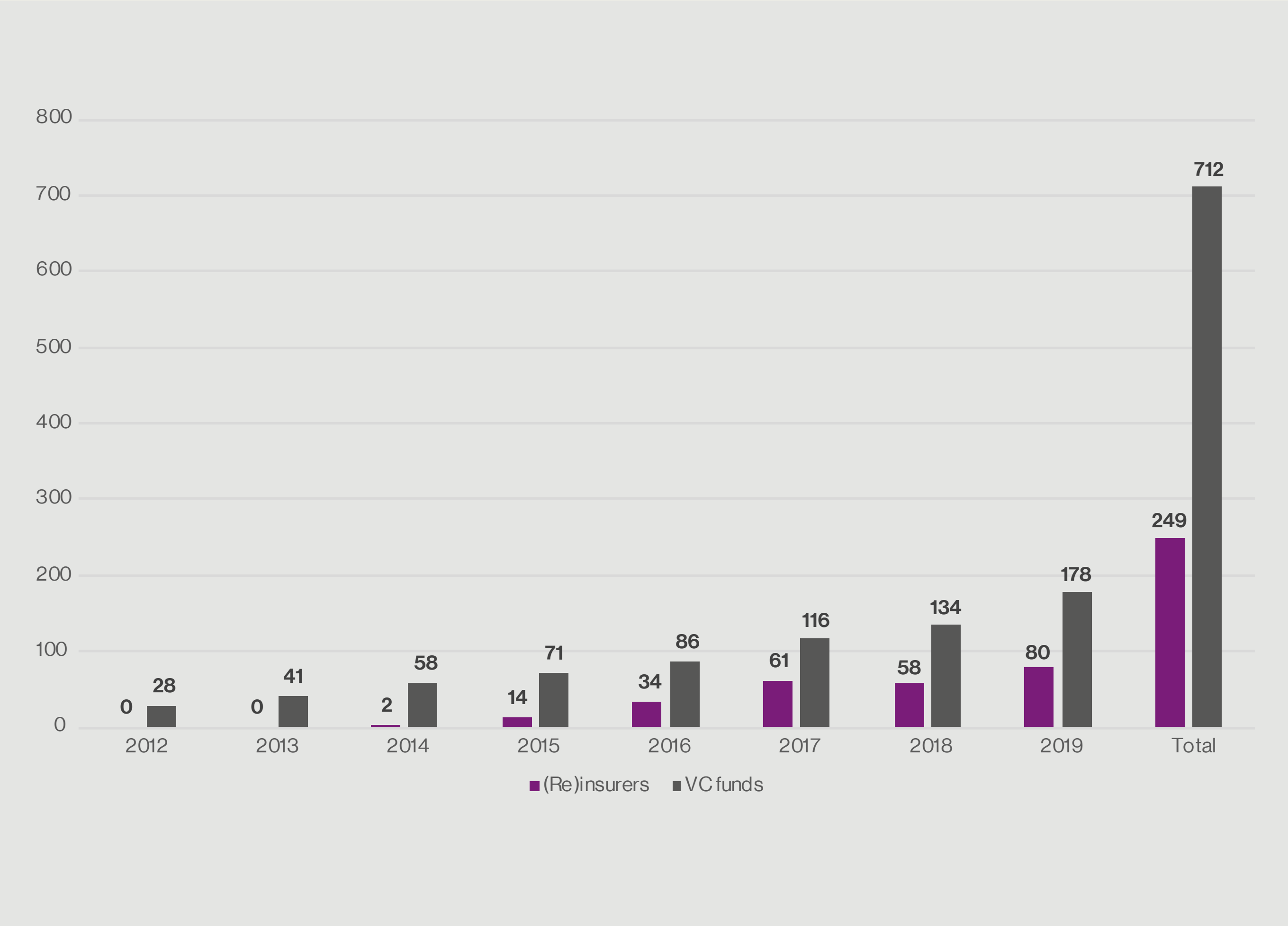
The next graph illustrates the overall investment amount allocated into the three major types of InsurTechs (per business focus, not functional focus) – business-to-business (B2B), insurer- and distribution-focused businesses. Despite the B2B model dominating in the earlier years, it has now been rapidly outpaced by insurer and distribution-focused InsurTechs. For every US$1 invested into B2B InsurTechs, US$2.68 and US$3.31 has been invested into insurer and distribution-focused InsurTechs, respectively.

By sector: B2B, distribution, insurer (US$ million)

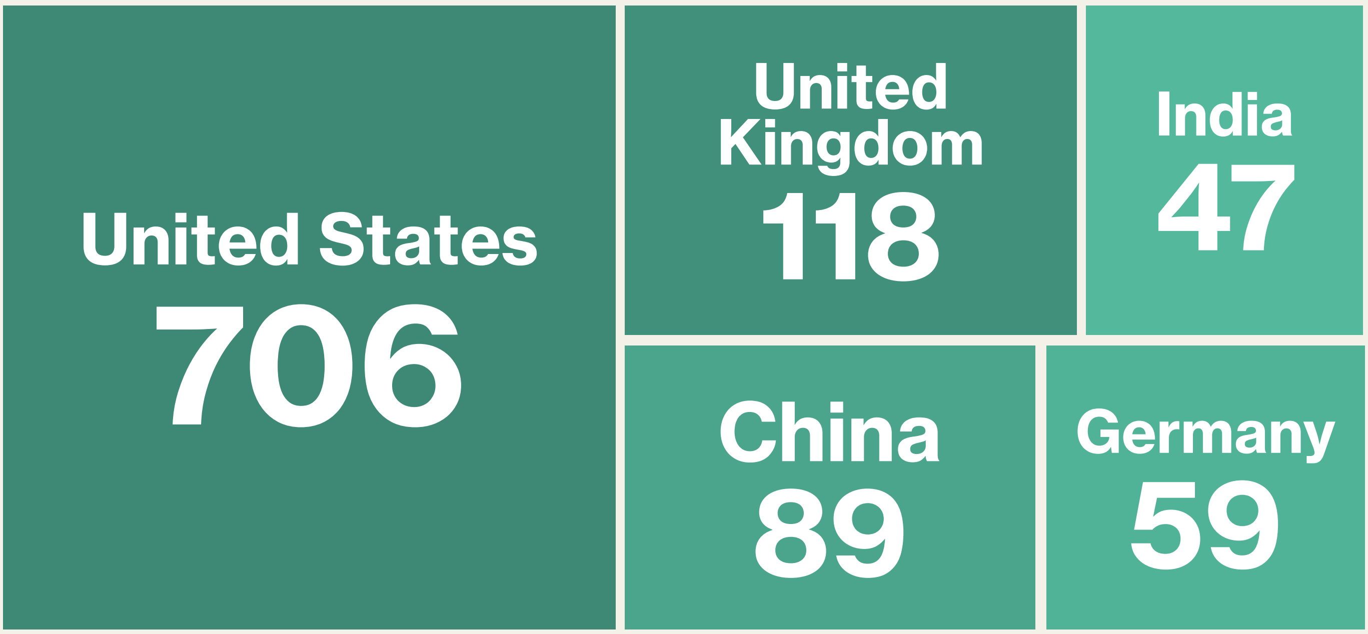


The graph below illustrates the overall investment into InsurTechs globally when split between "traditional" investment vehicles and industry specific vehicles (CVCs). While traditional investment funds are still well ahead of CVCs, industry money is coming into this space in a very real way. Whereas in 2012 to 2014, industry investment capital was almost nonexistent, it has, in more recent years, kept apace at approximately 50% of the amount that traditional investors have participated in funding rounds.

Total number of investments by (re)insurers compared with VC funds, by deal count

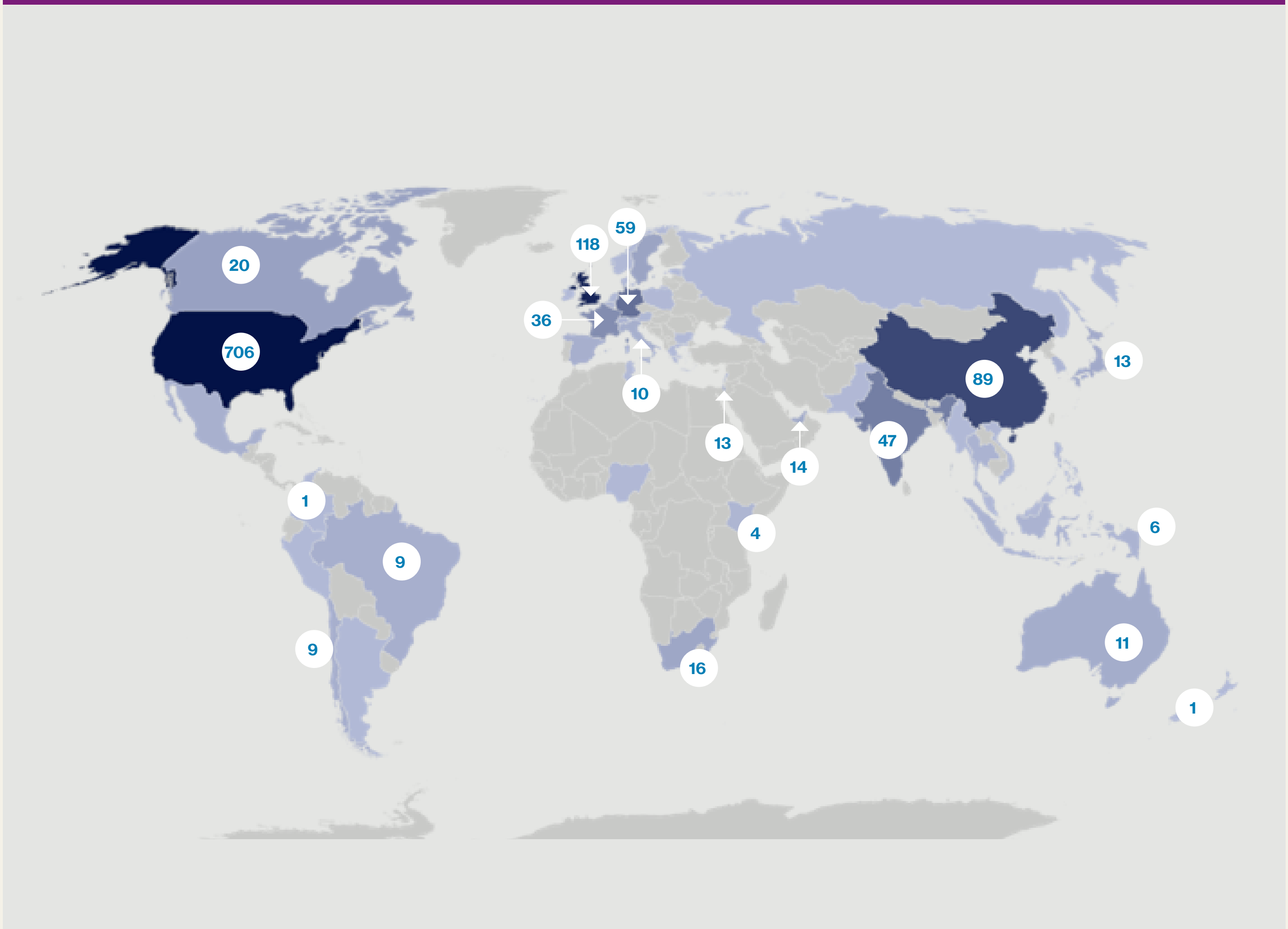


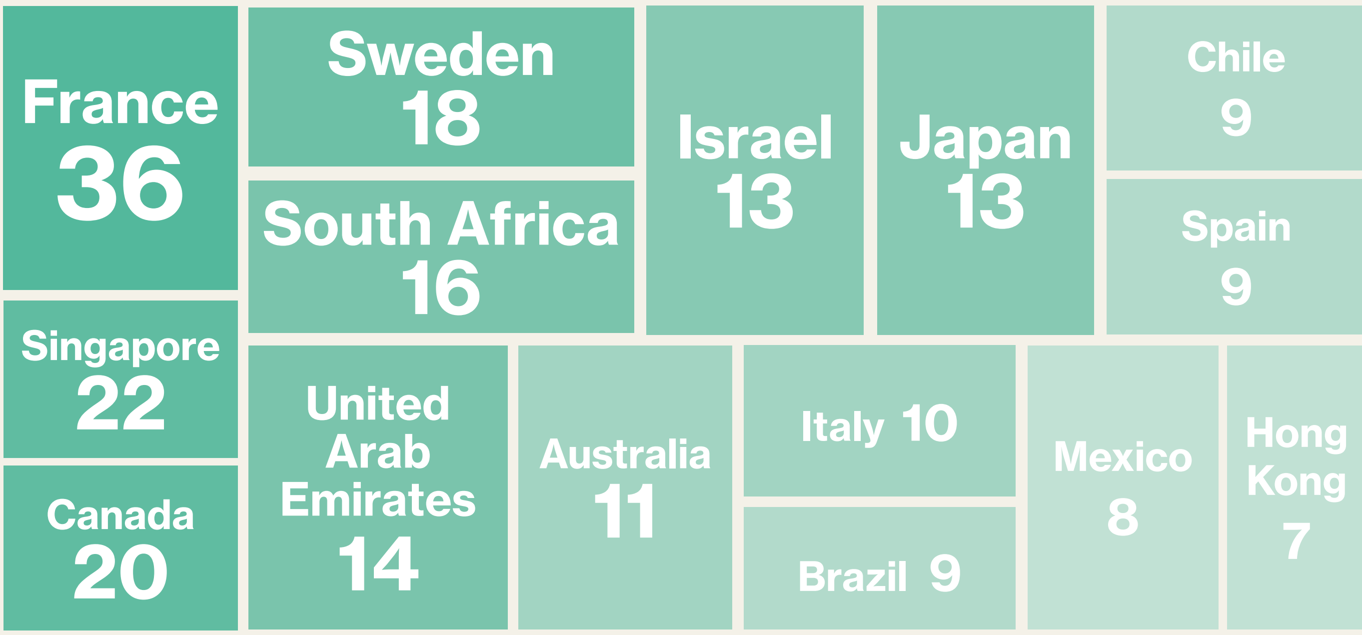
Top 20 countries, by deal count:



Finally we illustrate in the world map below the total number of investment rounds that have taken place per country (again, only relating to InsurTech businesses that we know still exist today). Perhaps unsurprisingly, the U.S. still dominates with 706 rounds of funding, but the U.K., China, Germany and India have participated significantly with 118, 89, 59 and 47 rounds, respectively. China and India in particular have been extremely active in the last half of 2018 and all of 2019. A list of the top 20 countries by round follows this world heatmap.

Global map of InsurTech funding rounds, by country





2019 Q4's data highlights

Full-stack InsurTechs continue to drive funding totals. In this quarter, the largest funding round went to Medicare Advantage plan provider Bright Health, which raised a US$635 million Series D, followed by digital small business insurer Next Insurance. Notably, Next Insurance, which began as an MGA, has been acquiring carrier licenses in select states and is issuing policies of its own.

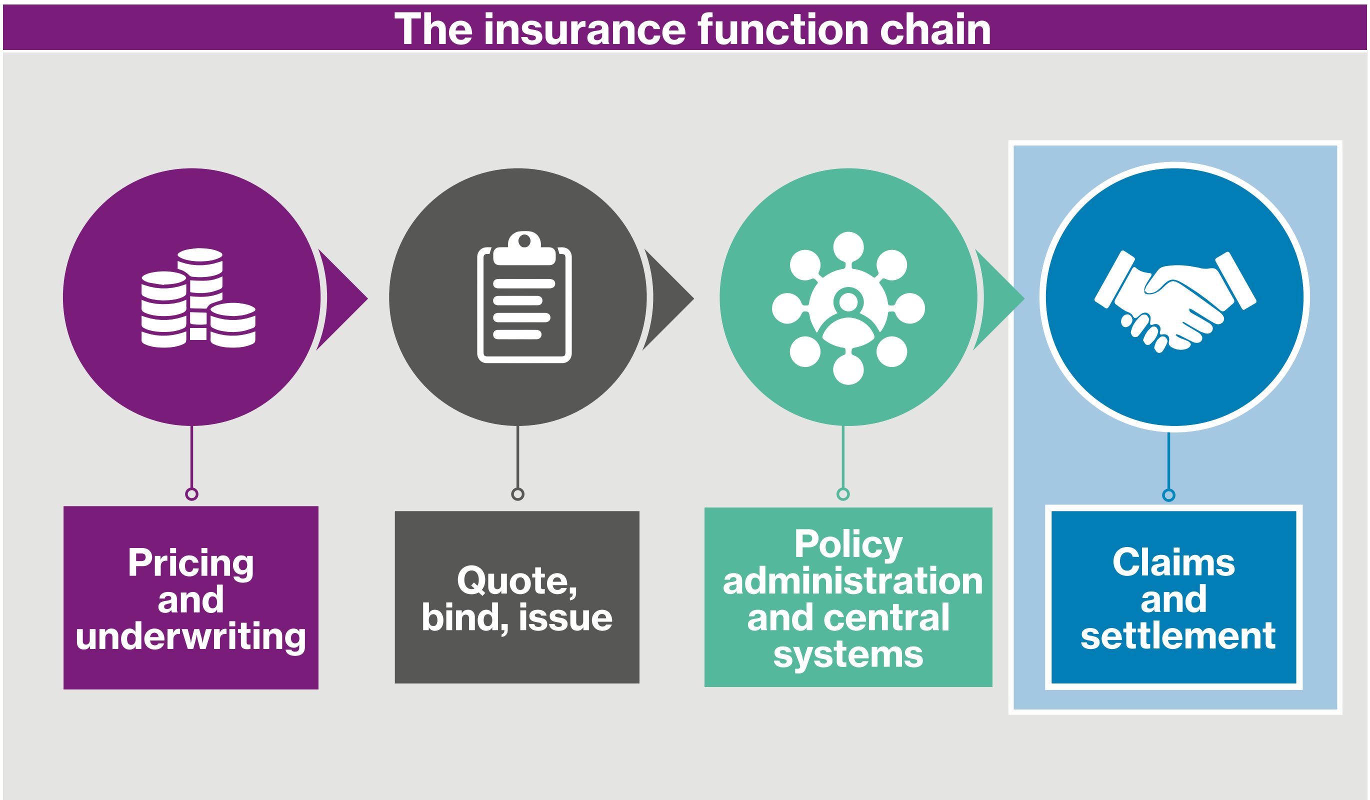
Q4's funding reached a record high of almost US$2 billion (US$1.99 million). In this quarter, the number of deals decreased 10% from the previous quarter to 75 deals. Total funding volume, however, reached an all-time high at almost US$2 billion, up 32% from Q3. The growth was driven by four mega-rounds (US$100 million +) to Bright Health, Next Insurance, Duck Creek Technologies and WeFox Group. Additionally, seven deals over US$40 million occurred in Q4.

In Q4 2019, global InsurTechs raised US$244 million in early stage funding. P&C start-ups continued to take a greater share of total InsurTech investment than their L&H counterparts, continuing a trend seen since Q3 2016. The largest P&C early stage round went to Paris-based home insurance provider Luko, which raised a US$22.14 million Series A. Investors also demonstrated interest in on-demand offerings as InsurTechs Thimble and Cuvva each raised US$22 million and $19.5 million, respectively.

Distribution and MGAs represented 57% of deals in the passing quarter. Since 2014, distribution and MGAs have represented over half of all InsurTech deals globally. B2B companies represented approximately 39% of deals, and less than 7% were full-stack insurers. However, in this latest quarter, we see a slight uptick in deals involving full-stack insurers to 10.7% with B2B deals falling to 32%.

"Rest of world" activity marginally outpaced U.S. InsurTech investment in Q4 2019. Since 2012 however the U.S. remained the most dominant market for InsurTech investment activity. U.S.-based InsurTechs are now facing increased competition for funding as foreign competition continues to ramp up. China, Germany, the U.K., and France each have 4% or more of deal volume in Q4 2019. For context, in Q4 2016, U.S InsurTechs absorbed 60% of funding compared with 49% today.

As we have reported in our previous quarters, we set our sights this passing year on offering a longer-term, business-first, strategic view of InsurTech. In Q1 we looked at how certain technologies have demonstrably improved the process of pricing and underwriting. In Q2 we examined the different technologies and InsurTech businesses influencing the streamlining and improvement of the quote, bind, issue process. In Q3, we assessed the different ways in which technology is attempting to improve



the process of policy administration and the revolutionary central management systems that are set to improve the efficiency and health of (re)insurance entities.

In taking this "business first" approach, we have encouraged our readers (and those interested in this space) to look through the lens of InsurTech applicability and relativity in a different direction where possible. We continue to support the view that technology needs to work for a well-thought-out commercial strategy (usually reflecting incumbent business goals) to truly add long-term value. Technology is an enabler: The minute one begins to attribute and apportion value to technology in and of itself, without a clear business rationale, the chances of landing upon a successful integration/adoption of technology diminish rapidly. We come to the end of this journey in this review of Q4 when we assess the role and value of contemporary technology in the claims and settlement arena – where (re)insurers demonstrate their true calling. Specifically, we are going to be putting the spotlight on business cases where technology is being used to make the experience of claim management and claim relationships with policyholders as effective and efficient as possible.

The InsurTech businesses featured in this quarter are Metromile, Benekiva, ClaimVantage, ClaimSpace, Claim Central, DeepFraud, Global Parametrics, Adjoint, BanQu and Spixii.

In this edition's Incumbent Corner, Willis Re's Chris Brook, global chief operating officer, and Steve Robson, global head of claims, speak with Larry "Cole" Calhoun, general adjuster and Roman Buegler, co-lead of Remote Industries, part of Munich Re's claims solutions, which is streamlining the property claim process after natural catastrophes.

This quarter's Thought Leadership comes from Tom Helm, head of Claims Consulting for WTW's Insurance Consulting Practice. In his piece "The road to driverless claims processing," Tom explores how far away we are as an industry from fully automated claim processing.

Our Transaction Spotlight features this year's monumental activity in the L&H sector, focusing on Willis Towers Watson's acquisition of TRANZACT, as well as Prudential's acquisition of Assurance, and the recent activity of GoHealth, eHealth and PolicyGenius. This quarter's Transaction Spotlight is introduced by Ryan Jessell, senior director of Benefits Delivery and Administration, Willis Towers Watson.

Finally, we conclude the report with a review of InsurTech market trends and transactions in the InsurTech Data Center. As ever, we thank you for your continued support.

Quarterly InsurTech Briefing

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1. Introduction

Let's pause the discussion of "technology" for one moment. Claims is a very bittersweet issue for policyholders and our industry more broadly. Policies are bought in the hope that they will never be needed. If, however, a circumstance should arise to trigger an event, the policy supporting the claim itself acts as a request for the (re)insurer to provide the pre-agreed financial cover to be paid to the policyholding party (or associated beneficiaries). This is, of course, after a claim has been validated, approved and adjusted if necessary. This is then followed by a subsequent transfer of funds from the ultimate risk bearer(s) to the policyholder – the process of settlement. We observe, therefore, a simple chain of events: notice of loss > loss validation > transfer of funds.

The functional process of claims and settlement is the very fabric around which our entire industry is built. Since the third millennia B.C., certain assets have been insured to provide a "make good" in the event of a loss. It is at this point that the contractual promise is tested and a (re)insurer demonstrates its mettle to the policyholder. It is also, invariably, only the second time that a policyholder will have had any communication with his or her primary insurer (in the life cycle of a policy, the initial purchase of the product being the first). Claims and settlement are the absolute "raison d'être" of our industry. Why say something so obvious? Because it is important to remind ourselves every once in a while.

When speaking with a number of InsurTech founders, it is not uncommon to hear that the primary motivation for the inception of their respective business was based on a bad claims experience that they themselves had with an insurer. Similarly, there are swathes of the general public who also feel that (re)insurers will do just about anything to relieve themselves of their obligations to policyholders. "Obligations" in this context do not necessarily relate to just the process of financial settlement but also to service provision, clarity of policy wording ahead of time, expediency and calculation/adjusting of loss. This may make for painful reading for incumbents, but it is the view held by many, and we should not shy away from wanting to make this right where we can. It is also worth noting, however, that our industry has had to deal with the issue of fraud for centuries, and this has created, over time, varying degrees of subconscious bias, which have been factored into the various equations around claims and settlement. That is to say, there are arguably justifiable trust issues on both sides.

When a loss occurs, policyholders naturally look to their (re)insurers for help. This is also a time when a new relationship has to be formed in the ashes of hypothetical promise at speed: The policyholder wants to see the promise manifest, and the insurer needs to test the validity and honesty of the claim (against the policy wording) in line with both parties' expectations of how each ought to behave and respond. Our industry has done a reasonable job of fulfilling these promises to an expected level (we wouldn't exist if we hadn't), but this is undoubtedly the part of the functional chain where we should all be focusing our attention.

Picking technology back up again, industry players can arm themselves with huge competitive advantages over their peers if they can make the most of the technology and the various vendors (old and new) that are looking to add significant value into (if not revolutionize) evolving this space for both our industry and the clients we serve. Technology and InsurTechs can play a major role in correcting issues of trust and culture as well as performing tasks that result in expediency and costs savings. In redefining certain interactions into rules-based processes, historical biases can be rethought, and the benefit of this should serve both parties. Not only does the technology present an opportunity, but so do the people who are leading these newer businesses.

Where it could be argued that a lack of relative domain expertise has held InsurTechs back in other parts of the functional chain, the fresh look at claims has been a very refreshing one. The relationship between an insurer and a policyholder at the point of an event is a very human and emotional one. Leaders of InsurTechs come to this particular issue without the yoke and bias of how things "ought to be done" because they are not wedded to our industry's almost primal desire to cling to the tried and tested historical methods. They are also arguably more empathetic to the plight of the contemporary policyholder community as many of them have more recently been on that side of the relationship. It is therefore not just the technology that they are bringing to the table but also the ideas and processes that this technology supports. The right partnership, licensing agreement, technological integration and acquisition of InsurTech-type claim solutions are already providing huge opportunities for our clients and other market participants.

It is worth mentioning, however, that because this feature of the function chain is so important to the entire process of (re)insurance, the task of overhauling a working system, no matter how antiquated, is understandably daunting: Replacing legacy technology in claims and settling is tantamount to performing a heart transplant. It is because of this that we recommend that incremental changes are seriously reviewed as an alternative to a "big bang" approach on a vendor that does not have significant track records.

A snapshot of some global InsurTechs operating in the claims and settlement space:

To truly appreciate the role that technology can play in the process of claims and settlement, let's first break the function down into its core granular parts:

Which improvements and efficiencies can be achieved by integrating contemporary claims and settling technology? (The following list is not exhaustive, and there are notable overlaps among certain types of technology, their application and their ultimate benefit.)

Claim process	Function stimulus	Technological facilitator (examples)	Benefits
Detection/Alert (potentially mitigating maximized claims)	Sensors and third-party information sources	Dashcams Telematics LIDAR Predictive analytics Connected relay networks and internet of things (IoT)	These provide advanced warning of events, reducing the risk and severity of loss and therefore the claim – a win-win for both parties. These new data sources are focused on loss prevention and incident management being made available by connected third parties to create insights at an individualized level.
	Direct-to-consumer insights relating to impending event	Localized dashboard infographics, forming graphic insights from a variety of stimuli (normally sensor derived, augmented in the cloud and sent down in the form of numerical intelligence)	Carriers can give precise instructions directly to policyholders to help mitigate risks and losses. Policyholders can also track in real time assets that are subject to a potential loss and take action.
First Notice of Loss (FNOL) (information/ data-sharing post-event/ loss)	Instantaneous communication (with minimal repetition/ need to provide claim manager information relating to the policy or the policyholder)	Chatbots AI Prescript communication Robotic Process Automation (RPA)	It is estimated that up to 80% of personal lines claims can be dealt with by a robot (prescript conversations); this would generate huge savings for carriers and allows for 24/7 communication channels in any geography/ language of choosing. Gartner predicts that by 2020, 85% of customer interactions will be managed by chatbots. It is also clear from tested results that claim triaging (especially for larger carriers) can be better handled by RPA- and AI-supported rule-defined channels. A chatbot, for example is able to mimic a human claim handler's ability to quickly and naturally figure out what a customer wants and what assistance can be offered to him or her by understanding the process of the triaging in its entirety. A chatbot function can also live in an insurer's application that is stored in a policyholder's phone, which can parse data through an API directly to a system allowing for data to be seamlessly populated. This avoids the initial conversation having to be low value (e.g., "What's your name" could become, "How are you, Mrs. Smith?") AI in the background can capture details of a customer and his or her claim issue at speed, collecting important data relating to his or her policy and the incident while also correcting mistakes and directing a policyholder into the next stage of the process. With a layer of AI embedded, the chatbot is also learning the predictiveness of questions and backfilling potential issues relating to fraud. In theory, these types of relationships are also likely to suffer less from individual subjectivity.

Claim process	Function stimulus	Technological facilitator (examples)	Benefits
Engagement/ Investigation – incident review	Direct reporting	Live connection Image recognition through videography and photography supported by image recognition/direct to platform, and historical cataloging	With the right technology, a policyholder can simply take a photo or a video of an incident that then leads to an expedient decision about an event (and subsequent release of capital) – another win-win for both parties. As expectations change, modern-day consumers expect to be able to file a claim on mobile technology in the same way that they conduct other parts of their lives. Now that everyone essentially has a video camera and microphone in his or her pockets, it is foolish not to maximize this.
	Prepopulated information and correct data accessibility	Interactive storage facilities Cloud-based solutions AI tools from FNOL directing most salient information into catalogues and data libraries	Technology platforms deliver enhanced and more specific segmentation, streamlined workflows, more efficient core processes and improved productivity.
	Predicting/ automating calculations relating to damage cost report preparation for claim handlers and adjusters	RPA Predictive analytics Image recognition	Photos logged and verified against an individual's claim can begin the process of predicting the likely cost of repair, which can then be communicated to all parties. This can be achieved on custom-built APIs that are able to download and read imagery and turn into binary insights for the further triaging process.
	Third-party verification of event/macro event	Drone tech Big data	This provides concurrent access to third-party data that might relate to an individual's claim that can be corroborated to support or reject a claimant's application. This can be done at a localized level (e.g., drone photography) or by macro data feeds (e.g., geospatial) catalogued and tagged effectively within big data sets. Drones are being used increasingly to access dangerous and contaminated areas to speed up the verification process.
	Consistent access to the "Where am I in the process?" insight	Omnichannel platform access	Each process and trigger are able to feed into a central portal for claimants to see exactly how their application is moving along (and what likely outcomes might look like). The opaqueness and mismanagement of expectations is most often cited as the worst part of the claim experience by policyholders.
Policy review - verification/ validation/ clarification	Review of policy wording Exclusion/limit details	Natural language processing (NLP) Image recognition AI/ML Analytics	NLP technology can, at speed, detect any issues in policy wording that might affect the outcome of a claim. If the NLP is supported by a layer of machine-learned intelligence, a process can be automated to raise predicted issues ahead of time in order to efficiently manage a claim.
Evaluation/ Adjustment	Making decisions on whether to pay a claim or not, and the amount to pay	Cognitive service Decision engine	A cognitive service decision engine will interface with the portal and administrator systems to execute the activity and feed into offline reporting. Blending Technology and Domain Expertise Advancement in technology is enabling claim functions to evolve rapidly and deliver greater efficiency and improved customer experience, while also increasing claim cost control through more effective deployment of resources and sophisticated targeting of cases requiring investigation. In our view, those embarking on this journey achieve the best outcomes when they blend technology and business domain expertise to design their end-to-end solution and integrate insurance analytical software effectively. This approach of combining decision engine technology with advanced analytics, including machine learning, is already being used in other areas of the insurance value chain, like underwriting and pricing, to optimize performance and deliver competitive advantage.

Claim process	Function stimulus	Technological facilitator (examples)	Benefits
Settlement	Fraud detection	NLP/date lags/IP changes (predictive analytics on claim likelihood/adjustment likelihood) Dashcam text mining, rules and database searches	These flag "suspicious" cases for claim handlers/adjusters. Carriers can help to ensure they aren't paying out in the wrong cases; it is estimated in the U.K. that 50% all of claims have an "element" of fraud. A reduction in paying fraudulent cases would inevitably result in a reduction of premium costs over time. Dashcam footage can act as video evidence that can clearly prove who was at fault and help to explain any unexplainable circumstances to their insurer. This type of technology can also detect insurance fraud before the claims are paid, which reduces loss ratio and limits false positives. Combined, these features enhance customer experience and enable fast track claims. These tools are primarily there to assist and alert but not to make concrete decisions.
	Automated Preloaded	RPA Smart contracts	This applies a set of rules that determine threshold automatic payment conditions in different scenarios – perhaps related to country of origin, business unit and other macro variables. It calculates the score and application of the appropriate workflow: auto payment, normal payment, more information required or investigate.
	Parametric tools		Parametric is made possible by insurers' adoption of "always-on" digital systems, together with developments in forecasting and weather-monitoring technology. With the emergence of parametric insurance, customers living in "at-risk" areas can insure themselves for fixed amounts against very specific weather or seismic activity. Premiums can be calculated against real-world data and sophisticated meteorological modeling. Payments can be triggered automatically when local monitoring stations report particular events (e.g., a certain amount of rainfall, wind speed or earthquakes of specific magnitude). As extreme natural events become more common in certain areas, this kind of insurance removes the need for lengthy and expensive investigation while offering protection plans highly tailored to customer needs.

Harnessing technology: taking claims into the 21st century

Technology undoubtedly plays a significant role in our industry. As we have illustrated in the previous table, multiple types of technology can be harnessed to support each functional piece of the claim handling, management and settlement process. We will now look at a number of global InsurTechs that are bringing their own unique solutions to the issue of claims and settlement. In particular we will be putting the spotlight on a range of firms that are using technology to do the following:

- Digitize the FNOL process
- Improve customer engagement and experience
- Automate claim processes
- Enrich data on a claimant
- Enhance data management
- Use live streaming video technology
- Detect fraud
- Use digital indexes to prices and pay parametric risks
- Use chatbot technology to provide around-the-clock service

Before moving onto the InsurTechs in this edition's spotlight, we do want to highlight the potential impact that technology might have in revolutionizing the claims and settlement process in the global markets that are currently underinsured. The underinsurance itself could be the result of a number of different factors, but a lack of infrastructure, a lack of trust and cultural clashes with the concept of insurance are significant reasons why much of the globe is underinsured.

The extent to which technology can reach out to these potential markets and offer people "seamless" solutions, where technology can carry the majority of the load both in terms of functionality and in terms of breaking down traditional issues associated with remote access, could unlock huge potential in our market. Featured below are two companies, Global Parametrics and BanQu, that are looking to use technology to support the underinsured. The significance of the associated vulnerability for a producer, manufacturer and populations in general who do not have access to even basic insurance services cannot be overstated. In an age where the vast majority of the world's population has at least access to some kind of smart device, this really can be solved. Using simple claims and settlement processes that work for these potential markets could very well be the key to unlock this vast door.

As we conclude our view on the impact that technology can have on the functional chain of insurance, we recognize that claims and settlement is arguably the process for (re)insurers to get right for maximizing the investments they are making elsewhere and offering best in class customer engagement experiences. Integrated properly, claims and settlement can provide the last brick of a truly seamless business experience. The effects of this system are not just external either; imagine how much the pricing and underwriting process could benefit from a truly accurate view of claim and loss data relative to capital allocation and forecasting.

The technological evolution of the functional chain

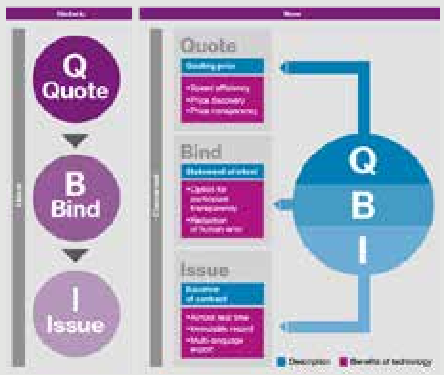
1 Pricing and underwriting

Multiple and diverse data sources

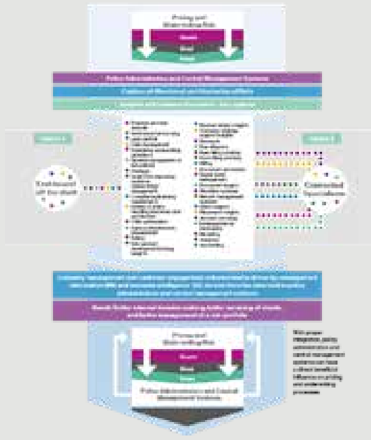
Data aggregation

Convenient, personalized insurance

2 Quote, bind, issue



3 Policy administration and central management systems



4 Claims and settlement – the final piece

Improved customer engagement

Improved customer experience

Maximized risk origination

Omnichannel risk origination/partner improvement

Improved capital management

Opening up of global risk partners

Effective transfer of risk

Improved insight into budget allocation

Much better handling of data

Company case study

Metromile

Metromile was founded in 2011 as a pay-per-mile insurance company and established itself at the forefront of positive customer engagement at the point of claim. Through this success, Metromile has established Metromile Enterprise – a stand-alone entity licensing claim intelligence technology to other carriers.

Metromile Enterprise's proprietary claim AI platform enables a carrier to improve the claimant's customer experience while reducing operating costs and paid losses, with a predicted combined ratio improvement of 10%.

Metromile's claim solution

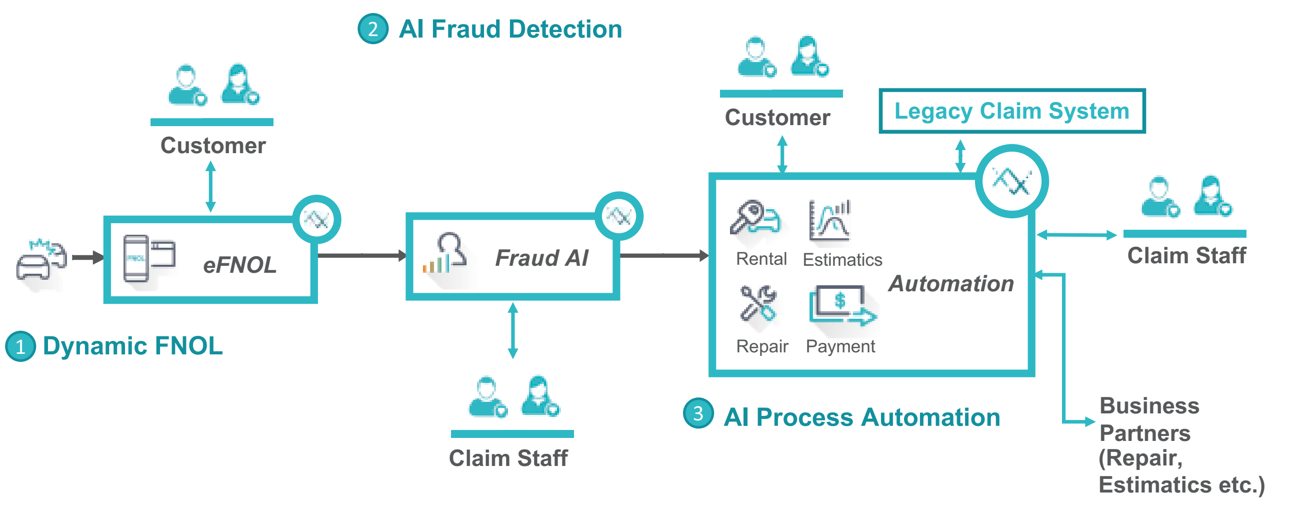
The platform offers four key pieces of functionality:

1. **Report (Digital FNOL):** A cloud-based solution offers the ability to accept claims online, resulting in lower call center costs and increased customer satisfaction. By capturing rich, structured loss data early at FNOL, insurers can improve overall claim handling and processing efficiency.
2. **Detect (AI fraud detection):** A machine learning-based proprietary algorithm and accompanying decision-support system automatically detects fraud and helps fraud investigators segment, prioritize and investigate claims more efficiently.
3. **Replay (telematics virtual witness):** The software-as-a-service solution and machine learning models ingest telematics data and help handlers visualize trips, verify crash probability and understand accident severity.
4. **Steamline (AI process automation):** End-to-end claim back-office and customer experience automation automates the majority of a claim handler's tasks, ultimately reducing cycle time and handling costs.

By using Metromile's AI claim platform, the insurer benefits through:

- **Loss ratio improvement:** Loss adjustment expense and loss leakage are reduced by automating routine tasks, catching more fraud and reducing call center volume.
- **Customer experience improvement:** Insureds receive simplified, digital experiences.
- **Higher employee productivity and satisfaction:** Claim handlers, appraisers and investigators are empowered to undertake more decisions and less administration.
- **Seamless integration:** A plug-and-play system that seamlessly connects with any Claims Core System without requiring excessive development work.

Metromile technology overview



Benekiva

Company case study | Benekiva

Benekiva bridges the gap among life and health insurance companies, policyholders and their dependents/ beneficiaries via claim automation, asset retention and data management. Founded in 2017, Benekiva's software can connect to any legacy, out-of-the-box or custom-built policy administration system in order to eliminate the need for claim managers to log into multiple different systems to complete the claim process. Benekiva offers users a seamless integration, enhanced customer experience and transformation of the claim process.

The platform

The software-as-a-service, blockchain-enabled platform allows life insurance companies to operate a completely digital claim process with policyholder and beneficiary information updated proactively and more efficiently, and it enables an insurance company to comply with the updated unclaimed property and escheatment law. The Benekiva AI rules engine is configurable to company-specific processes, individual state requirements and distinct employees within a company. Each module is uniquely designed to correct inefficiencies in outdated claim processing.

Platform modules

The Benekiva software includes six flexible, add-on modules that help bridge the gap between insurance companies, policyholders and beneficiaries. Each module is uniquely designed to correct inefficiencies in outdated claims processing:

- **Bene-Claims** Streamline claim management, processing and payment.
- **Bene-Retention** Transform your costly claim process into a revenue generator.
- **Bene-Notify** Avoid unclaimed property pitfalls with automatic deceased policyholder alerts.
- **Bene-Update** Engage policy holders in maintaining accurate beneficiary information.
- **Bene-Compliance** Seamlessly comply with ongoing regulatory and reporting requirements.
- **Bene-Data** Understand, manage and evaluate policy analytics.

Cloud-based | **Blockchain-enabled** | **Rules-driven**

Benekiva

Bene-Claims

The Bene-Claims core software is designed to help insurance carriers more efficiently update, notify and process claims in compliance with state laws. With 12 distinct core functionalities, the platform works to streamline activities to ensure that claim managers' time is used effectively and efficiently.

Claim payment

- Accelerate claim payment with an 24 – 48 hour turnaround.
- Allow multiple payees and payment options.

Operational efficiencies

- Avoid operational bottlenecks with a streamlined workflow, document digitization, advanced notification and process automation.

Customer experience

- Enhance user experience in a white-labeled, "beneficiaries first" environment.
- Provide end-to-end visibility of every claim and all parties involved.
- Communicate efficiently between beneficiaries and claims staff.

Connectivity

- Connect Bene-Claims to existing legacy, self-built or out-of-the-box policy administration systems.

User interface

- Allow your clients to process claims on any device, anytime.
- Give them a better claims experience.

Streamlined workflow

- Enhance user experience with customizable processes and tasks to fit your company, your process and your people.
- Efficiently communicate with all parties involved in the claim process.

Document digitization

- Automate claims and new business policies with pre-filled and fillable electronic forms.
- Complete all necessary documents electronically.

Configurable rules engine

- Automate rules-driven processes and workflows.
- Customize processes and tasks to fit your company, your process and your people.

Reporting

- Customizable and dynamic reports can be sent to your stakeholders.
- Role-based reporting allow users to view and download their specific reports.

Claim management

- Increase efficiency with end-to-end digital claim processing and payment.
- Support various modes for claim intake, including web, text, fax and phone.

Integration

- Utilize API, webhooks and our data configurator to speed integration and connect with internal and external systems to eliminate logging into multiple systems.

Calculation engine

- Complete claim payment interest calculations.
- Complete state-specific calculations.
- Eliminate all of a carrier's "manual work-around" processes, including spreadsheets, calculations and correspondences.

ClaimVantage

Company case study | **ClaimVantage**

ClaimVantage provides cloud-native, life, health and absence claim management solutions to its global customer base – including insurance carriers, third-party administrators (TPAs) and large employers – to digitally transform business operations. Founded in 2006 by CEO Leo Corcoran, ClaimVantage has 80 employees across three global offices in Ireland, the U.S. and Australia.

Digitally transforming claim management

ClaimVantage helps customers deploy digital transformation projects across its claims department. Moving from an outdated, legacy claim management system to a customer-centric, scalable platform improves operational efficiency and provides better access to historical and real-time data. Robust reporting and analytics can be used to detect fraud and ensure business decisions are made using data-driven insights.

ClaimVantage's central platform enhances the user experience for both claim professionals and their customers.

- Claim managers have a more holistic view of each claimant and his or her claim information, providing a better customer experience. The claim personnel can focus on claim management through configurable workflows with automated tasks creating an opportunity to auto-adjudicate low-risk claims.
- Self-service capabilities, via a portal, empower customers to check their claim details, payment information and other applicable information from any device 24/7.

> "Insurers are indebted with legacy systems, which are expensive and costly to maintain, and impossible to upgrade. We started ClaimVantage to provide an alternative solution: A core product, natively built in the cloud on the Salesforce platform, that eliminates legacy issues."
>
> *Leo Corcoran, CEO*

Through one central platform, all products are managed effectively end-to-end, from claim intake through processing and payment. Products include life, disability, income protection and health benefits such as critical illness, cancer, accident and pensions.

Why ClaimVantage?

ClaimVantage software-as-a-service (SaaS) is natively built on the multi-tenant Salesforce Lightning Platform. As part of this ecosystem, ClaimVantage leverages the underlying platform functionality for software development. The benefits of SaaS include reduced capital expenditure costs, which supports a move to operational expenditure accounts. This puts less pressure on internal IT departments to stay on top of technological advances, which allows for quicker deployments and improved integration capabilities.

The cloud-based platform allows ClaimVantage to build core software solutions at a speed that on-premise solutions, built from scratch, cannot match. These core solutions are fully operational within months, not years.

In addition to its global claim solution, ClaimVantage has developed absence and accommodations solutions for the U.S. market to address the unique challenges insurance carriers, TPAs and employers face when managing federal and state medical leave laws. These software solutions seamlessly integrate to improve the claim management process and deliver a better customer experience.

ClaimVantage solutions deliver better claim outcomes by changing the focus from a task management exercise to strategic risk management with a claimant-centric approach to claim management.

ClaimSpace

Founded in 2017 in Sydney, Australia, ClaimSpace is a simple and transparent communication and collaboration platform helping the insurance and financial services industry to improve the dispute resolution experience for consumers while generating cost efficiencies, new data and insights for businesses.

The web-based, cloud, software-as-a-service (SaaS) platform is giving insurance companies the right tools to engage, support and empower their customers during the claim process. By enabling end-to-end collaboration, the ClaimSpace platform brings together all parties involved throughout the claim process, supporting better collection and faster claim resolutions and fostering a closer relationship with customers.

Enterprises can now create personalized, digital workspaces and tools for all stakeholders to track the status of a claim, case or dispute and contribute to its successful outcome.

Results

ClaimSpace delivers three key benefits to insurers:

1. Data and analytics: ClaimSpace provides performance tracking for customer-facing staff, user behavior analytics for all stakeholders, and monitoring and oversight for regulatory compliance.

2. Customer engagement: ClaimSpace's engagement and collaboration platform creates personalized digital experiences for all stakeholders along the case life cycle.

3. Configurability: ClaimSpace connects to existing systems (e.g., policy administration, claim management, payments) using a library of open application programming interfaces.

Platform-based tool

Existing dispute resolution and claim technology is heavily focused on high-volume, low-value segments of the insurance market. For insurers managing complex claim and dispute operations, these remain a large cost and operational drag. Even today, it is estimated that more than 50% of a claim handler's day is spent gathering requirements and coordinating stakeholders. This is particularly prevalent in areas such as disability, critical illness and commercial claims.

There is also a lack of insightful data into the claim process, and claim teams struggle to engage both claimants and stakeholders outside of the insurance organization.

ClaimSpace has worked with insurers in Australia, Canada, Europe and South Africa across both P&C and life claims. Users of ClaimSpace have reported an increase in productivity resulting from a 35% reduction in inbound calls and a 25% reduction in time to settlement.

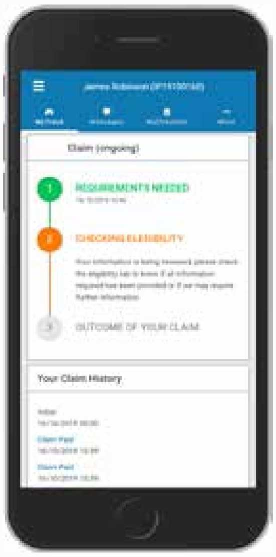
Tracking status
Customers can check a claim status and recent activity in real time 24/7, anytime, anywhere.

Automated notifications
Customers can receive automated SMS and email notifications as the claim progresses.

Direct communication
No more phone tagging, call centers or time wasted on hold. Customers can communicate directly with the claim assessor.

Document sharing
All claim-related information can be download and upload using the customer's preferred device.

Efficiency
Delays are avoided as the customer knows what information is required to progress the claim.



Company case study

Claim Central Consolidated

Claim Central Consolidated (CCC), founded in 2002, is a global claim solutions business that provides services, technology and data insights to make managing claims easier. Headquartered in Sydney, Australia, and with a physical presence in the U.S., South Africa and New Zealand, CCC primarily focuses on property, motor, cyber, and small and medium-sized enterprise (SME) claims.

Results

The company offers a digitally connected claim toolkit to make managing claims easier through a three-pillared approach:

Claim services	**Including third-party administrator (TPA) claim management, and property/motor assessment and repair**
Technology	**Including claim management, a live collaboration platform (covering live streaming video, digital document signing and online payments) and a digital repair network**
Data insights	**Used to drive continual improvement for customers**

Brands under the CCC group include Insurx, Hello Claims, Claim Central Property, ClaimLogik, LiveLogik, TradesPlus and others.

Claim services

CCC's full-service TPA claim management business, Insurx, manages the entire claim process from First Notice of Loss to completion, including reserving and other insurance functions, effectively operating as an outsourced claim management department for its clients.

Insurx has achieved industry-leading results with a +51 Net Promoter Score and an 87% claim satisfaction rating for two of its largest clients. During the back-to-back catastrophe events in November in Australia, Insurx still achieved 11.2 seconds phone wait time for customers.

Technology

CCC's technology platforms include ClaimLogik (property claim management), Hello Claims (motor claim management), LiveLogik (live video and collaboration) and TradesPlus (digital repair network of trades). This technology ecosystem connects the insurance layer (claim management) with the assess and repair function, as well as a digital supply chain of repairers and suppliers – providing more visibility and better communication, and ultimately more connection, among every stakeholder in a claim.

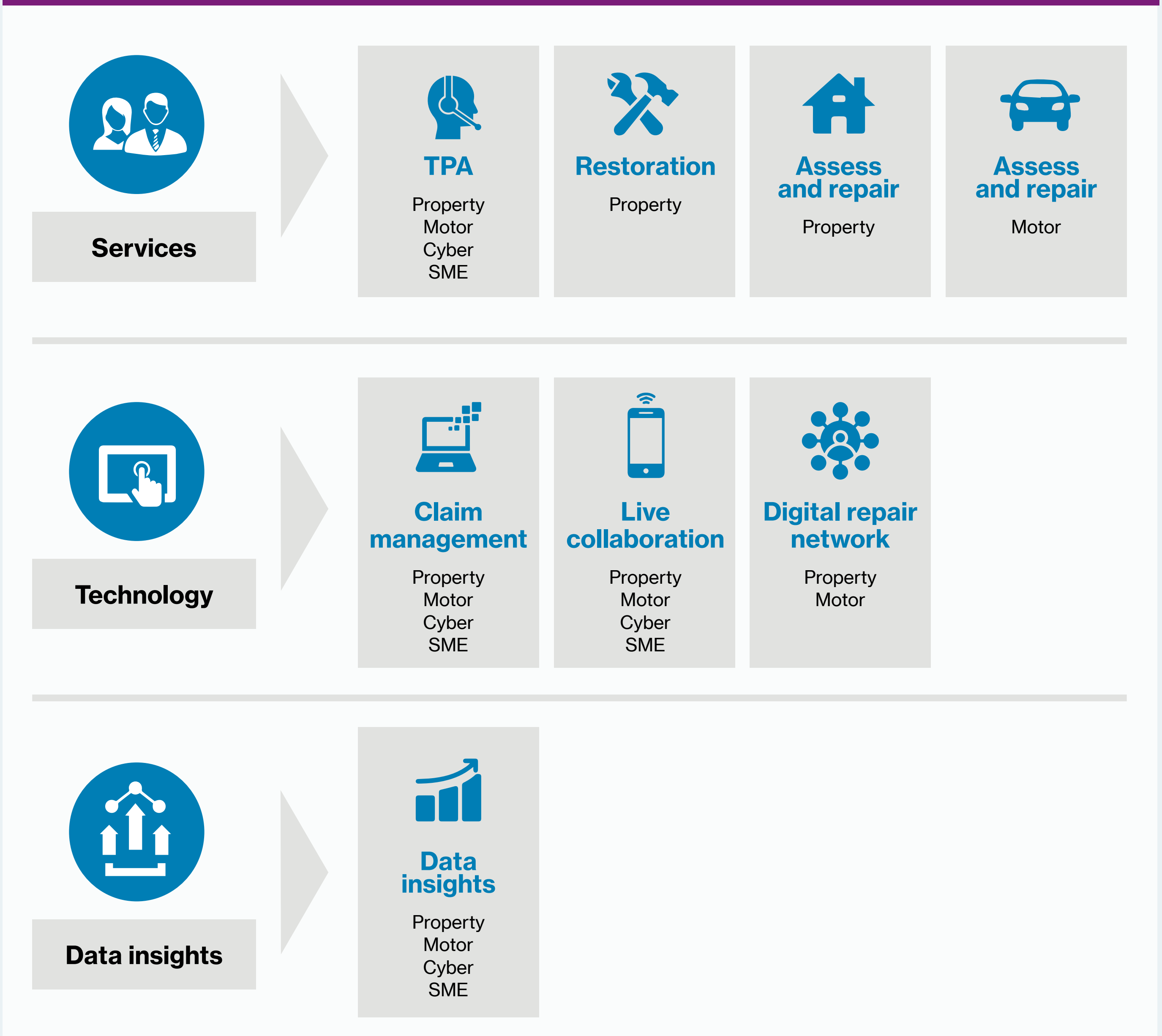
LiveLogik allows claims to be finalized in a fraction of the time of the traditional process. With features such as live video streaming, digital document signing, mobile excess payments, on-screen measurements and drone integration, the first 72 hours of a claim are drastically reduced through real-time connection between the customer and claim manager. As an example, a recent garage door damage claim was live assessed remotely, the report was submitted, the claim decision was made, and the excess was collected and sent to tender – all under two hours.

Data insights

CCC's data strategy has matured from descriptive and diagnostic reporting (which retrospectively tells us what happened and why) to a more predictive and prescriptive model in the past six months. This evolution to a proactive data analytics approach puts the power of the data in the hands of the frontline, nontechnical staff who can utilize it to determine the best outcomes for CCC's customers and clients.

CCC's ability to analyze claim data to identify bottlenecks has seen huge improvements in long-tail claim reduction. In 2019, through its data analysis, CCC was able to pinpoint specific pain points in claims greater than 60 days old and take the appropriate measures – resulting in a **reduction of 74% open long-tail claims** over a three-month period.

Connected claim solutions toolkit



DeepFraud AI

Company case study **DeepFraud**

DeepFraud is a comprehensive claim decision platform offering fraud detection and claim severity triaging. The vertical fraud detection and investigation system leverages both internal claim data and vast quantities of both individualized and general external data covering hundreds of millions of potential claimants.

Internal claim data are processed as an advanced time series, and DeepFraud supports structured, unstructured and attachment data in its proprietary machine learning process. Externally, DeepFraud sources and combines troves of data covering claimant financial, behavioral and medical indicators, as well as general patient outcomes covering tens of millions of historical patients.

The product provides a comprehensive view of a claim, and a claimant in the insurance world, and the outcomes are lower expense ratios for claim handling and lower loss ratios overall. DeepFraud currently serves clients in the Disability and Workers Compensation lines of business.

Founded in early 2019 by an ex-Google lead-AI scientist and Bridgewater Associates quant investor, the company unlocks the significant and valuable data that are often lost due to insufficient capabilities. DeepFraud is backed by some of the leading venture capital firms in the world, and its data science team is staffed by engineers from Google, Amazon, Guidewire and Bloomberg. DeepFraud is based in New York.

"Companies that are succeeding in serving the insurance industry combine technology, data and insight into one offering. With relatively few technically advanced providers in the market, DeepFraud has been able to distinguish itself to our customers."

Mike Saltzman, Co-Founder/COO

DeepFraud AI

Case management and triage

The tool produces a highly detailed suspicion score based on all of DeepFraud's source data, including:

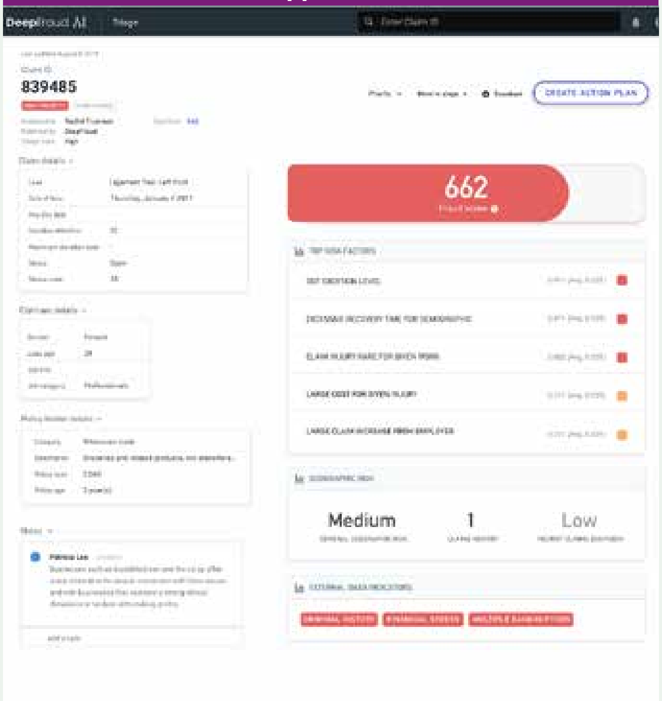
- Comparison to similar claim and geographical risk factors
- Top five suspicion score drivers with explanations
- Claim comparison tool to similar claims

This enables the suspicious elements to be identified within a case before significant investigative resources are expended, drastically improving the hit rate and efficiency of the special investigative unit and claim handlers.

Claim severity

DeepFraud also scores all incoming claims by severity in their infancy, offering better accuracy on eventual reserve planning, operational routing and flags for claims that are at risk of volatility, and what to do about it.

Claim view and case support



GLOBAL PARAMETRICS

Global Parametrics: Use of technology to improve the claim and settlement process

Launched in 2016, Global Parametrics (GP) uses parametric indexes to price, calculate and settle extreme weather and natural disaster risk transfer contracts globally. GP's solutions are non-indemnity-based and primarily provided as over-the-counter derivatives with a parametric trigger to organizations that are exposed to risk in low- and middle-income countries.

These organizations with a portfolio at risk include agribusinesses, NGOs, lenders, investors, insurers, reinsurers and infrastructure. The current perils covered are drought (via soil moisture), tropical cyclone, excess rain, flood and earthquake.

The platform

GP's platform combines the latest global circulation models (run hindcast, that is, backward in time), geophysical probabilistic models and a client's own data to create actionable "impact indices" that link the effect of extreme weather or natural disasters to a client's own exposure to understand the true impact of that event to a client's portfolio.

The contracts are settled on the value of the impact index; this is automatic, immutable and instant. There is no claims adjustment. Payments are as rapid as the financial system allows (in the order of a couple of days to two working weeks).

Index generation, pricing and settling is all done via GP's platform.

Funding support: The Natural Disaster Fund

The GP team manages the sister funds NDF (Natural Disaster Fund) UK & NDF Deutschland, with capital committed by the UK's Department of International Development (DFID) and Germany's Federal Ministry for Economic Cooperation and Development (BMZ) to stimulate the supply of capital to mitigate the risk of, and build resilience to, extreme weather and natural disasters to commercial entities in low- and middle-income countries. Hannover Re provides additional capacity to the funds.

Utilizing the capacity of the NDF and its industry partners drives the supply of capital to finance those solutions and acts as a catalyst for further private sector investors interested in participating in disaster risk financing within untapped geographic environments.

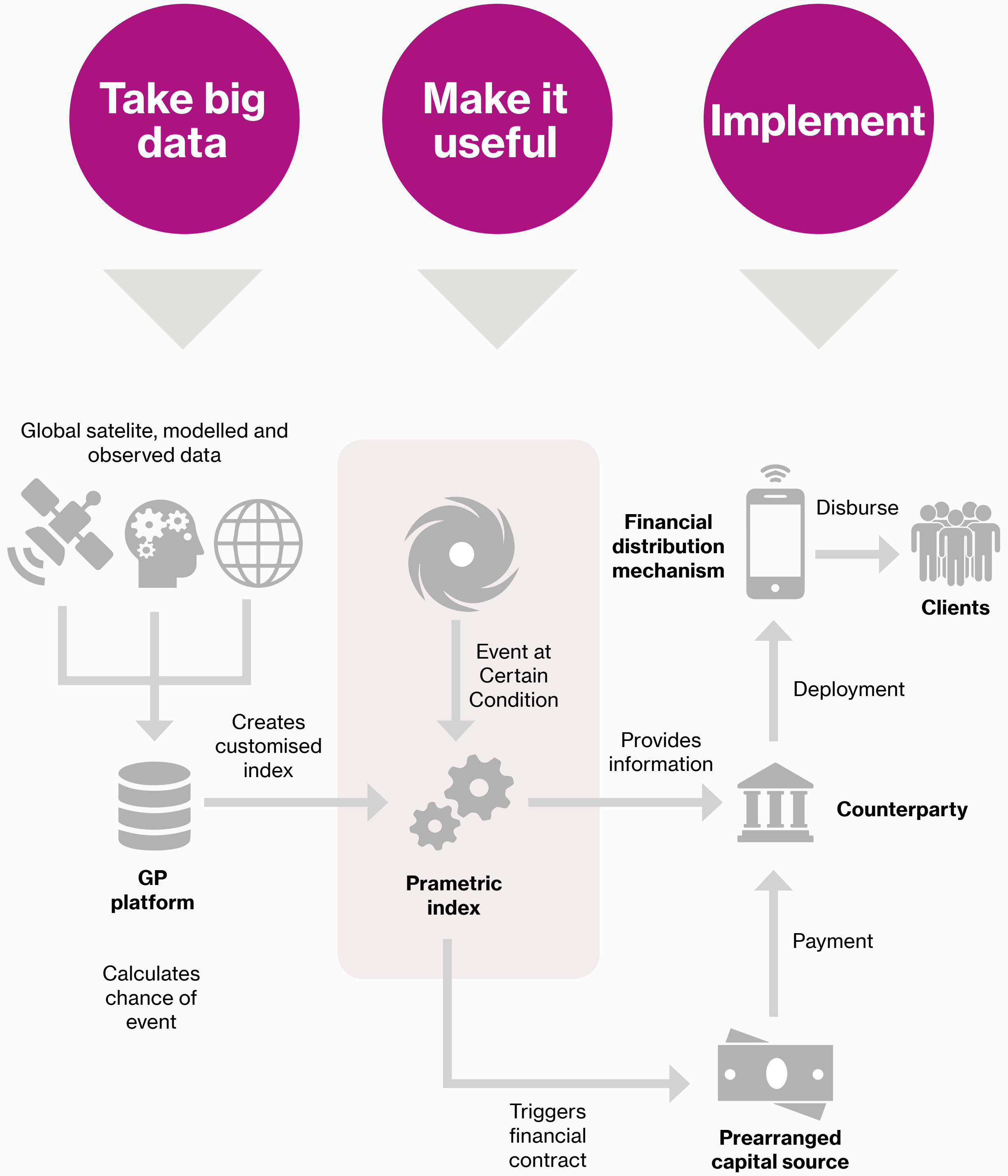
The goal

GP's goal is to create a systemic change in the way organizations evaluate and mitigate their risk to extreme weather and natural disasters. By providing robust risk analysis and anticipatory financing strategies through innovative technologies, GP is both stimulating demand for products and providing a solution for Sustainable Investment (SI)/Enviornmental, Social, Governance (ESG) investors to supply capacity into this space.

"The innovative products and access to risk capital that GP provides via the NDF and partners are vital for companies seeking to understand and implement risk-mitigating strategies in the face of increasing natural disaster and extreme weather risk due to climate change."

Toby Behrmann, Global Parametrics

The Global Parametrics product philosophy



Adjoint

Adjoint has radically improved the data sharing between all stakeholders in the captive insurance system through the development of a distributed ledger platform. Founded in 2016 and with offices in Boston, the U.S. and London, the platform collects, tracks and processes data on risk, policy and payment in real time.

Captive insurance requires frequent interaction between all involved parties. If a common, real-time, trustworthy pool of data was established, significant time and resources would be saved. The captive management team could post the required information, the reinsurer could then underwrite based on the unchangeable information, and the regulator could then use that same real-time information to supervise the insurance company.

The problem and the solution

The development of a smart captive solution focuses on two key challenges:

The existing complex structure of captives, which has resulted in new channels and data siloes for each participant, resulting in significant duplication in activity and information

The complex alignment of the various stakeholders and the different informational requirements

Through a central but securely distributed platform, captive managers can run a real-time group captive through Adjoint's smart solution, resulting in:

- Improved forecasting
- Managed risk retention
- Consolidated purchasing power
- Reduced overheads
- Improved controls
- Managed payments and returns

Users can then

Structure

Gather, verify, analyze and agree on key information (e.g., client parameters, limits, deductibles, taxes, foreign exchange, gross and net premiums, status, workflow data)

Automate

Policy generation, payments, bookings, reporting and so on for reliability, accuracy and speed

Connect

Connect multiple members, partners and so on without any significant changes to their processes

Company case study

BanQu

BanQu is an organization focused on solving extreme poverty through digital solutions by linking all parties of a physical or digital supply chain. Through developing the first non-cryptocurrency blockchain platform that provides an immutable digital and economic identity, BanQu is able to connect the most disadvantaged citizens to the global supply chain.

Unbanked to banked

According to BanQu, nearly 2.7 billion people worldwide do not have access to credit and services by banks or other formal financial institutions due to a lack of an economic identity. An economic identity consists of the digital or electronic credentials that define a person's history of economic interactions in the world economy. In lacking this identity and credit history, these unbanked or underbanked individuals – who are often the world's poorest – are excluded from the global economy and the systems that underpin it.

Yet of these 2.7 billion, 60% already own a mobile phone, which is used to power BanQu's solution.

BanQu's blockchain solution creates a personal digital identification profile, through which users can start accumulating a transaction history and a trackable, vetted financial and personal history. This powers individuals to participate in and engage with the brands, organizations, industries and governments that influence their living.

BanQu as a solution is enabling the "unbanked/underbanked" to enter into the global economy. Each of the interactions between the relevant parties – governments, businesses, small-scale farmers – is captured through a secure, immutable and distributed ledger of financial and personal records using blockchain technology, which provides the individual with an economic identity necessary to contribute and profit from society.

Case study: Agricultural ecosystems in Africa

The agricultural system in Africa currently operates in isolated silos. This results in:

- **Brands** being unable to track the origin or chain-of-custody of their resources
- **Supply chain partners** having no secure or trustworthy means to share information efficiently
- **Financial service institutions** lacking adequate data (know your client) to provide qualified producers with affordable services
- **Producers** being isolated from extension services, capping their productivity and limiting market expansion

Across all groups, fraud and abuse are prevalent, and ultimately, the smallholder farmer is lost from the process.

BanQu's solution moves the system to beyond these silos toward a cooperative ecosystem where the farmer sits at the center. As the silos are deconstructed and the entities of the supply chain are connected on a secured platform, fraud then becomes traceable and quickly identifiable. Accurate payouts between all parties are ensured, and brands can communicate the provenance of their products.

BanQu gives users traceability and transparency in supply chains and places the ownership of the process with the farmer.

Universal design	Secure	Stable	Share	Integrate	Track
Works universally on any device from the oldest to the newest cell phones	With no central database and our private, permissioned ledger, your data are always safe	No ties to volatile cryptocurrency	Blockchain enables efficient sharing across parties while maintaining privacy	Our open API brings existing systems and IOT devices easily onto the platform	All transactions are time-stamped and geo-tagged

"Millions of small holder farmers continue to live in subsistence/extreme poverty even though they produce our coffee, cacao, maize, barley, cassava, etc. Without the ability to prove their existence in the global supply chain they can't get access to crop insurance or agronomy services. BanQu has succeeded in solving this by connecting thousands of farmers globally via a non-crypto blockchain to the world's leading FMCGs." ***Ashish Gadnis, Co-Founder and CEO***

Company case study | **Spixii**

Spixii: Integration & Analytics

Spixii, founded in 2016, designs white-labeled automated solutions for insurance underwriting, customer service and claim processes. Spixii's differentiator lies in the insurance-specific nature of its integrated chatbots, which are designed to collect and validate structured data necessary to make business decisions.

Currently supporting clients in Europe for Property and Casualty, and Life and Health, Spixii utilizes its expertise to analyze the behavioral insights of the user to:

1. Provide an experience to the user that is tailored to the user's specific needs
2. Enable insurers to make better business decisions based on factual data

The Spixii claim solution includes an insurance-focused chatbot, which streamlines the claim process from notification to settlement. The user, or claimant, receives a superior experience as there is 24/7 access to the tool, as well as a content management system for uploading photo and video evidence such as CCTV or dashcam recordings. Spixii is also able to tailor the conversation held with its chatbots based on the user type: Brokers will receive a different experience to that of a first-time personal claimant.

Enabling incremental optimization of the customer journey, the claim team can make informed business decisions thanks to the knowledge gained from verbatim feedback and net promoter score calculations and from the advanced reporting techniques, including behavioral insights and analytics leveraging machine learning algorithms.

All of this serves to bolster the user's engagement and sentiment toward the insurance company and ensure that the insurer receives the pertinent and relevant information.

Zurich case study

Combining Spixii products to create an automated claim solution, Zurich U.K. created Zara, the Zurich claim chatbot. Zara was designed in one week and then built and implemented within two weeks to first target Zurich's personal lines business. After the initial launch, Zara has had several iterations per month, that have expanded Zara's functionality and improved the overall user experience.

Zara was aimed at reducing the number of inbound calls in call centers, especially during adverse weather events.

Following an iterative learning approach, Zurich initially anticipated Zara to cover 1% of all claims for 2018; the reality was that Zara ended up handling more than 10%. Zurich also reduced the average time to process claims to three working hours down from 24 hours.

"We started working with Spixii and building chatbots within our claims journey to understand whether it would add value to the customer experience we provide. I have been absolutely delighted with the customer response and the take-up of our chatbot "Zara," this solution is now a fundamental part of our claims journey and continues to extend its reach. We started in personal lines claims but have extended the solution to include SME and commercial customers. I am excited about the opportunities that this technology presents us with; I feel sure that there is more we can do."

David Nichols, U.K. Chief Claims Officer, Zurich

Spixii snapshot

Full-service

Spixii solutions are validated by specialists from the marketing and claims functions to ensure that the the treatment and protection of personal data meets compliance requirements.

Light implementation

Spixii solutions start light and offer multiple implementation options for both front-end and back-end integrations.

Stateless architecture

Spixii solutions use reliable, scalable and secure components to create a stable and safe bridge between customers and insurance legacy system. Personal data flows straight to the protected and encrypted central vault.

Security

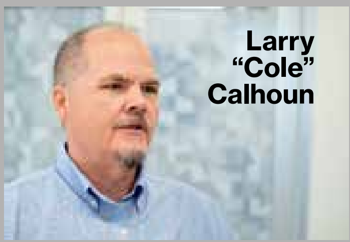
Spixii solutions' security is ensured via monitoring, automated alerting systems and frequent penetration tests.

3. Incumbent Corner

Munich Re's **Remote Industries** — Streamlining the property claim process after natural catastrophes

Interview with Larry "Cole" Calhoun, General Adjuster and Roman Buegler, Co-Lead of Remote Industries

By Chris Brook, Global COO, and Steve Robson, Global Head of Claims, Willis Re



General Adjuster–
Property Technical Team

Global COO, Willis Re

Munich Re's Remote Industries uses high-resolution aerial imagery, computer vision and machine learning to provide a more cost-effective way for carriers to manage hurricane and tornado claims. Ultimately, it aims to deliver a better customer experience for insureds. Remote Industries is now able to predict where and how likely property damage in a hurricane will occur two days before the hurricane makes landfall. It can also accurately detect how much damage a hurricane has caused to a roof or building structure. The solution is based on high-resolution imagery collected by manned aircraft across the U.S. and Caribbean. Willis Re's Global COO Chris Brook and Head of Claims Steve Robson spoke with Larry "Cole" Calhoun and Roman Buegler about the development.

Munich RE

Co-lead of Remote Industries

Global Head of Claims, Willis Re

Chris: Thank you both for joining us today. Would you be kind enough to tell us about the inception of Remote Industries and the thinking behind its creation? Can you please explain how the "streamlining" part of the claims process in Remote Industries works? Which types of technologies form the main base of the platform?

Roman: The inception of the project was centered around addressing the challenges primary insurers face in a hurricane or other large wind event. The primary challenge here is the huge influx of claims from policyholders in need. Few other organizations have to scale like insurance claims teams do in a natural catastrophe. The only one that comes to mind is rose growers on Valentine's Day. Their advantage is that they know exactly when it's coming every year. Other difficulties include securing adjusters and other resources, limited accessibility to affected areas and even challenges in estimating the financial impact early on.

We felt that remote-sensing technologies could provide valuable information to help claims organizations respond faster and with more precision.

The core of our platform is fast and fully cloud-based, and shortly before, during and after a hurricane is running on fullest capacity. Our Amazon Web Services infrastructure needs to address the following:

- Mesh vast property data with daily weather data and provide a machine-learning-based prediction for each property likely affected (currently about 1 million properties per hour).
- Prepare insurance portfolios in a private cloud and ensure that addresses, geo coordinates and buildings match. We need to be able to identify insured properties in the images when they come in.
- Run several convolutional neural networks that provide a damage classification for each property location (currently about 280,000 buildings per hour).
- Deliver the results immediately into our clients' preferred claims tools via application programming interface or as geospatial data layers.

Steve: Munich Re has obviously decided to make an enormous investment in providing cutting-edge, technologically backed solutions for its insurance company partners. Do you think that this type of market-wide support can only come from a reinsurer similar to your size? Were your insurance company partners asking you to create these types of solutions?

Cole: Indeed, we see only a few, large incumbents developing their own solution; as you say, the investment cost is high. While there are other players that offer similar types of solutions, Munich Re certainly has some advantages. We are a trusted partner for many insurers in the U.S. and around the world. In each storm, Munich Re's role is not only as a consultant or solution provider, but we are actively absorbing a substantial part of these losses in our traditional role as reinsurer. Lastly, as part of our global efforts to increase innovation solutions, we only started to develop such a solution after we had several pilot clients from several countries confirming the issues our solution addresses today.

Chris: In order to deliver Remote Industries to the market, Munich Re has developed a lot of proprietary solutions but also made some very strategic partnerships with a number of InsurTechs. Can you please tell us about the InsurTechs you're working with and the selection process of picking this particular group?

Roman: While indeed we are working with some InsurTechs, we do not have a distinct focus on start-ups for Remote Industries. Rather we prefer partners that, among other things:

- Might benefit from our global role and reach
- Are pursuing an agile mode of working across companies and time zones
- Bring something in that is adjacent to our own expertise within the Remote Industries team

How do we select the partners? We always want to mutually and directly tackle an existing and observed problem of our pilot clients by joining project forces and investing a limited budget in a very clear time frame. This not only helps us to validate both the client's problem and the solution approach but also helps us to understand the level of partnership required to turn this into a product or technically integrated service.

So far, we have not publicized such partnerships as they are all in different stages with different types of cooperation through collaboration across Munich Re's global operations; however, our partnership with the NICB GIC imagery consortium is well known. (https://www.munichre.com/us-non-life/en/company/media-relations/press-releases/2019/2019-06-24-gic-teams-up-with-munich-re.html)

Steve: In the past four years, North America and the Caribbean have experienced a significant number of natural catastrophes, which, in 2018 alone, exceeded total losses of more than US$40 billion. How has Remote Industries been developed to support insurers against this potential trend we are now seeing of annual wildfires, hurricanes and tornadoes that are producing some of the costliest losses on record?

Cole: Unfortunately, we have not been able to come up with a solution that prevents such catastrophic events – yet. However, our solution should ultimately put the insurer and its policyholders in a better position than in earlier catastrophes. Indeed, in parallel with the increased number and magnitude of such events, we see more and more of our insurance clients searching for a way to tackle this issue. Especially in the U.S., the interest for a similar type of solution for hail that integrates with high-resolution aerial imagery is very high.

Hurricane Michael

Chris: With climate change in mind, do you think that the industry as a whole needs to reevaluate its focus on natural catastrophes? How do you think that modern innovative technology can support a change in strategy?

Roman: Overall, the trend especially in property insurance seems to be quite clear: to mitigate and prevent risks more and more, and to broaden us from insurance providers into risk service providers that ultimately deliver a customer experience similar to other industries. The "good old days" of providing just financial compensation after a loss are unlikely to remain.

Steve: Is your plan to start putting Remote Industries to work outside of North America and the Caribbean? For example, what impact do you think Remote Industries could have for Japan, Australia, New Zealand and Southeast Asia countries?

Cole: We see a lot of potential to apply what we've learned and developed in other markets as well as other parts of the insurance value chain. We are evaluating how we can use existing technologies with other business cases, such as underwriting, pricing, and risk assessment. In addition, the team is testing the solution with other types of events. For example, we are actively exploring new ways to apply the AI and aerial imagery capabilities of Remote Industries to underwriting process and a better prediction of Cat damage.

Chris: What have such initiatives as Remote Industries done for Munich Re from a traditional/technical reinsurance capacity support perspective?

Roman: These kinds of initiatives can generate fee income, and they can also add value in other ways, such as expanding our value proposition overall, deepening the relationship with clients and making them stickier, or potentially even enhancing profitability. There is a real potential to combine such an innovative service with a traditional reinsurance contract. An example: A Bahamian insurer could simply ask for a cash call (a fast payment of losses by the reinsurers just days after a cat event) not necessarily based on the reported or forecasted claims but rather on the amount of damaged property within his or her portfolio that our Remote Industries AI has been able to detect. Maybe with our solution we could also help to increase the risk appetite of reinsurers, especially in the emerging countries, by providing a much higher transparency and a simpler process for such events just shortly after a natural catastrophe.

Steve: Do you think that the technology that supports Remote Industries could be leveraged for smaller risk classes?

Cole: The core of our AI that detects damage post-cat requires high-resolution imagery. The only decisive factor is whether it is both cost-effective and fast enough to collect imagery after smaller types of "events."

Chris: This quarterly is mainly focused on technology that supports claims and settlement. Can you please tell us how valuable you think innovating around this part of the functional insurance chain is in terms of delivering the true value of insurance?

Roman: We decided to start in the claims space; however, we are not limiting the skills of our team to the claims area only. Everything that helps a property carrier to prevent losses and helps to mitigate the size of a loss has our full attention, too. We are convinced that with remote sensing technology and especially the damage data that we derive post-storm, we will provide a lot of value to both insurance carriers and individual property policyholders.

Steve: As a wrap-up, can you please describe what you believe the future of claims and settlement might be if our industry really starts to adopt technological solutions such as Remote Industries at scale?

Cole: It is in our team's DNA to walk in the policyholder's shoes and look at a single claim or a cat event from his or her perspective. This is what claims professionals can do. We believe the carriers that do provide a better and different user experience both in a daily and a cat claim will win. While we certainly like technology a lot here, we

Hurricane Dorian

4. Thought Leadership

The road to driverless claims processing

Tom Helm, Head of Claim Consulting, Insurance Consulting and Technology, Willis Towers Watson

Whether you envisage that self-driving vehicles are five years away or 25 years away, it is hard to argue, given the substantial investments and technological progress being made, that it's anything other than on track to happen in some form at some point. Not to be outdone in this digital age, insurance claims is forging its own digital transformation path, leveraging advancements in technology and analytics to inject automation into the claim process. So how far away are we from delivering claim processing that is automated end-to-end? Will this happen before driverless Ubers are roaming the streets?

The short answer is "Yes." But, no doubt like the first "driverless" cars that will come to market, there are caveats.

"Claim processing" covers a wide range of activities and claim types from the simple, like the loss of a low-value specified item, through to the highly complex, like the evaluation of a business interruption event or assessing negligence in a professional indemnity claim. As a result, the pace of digital transformation across the full claim spectrum will vary, with certain elements feeling like revolution and others evolution. But ultimately digitalization will touch every corner of the claim world.

Automated claim processing is not completely new. Many insurers have been processing high-volume, low-cost, low-complexity claims, such as vehicle windshield claims, with very little, if any, human intervention for decades. This is a great example of the simplest type of claim to automate given that it is relatively low value and that the fulfilment is being delivered by a trusted supplier partner within an automated solution and predefined parameters.

A natural quick-win expansion of this approach has been to target similar simple claim types, or individual losses or items that are part of a wider claim, that lend themselves well to automation. Good hunting ground is low-value retail property and travel claims. However, this does require expanding claim automation to cases where the settlement (payment) is going directly to the customer, and this means pushing the historical boundaries, particularly in relation to trust. Given the historical level of fraud and other market dynamics that find customers increasingly switching providers, thus reducing their historical data footprint (record of trust), implementation here needs to be executed expertly to mitigate against these risks. The appetite to broaden this automation also highlights why behavioral analytics, which can support the assessment process, will play an ever-increasing role in the future of claim processing.

Perhaps surprisingly for some, claim processing for one of insurance's highest claim volume products, auto insurance, falls into the more "complex to automate" category (for the non-windshield cases), particularly when considering end-to-end automation. One auto claim can often represent several mini-claims rolled into one, with multiple parties, suppliers and a variety of claim types (i.e., vehicle damage, car rental, injury) all to be managed. Claim InsurTech firms have recognized this challenge, and rather than attempting to bite off too much at once, they have typically focused on disrupting distinct elements of the auto insurance claim process, with a significant number targeting digitization of the First Notification of Loss (FNOL) process, for example, using AI to assess images to determine the extent of vehicle damage or developing an e-FNOL solution that enables the customer, or his or her broker, to self-serve this part of the process through a digital channel. As these InsurTech providers reach critical mass with their products, they will inevitably seek to broaden their offering either by expanding to cover additional components of the auto claims life cycle or by diversifying into other product lines.

Of course, not all of today's technological development is shiny and overt. A good example of this in the wider technology landscape is the Global Positioning System (GPS). While this operates primarily in the background of many of the devices and businesses we use, history will undoubtedly reflect that it has been one of the most transformational technological developments of our time, given its impact on our everyday lives. A parallel can be drawn here on where a substantial element of the claim technological development is taking place.

A lot of claim processing, across all product lines, is carried out manually and somewhat “behind the scenes.” Whether this is triaging, routing, validating, assessing liability, corresponding with third parties or evaluating an individual claim’s cost, there are numerous activities that are performed during the claim life cycle that are vital but often not visible outside of the Claims function.

Insurers’ increased focus on customer-centricity will lead to greater transparency, control and personalization for the end consumer and inevitably push some of these customer-related activities more into the limelight. For example, when their items have been lost or damaged customers are likely to be given greater choice on whether they wish to opt for a cash settlement or a replacement, and in many cases this will be via a digital interaction. This shift in experience will add to customers growing demand for more immediacy and effectiveness in the processing of these activities, akin to their experiences with other digital services.

A common thread across these activities is decision making, and this is where the technology opportunity kicks in. Computer science can play a key role in this decision-making process, and progressive insurers are already fully active in leveraging its predictive power. Supported by advancements in Natural Language Processing (NLP) with its ability to tap into unstructured claim data, AI can help drive increased accuracy and speed of decision making and in turn expedite proactivity in claim handling and thus help to deliver on traits that are synonymous with high-performing claims functions as they result in improved efficiency and significant financial savings, as well as delivering better outcomes for customers.

At Willis Towers Watson, we are helping insurers to deliver these next generation decision capabilities. Our clients are increasingly expanding the use of our suite of analytical software and real-time decision engine technology, Radar Live. As it is software they are familiar with and that is already integrated into their critical business decision-making process, by serving as their Pricing engine, they are recognizing that the product is agnostic to which insurance function it is supporting, and its use can be broadened. Essentially the software is an analytical canvas, tailored for insurance, on which multiple sophisticated machine learning models can be created or imported (e.g., from open source software) and with its ability to integrate to existing claim systems and provide sub-second responses, it is able to operate as a real-time decision engine for claim processing. Building the algorithms on a platform like this provides a road map for machine learning implementation from experimenting with models in a proof-of-concept environment, to refining the results, all the way through to fully operationalizing them and deploying them at scale.

Like GPS, software such as Radar can work in the background to provide decision making at key junctures in the claim life cycle. This might be selecting which supplier is best suited for the claim, determining the appropriate case estimate or assessing if an invoice is suitable for payment. Models can also be continuously running on the engine scanning to help alert the Claims team for cases that are “at risk,” for example, of issues such as fraud or litigation, or of delivering a poor customer experience. The power of machine learning is being leveraged throughout with the models trained to look across a vast array of structured and unstructured data to identify the characteristics of a claim and to assess the optimum response.

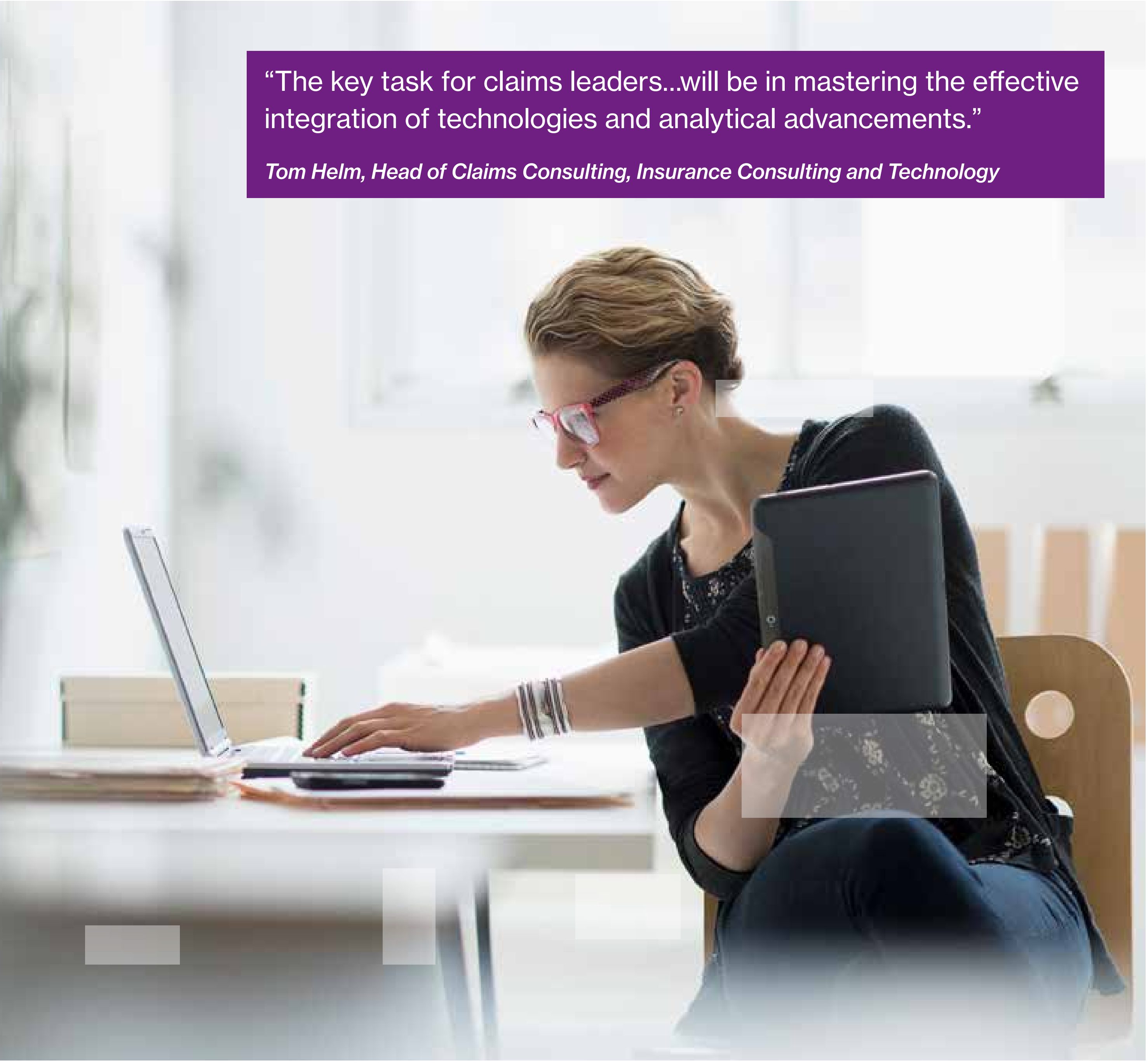
How the output of these sophisticated solutions is used will vary depending on the specific-use case it is designed to support. It might be to help fully or partly automate a claim process, for example, working in conjunction with robotic process automation to provide the response when a complex decision is required, or it could be to provide the claim handler with guidance on the next-best action.

The caveat to achieving full automation in claims is that certain aspects of the process or scenarios will require complex judgment, investigation or the human touch, such as the need to reassure and empathize with a customer who needs support during a significant event like a flood in his or her property. This means that claim handlers will need to remain in the driver's seat to take control and handle these critical elements, and, much like partial self-driving vehicles, it is critical that automated mechanisms are able to identify when the situation requires human intervention and manage the interaction between handler and machine effectively.

The ultimate success to self-driving vehicles becoming mainstream will be dependent on the experts achieving real-time orchestration of sensors, cameras, onboard computers and algorithms, interacting these technologies harmoniously with their external environment and determining whether there are certain scenarios when driver control is necessary. Comparably, the key task for claim leaders over the next few years will be in mastering the effective integration of the multiple technologies and analytical advancements that are now at their disposal to deliver seamless automated claim processing and decision support for claim handlers in a way that improves the experience for customers and realizes return on the investment for the business.

"The key task for claims leaders...will be in mastering the effective integration of technologies and analytical advancements."

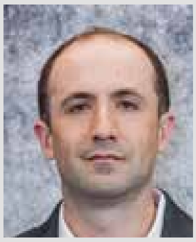
Tom Helm, Head of Claims Consulting, Insurance Consulting and Technology



5. Transaction Spotlight

Seismic activity in global life and health service provision

Introduction by Ryan Jessell, Senior Director, Benefits Delivery and Administration, Willis Towers Watson



In 2019, a fundamental shift occurred in partnering between traditional providers of life and health insurance and relatively newer tech-enabled service providers. Incumbent Goliaths partnered with, and in some cases acquired, digital Davids in an effort to quickly adapt to changing buying behaviors and expectations of customers in the new decade ahead.

As evidence of this dynamic, the year played host to at least three major transactions in the direct-to-consumer (D2C) insurance market. **Prudential** acquired **Assurance IQ** for US$2.35 billion (plus an additional earnout of up to US$1.15 billion based on multiyear growth objectives); **Willis Towers Watson** acquired **TRANZACT** for US$1.3 billion and **GoHealth** received a significant new investment from **Centerbridge Partners,** valuing the company at an estimated US$1.5 billion. The common thread among all of these transactions is the role the target companies are playing in the transformation of D2C insurance distribution, in particular in the Medicare health insurance space.

This growing D2C trend, which promotes the personalization of policies to the needs of the consumer, is driven by advancements in digital marketing, data science and machine learning being pioneered by these and other players in the insurance space. To be sure, Assurance IQ, TRANZACT and GoHealth are not alone in seeking to drive this transformation. For example, eHealth, a publicly traded company, has seen its share price rise from US$15 in 2018 to over US$100 in 2019 as it has continued to focus on the D2C Medicare insurance market. Policygenius, an insurance platform where users can identify and fill their coverage gaps across multiple insurance lines, has raised US$51 million since 2014 by focusing on D2C distribution through digital channels. These and numerous others have either received large investment and/or partnership commitments from insurance industry incumbents or have seen their public and private valuations soar as a result of the growing focus on D2C insurance distribution. But why this shift, and why now?

There appear to be three reasons behind this, each one linked to the next:

1. **Demographics:** Two major generational milestones – baby boomers retiring and millennials entering their 30s and 40s – are a significant driving force behind the shifts in customer behaviors supporting this D2C transformation. With an estimated 10,000 baby boomers turning 65 and becoming eligible for Medicare each day, we are seeing the largest annual increase in eligibility in the history of this program. Additionally, millennials are beginning to eclipse baby boomers as the largest cohort of the U.S. population while also entering a stage of their lives typically paired with a need for increased insurance coverage (growing incomes, purchasing homes and starting families).
2. **Evolving customer behaviors:** As those at the back end of the baby-boom generation turn 65, we are seeing a dramatic increase in technological literacy and comfort among this demographic. Once characterized by a preference for face-to-face transactions, newly Medicare-eligible retirees are increasingly engaged in social media and other online channels well suited to targeted marketing and open to web-based transactions. Millennials, being raised on such technologies, generally prefer technology-guided interactions that allow for a self-service e-commerce experience, making them an ideal audience for technology-based distribution.
3. **Technological advancement:** Building on (1) and (2), these growing addressable markets and changing consumer behaviors opened a gap in the market. To effectively execute on filling this gap required speed, agility and technological innovation – something the incumbents largely did not have the immediate infrastructure to achieve as fast as the nimbler upstarts that quickly identified this opportunity. Additionally, the pervasiveness of mobile devices and the pace of innovation enable new consumer access points to which marketing practices (e.g., content, search) must be able to adapt quickly.

Retiree health insurance: a study in the shift toward individual insurance

Medicare – a U.S. federal government health insurance program for those age 65 and over and those receiving disability insurance – has in recent years seen firsthand the growing personalization and D2C distribution of health insurance plans.

In late 2009, it became apparent that the cost and administrative effort linked to group health insurance plans sponsored by employers for their Medicare-eligible retirees were becoming unsustainable burdens. Many such plans, having been closed to new entrants, were seeing their risk pools getting smaller, older and more costly in aggregate. Conversely, with an estimated 10,000 individuals turning 65 every day in the U.S., the pool of Medicare beneficiaries grows by roughly four million people a year, creating pools of individual insurance customers that are getting larger, younger and less costly in aggregate.

Many employers sponsoring Medicare retiree health plans recognized that it was no longer economically viable to continue to sponsor such plans. Companies could no longer afford them, and there were increased fluctuations in risk and the associated financial liabilities.

Companies began pushing toward the individualization of retiree health plans; rather than individuals being a part of a company-led group coverage, companies would provide employees with the necessary tools and individual funding to buy a policy specifically suited to their needs rather than the average needs of their fellow retirees.

This shift created notable efficiency gains: Each retiree is paired with a plan that best suits his or her individual circumstances, which the employer can subsidize through a health reimbursement arrangement – a regulated financial vehicle whereby employers can set aside money to be spent tax-free on specifically allowed expenses (e.g., Medicare insurance premiums) often for a lower aggregate cost than the prior group plan.

Mass-market Medicare: bringing Medicare to the masses

This was, however, only part of the market. The provision of health insurance is not something that all retirees receive through their employers, and this, combined with the changing business landscape of the employer market and 10,000 possible new policyholders every day who may not be covered by their employers, gave rise to an additional opportunity for companies to capitalize on.

Some incumbents sought to embrace this opportunity, but the tasks of finding the potential customers, attracting them to the company's resources, and then connecting them to the right and available coverage proved challenging. Existing D2C platforms had already refined the techniques necessary to find, target, attract and connect with this market in an efficient manner, including:

- The leveraging of mixed marketing channels – using traditional (i.e., direct mail, television, radio) and digital (i.e., search engine optimization, content-based marketing, web pages) advertising streams to drive inbound interest
- Advanced routing and logging of calls to ensure that the caller is provided with the correct information for his or her location (reflecting local regulations, insurers, policies and so on) and presented with such options in a compliant manner
- Leveraging data science and advanced algorithms to adapt in real time to market conditions – pairing the right marketing channel with the right customer segment, connecting customers with their preferred transaction medium and matching them with the policies that best meet their needs

Rather than race to catch up and compete with the likes of TRANZACT, Willis Towers Watson chose to acquire and embed these skills into its existing individual Medicare insurance business to provide immediate access to the growing market opportunities. Similarly, Prudential elected to acquire and embed the capabilities of Assurance IQ to capitalize on similar dynamics in the life and health insurance markets. Through the effective leveraging of the available technology instigated by the changing business environment, all parties have experienced efficiency gains, and individual consumers have the opportunity to be more comprehensively and correctly covered than before.

The market movers

Assurance IQ

Acquired by Prudential in 2019 for US$2.35 billion, Assurance IQ, Inc. is a leading consumer solutions platform for health and financial wellness needs. Assurance IQ adds an established D2C channel to reach the underserved mass market to Prudential's business mix. The company uses advanced data analytics to enable customized solutions for more people across a broader socioeconomic spectrum.

ASSURANCE

TRANZACT

In July 2019, Willis Towers Watson acquired TRANZACT for US$1.3 billion to supplement the company's Benefits Delivery and Administration division and to enable Willis Towers Watson to exploit the growing D2C U.S. insurance market.

TRANZACT applies digital marketing, sales and data science expertise to connect individuals to leading U.S. insurance carriers.

TRANZACT

GoHealth

GoHealth is an online portal that uses algorithms to connect consumers with appropriate health insurance coverage. The investment by Centerbridge that brought GoHealth's valuation up to US$1.5 billion is to be used by GoHealth to further embed its offering in the marketplace and increase investment in its technological platform and algorithms.

GoHealth

eHealth

Founded in 1997 and operating as an individual insurance market for decades, eHealth started to enjoy increased attention and notoriety following a strategic shift to the Medicare market and the company's capitalization on the strong market dynamics for individual coverage.

As a result, eHealth has experienced a growth in its share price in the past couple of years, recording 52-week highs of over US$100 from a five-year low of under US$10.

eHealth

Policygenius

Founded in 2014, with headquarters in both New York City and Durham, North Carolina, Policygenius is an insurance comparison and intermediary platform. When users go through the online flow for life insurance, they provide some basic information about themselves (e.g., ZIP code, height, weight) and answer health-related questions. They then receive a page of personalized quotes from more than a dozen carriers, which they can adjust for coverage and term, and "check out" online by providing some personally identifiable information (i.e., name, email, phone number, address).

Policygenius has helped more than 30 million people shop for insurance and has placed US$45 billion in coverage.

Policygenius

6. The Data Center

InsurTech by the numbers

Q4 2019 reaches an all-time funding high and continues the billion-dollar funding trend

2019 surpasses annual funding high: 2019 as a whole produced 33.9% of all investment to date, with US$6.35 billion having been deployed to InsurTech companies across 314 deals in 2019. This marks a 52% increase from the total amount of investment in all of 2018. Deal activity has surpassed 2018's high and indicates a continuing trend of a growing number of deals year on year.

Seventy-five deals with a total value of US$1.99 billion were announced in Q4 2019. This was a 10% decrease in the number of deals but a 32% increase in funding total from Q3 2019.

The growth was driven by four mega-rounds (over US$100 million) to Bright Health, Next Insurance, Duck Creek Technologies and WeFox Group, as well as an additional seven deals over US$40 million.

Compared with Q4 2018, deal count in Q4 2019 increased by 17%, and funding volume increased by 25%.

Q4 2019 is now the sixth consecutive quarter over US$1.2 billion.

- In Q4 2019, rest of world activity (all countries excluding the U.S.) marginally outpaced the U.S., receiving 51% of all investment. The 49% of deals that took place in the U.S. marks a four-percentage-point increase from Q3 2019.
- The U.S. however, still remains the dominant InsurTech force. The country has been responsible for 54% of all deals and 67% of all funding since 2012. U.S.-based InsurTechs have, however, faced increased competition for funding as foreign competition continues to ramp up. China, Germany, the U.K. and France each have 4% or more of deal volume in Q4 2019.
- Myanmar received its first public deal since this publication started recording, with an investment into KBZ MS by Mitsui Sumitomo Insurance. Russia also received its first public deal this quarter.
- **Seed and Series A funding rose to US$244 million in Q4 2019, up from US$161 million in Q3 2019. This 52% rise in funding quarter on quarter was not matched by a rise in deals. In fact, Q4 2019 recorded 36 early-stage deals, a 33% reduction from Q3 2019**.
- Mid- to late-stage deal share rose by 45%, and funding increased by 61% from Q3 2019.

Comparing 2018 with 2019:

- Early-stage rounds recorded an 8% increase in deals but an 11% decrease in funding.
- Mid-stage funding rounds saw a 61% increase in the number of deals and a 57% increase in funding.
- Late-stage rounds received a 47% deal increase and a 226% increase in the amount of funding.

This significant increase in funding amount in 2019 is a result of 14 rounds over US$100 million and four massive rounds over US$300 million (Bright Health, Clover Health, Root Insurance and Lemonade)

Of the 10 InsurTech unicorns, five were created in 2019: Wefox, Lemonade, Hippo, Next and Bright Health.

P&C transactions in Q4 2019 decreased by 23% from Q3 2019 to 40 deals.

- This quarter, however, recorded a 9% rise in funding levels from Q3 and a 14% increase in funding year on year.
- The largest early-stage round went to Paris-based home insurance provider Luko, which raised US$22.14 million Series A. Investors also demonstrated interest in on-demand offerings as InsurTechs Thimble and Cuvva raised US$22 million and US$19.5 million, respectively.
- Compared with 2018, 2019 as a whole recorded a 16% increase in the number of deals and a 63% increase in funding quantity. It is largely due to nine deals over US$100 million in the P&C sector, led in dollar terms by Root's Q3 2019 round.

L&H start-ups for Q4 2019 recorded 35 deals and US$968 million in funding, a respective 13% and 71% increase from Q3 2019.

- Compared with Q4 2018, this quarter saw a 52% increase in deals and a 39% increase in funding.
- Compared with 2018, 2019 as a whole recorded a 26% increase in the number of deals and a 41% increase in funding quantity.
- L&H start-ups recorded fewer deals over US$100 million than P&C in 2019, but 2019 did see two mammoth deals:

Bright Health (US$635 million and the second biggest ever recorded by this publication) and Clover Health (US$500 million). Both deals far surpass the largest deals recorded in 2019 in the P&C sector. (In comparison, Root, the largest P&C deal of 2019, was "only" US$350 million.)

Distribution and MGAs represent 57% of deals in Q4 2019:

- Since 2014, distribution and MGAs have represented over half of all InsurTech deals globally. B2B companies represented roughly 39% of deals, and less than 7% were full-stack insurers. In Q4 2019, we see a slight uptick in deals involving full-stack insurers to 10.7% with B2B deals falling to 32%.
- In Q4 2019, 11 of 40 P&C deals went to B2B-focused companies, four were to insurers and the remaining 25 went to distribution-focused companies.
- For L&H, 13 of the 35 deals went to B2B, four went to insurers, and 18 went to distribution-focused start-ups. The three largest L&H deals were all to full-stack insurers.
- Of the 11 deals over US$45 million from Q4, four (36.4%) were insurers, two (18.2%) were B2B and five (45.5%) were distribution-focused companies. The distribution of these 11 deals across the three groups has in many ways flipped the trend, with full-stack insurers much more dominant at this higher funding level.
  - In Q4 2019, full-stack insurers received 11% of deals, B2B 32%, and distribution 57%.
  - The breakdown for 2019 and that from 2012 to 2019 are almost like for like. In 2019, B2B-focused start-ups received 40%; since 2012, they have received 41%. Insurers received 7% in 2019 and since 2012 have received 6%. Distribution and MGAs recorded 53% both in 2019 and since 2012.

Q4 2019 recorded 11 deals of over US$40 million. This surpasses the record high of 10 recorded in Q1 2019.

- 2019 recorded 38 deals over US$40 million. This was a 90% jump from 2018, which only recorded 20 such deals. 2017 only recorded 13.
- Q4 2019 recorded 17 investments of over US$20 million and 13 over US$30 million (both are a four-percentage-point rise from Q3 2019).

The largest deal of the quarter was a US$635 million Series D round in Bright Health — a new InsurTech unicorn. Bright Health offers affordable, benefit-driven Individual and Family, and Medicare Advantage health insurance plans. The round had participation from Bessemer Venture Partners, Cross Creek, Declaration Partners, Flare Capital Partners, Greenspring Associates, Meritech Capital Partners, New Enterprise Associates, Redpoint Ventures and Town Hall Ventures. Bright Health has now raised US$1.1 billion.

The next three biggest were:

- A US$250 million Series C investment in Next Insurance, an online insurance marketplace for small businesses, from Munich Re Ventures. The investment raised Next's valuation over a billion dollars, and the company joins the unicorn club. Next Insurance has now raised a total of US$381 million.
- Duck Creek Technologies raised US$120 million from Dragoneer Investment Group, Insight Partners, Neuberger Berman and Temasek. The company, which provides P&C insurance software and services, has now raised US$134 million.
- Another new joiner to the unicorn club, wefox, raised US$110 million in a Series B round, with participation from Merian Chrysalis Investment Company, Mundi Lab, OMERS Ventures, Samsung Catalyst Fund, Target Global and Undisclosed Investors. The company, which enables customers, insurance brokers and insurance providers to transact and manage insurance products digitally, has now raised US$274 million.

The remaining seven transactions over US$40 million were:

- Unqork, a software-as-a-service (SaaS) platform that digitizes the client life cycle, received a US$80 million Series B investment from BlackRock, capitalG and Undisclosed Investors. The company has now raised US$109 million.
- CarDekho received a US$70 million Series D investment, with participation from Hillhouse Capital Management, Lenarco, Ping An Ventures, Sequoia Capital India and Sunley House Capital Management. The company is an Indian auto portal that helps its users with car research, finance and insurance and has raised US$286 million.

The Data Center

InsurTech by the numbers

- Ottonova, a digital provider of both private health insurance and supplementary insurance, has raised US$66 million in a Series B round, with participation from btov Partners, Debeka, Holtzbrinck Ventures, SevenVentures and Vorwerk Direct Selling Ventures. ottonova has raised US$93 million.
- 8VC, Bienville Capital, Menlo Ventures and Tiger Global Management participated in a US$55 million Series C round in Qualia, a digital, real estate closing technology company. Qualia has now raised US$95 million.
- Friday Health, a health care affordability tool, received US$50 million in private equity from Leadenhall Capital and Peloton Equity. The company has now raised US$59.6 million.
- Foundation Capital invested US$45 million in a Series C round in States Title, a modern title and escrow platform. The company has now raised US$320 million.
- Vouch Insurance, a platform that offers an insurance product that integrates with business tools, raised US$45 million in a Series B round, with participation from Ribbit Capital and Y Combinator. The company has now raised US$70 million.

Of the aforementioned deals over US$40 million, eight were P&C-focused and three were L&H-focused.

Strategic tech investments by (re)insurers drops off significantly from the record number recorded last quarter.

Q4 2019 recorded 24 investments into private tech companies by (re)insurers, down 44% from Q3 2019.

- U.S.-based technology firms remain the number one target with 42% of (re)insurer investments, up 5 percentage points from Q3 2019.
- U.K.-based firms all received 13% of (re)insurer investments this quarter. China- and India-based companies received 8%.
- 17% of the deals were corporate minority stakes; 25% of deals were in the Seed and Series A funding stages, which is down 10 percentage points from Q3 2019, and 21% of deals were in the Series D/E+ stages, up 14 percentage points from Q3 2019.

(Re)insurer partnerships reached new highs of 33, a 74% increase from Q3 2019 and the highest ever recorded by this publication. The previous highest was 31 recorded in Q3 and Q4 of 2018

Select partnerships included the following:

- AIG has formed a strategic partnership with FIDx, a platform that integrates annuities with investment products.
- Delta Dental has invested in LVLFi, a U.K.-based start-up that deploys gamification to empower and encourage healthy lifestyles among employees.
- Gen Re and PAI Health have expanded their strategic partnership to tailor a proposition that will bring pioneering digital heart health technology to the insurance community.
- John Hancock, in collaboration with Verily, an Alphabet company, and Onduo have launched a life insurance product designed specifically for Americans living with diabetes.

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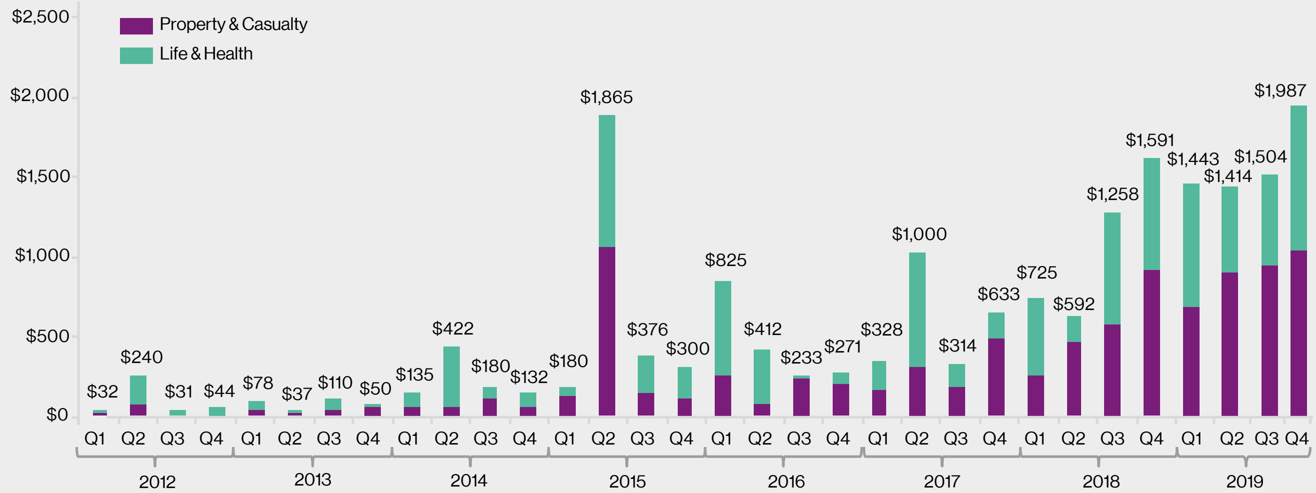
InsurTech by the numbers

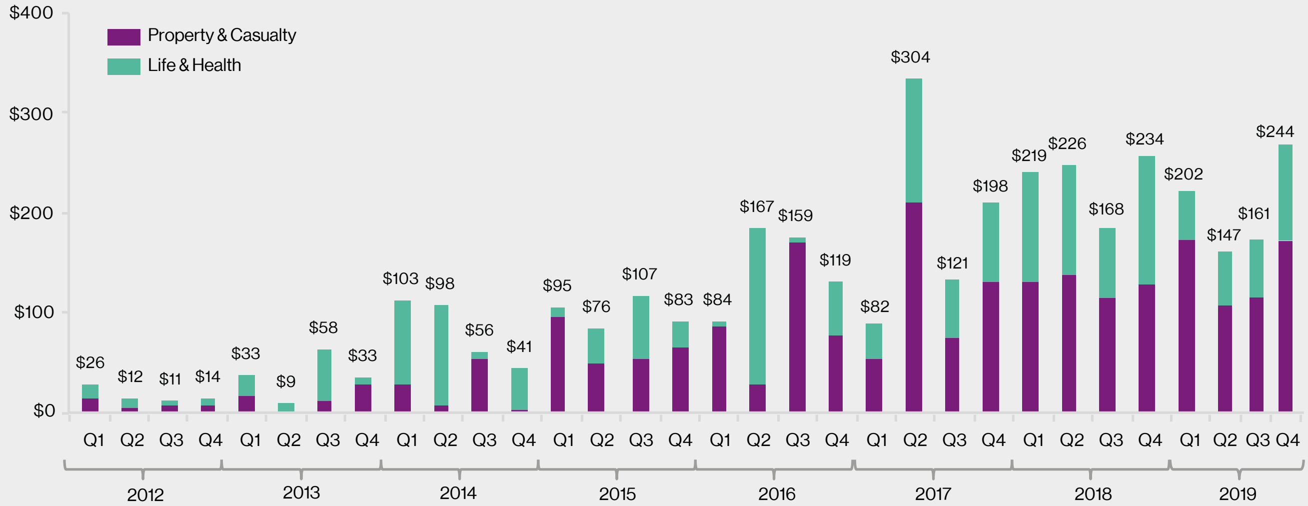
Quarterly InsurTech funding volume – all stages



Deal count

P&C:	5	3	4	4	5	4	12	9	10	7	16	8	17	13	16	21	44	18	33	29	26	37	29	45	45	46	40	41	58	49	52	40
L&H:	8	6	7	9	15	8	9	4	9	15	14	15	11	19	15	20	16	17	6	13	17	32	21	11	24	27	17	23	29	20	31	35

Quarterly InsurTech funding volume – early stage



Deal count

P&C:	4	1	4	4	4	2	6	6	5	3	10	6	13	7	9	16	35	9	25	21	18	25	21	25	32	30	22	25	36	27	35	20
L&H:	6	3	6	6	8	4	5	4	6	8	11	8	5	9	11	16	6	10	3	10	11	20	13	7	15	21	11	15	20	12	19	16

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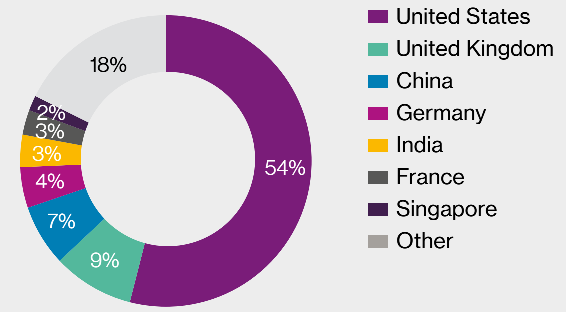
InsurTech by the numbers

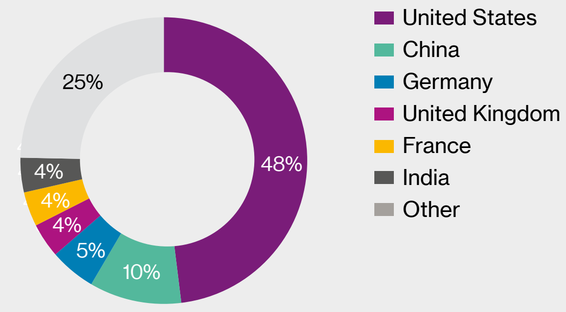
Quarterly InsurTech transactions by target country

2012 – Q4 2019



2012 – Q4 2019 Transactions: 1308

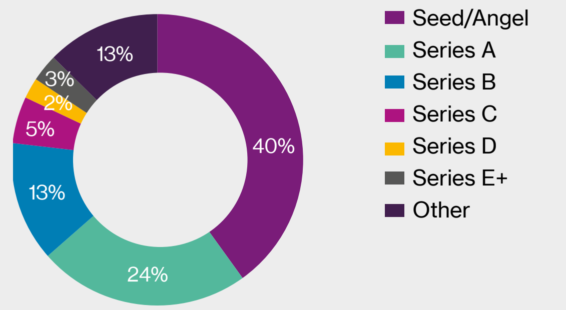
Q4 2019



Q4 2019 Transactions: 75

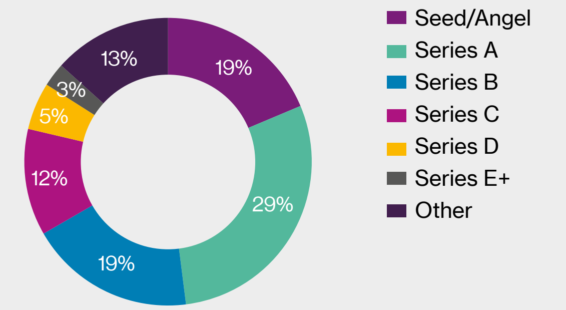
Quarterly InsurTech transactions by investment stage

2012 – Q4 2019



2012 – Q4 2019 Transactions: 1308

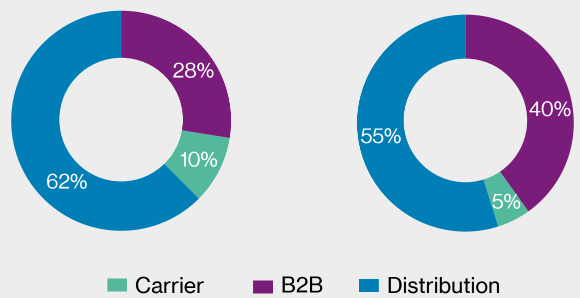
Q4 2019



Q4 2019 Transactions: 75

P&C InsurTech transactions by subsector

2012 – Q4 2019 **Q4 2019**

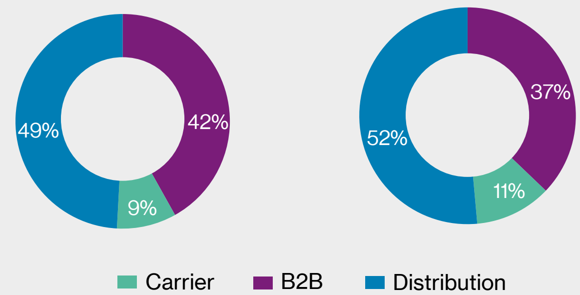


2012 – Q4 2019 P&C Transactions: 785

Q4 2019 P&C Transactions: 40

L&H InsurTech transactions by subsector

2012 – Q4 2019 **Q4 2019**



2012 – Q4 2019 L&H Transactions: 523

Q4 2019 L&H Transactions: 35

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Q4 2019 InsurTech transactions – P&C

Date	Company	Funding ($M) Round	Funding ($M) Total	Investor(s)	Description
10/3/2019	Unqork	80	109.17	▪ BlackRock ▪ Blue Seed Collective ▪ Broadridge Financial Solutions ▪ capitalG ▪ Goldman Sachs Principal Strategic Investments ▪ Undisclosed Investors	▪ Unqork is a no-code, software-as-a-service (SaaS) platform that digitizes the client life cycle and enables financial services and insurance companies to bring complex, regulated products to market without writing a single line of code. The company's patent-pending technology includes advanced calculations, decisions, UI design and workflow for risk assessment, and digitization layered on top of legacy IT systems.
10/4/2019	FloodMapp	0.88	0.88	▪ Allectus Capital ▪ Jelix Ventures ▪ Mercurian ▪ Plug and Play Accelerator ▪ Transition Level Investments	▪ FloodMapp helps insurers improve safety and prevent damages with predictive flood mapping and smart alerts.
10/7/2019	Next Insurance	250	381	▪ American Express Ventures ▪ Group 11 ▪ Markel ▪ Munich RE ▪ Munich Re Ventures ▪ Nationwide Ventures ▪ Redpoint Ventures ▪ Ribbit Capital ▪ TLV Partners ▪ Zeev Ventures	▪ Next Insurance provides an online insurance marketplace for small businesses, allowing for a process that's online, transparent, fast and complete. Next Insurance offers general liability, professional liability, workers' compensation and other types of insurance policies for small businesses.
10/8/2019	AgentApp	0.16	0.2	▪ Internet Initiatives Development Fund	▪ AgentApp is an insurance products marketplace.
10/10/2019	Corax Cyber Security	0.5	7.87	▪ Undisclosed Investors	▪ Corax Cyber Security is a software company helping organizations and the insurance community make better decisions on cyber security actions and investment. Corax's Cyber Risk Analytics Platform quantifies cyber risk for organizations and their surrounding ecosystem and automatically shows how much insurance cover and what security measures offer the highest return on investment.
10/15/2019	Thimble	22	24.7	▪ Amol Sarva ▪ AXA Venture Partners ▪ Blake Krikorian ▪ Frontline Ventures ▪ Graph Ventures ▪ IAC ▪ Irelandia Aviation ▪ Jared SimonLocalGlobe ▪ Novel TMT Ventures ▪ Open Ocean Capital ▪ Sam Shank ▪ Slow Ventures ▪ Social Capital ▪ Steve Hafner ▪ Undisclosed Investors	▪ Thimble provides flexible small business liability insurance coverage by the hour, day, week, month or up to a year.
10/16/2019	Young Alfred	10	11.82	▪ Entrepreneurs Roundtable Accelerator ▪ Google Ventures ▪ Gradient Ventures ▪ NewFund Capital ▪ Pear ▪ Undisclosed Investors	▪ Young Alfred is an insurance platform that analyzes users' needs, offers custom-fit coverage, and allows users to compare and check out online.

Note: Blue font denotes current-round investors.

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Q4 2019 InsurTech transactions – P&C

Date	Company	Funding ($M) Round	Funding ($M) Total	Investor(s)	Description
10/16/2019	Fuse	--	--	▪ East Ventures	▪ Fuse offers insurance products on its platform to cover vehicles, property, travel, health, term life and critical illness, as well as digital insurance such as, gadgets, cargo liabilities and credit default insurance, among others.
10/17/2019	The Zebra	13.55	100.08	▪ Accel ▪ AlphaLab ▪ Ballast Point Ventures ▪ Birchmere Ventures ▪ Daher Capital ▪ Floodgate ▪ Mark Cuban ▪ Silverton Partners ▪ Simon Nixon	▪ The Zebra is an online car insurance comparison marketplace. Its technology provides simple comparison of car insurance products from companies nationwide, giving consumers instant access to the massive car insurance market and saving them hundreds of dollars per year.
10/21/2019	Thinksurance	14.49	18.37	▪ Eight Roads Ventures ▪ German Startups Group ▪ Undisclosed Investors	▪ Thinksurance operates a B2B insurance distribution platform.
10/28/2019	91jinrong	--	41.6	▪ BlueRun Ventures ▪ China Broadband Capital ▪ China Growth Capital ▪ Haitong Kaiyuan Investment ▪ Haitong Leading Capital Management ▪ Harmony Riverside Investment Management ▪ Matrix Partners China ▪ Microsoft ScaleUp ▪ UNITY VENTURES ▪ Zhongze Capital	▪ 91jinrong is an online financial product sales and services platform for financial firms, small and medium enterprises (SME) and individual users. The platform utilizes personal information, needs and credentials submitted by users to provide appropriate loans and insurance services from corresponding financial institutions.
11/4/2019	Kover.ai	1.5	1.62	▪ Afore Capital ▪ MetLife Digital Accelerator ▪ Techstars Ventures ▪ West Loop Ventures	▪ Kover.ai creates autonomous insurance that runs at near-zero cost.
11/6/2019	Galaxy.AI	0.13	3.17	▪ Newark Venture Partners Labs ▪ Techstars ▪ Undisclosed Investors	▪ NanoTechGalaxy, dba Galaxy.AI, is the creator of a damage cost estimation product Galacticar, which uses artificial intelligence to automate the property and casualty insurance claim process.
11/6/2019	Leyibao	--	--	▪ Beijing Lebao Chuangying Technology Center ▪ Chuangying Technology ▪ Chunxin Capital ▪ Guosheng Financial Holding	▪ Leyibao is an auto insurance technology company that provides fund management, sales enablement, customer service and more for insurance companies, agencies, agents and other business clients.
11/7/2019	Extend	16.4	16.4	▪ Erik Torenberg ▪ GreatPoint Ventures ▪ Jason Robins ▪ Lightbank ▪ Michael Marks ▪ Pritzker Group Venture Capital ▪ Rick Smith ▪ Shah Capital Partners	▪ Extend provides an easy way for any merchant to offer extended warranties – generating revenue, increasing purchase conversion and dramatically improving the customer experience.
11/7/2019	Cover Genius	10	10	▪ Belfer Famil ▪ Jasper Tans ▪ King River Capital ▪ Marinya Capital ▪ Regal Funds Management	▪ Cover Genius provides car rental, travel, package, white goods and consumer electronics insurance to e-commerce platforms.

Note: Blue font denotes current-round investors.

The Data Center

Q4 2019 InsurTech transactions – P&C

Date	Company	Funding ($M) Round	Funding ($M) Total	Investor(s)	Description
11/13/2019	Qualia	55	95.18	▪ 8VC ▪ Barry Sternlicht ▪ Bienville Capital ▪ Clocktower Technology Ventures ▪ Formation 8 ▪ Menlo Ventures ▪ Tiger Global Management	▪ Qualia is a digital, real estate closing technology company that provides the infrastructure to streamline the home closing experience. The company offers a suite of products that brings together buyers, sellers, lenders, title, escrow and real estate agents onto a secure, shared platform.
11/18/2019	Luko	22.14	24.44	▪ Accel ▪ Bruno Rousset ▪ eFounders ▪ Founders Fund ▪ Kima Ventures ▪ Mundi Lab ▪ Munich RE ▪ Speedinvest	▪ Luko offers home insurance through an online platform.
11/19/2019	West Hill Global	0.5	4	▪ Eos Venture Partners ▪ Undisclosed Investors	▪ West Hill Global provides outcome-based solutions for the insurance industry. Its software solves problems with the property claim process.
11/20/2019	Vouch Insurance	45	69.65	▪ 500 Startups ▪ Index Ventures ▪ Ribbit Capital ▪ Silicon Valley Bank ▪ Y Combinator	▪ Vouch Insurance offers start-ups with the technology, advice and risk-mitigating tools they need to thrive. The company offers an insurance product that integrates with business tools.
11/20/2019	riskine	--	--	▪ AWS Grunderfonds	▪ riskine develops digital advisory processes for insurances and banks. Its digital advisory tools support risk identification, determination of customers' demands and needs, and product recommendations through a comprehensive algorithms-based analysis.
11/26/2019	SDA SE Open Industry Solutions	--	--	▪ Allianz X ▪ Debeka ▪ msg global solutions ▪ SIGNAL IDUNA Gruppe	▪ SDA SE Open Industry Solutions has developed a digital platform that provides data, services and solutions for the three main insurance sectors: P&C, Life and Health.
12/2/2019	Acko General Insurance	36	143	▪ Accel ▪ Amazon ▪ Ascent Capital ▪ Ashish Dhawan ▪ Atul Nishar ▪ Binny Bansal ▪ Catamaran Ventures ▪ Hemendra Kothari ▪ Intact Ventures ▪ Kris Gopalakrishnan ▪ Rajeev GuptaRPS Ventures ▪ SAIF Partners India ▪ Subba Rao Telidevara ▪ Techpro Ventures ▪ Venk Krishnan	▪ Acko General Insurance is a digital insurance company which provides a variety of insurance policies ranging from car insurance to two-wheeler insurance (scooters, motorcycles) to mobile phone insurance to Ola Insurance. Ola Insurance is passenger insurance for Ola's ride-hailing service and covers items like minor accidents involving riders as well as insurance against missing flights due to traffic delays. The insurance claim system is built into the Ola app, per Acko, to simplify the process for users.
12/2/2019	Pula	2.85	3.1	▪ Accion ▪ Choiseul Africa Capital ▪ Digital Financial Service Lab ▪ Flourish Ventures ▪ Mastercard Foundation ▪ Mercy Corps ▪ Mulago Foundation ▪ Omidyar Network ▪ Undisclosed Investors ▪ Women's World Banking	▪ Pula is an insurance intermediary that implements data driven agricultural insurance. Farmers are able to safeguard their crops and invest in their farms through financial tools that take advantage of mobile technology.

Note: Blue font denotes current-round investors.

The Data Center

Q4 2019 InsurTech transactions – P&C

Date	Company	Funding ($M) Round	Funding ($M) Total	Investor(s)	Description
12/3/2019	Cuvva	19.5	25.36	▪ Barclays Accelerator ▪ Breega Capital ▪ Digital Horizon Ventures ▪ LocalGlobe ▪ RTP Global ▪ Undisclosed Angel Investors ▪ Undisclosed Investors	▪ Cuvva offers hourly car insurance sold through a mobile app.
12/4/2019	CarDekho	70	286.1	▪ Aquila ▪ Axis Bank ▪ capitalGHDFC Bank ▪ Hillhouse Capital Management ▪ KMK Online ▪ Lenarco ▪ Ping An Ventures ▪ Ratan Tata ▪ RNT Associates ▪ Sequoia Capital ▪ Sequoia Capital India ▪ Sunley House Capital Management ▪ Times Internet ▪ Trifecta Capital Advisors ▪ Tybourne Capital Management	▪ CarDekho is an Indian auto portal that helps its users with car research, finance, insurance, used cars, and any other aspect of car buying and selling. The company has tie-ups with many auto manufacturers, car dealers and numerous financial institutions to facilitate the purchase of vehicles.
12/4/2019	KBZ MS	--	--	▪ Mitsui Sumitomo Insurance	▪ KBZ MS aims to improve the quality of life in Myanmar by delivering the right insurance solutions for all.
12/6/2019	Covered Insurance Solutions	1.5	6.13	▪ Ozmen Ventures ▪ Petra Capital Partners ▪ Rapid City Economic Development ▪ Partnership ▪ Undisclosed Investors	▪ Covered Insurance provides a smarter, simpler and more convenient insurance marketplace platform that is focused on streamlining consumers' insurance transactions and experiences.
12/9/2019	Duck Creek Technologies	120	134.42	▪ Accenture ▪ Apax Partners ▪ Dragoneer Investment Group ▪ Insight Partners ▪ Neuberger Berman ▪ Pequot Venture Capital ▪ Temasek	▪ Duck Creek Technologies provides comprehensive P&C insurance software and services delivered on-premise or via Duck Creek On-Demand, a differentiated Software-as-a-Service model. The software is designed to work independently or as a combined approach to quickly handle the needs of insurers of all sizes worldwide.
12/9/2019	justInCase	9.15	10.55	▪ 500 Accelerator ▪ AI.accelerator ▪ Coral Capital ▪ DeNA ▪ Global Brain Corporation ▪ Globis Capital Partners ▪ ITOCHU Corporation ▪ LINE Ventures ▪ Naoki Aoyagi ▪ Plug and Play Japan ▪ SBI Investment ▪ Shinsei Corporate Investment	▪ justInCase provides insurance services that allow users to choose on-demand compensation from a smartphone app when necessary.
12/10/2019	FIGO Pet Insurance	--	12.63	▪ HCS Capital Partners ▪ The IHC Group ▪ Undisclosed Investors	▪ FIGO is a Chicago-based pet insurance provider founded in 2015. It utilizes a mobile-friendly Pet Cloud that allows consumers to socially engage with fellow pet owners, find grooming and boarding locations, and discover other services within the pet ecosystem.

Note: Blue font denotes current-round investors.

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Q4 2019 InsurTech transactions – P&C

Date	Company	Funding ($M) Round	Funding ($M) Total	Investor(s)	Description
12/11/2019	wefox Group	110	274.31	▪ AngelList ▪ CreditEase Fintech Investment Fund ▪ Davidson Technology Growth Debt ▪ Goldman Sachs ▪ Horizons Ventures ▪ IDInvest Partners ▪ Lena Meyer-Landrut ▪ Merian Chrysalis Investment Company ▪ Mubadala Ventures ▪ Mundi Lab ▪ OMERS Ventures ▪ Salesforce Ventures ▪ Samsung Catalyst Fund ▪ Samuel Skoblo ▪ SBI Investment ▪ Seedcamp ▪ Sound Ventures ▪ Speedinvest ▪ Target Global ▪ Undisclosed Investors ▪ Victory Park Capital	▪ Wefox Group enables customers, insurance brokers and insurance providers to transact and manage insurance products digitally.
12/11/2019	Sunday Insurance	11	21	▪ Quona Capital ▪ Undisclosed Venture Investors ▪ Vertex Ventures SE Asia	▪ Sunday is a fully integrated sales and services InsurTech that uses artificial intelligence and digital platforms to offer personalized insurance products and services that suit all types of individual and business risks.
12/12/2019	DreamQuark	15.66	19.19	▪ Accelerateur Allianz ▪ AG2R La Mondiale ▪ Alma Mundi Ventures ▪ BNP Paribas - Plug and Play Accelerator ▪ CapHorn Invest ▪ FinTech Innovation Lab ▪ Impact USA ▪ Keen Venture Partners ▪ Microsoft AI Factory ▪ Mundi Lab ▪ NewAlpha ▪ Plug and Play Accelerator ▪ Plug and Play Ventures	▪ DreamQuark develops data analysis technologies around deep representation learning to help health care and insurance professionals develop better diagnosis, prevention and care systems that take advantage of the data that have been accumulated about policyholders, patients and diseases.
12/17/2019	REIN	--	7.3	▪ Anderson Bell ▪ Bert Roberts ▪ Christopher Ellis ▪ Jason Griswold ▪ Kiplin Capital ▪ Liberty Mutual Strategic Ventures ▪ Plug and Play Accelerator ▪ Plug and Play Ventures ▪ Steve Rabbitt ▪ Volvo Financial Services	▪ REIN 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.
12/18/2019	States Title	45	320.22	▪ Bloomberg Beta ▪ Fifth Wall Ventures ▪ Foundation Capital ▪ Undisclosed Investors	▪ States Title uses predictive analytics and technology to create a modern title and escrow platform.

Note: Blue font denotes current-round investors.

The Data Center

Q4 2019 InsurTech transactions – P&C

Date	Company	Funding ($M)		Investor(s)	Description
		Round	Total		
12/18/2019	Huckleberry	18	22.1	▪ Amaranthine Partners ▪ Ariel Poler ▪ Crosslink Capital ▪ e.ventures ▪ Flight Ventures ▪ Great Oaks Venture Capital ▪ John Kobs ▪ Promus Ventures ▪ Tom Williams ▪ Tribe Capital ▪ Uncork Capital	▪ Huckleberry aims to simplify insurance for small businesses, providing small business owners with the capability to manage all of their insurance needs through a single, elegant interface.
12/18/2019	Flyreel	2.15	6	▪ Donan Engineering ▪ Gradient Ventures ▪ Rev1 Ventures ▪ State Auto Labs ▪ Undisclosed Investors	▪ Flyreel has developed an AI-assisted underwriting solution for commercial and residential properties.
12/18/2019	Glee Trees	--	--	▪ 500 Startups	▪ Glee Trees is focused on developing cognitive automation solutions that are used in industries such as banking, insurance, shipping, logistics, government, manufacturing and services.
12/20/2019	Seyna	15.52	15.52	▪ Accelerateur Allianz ▪ Financiere Saint James ▪ Global Founders Capital ▪ Undisclosed Angel Investors	▪ Seyna is a licensed property and casualty insurer operating in Europe.

Note: Blue font denotes current-round investors.

The Data Center

Q4 2019 InsurTech transactions – L&H

Date	Company	Funding ($M) Round	Funding ($M) Total	Investor(s)	Description
10/4/2019	Proformex	2.44	6.58	▪ Undisclosed Angel Investors ▪ Undisclosed Investors	▪ Proformex is a life insurance policy management system that ensures life insurance contracts are actively managed each year.
10/7/2019	Gradient AI	6	12	▪ Forte Ventures ▪ MassMutual Ventures ▪ Sandbox Insurtech Ventures ▪ Stan Smith	▪ Gradient AI was founded in order to address the need for artificial intelligence (AI) and machine learning (ML) solutions designed specifically for the insurance industry. The company's solutions include software and models utilized by recognized Insurance carriers, MGAs, TPAs, pools, PEOs and more. Gradient's Artificial Intelligence helps commercial insurers automate and improve underwriting results, reduce claim costs and improve operational efficiencies.
10/10/2019	CaseGlide	--	--	▪ Acadian Software	▪ CaseGlide provides a case management system for insurance companies and their attorneys to streamline collaboration, automate routine processes and more.
10/15/2019	Weinibao	--	--	▪ Undisclosed Angel Investors	▪ Weinibao is an insurance decision-making platform via community and UGC content that provides free online insurance consulting.
10/16/2019	QuanTemplate	12	23.32	▪ Allianz X ▪ Anthemis Group ▪ Insight Catastrophe Group ▪ Route 66 Ventures ▪ Techstars ▪ Transamerica Ventures ▪ Undisclosed Investors	▪ QuanTemplate is a insurance reporting and analytics software built for the complex, collaborative world of the wholesale reinsurance markets. Importing, analyzing, modeling and reporting data allows QuanTemplate users to manage their whole workflow within one app. Through QuanTemplate, underwriters and brokers can conduct all operational activities required to trade in the insurance market, while optimizing their risk in real time.
10/16/2019	Stride Health	11	50	▪ DCM Ventures ▪ F-Prime Capital ▪ Kleiner Perkins Caufield & Byers ▪ Mayo Clinic ▪ Mohr Davidow Ventures ▪ New Enterprise Associates ▪ Portag3 Ventures ▪ Rock Health ▪ Venrock	▪ Stride Health is a health insurance recommendation engine. Stride Health quickly builds a health profile for each patient, then delivers a financial forecast for the patient's "health year." Stride's algorithm then filters to find a recommendation with preferred doctors, prescription drugs and even the clinical efficacy of all of the doctors included.
10/17/2019	MGAguard	--	--	▪ Cerberus Capital Management ▪ TCW Asset Management	▪ MGAguard offers specialty insurance underwriting.
10/21/2019	Bayzat	16	28.5	▪ BECO Capital ▪ ELM ▪ Endeavor ▪ Greyhound Capital ▪ Hamed Kanoo Co. ▪ Mubadala Capital ▪ Point72 Ventures ▪ Precinct Partners ▪ Raed Ventures ▪ Silicon Badia ▪ Tech Invest Com ▪ Undisclosed Investors ▪ Womena	▪ Bayzat is a technology company that provides insurance and HR solutions.
10/22/2019	Breathe Life	1.1	4.54	▪ Diagram Ventures ▪ Global Insurance Accelerator ▪ Real Ventures	▪ Breathe Life protects families, transforming the way personal insurance is bought and sold today. The API-driven Breathe Life Enterprise Commerce Platform uses advanced analytics and AI to unify customer data into a single view of the customer and dispatch leads to the right channel with the right insurance product at the right time. Using the Breathe Life platform, carriers can sell more policies through advisors, direct or anywhere in between.
10/25/2019	Vbao Technology	--	--	▪ Undisclosed Investors ▪ YeePay	▪ Vbao Technology is an insurance technology company that provides insurance fund management solutions for insurance companies.

Note: Blue font denotes current-round investors.

The Data Center

Q4 2019 InsurTech transactions – L&H

		Funding ($M)			
Date	Company	Round	Total	Investor(s)	Description
10/28/2019	Sensely	15	26.79	▪ Aflac Corporate Ventures ▪ Alchemist Accelerator ▪ Bioved Ventures ▪ Chengwei Capital ▪ Eastlink Capital Management ▪ Launchpad Digital Health ▪ Mayo Clinic Ventures ▪ Mojo Partners ▪ Nippon Life Insurance ▪ NMC Healthcare ▪ Pegasus Tech Ventures ▪ Plug and Play Accelerator ▪ Silicon Valley Bank ▪ Sojitz ▪ StartX ▪ Susquehanna International Group ▪ TA Ventures ▪ TMCx ▪ Undisclosed Angel Investors ▪ Zuellig Pharma	▪ Sensely uses natural user interfaces to intelligently connect insurance and health plan members with advice and services. Sensely's avatar and chatbot-based platforms assist insurance plan members and patients with the insurance services and health care resources they need, when they need it.
10/28/2019	Revolution Insurance Technologies	1.74	4.77	▪ Cagan McAfee Capital Partners ▪ Undisclosed Investors	▪ Revolution Insurance Technologies is an Austin-based Insurance Agency SaaS company. The company provides secondary insurance policies through an online platform. The policies are designed to pick up the huge expenses that can pile up beyond what traditional policies cover, especially in cases of cancer and accidents.
10/31/2019	HealthCare.com	18	36.6	▪ 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.
11/1/2019	Tomorrow	8.91	15.96	▪ Aflac Innovation Partners ▪ Allianz Life Ventures ▪ CFSI Catalyst Fund ▪ Christian Rebernik ▪ Clocktower Technology Ventures ▪ Curious Capital ▪ Echelon Capital ▪ Environmental Technologies Fund ▪ Financial Solutions Lab ▪ Flying Fish Venture Partners ▪ Georg Bader ▪ IA Capital Group ▪ Maschmeyer Group Ventures ▪ Matthias Willenbacher ▪ Maveron ▪ MS&AD Ventures ▪ NFP Ventures ▪ Plug and Play Ventures ▪ QED Investors ▪ Sinai Ventures ▪ Undisclosed Angel Investors	▪ Tomorrow is developing a mobile app aimed at helping millennials and working families achieve long-term financial security.
11/4/2019	Pitzi	20	38.45	▪ DCM Ventures ▪ Flybridge Capital Partners ▪ Initial Capital ▪ Kaszek Ventures ▪ QED Investors ▪ Thrive Capital ▪ Valiant Capital Partners ▪ Western Technology Investment	▪ Pitzi is a direct-to-consumer smartphone warrenty service for consumers in Brazil.

Note: Blue font denotes current-round investors.

The Data Center

Q4 2019 InsurTech transactions – L&H

Date	Company	Funding ($M) Round	Funding ($M) Total	Investor(s)	Description
11/4/2019	Avibra	3.22	3.22	▪ Aphelion Capital	▪ Avibra offers a platform that provides holistic wellbeing benefits to improve individual overall wellbeing. It uses data science and machine learning to track and reward individual good habits with life insurance coverage, which grows on a weekly basis and never decreases for less ideal ones.
11/6/2019	Bihuhuzhu	--	15.38	▪ 9C Capital ▪ Jiuzhou Jianyuan ▪ Sina Weibo Fund ▪ Will Hunting Capital	▪ Bihuhuzhu is a mutual insurance platform. The platform has launched a universal insurance plan. If a user joins the plan, the planned members will raise mutual funds for the user in the form of mutual assistance and crowdfunding when users are sick.
11/14/2019	Sport Covers	7.12	8.56	▪ Bright Venture Capital ▪ Great Wall Fund ▪ Haitun Baobao ▪ Kangyuan Huiying ▪ Yangguang Xingsheng Taihe	▪ Sport Covers has developed an online platform focused on sports insurance.
11/15/2019	Buddy	--	0.12	▪ CIT GAP Funds ▪ MetLife Digital Accelerator ▪ Plug and Play Accelerator	▪ Buddy offers on-demand accident insurance for an active, outdoor lifestyle.
11/18/2019	Addenda	--	0.01	▪ 500 Startups ▪ Beyond Capital ▪ FinTech Hive Accelerator ▪ Hub71 ▪ MITEF Arab Startup Competition ▪ Undisclosed Angel Investors	▪ Addenda is an insurance technology start-up that uses distributed ledger technology (DLT) to streamline processes and share data between insurance companies using blockchain.
11/18/2019	Arbol	2.19	2.19	▪ Undisclosed Investors	▪ Arbol connects weather-exposed businesses with risk capital providers utilizing blockchain. Smart contracts use public weather data to provide automated, local weather insurance for weather-exposed businesses across agriculture and energy.
11/19/2019	CyberCube	35	35	▪ ForgePoint Capital ▪ Hudson Structured Capital Management ▪ Symantec Ventures	▪ CyberCube delivers cyber risk analytics for the insurance industry. Its Software-as-a-Service platform helps insurance companies make better decisions when underwriting cyber risk and managing cyber risk aggregation.
11/25/2019	ottonova	66.07	93.33	▪ btov Partners ▪ Debeka ▪ Holtzbrinck Ventures ▪ SevenVentures ▪ STS Ventures ▪ Tengelmann Ventures ▪ Vorwerk Direct Selling Ventures	▪ Ottonova is a digital provider of both private health insurance and supplementary insurance.
12/3/2019	Lima Technology	28.33	34.33	▪ Cherubic Ventures ▪ Danhua Capital ▪ Funcity Capital ▪ GGV Capital ▪ Hillhouse Capital Management	▪ Lima Technology provides SaaS solutions for small and midsize insurance brokerage companies.
12/5/2019	Papaya	--	--	▪ 500 Startups	▪ Papaya offers a health care and wellness benefit platform that helps HR teams provide flexible health insurance and wellness benefit plans (e.g., gym, yoga, learning) to employees. Papaya does this by providing personalization through an app where employees can add their insurance plans and get access to a curated list of health care and wellness offerings. Papaya also provides a portal for the HR team to manage, monitor and approve reimbursements.
12/10/2019	Friday Health Plans	50	59.61	▪ 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.

Note: Blue font denotes current-round investors.

The Data Center

Q4 2019 InsurTech transactions – L&H

Date	Company	Funding ($M) Round	Total	Investor(s)	Description
12/10/2019	BeneFix	4.22	6.11	▪ Ben Franklin Technology Partners of Central & Northern PA ▪ Leading Edge Ventures ▪ Mid-Atlantic Venture Funds ▪ MidCap Advisors ▪ Undisclosed Investors	▪ BeneFix is a managed marketplace that automates and optimizes marketing, sales, onboarding, enrollment, benefits administration and servicing.
12/10/2019	Wagmo	3	3.12	▪ Clocktower Technology Ventures ▪ Female Founders Fund ▪ Harlem Capital ▪ MassChallenge ▪ Techstars ▪ The Fund ▪ Undisclosed Angel Investors ▪ Vestigo Ventures	▪ Wagmo is a monthly membership plan for pet insurance and routine care.
12/11/2019	Turaco	1.2	1.3	▪ Catalyst Fund ▪ GAN Ventures ▪ Mercy Corps ▪ Musha Ventures ▪ Undisclosed Angel Investors ▪ Villgro Kenya	▪ Turaco offers health loans bundled with insurance. It ensures that their clients can get care whenever a medical emergency arises.
12/11/2019	Sproutt	12	12	▪ Google Startup Growth Lab ▪ Guardian Life Insurance Company of America ▪ Moneta VC ▪ State of Mind Ventures	▪ Sproutt develops an AI-powered platform for life insurance purchase. It matches individuals with life insurance policies that fit their lifestyles.
12/11/2019	ArthurAI	3.3	3.3	▪ Homebrew ▪ Hunter Walk ▪ Index Ventures ▪ Jerry Yang ▪ Undisclosed Investors ▪ Work-Bench	▪ ArthurAI partners with companies in industries such as financial services, insurance and health care to develop and deploy enterprise-grade artificial intelligence (AI) systems. It specializes in centralized AI monitoring and explainability and helping businesses build and maintain control over production AI.
12/13/2019	Sobrado	--	--	▪ AXA ▪ Mobiliar ▪ Swiss Life	▪ Sobrado is an insurance platform for brokers and insurers. Brokers can create and send tenders with just a few clicks and start invitations to tender directly from their CRM. They can use the AVB database and the condition comparison as a technical supplement to the offer comparison. There are no restrictions on the choice of providers.
12/17/2019	Bright Health	635	1075	▪ Bessemer Venture Partners ▪ Cross Creek ▪ Declaration Partners ▪ Flare Capital Partners ▪ GE Ventures ▪ Greenspring Associates ▪ Greycroft ▪ Meritech Capital Partners ▪ New Enterprise Associates ▪ Redpoint Ventures ▪ Town Hall Ventures	▪ Bright Health offers affordable, benefit-driven Individual and Family, and Medicare Advantage health insurance plans. Through exclusive partnerships with health systems; affordable health insurance plans; and a simple, friendly approach to technology, the company seeks to improve the way people and physicians achieve better health together.
12/18/2019	Toffee Insurance	5.5	7	▪ Accion Venture Lab ▪ Flourish Ventures ▪ IVM Intersurer ▪ Kalaari Capital ▪ Omidyar Network	▪ Toffee provides simple, digitized insurance policies built to fit your lifestyle. The company offers easy-to-understand, bite-size products across health, lifestyle and travel.
12/24/2019	Shenlanbao	--	--	▪ Xiaomi	▪ Shenlanbao is an online platform that provides insurance reviews and knowledge-based articles.

Note: Blue font denotes current-round investors.

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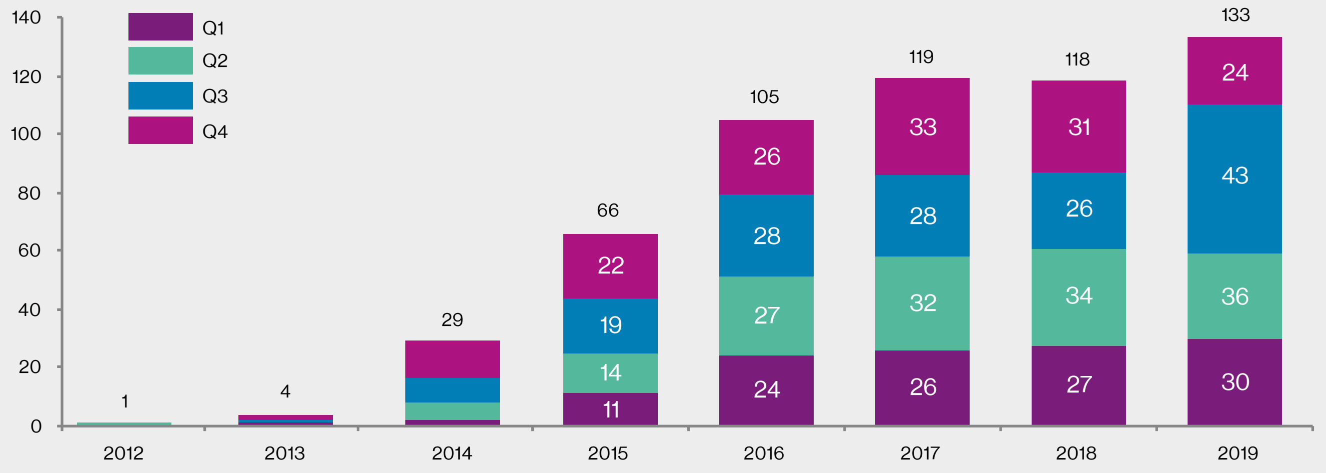
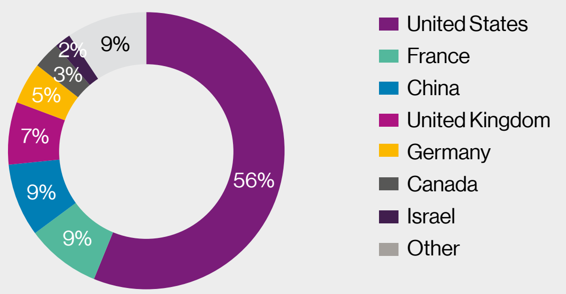
Private technology investments by (re)insurers

Private technology investments by (re)insurers



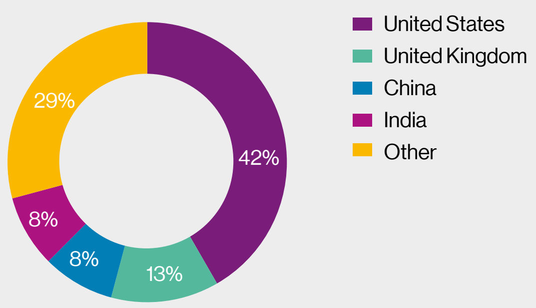
Private technology investments by (re)insurers by target country

2012 – Q4 2019



2012 – Q4 2019 Transactions: 575

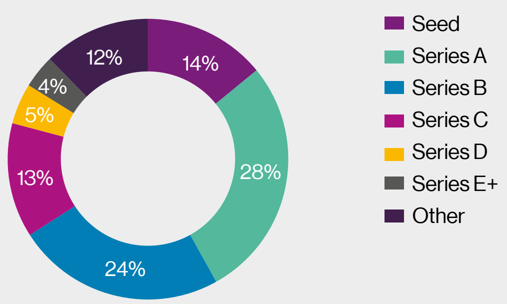
Q4 2019



Q4 2019 Transactions: 24

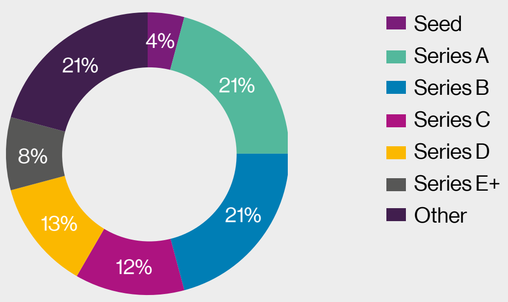
Private technology investments by (re)insurers by investment stage

2012 – Q4 2019



2012 – Q4 2019 Transactions: 575

Q4 2019



Q4 2019 Transactions: 24

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Q4 2019 private technology investments by (re)insurers

Date	Company	Funding ($M) Round	Funding ($M) Total	(Re)insurer investor(s)	Description
10/7/2019	Next Insurance	250	381	▪ Munich Re Ventures	▪ Next Insurance provides an online insurance marketplace for small businesses, allowing for a process that's online, transparent, fast and complete. Next Insurance offers general liability, professional liability, workers' compensation and other types of insurance policies for small businesses.
10/7/2019	Gradient AI	6	12	▪ MassMutual Ventures	▪ Gradient AI was founded in order to address the need for artificial intelligence (AI) and machine learning (ML) solutions designed specifically for the insurance industry. The company's solutions include software and models utilized by recognized Insurance Carriers, MGAs, TPAs, pools, PEOs and more. Gradient's AI helps commercial insurers automate and improve underwriting results, reduce claim costs and improve operational efficiencies.
10/15/2019	Building Engines	12.7	39.27	▪ MassMutual Ventures	▪ Building Engines provides property management software for the web and for mobile devices, empowering commercial real estate property management teams to effectively capture data from day-to-day work activities; easily communicate with engineers, vendors and tenants and explore service delivery performance insights, including tenant satisfaction.
10/15/2019	Thimble	22	24.7	▪ AXA Venture Partners	▪ Thimble provides flexible small business liability insurance coverage by the hour, day, week, month or up to a year.
10/16/2019	QuanTemplate	12	23.32	▪ Allianz X ▪ Transamerica Ventures	▪ QuanTemplate is an insurance reporting and analytics software built for wholesale reinsurance markets. Importing, analyzing, modeling and reporting data allows QuanTemplate users to manage workflow within one app. Through QuanTemplate, underwriters and brokers can conduct the operational activities required to trade in the insurance market, while optimizing their risk in real time.
10/17/2019	Gecco	1.45	1.45	▪ MAIF Avenir	▪ Gecco offers solutions to upcycle food service waste in a local distribution channel. Gecco collects and turns waste into renewable energies.
10/24/2019	Current	20	32.41	▪ CMFG Ventures ▪ CUNA Mutual Group	▪ Current provides collaborative banking solutions. Current's Personal Checking gets individuals paid quicker with direct deposit up to two days early and instant gas hold credits. Teen Banking is a smart debit card and app for parents to provide better financial education and independence for their kids.
10/28/2019	Sensely	15	26.79	▪ Aflac Corporate ▪ Ventures ▪ Nippon Life Insurance	▪ Sensely uses natural user interfaces to intelligently connect insurance and health plan members with advice and services. Sensely's avatar and chatbot-based platforms assist insurance plan members and patients with the insurance services and health care resources they need, when they need it.
10/29/2019	Milieu Insight	2.4	3.13	▪ MassMutual Ventures	▪ Milieu Insight is an independent market research firm that leverages analytics technology and opinion data to help visualize insights.
11/1/2019	Tomorrow	8.91	15.96	▪ MS&AD Ventures	▪ Tomorrow is developing a mobile app aimed at helping millennials and working families achieve long-term financial security.
11/5/2019	MindBeacon	13.52	28.96	▪ Manulife Financial	▪ The MindBeacon Group have developed and operate BEACON. Available Canada-wide in English and French, BEACON is a digital platform that provides every individual with a personalized Cognitive Behavioral Therapy (CBT) experience integrating the one-on-one support of a registered mental health professional.
11/19/2019	Resolution Life	--	235.87	▪ Nippon Life Insurance	▪ Resolution is a global life insurance group focusing on the acquisition and management of portfolios of life insurance policies.
11/19/2019	Car Next Door	1.02	15.23	▪ Suncorp Group	▪ Car Next Door lets car owners rent out vehicles by the hour or day to trusted borrowers. Car Next Door provides an online marketplace with strict membership criteria, a booking system, insurance and in-vehicle technology to make the transaction safe, fast, keyless and easy for both owners and borrowers.
11/20/2019	Lynk	--	5	▪ MassMutual Ventures	▪ Lynk is a business advice platform dedicated to connecting people to the right experts for advice, insights and knowledge.
11/21/2019	Asset Pro	35	109.01	▪ Ping An Ventures	▪ Asset Pro provides overseas asset management services.
11/25/2019	Huatai Insurance	1530	1530	▪ Chubb	▪ Huatai Insurance is a comprehensive financial insurance group integrating property insurance, life insurance, asset management and fund management. It is is the holding company of Huatai P&C Insurance Company, Huatai Life Insurance Company, Huatai Asset Management Company and Huatai Baoxing Fund Management Company, among other subsidiaries.

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Q4 2019 private technology investments by (re)insurers

Date	Company	Funding ($M)		(Re)insurer investor(s)	Description
		Round	Total		
11/26/2019	SDA SE Open Industry Solutions	--	--	▪ Allianz X	▪ Founded in 2016, SDA SE Open Industry Solutions has developed a digital platform (SaaS) that provides data, services and solutions for the three main insurance sectors: P&C, Life and Health.
12/2/2019	BankBI	--	--	▪ CMFG Ventures	▪ BankBI develops automated financial and banking performance management software.
12/3/2019	Lucideus	7	13.14	▪ MS&AD Ventures	▪ Lucideus is an IT risk assessment and digital security services provider. The company provides services for companies that need to protect their brands, businesses and dignity from debilitating cyber attacks. Lucideus builds and delivers information security platforms and services, both generic and customized to proactively secure, continuously monitor and reactively respond to cyber threats to their customer's technology stack.
12/4/2019	CarDekho	70	286.1	▪ Ping An Ventures	▪ CarDekho is an Indian auto portal that helps its users with car research, finance, insurance, used cars and any other aspect of car buying and selling. The company has tie-ups with many auto manufacturers, car dealers and numerous financial institutions to facilitate the purchase of vehicles.
12/10/2019	CyberGRX	40	99	▪ MassMutual Ventures	▪ CyberGRX provides a comprehensive third-party risk management platform to cost-effectively identify, assess, mitigate and monitor an enterprise's risk exposure across its entire partner ecosystem. Through automation and advanced analytics, the CyberGRX solution enables enterprises to collaboratively mitigate threats presented from their increasing interdependency on vendors, partners and customers.
12/10/2019	African Trade Insurance Agency	10	10	▪ Chubb	▪ African Trade Insurance Agency is a pan-African financial institution providing credit and political risk insurance products to support African investments and trade to companies, investors and lenders interested in doing business in Africa.
12/11/2019	Hometap	100	112	▪ American Family Ventures	▪ Hometap offers a home equity investment platform that provides near-immediate access to funds for homeowners to address important financial needs or to pursue future opportunities. In addition, the company offers accredited investors the ability to participate in an asset class with low correlation to the U.S. stock market and hedge against inflation, while allowing homeowners to retain control and responsibility for their homes.
12/12/2019	SaverLife	1.5	1.75	▪ Prudential	▪ SaverLife is a national nonprofit that gives working families the power to create prosperity for generations. As a microsavings provider, SaverLife gives families the tools to achieve life-changing goals like saving for college, buying a first home or starting a small business.

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Q4 2019 strategic (re)insurer partnerships

Date	Company	(Re)insurer partner(s)	Description
10/8/2019	FRISS	▪ Munich Re	▪ FRISS, a provider of AI-powered anti-fraud solutions for the P&C insurance industry, has extended its partnership with Munich Re. The partnership will see Friss support insurers in their fight against fraud.
10/10/2019	Accolade	▪ Humana	▪ Humana, a U.S.-based health insurance company, has invested US$20 million in Accolade, a technology platform that helps employees navigate health care.
10/23/2019	Employee Navigator	▪ Sun Life	▪ Employee Navigator, a provider of benefit and HR solutions for brokers, has partnered with Sun Life. The partnership will see small and midsize business owners offered Sun Life insurance plans by employers and help simplify the enrollment process for employees.
10/28/2019	Zipari	▪ CareFirst BlueCross BlueShield	▪ CareFirst BlueCross BlueShield, a not-for-profit health care company, has partnered with Zipari. The partnership will give CareFirst BlueCross BlueShield the ability to track the behaviors of its customers and engage them effectively to improve CareFirst's customers' health care experience.
10/28/2019	Verily, Onduo	▪ John Hancock	▪ Verily, an Alphabet company, and Onduo, in collaboration with John Hancock, have launched a life insurance product designed specifically for Americans living with diabetes.
10/30/2019	Groundspeed Analytics	▪ Travelers	▪ Travelers and Groundspeed Analytics have annouced a strategic partnership that will see Travelers simplify its new business and policy renewal processes through the use of artificial intelligence (AI).
10/31/2019	Trov	▪ Suncorp Group	▪ Trov and Suncorp Group have partnered to launch a personal auto and mobility insurance product. The product will provide coverages tailored to personal transportation in the Australian market.
11/6/2019	FIDx	▪ AIG	▪ AIG has formed a strategic partnership with FIDx, a platform that integrates annuities with investment products.
11/7/2019	Betterview	▪ Nationwide	▪ Nationwide has partnered with Betterview to deploy its roof analytics platform for commercial property underwriting.
11/14/2019	Microsoft	▪ Allianz	▪ Allianz and Microsoft have formed a strategic partnership focused on digitally transforming the insurance industry. As part of the strategic partnership, Allianz will move core pieces of its global insurance platform, Allianz Business System (ABS), to Microsoft's Azure cloud.
11/18/2019	Palantir	▪ Sompo Insurance	▪ Palantir, a data analytics company, has formed a joint venture with Sompo Insurance that will initially focus on health and cybersecurity clients.
11/27/2019	Quartet	▪ Cambia Health Solutions	▪ Cambia Health Solutions is partnering with Quartet, a mental health start-up, to better integrate behavioral health care and primary care for regional health plan members.
11/27/2019	Pikl	▪ Hiscox	▪ Pikl, a sharing economy insurance provider, has partnered with Hiscox to develop a scheme including policies aimed at people who let out their properties on a short-term basis.
11/28/2019	INSTANDA	▪ Hiscox	▪ Hiscox has expanded its partnership with INSTANDA, the cloud-based digital insurance platform. This enhanced partnership is designed to build critical distribution through the deployment of the INSTANDA platform.
11/29/2019	JRNY	▪ NTUC Income	▪ JRNY, a New Zealand-based InsurTech, has announced a new partnership with NTUC Income, one of Singapore's largest general and health insurance providers. The partnership is designed to develop AI solutions to help NTUC Income's customers better understand their policy options.
11/29/2019	Hive	▪ Horizon (UW) Limited	▪ Horizon, which underwrites on behalf of a consortium of insurers led by Legal & General, has partnered with smart-home specialist Hive. Horizon will be including the Hive Leak Sensor in all its policies starting January 1, 2020 for new business.
12/2/2019	Dinghy	▪ Allianz	▪ Allianz has formed a new partnership with Dinghy, an on-demand InsurTech start-up, to provide business insurance to the freelance market.
12/2/2019	Bastion	▪ AXA Partners	▪ AXA Partners has announced a new partnership with mobile phone and gadget insurer Bastion.
12/3/2019	Trov	▪ Lloyds Banking Group	▪ Trov has launched an end-to-end digital renters insurance application,that has been brought to market by Halifax Home Insurance, part of Lloyds Banking Group.
12/3/2019	Businessolver	▪ Allstate Benefits ▪ Cigna ▪ Pets Best ▪ The Hartford ▪ Unum ▪ Voya Financial	▪ Businessolver, a SaaS-based benefits administration technology and services provider, launched its Pinnacle Program with preferred voluntary benefit carriers and partners. Allstate Benefits, Cigna, Pets Best, The Hartford, Unum and Voya Financial are all participating in the Program.
12/3/2019	PAI Health	▪ Gen Re	▪ Gen Re and PAI Health have expanded their strategic partnership to tailor a proposition that will bring pioneering digital heart health technology to the insurance community.
12/4/2019	Philips	▪ Humana	▪ Philips and Humana have partnered to improve care and health outcomes for at-risk Medicare Advantage members. Humana has leveraged Philips' medical alert services and remote member monitoring solutions; this will enable it to actively monitor these at-risk members and encourage more timely interventions.

The Data Center

Q4 2019 strategic (re)insurer partnerships

Date	Company	(Re)insurer partner(s)	Description
12/6/2019	LVLFi	▪ Delta Dental	▪ Delta Dental has invested in LVLFi, a U.K.-based start-up that deploys gamification to empower and encourage healthy lifestyles among employees. The pilot with LVLFi is designed to assess and improve our employee needs, anticipate challenges and build an engaged workforce within Delta Dental.
12/9/2019	Intellect Design Arena	▪ Liberty Mutual	▪ Liberty Mutual announced that it will harness big data capabilities through a new partnership with Intellect SEEC. Intellect SEEC, the insurance software division of Intellect Design Arena, cleans and structures its data to automatically deliver actionable information quickly to then identify, underwrite and service accounts.
12/10/2019	Figo Pet Insurance	▪ IHC	▪ IHC and Figo have expanded their relationship, with IHC taking a 4% equity stake in Figo. Figo will continue to leverage IHC's underwriting services to enhance Figo's value proposition and continue to deliver the best value for its customers.
12/13/2019	Slice, Microsoft	▪ AXA XL	▪ AXA XL has partned with Slice Labs, a cloud-based InsurTech, to help improve the cyber resilience of Microsoft 365 Business, Office 365 Business Premium and Office 365 Business customers.
12/16/2019	Lemonade	▪ Geico	▪ Lemonade, a U.S. property and casualty insurance company, is now a GEICO Insurance Agency partner.
12/17/2019	PlanSource	▪ Mutual of Omaha	▪ Mutual of Omaha is now a participant in PlanSource Boost, a program created to modernize the employee benefit customer experience through optimized benefit hopping, simplified billing, preferred pricing and real-time integrations.
12/17/2019	REIN	▪ Volvo Financial Services	▪ Volvo Financial Services has invested in REIN to deploy next generation connected insurance services to the commercial transport industry.
12/17/2019	Vindati	▪ Zurich	▪ Zurich and Vindati have launched a new stand-alone Motor Truck Cargo program for hire common and contract truckers.
12/18/2019	H2O.ai	▪ Jewelers Mutual	▪ H2O.ai, an open source artificial intelligence (AI) and machine learning (ML) platform, has partnered with Jewelers Mutual to provide AI and machine learning capabilities to better serve Jewelers Mutual's customers.
12/18/2019	GeoSure	▪ AIG	▪ Through a partnership with GeoSure, the developer of a granular, real-time safety measurement platform, AIG's Travel Assistance app has been upgraded. Business travelers who receive insurance through a group AIG business travel policy now have access to hyper-local safety awareness functionality for more than 65,000 cities and neighborhoods.
12/30/2019	Wrisk	▪ BMW Financial Group	▪ UK-based InsurTech Wrisk has partnered with BMW Group Financial Services to offer MINI Flex Car Insurance. All new MINIs will be sold with three months' free insurance to eligible car buyers in the U.K. through the insurance product.

Quarterly InsurTech Briefing

Additional information

The Quarterly InsurTech Briefing is a collaboration between Willis Re, Willis Towers Watson 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.

Andrew Johnston
Global Head of InsurTech and
Quarterly InsurTech Briefing Editor
Willis Re

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

Matthew Wong
Senior Research Analyst
CB Insights

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