anthemis

WHITEPAPER

Reimagining Risk

Insurtech in the Digital Age

JUNE 2019

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Overview

Far more than a product, insurance addresses the entire value chain around managing risk, from determining its potential to mitigating its impact. Insurtech is similarly broad, leveraging technology and disruptive business models to pull a centuries-old industry into the digital age. This transformation impacts not only well-known companies that long have been in the business of selling policies, but also the intermediaries and specialists within the sector and the wide-ranging applications beyond.

The insurance industry's ability to analyze risk in real time means that the potential consequences of our actions are no longer fixed points, committed to paper and frozen in file folders. For example, a person's odds of a car accident were once determined at the point of a car rental. Today there are highly sophisticated ways of determining when the customer is not driving—and, therefore, has no risk of causing an accident—and when that risk quintuples. The result is better coverage at a lower cost.

The accelerated growth of insurtech is catalyzed by fintech's tremendous funding and innovation, the market's need for efficient and transparent pricing solutions, and industry competition to win evolving consumer behavior. Now is a time of bold, new ideas and headline-making partnerships that will ultimately benefit customers, entrepreneurs, investors and the insurance industry at large.

Anthemis seeks to reimagine the role of the insurer, as addressing risk has moved from paper ledgers to computers to the cloud to the edge. The insurance of the future is there not only when things go wrong, but to take an active role in ensuring that things go right.

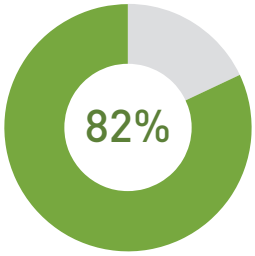
What is Insurtech?

While the ubiquity of digital technology has obscured the line between what is 'traditional' and what is 'tech,' it is nonetheless useful to use the term "insurtech" which, at its most basic, describes the intersection of insurance and technology.

The rise of insurtech has, in many ways, occurred alongside that of fintech. For just as we can now spend, save and invest with ease, speed and security never before imagined, we can also assess and mitigate risk with unprecedented efficiency.

The startup mythology of 'moving fast' looks different through the lens of insurtech: insurance operates in time horizons of years or decades, and not the months and quarters so often used to gauge progress. The once commonly held perception was that the insurance industry was slow to evolve and embrace technology. It is now becoming clear that this perspective and pace actually can be a strength.

Successful entry into the highly regulated insurance market requires a uniquely nuanced approach and, beyond technological acuity, a deep understanding of the complex landscape and culture. The enormous potential that is only now becoming apparent is the reason the insurtech story is so important to tell right now.



Insurance executives who say social, mobile, analytics and cloud technologies have moved beyond adoption silos to become part of the core technology foundation for their organizations.

Source: Accenture[1]

1 in 4

Full-time positions in Western Europe's insurance industry that may be consolidated or replaced within the next decade.

Source: McKinsey & Company[2]

$18.9 billion

Value of the global mobile insurance market. It is estimated to reach $40 billion by 2025.

Source: Verified Market Research[3]

The History of Insurtech

Insurance is the original 'big data' industry, born from the concept that more information about pools of risk leads to more accurate predictions and pricing. The earliest examples of this date from the mid-17th century, when visitors to Edward Lloyd's Coffee House were working with shipping routes and valuable cargo. Since then, technological innovations have helped insurers analyze ever-broadening data sets with speed and accuracy. They have also shifted the way that insurance is packaged and sold.

Until recently, a risk was underwritten, after which everyone involved would sit back and let fate take its course. Insurtech has brought a fluidity to risk calculation and a new level of certainty for circumstances never before considered to be 'insurable.' Today's insurance marketplace includes a broader range of funding opportunities and partnerships, and more diverse ideas about what buying and selling insurance even means.

TIMELINE

DATA EXCHANGE

- **1902:** Medical Information Bureau (MIB), a nonprofit data bank, launches to help North American life insurance companies detect fraud
- **1970:** Association for Cooperative Operations Research and Development (ACORD) forms to set global standards for the insurance industry
- **1971:** Verisk provides data analytics and visualization for the US property and casualty insurance industry

DISRUPTING THE TRADITIONAL AGENT MODEL

- **1985:** Direct Line is the first to sell insurance by phone in the UK

ADVANCED RISK MODELING AND USE OF HIGHER RESOLUTION DATA

- **1989:** Risk Management Solutions (RMS) provides advanced modeling of catastrophe risks
- **1991:** CoreLogic introduces advanced modeling of property risks
- **1996:** OBD-II port made available, paving the way for telematics

INSURANCE-LINKED SECURITIES

- **1997:** Residential Re sells the first natural catastrophe bond

  Nephila Capital Limited launches investment vehicles focused on natural disaster risk
- **2000:** Inreon and RI3K establish online platforms for trading insurance risk

ADVANCES IN CORE SYSTEMS

- **2000–2001:** Duck Creek founded in Boston, Guidewire founded in Silicon Valley—both offer a suite of core back-end software applications for the property and casualty insurance market

NEW BUSINESS MODELS/NEW WAVE OF INSURTECH

- **2012:** Oscar debuts a digital health insurance platform
- **2013:** The Climate Corporation, an Anthemis-backed digital agriculture company that helps farmers determine yield-limiting factors, exits to Monsanto for $930 million, heralding the birth of insurtech

  Trov unveils platform for on-demand, single-item insurance

  Zhong An—a joint venture between Chinese insurer Ping An and tech companies Alibaba and Tencent—launches as a Chinese online-only insurance company
- **2016:** Lemonade goes live in New York City, attracting 36,110 visitors in 48 hours

  kWh Analytics raises $5 million in Series A funding, led by Anthemis, to support risk management products for solar energy investments

The Case for Investing in Insurtech

The most recent insurtech wave was powered by distribution-focused innovation. One example is Oscar, which offers health insurance for individuals and small businesses: after receiving $375 million in funding from Google's parent company Alphabet in 2018, the startup is now expanding into new markets, including Medicare Advantage.[4] But there are just as many dynamic opportunities that exist beyond the headlines, deeper in the value chain.

Some bold new ideas will be questioned in such a well-established industry. As Deloitte put it in their 2019 Insurance Outlook: "Carriers may be depending on longstanding presumptions about how brand strength, data mastery, capital access and the complexity of their products insulates the industry from a major shake-up."[5] While inertia is the most major threat to insurtech, carriers will be rewarded in the 21st century for embracing the eventual evolution of distribution, access to data, underwriting standards and customer behavior. We expect the entire insurance value chain to undergo decades-long disruption, creating compelling investment opportunities.

Regulatory bodies around the world—including the UK's Financial Conduct Authority (FCA)—have established sandboxes in which new innovations can be tested in a controlled setting. After creating venture arms that have yielded both financial and strategic returns, several of the largest insurers and reinsurers are making significant recommitments. In early 2019, Allianz announced an increase to its venture capital arm, Alliance X, from €420 million to €1 billion,[6] and AXA's Venture Partners announced a $150 million raise for a second early stage fund, bringing its total assets under management to $600 million.[7]

"It's quite clear that data has become the new gold," said Swiss Re CEO Christian Mumenthaler in a recent interview in which he talked about the company's investments in telematics and automated underwriting tools. "Swiss Re has accumulated a lot of data over more than 150 years of existence and we think that strategically this could be a very big differentiator if we can manage it in the right ways."[8]

$9 billion+

Disclosed capital that has been committed to more than 700 insurtech investments over the past five years.

Source: Milken Institute Center for Financial Markets[9]

31

Number of strategic partnerships between reinsurers and tech companies in the final quarter of 2018—the highest number ever recorded.

Source: WillisTowersWatson/Willis RE/ CB Insights[10]

The Role of Venture Capital in Insurtech

The venture ecosystem provides a valuable window into the many ways that emerging technology is being utilized within the insurance industry. It is also key to its future: for every year since 2010, more than 80 percent of all insurtech investments have exclusively involved private equity investors, according to an analysis by Accenture.[11]

Investors new to the category may find the path to meaningful traction can be slower than is the case with other parts of the financial services industry such as payments or consumer banking. While the expectation to see returns in a few years does not necessarily apply here, the potential to shape the future is unprecedented.

The global on-demand insurance platform Trov, an Anthemis portfolio company, was founded in 2012 and signed its first partnership agreement with Australian insurer SunCorp about five years ago. Since then, the San Francisco-based company has brought to market, in both Australia and the UK, a product that insures personal possessions and tracks inventory. But only within the past year has Trov established a truly global reach—including presence in more than a dozen US states—thanks to a mobility insurance partnership with Groupe PSA's vehicle-sharing service Free2Move.[12]

What at first appears to be eight years of incremental progress is actually a completely new vision of an entire system: the idea of insurance not as the wide continuum understood by earlier generations but as a single moment in the life of an object: an 'atomic' understanding, shifting in real time, depending on whether, when, where and how we drive.

21

Number of 2018 insurtech private company financings of more than $50 million—up from 11 financings in 2017.

Source: FT Partners[13]

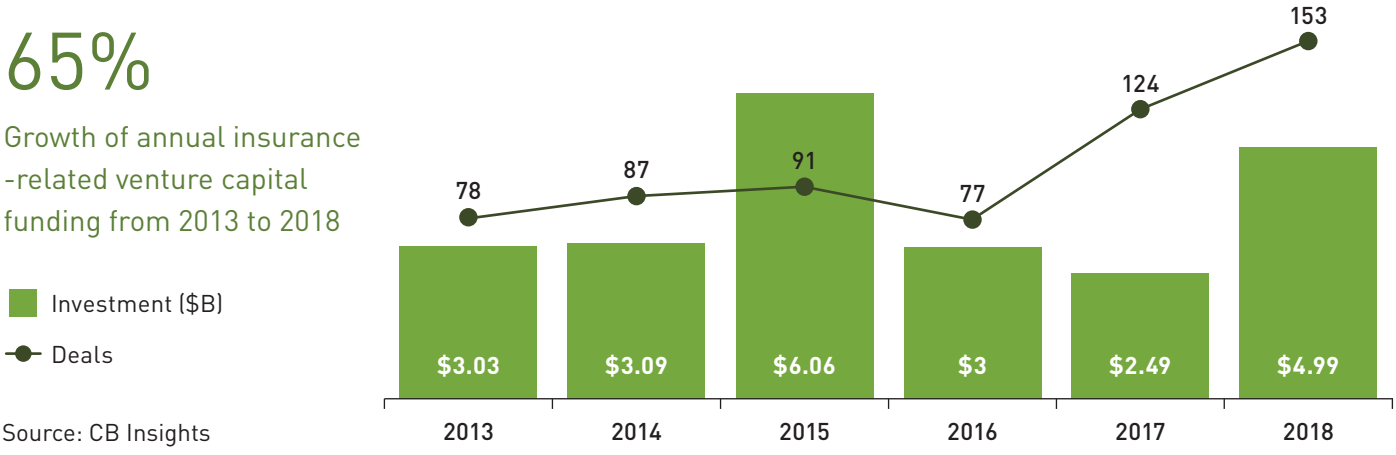
$98.8 million

Funding raised by Trov as of May 2019.

Source: Crunchbase

65%

Growth of annual insurance -related venture capital funding from 2013 to 2018



Source: CB Insights

Insurtech's Essential Subsectors

Automation and Artificial Intelligence (AI)

Insurtechs are employing machine learning in part to lower a customer's barrier to entry and to clarify complex information. "Instant everything" is the promise of Lemonade, a US-based insurtech startup now worth a reported $2 billion, which uses AI to generate personalized rental and homeowner's insurance policies.

It is a particularly appealing value proposition for customers who have come to expect a high level of convenience. Forty-four percent of global consumers say that they would be willing to buy insurance from an online service provider like Amazon or Google, according to Accenture's 2019 Global Financial Services Survey; one in three say they would like their bank or insurer to utilize services like wearables or chat bots.[14]

Risk Management

In sectors where marketplace technology has already been adopted, it is common to see the dynamic management of capacity and its automatic deployment to match parties on complex trading scenarios. Likewise, the use of placement technology in reinsurance can help all sides of the market match emerging risks.

Data and Analytics

As a higher volume of data is generated around the globe—and particularly from the multitude of new sensors and devices—industry must engineer new ways of collecting, processing and visualizing the information. Nowhere is the benefit of this more apparent than in the insurance sector, where advanced analytics and intelligent algorithms can heighten visibility, track inconsistencies and meet evolving privacy requirements.

Quantemplate, an Anthemis portfolio company, uses machine learning data integration to help insurance companies verify, analyze and share

ANTHEMIS PORTFOLIO COMPANIES

omni:us

Omni:us delivers structured data as a service by analyzing documents with highly variable layouts and extracting relevant data to radically streamline manual processing of claims and policy comparisons.

Tremor

Tremor Technologies is an open programmatic marketplace for insurance and reinsurance risk which aims to help insurers and, eventually, corporates benefit from more efficient bidding, more competitive pricing and more powerful tools to manage their capacity deployed across programs.

insurdata

Insurdata has developed a platform that enables risk engineers and underwriters to generate and transfer high-resolution data related to a building or construction site to establish a more comprehensive understanding of risk before they issue a policy.

data across multiple data sets and work with partners outside of an organization. The London-based company helps businesses become at once more open and more secure while also eliminating 'key person' risk—which is so often an issue with legacy technology.

Distribution 2.0

Traditionally, insurance has been considered a product not 'bought' by consumers so much as 'sold' by specialists who can provide context, comparisons and a fair amount of hand-holding along the way. As the timeline on pages 2–3 shows, the insurance 'sales force' has evolved from agents at the doorstep to voices at the end of the telephone line to online add-ons. The next phase will include robo-broker technologies that are already being deployed by Anthemis portfolio company +Simple, a digital-only insurance broker based in France, which offers a suite of 10 products for professionals, sole traders and SMEs.

+Simple's growth illustrates the scale of opportunities within the business community alone: a recent report from Oxbow Partners has predicted that over the next decade, cloud applications targeting SMEs "are likely to become the gatekeepers to millions of SMEs, similar to the way that social media platforms have become the access point to consumers."[15]

Technology Transfer

Technological innovations—including those far outside of what is traditionally considered to be the insurance sector—have inspired the occasionally inward-looking industry to solve emerging risk -related issues outside its bounds. Take edge computing, for example. Technologies that generate real-time data using sensors or surveillance have significant implications for any industry that deals in risk, including home, health and mobility.

Insurtech applications also have a range of environmental, security and cost benefits. Anthemis portfolio company Flo, a water monitoring and shutoff system that can detect leaks, aims to lower insurance claims for home water damage—bills that currently average near $10,000.[16] The company's Flo by Moen product, which debuted at the Consumer Electronics Show in January 2019, provides homeowners with what they describe as an "all in one security system for your home water."

ANTHEMIS PORTFOLIO COMPANIES

Matic Insurance

Matic integrates with lenders to provide home-buyers with a range of tailored coverage options during the mortgage application process.

FLOCK

Flock is revolutionizing the growing drone insurance market by offering pay-as-you-fly, as well as subscription coverage, to commercial pilots and recreational users.

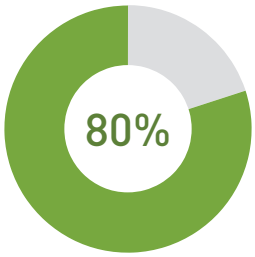
The Future of Insurtech

Protection Gap

A growing understanding of risk across a wide spectrum of experiences makes clear that, around the world, there are too many people walking a tightrope without a net—especially when it comes to their health and safety. Over the past decade, only 30 percent of catastrophe losses were covered by insurance, according to research from Swiss Re. The rest—an estimated $1.3 billion—was absorbed by people, companies and governments. The same report found that 2017 was one of the costliest years for natural disasters, with economic losses close to twice the inflation-adjusted average.[17]

The protection gap—the difference between the coverage that people have and the coverage they need—has spurred entrepreneurs and investors to action. A more highly attuned insurance market can better address and better absorb these risks, both by consolidating and improving upon old business lines as well as creating opportunities in emerging categories.

Small and medium-size farmers are another group quite vulnerable to the protection gap. Anthemis portfolio company Stable uses AI to provide sophisticated, on-demand crop insurance to protect them against volatile commodity prices.



Global CEOs who say that AI already is or will be a part of their business model within the next three years.

Source: PwC[18]

Risk Prevention and Management

Just as AI and advanced analytics can help an insurer more effectively respond to an event, so too can they help that insurer preempt circumstances—anything from machinery failure to chronic disease—in order to mitigate risk.

Auto insurance companies were among the first to use telematics-based tracking—devices, typically connected into a car's on-board diagnostics port, which can track speed, location and other factors and redetermine risk based on that information. Similar innovations are also being utilized by health insurers: data collected from customers' fitness trackers and other wearables can enable companies to adjust pricing in real time, improving efficiency and profitability.

$1 billion

Current valuation of mobile-first car insurance startup Root Insurance.[19]

Life insurance company YuLife, an Anthemis portfolio company, bills itself as a "lifestyle insurance company." In May 2019 it announced that it had raised £10 million that will go toward developing its product, which includes mobile technology to incentivize healthy choices.[20] Thoughtful digital personalization and robust communication help transform insurance companies from product providers to service providers—solving problems, or even preventing them, instead of simply intervening after the problem has already occurred.

Embedded Insurance

In the future, many key functions of financial services will be integrated into products and services to the point of invisibility. We can see this in practice now in ride-sharing platforms. While the payments technology is still first-generation—the Uber app still requires a customer to photograph or key in a credit card number, for example—the experience of taking a car from 'here' to 'there' is no longer about passing cash up to the driver or figuring in a tip.

The same is true with insurance. Risk is already a consideration within certain commercial exchanges, as is the case when you check a box to insure the flight you are purchasing online. In the future, the insurance will already be figured into the transaction—in a frictionless, almost imperceptible way—without your ever having to consider it.

Hokodo, an Anthemis portfolio company, enables online marketplaces, accounting platforms and other businesses to include insurance and financing services as part of their core offering. (Its products are underwritten by SCOR, one of the world's largest reinsurers.) In the past year, the London- and Paris-based startup has raised close to €2 million in seed funding.

Ride-sharing, and the on-demand economy in general, illustrates the ways in which technological revolutions can unfold inside one another. The sharing economy requires a newly sophisticated level of risk calculation and mitigation—provisions for protecting non-employees, for example, and assurances for contractors with fluctuating incomes. It will likely take a generation for us to truly understand the impact of these changes, even as we are already seeing their benefits.

Insurance API platform Qover, an Anthemis portfolio company, is pushing forward the notion of insurance as a service, with the goal of

helping businesses embed insurance in any experience, whether it is a B2B marketplace transaction or an electric bike.

Collaboration

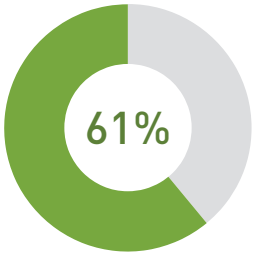
The story of financial services' digital evolution is one of ever-deepening collaboration between startups and incumbents, and nowhere is this more apparent—and promising—than in the insurance market. This is a practical matter as, by nature, insurance is a syndicated industry; in order for startups distributing insurance to succeed, they must have an insurer or reinsurer sitting behind them. But it is also a philosophical one: some of the most exciting new propositions in the category address specific needs that have wide impact across the entire value chain of insurance; their teams are actively looking for insurers to collaborate with them as risk carriers or distribution partners.

Recognizing this, insurers are, in turn, more open to engaging with startups and other entities outside their organization, even going as far as to establish incubation units. For example, in 2018, Lloyd's of London launched a 10-week accelerator, Lloyd's Lab, to support a select cohort of insurtechs they believe support the markets' digital evolution.

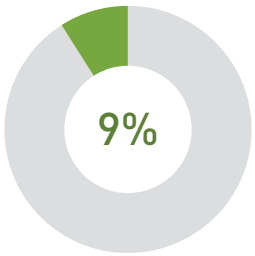
Capital

As the evolution of insurtech creates efficiencies within the value chain, some intermediaries are disappearing and capital is getting closer to the risk—and the customer. Large, well-established insurance companies are more often in the position of providing financing and licenses to partners with more advanced technology and better access to talent. On the other side of the continuum, reinsurers are questioning whether they need the insurance companies as intermediaries, when they too can leverage technology to relate more directly to risk.

Significant disruption lies ahead, which we see as good news: varied sources of capital in the marketplace mean more support for the design, test and launch of new products. That creates more competition, which leads to more innovation and a further diversification of the capital.



Insurtech platforms that currently offer their services to insurers.



Insurtech platforms that are aiming to replace incumbents.

Source: Milken Institute Center for Financial Markets[21]

$19 billion

Combined assets under management of Markel after its 2018 acquisition of insurance linked securities manager Nephila.

Source: Markel/Nephila[22]

Regulation

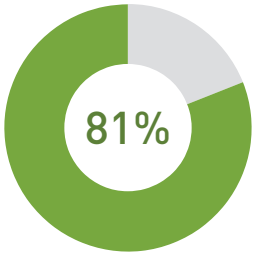
The highly regulated market of insurance has always adjusted at the pace of innovation, responding to evolving concerns about security, transparency and trust. These regulatory hurdles were once perceived as protective for incumbents but, as insurtech evolves in influence and sophistication, startups are employing compliance experts and the barrier to entry is not as pronounced.

Cultural and Social Change

The technological revolution powering this latest insurtech wave also represents a significant cultural shift. Into the historically homogenous sector of insurance come digital natives who are more diverse in background and experience—and who are able to question the ways in which long-held beliefs, legacy technology and existing infrastructure relate to their own needs.

We can already see the enormous impact across this huge and well-capitalized industry: five years ago, few insurance companies had strategy and innovation teams advising corporate development. Now these teams set the agenda, fundamentally changing the rate by which new ideas are developed, funded and implemented, and by which outside partners with specialized skills join the conversation.

As the insurance industry leverages the capacity of the technology ecosystem, it will continue to evolve, innovate and diversify greatly—in ideas, business models and consumer experience.



Insurance executives who agree that greater employee velocity has increased the need for reskilling in the organization.

Source: Accenture[23]

Conclusion

The insurance sector's old-guard thinking about innovation in the marketplace, particularly for companies overwrought with legacy technology, has shifted. Insurtech is now embraced with the same thoughtful deliberation that enabled industry leaders to effectively recognize and act on natural catastrophe risk 20 years ago and, more recently, to invest in better understanding climate change.

During the past five years, a new wave of insurtech has dramatically changed how risk is configured, calculated and delivered. Underwriting processes once expected to drag on are now contracting and, in some cases disappearing, as sensors, AI and sophisticated algorithms work with unprecedented speed and accuracy. Never has it been more clear how technology is transforming the entire ecosystem, as well as countless other industries that manage risk.

Success in this climate requires out-of-the-box thinking as well as a deep understanding of the industry's requirements and complexities. Anthemis seeks to invest in ideas that will define the category and push it forward. We see opportunities to reimagine the insurance stack, to work with risks that were never before seen as insurable and to expand access to products and markets.

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Anthemis cultivates change in financial services by investing in, growing and sustaining businesses committed to improving the world.

We were founded on three guiding principles — authentic collaboration, virtuous cycle outcomes, and diversity and inclusivity — and our deep understanding of markets and models, passion for emerging technology and values inspire everything we do. By creating fertile ground for a diverse group of startups, investors, entrepreneurs, institutions, academics and visionaries to converge, we believe we can solve the financial services world's most pressing challenges faster, better and for the benefit of all.

For the latest on the Anthemis ecosystem, visit: anthemis.com/news-and-insights

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