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Insurtech
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INTRODUCTION

Why insurtech

Insurance providers today are having to cope with rapid technological change that affects their investments, products they need to offer, and internal business processes. Total venture capital investment in insurance technology in 2015 was $2.6bn; many big insurers have themselves created in-house VC firms to stay connected to new developments, committing over $1bn for startups.

The insurance industry has been historically slow to embrace technology, lagging behind even the banking sector. This attitude is understandable - the industry relies heavily on historical data, which is generally not available for new technology, and is immensely risk-averse, as even one failure to live up to their commitments could be devastating to an insurer. Of particular interest are hence those technologies that could tackle these conditions, whether it's by providing new sources of data, or by providing new ways of investment and funding.

New customer demand

Technology is putting pressure on the insurance industry from three sides. The first are customers, who have grown accustomed to an easy, facebook-like experience in interacting with large service providers. Current insurance products are far too generalized and one-side-fits-all to appeal to a customer base that is expecting easily individualized products that they can adapt to their needs as necessary. Technology like usage-based insurance can make a provider significantly more appealing in this respect by making it possible to only pay the premium for risk-actually taken; wearables can revolutionise the healthcare insurance market by allowing for truly personalized pricing.

Competitors

The second source of pressure comes from competitors. Not only will consumers be more likely to give their business to a digital-native insurer, but entire new kinds of exposure are opening that will give a challenger an opportunity to strike. The cybersecurity market is growing everywhere, along with the pressure to contain and manage the risk better, yet traditional insurers are slow to make convincing offers to threatened customers. In addition, the blockchain is making a more decentralized market possible: while insurers could so far count on the immense need for capital as a barrier to entry, the blockchain could finally bring the transparency and reliability needed to make dynamic, small-scale insurance underwriting possible.

Internal Processes

Lastly, technology provides new avenues to cut costs in internal processes and pricing products by making available huge sources of data and enabling its more efficient analysis. Insurers currently spend a lot of money on services that aren't in their core specialty- processing claims, detecting fraud, or manually assessing new risk. New algorithms for predicting risk, for example using machine learning, will allow for vast automation of the underwriting process, and managing contracts and identities with the blockchain will reduce the resources needed for fraud detection. New diagnostic technology, like wearables for health care or GPS trackers for cars, is bringing a new wealth of data that may balance the lack of historical data that is currently keeping insurers in as-is mode.

Underwriting Automation

DATA Automation in the insurance industry can make underwriting both more efficient and more precise, with different lines offering different opportunities for automation.

Current Automation

Insurers are currently using automation primarily to support underwriters and aid in triage, with only a fifth saying their primary objective is to fully automate the process. What kind of automation is possible varies between business lines, but even in the most advanced segment, personal lines, only 42% of insurers say they have "mastered or almost mastered" automation. At the bottom end, life insurance, 80% of insurers say they are struggling or just getting started with automation.

Insurer ambitions

Insurers are focusing on personal lines and small and mid-market commercial to expand their automated underwriting capacities, with more than 40% saying they will increase their spending in each field. However, in line with being late adopters, it is estimated that only 10% of insurers will have an algorithmic business strategy in 2019 that makes use of more advanced techniques like machine learning, which could make automation viable for more involved lines like health.

New Data

For most policies in motor, home, and life an underwriter reviews between 8 and 15 factors. Current automation systems for life insurance have similarly small data requirements, with around half the systems drilling down into no more than 10 questions, and a third of them asking up to 60 follow-up questions. Most systems incorporate lab data and prescriptions databases. These amounts of data are small compared with what a sophisticated automated system could use to assess risk.

TRENDS As a naturally data and analysis heavy industry, insurance stands to profit from advances both in the sophistication of automation and in its affordability. As an industry that is also conservative and late to adopt technology, they face the risk of being outflanked by a less risk-averse challenger who's willing to bet on their automation skills.

Insurers have for more than 25 years used primitive systems to fully automate small-scale risk in simple lines (for example travel insurance), or to aid their underwriters by more effectively triaging requests and directing them to the underwriter that's best suited for them, or to do some preliminary analysis. These systems generally rely on simple rules and are seen as supporting underwriters. As automation products become easier and cheaper to implement, and new decentralised technologies like blockchain make small-scale underwriting more transparent and available, we can expect their share to increase incrementally.

More importantly, insurers are also facing a new wealth of data both for historical risk research and for better assessment of new risk that could fundamentally change the way risk is priced (see Insight on IoT). However, traditional systems are not equipped to deal with these amounts of data and few insurers are ready to implement the machine learning technology that would be. The problem is that modern machine-learning can produce results, but cannot generally explain them. Policy underwriters are naturally skeptical of underwriting risk based on a technology that provides no justification for a pricing beyond the rigour of its setup and the vastness of the data it has been trained on. However, insurers already use fundamentally similar systems for assessing their underwriters' competence---if a junior underwriter repeatedly prices a risk outside of their usual range the same way a more senior underwriter would, they will be allowed to price those risks without supervision. If insurers can learn to trust this approach with technology, too, they will embrace machine learning.

Underwriting Automation

Insights

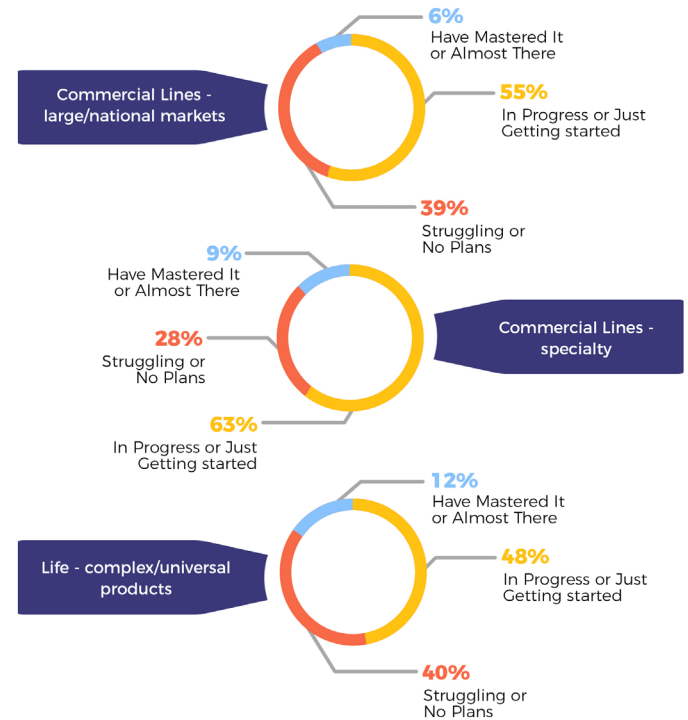
Underwriting automation will become a significant field of innovation around both reducing staffing and coping with the new amounts of data, with each business line requiring its proper automation technology. As risk assessment algorithms become more reliable and executives more confident in them, they will be able to make low-level underwriting both cheaper and more consistent. As new sources of data for risk analysis become available, insurers will have to use machine learning algorithms to be able to make sense of the vast amounts of data.

Reasons for exploring **automated underwriting**

1. Support decision making with analytics
2. Eliminate underwriters
3. Reduce time for underwriters to take decision
4. Recommend final decision to underwriter

How long have automated underwriting been **tried out** for?

Level of underwriting automation across insurance business



Thanks to SMA Research and Deloitte Research for this data

Current level of underwriting automation in insurers

Connected Devices in Insurance

DATA Connected devices in insurance describes the network of smartphones, wearables, home diagnostics and other internet-connected devices that form one of the fastest growing spaces within Insurtech. This stands to make available a new wealth of data for insurers to handle better pricing and encouragement of risk-decreasing customer behaviour.

Wearables & Diagnostics

87.7 million US adults, or about 38%, are expected to be using a wearable device in 2019, a growth mainly fuelled by smartwatches and wristbands. VCs invested around $3bn in IoT startups worldwide in 2015 and 38 million European and North American households are expected to have a smart thermostat in 2018, with two thirds of those lying in North America. Nearly two thirds of consumers already own or plan to purchase an in-home IoT device in the next 5 years.

Only 3% of insurers are already making use of wearable devices, and less than a fourth are developing a strategy for them, even though 60% of insurance executives believe that wearable technologies will be adopted broadly by the industry.

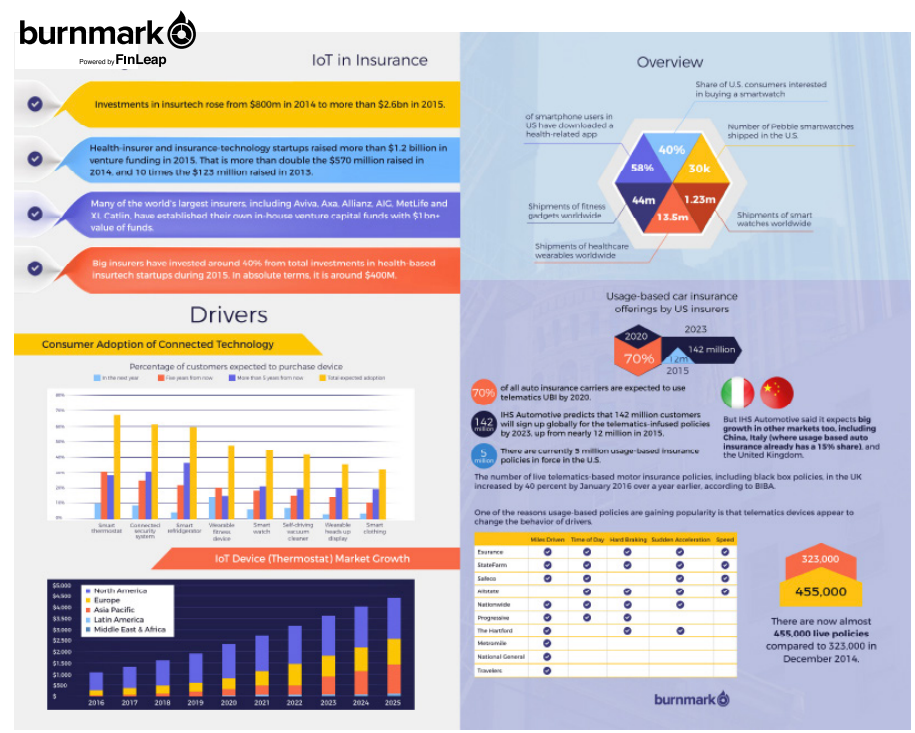
Telematics

Telematics in cars allow insurers to track driving patterns of their customers. The advent of cheap GPS devices has made this technology ready for widespread adoption with usage-based insurance (UBI) and dynamically adjusted premiums. More than 15% of the UK car insurance market is usage-based and Progressive alone has more than 4 million UBI customers in the UK. In the US there are around 5 million UBI policies in effect, and approximately 70% of all auto insurance carriers in the US are expected to use UBI by 2020, with more than 26% of all motor policies being usage-based. Usage-based programs on average lead to a 57% decrease in total claims cost.

Health Insurance

Health insurance tech startups raised more than $1.2bn in venture funding in 2015, more than twice as much as in 2014, and making up almost half of the $2.6bn in venture funding that were raised by insurance tech startups overall. Insurers themselves have committed more than $1bn to investments in startups and many of them have established their own in-house venture capital funds to exploit IoT and ready themselves for new markets.

58% percent of smartphone users in the US have downloaded a health-related app, and around 41% have more than five health-related apps, generating data that insurance providers could use to finetune their individual premium pricing and encourage low-risk customer behaviour. The first insurance company to offer discounts to customers using technology aids for better living was John Hancock in 2015. Other companies in the US and elsewhere have since followed suit, offering up to 15% premium discount.



click to view in browser

Connected Devices in Insurance

TRENDS The number of connected devices is projected to grow by 35% each year over the coming years. This creates a new wealth of data which insurers see as important but do not know how to tackle. To understand how insurers can approach the issue, we must look at the health insurance industry, which is at the forefront of integrating wearable tech and makes up for about half of all insurance tech investment.

Most of the efforts to integrate technology by insurers are simple and mainly designed as promotions, like awarding credits for a number of steps taken: this is a far cry from what big data could do for adaptive premium pricing based on comprehensive health data for each customer. The problem is likely a skepticism towards new technology for which no historical experience is available (also see Insight on "Automated Underwriting").

The other major industry using connected devices is car insurance. Here discounts are given to customers who drive less and more safely than others, and the benefits so far have been clear: a 57% reduction in claims. It remains to be seen how much of this reduction will turn out be a temporary Hawthorne effect, but it is sizeable enough to pique interest everywhere. Their major problem is that so far insurers do not penalize worse-than-average drivers, and it is unclear to what extent customer will accept self-tracking as mandatory or de-facto mandatory by pricing. The same issues will also have to be faced by other insurance industries moving to integrate IoT.

Insights

Insurers agree that the internet of things and wearables will play a major role for the industry, but have so far only used them in often gimmicky, promotional efforts, hindered by the fact that they cannot penalize customers for risk-increasing behaviour. The health insurance market is the main point of investment for insurance tech, but the rise of smart devices everywhere makes innovation possible in all parts of life. The first insurer to overcome the regulatory hurdles and offer truly adaptive and responsive insurance that is not limited to one or two factors but embraces big data will have a strong first-mover advantage.

Cybersecurity

DATA The cyber insurance market grows each year both in size and import but is insufficiently understood and served by insurance providers, who so far have few technological options to contain, predict, and address cyber risk.

Risk levels and market size

Estimates for the yearly cost of cybercrime vary from €330bn to €506bn. The cost will increase as businesses and their supply chains become more digitally integrated. In the past three years, the average economic impact of cybercrime per organisation in the US has risen from $11.56m to $15.42m. The lion's share of this impact comes from the cost of business disruption. The global market for cyber insurance is estimated to rise to $20bn in premiums by 2025.

Customer awareness and adoption

Businesses are insufficiently insured and informed around cyber risk. Around 40% of Fortune 500 businesses currently have insurance against cyber incidents, but generally not enough to cover their full exposure. In the US, 24% of all business have some form of cyber insurance. 48% of enterprise customers say they lack the necessary understanding of the complexity of cyber risks to better prepare against them.

Available products and expertise

Of the 10 largest insurers, only 5 offer standalone cyber coverage. While 90% of all insurance underwriters offer cyber insurance as an add-on to other products, more than 50% do not have any dedicated underwriters for cyber risk and rely on underwriters for other lines. Consequently, 70% of insurance brokers claim there is little to no clarity about what is covered in cyber products.

TRENDS Cyber insurance is a major challenge for insurers as there is little historical data to inform the correct insurance pricing, and there is great variation from year to year in the kind of cyber attacks and damages business face most. Technological solutions to better protect against cyber threats or at least contain the risk are unsatisfying. As a consequence, the traditionally conservative, risk-averse, and technologically skeptical insurers are failing to live up to their role as protectors of businesses against new, existentially threatening cyber risks.

While adapting rapidly, the strength of protection against cyber crime is unlikely to proportionally increase with the strength of the attacks, so defenses against cyber attacks are usually about one generation behind, with new types of attacks emerging each year. Businesses and their supply chain are digitally integrating to an ever larger extent, so both the target size and sophistication of cyber attacks will lead to rising risk and damage from cyber incidents, creating more exposure for businesses everywhere.

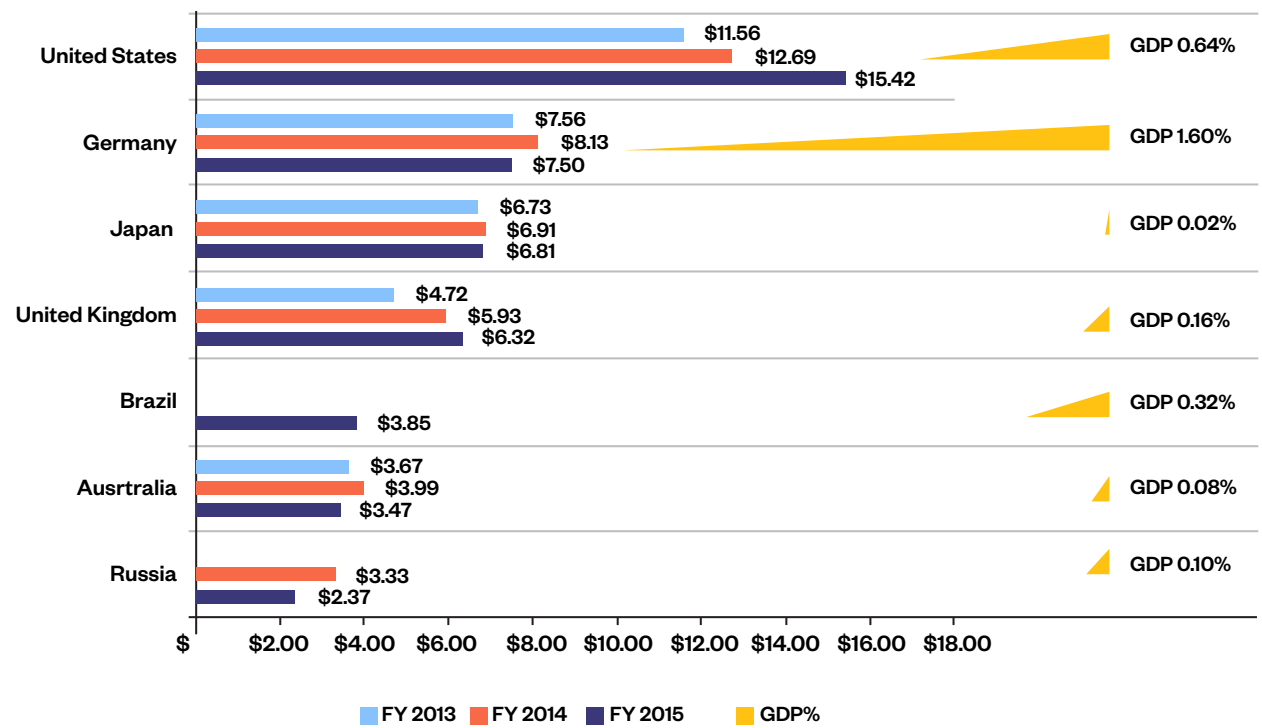
These businesses as insurance customers are by and large aware of this threat but find themselves insufficiently informed about how to protect themselves because insurers fail to provide the much-needed expertise. The damage to different developed countries' GDP from cyber crime ranges from 0.5% to 1.5%. As this share increases, we can expect regulatory pressure, which already represents a big liability risk for cyber incidents, to lead to an even higher demand for comprehensive cyber insurance.

At the moment, insurers are still unsure about how to best underwrite cyber risk and often go the safe route of not offering dedicated cyber products at all, or only offering very limited products. As cyber insurance becomes more of a business necessity, insurers who cannot provide expertise on it will seem unreliable and unfit to support a business and see their market share suffer in other lines as well, and hence this area becomes an important space for further investment.

Cybersecurity

Insights

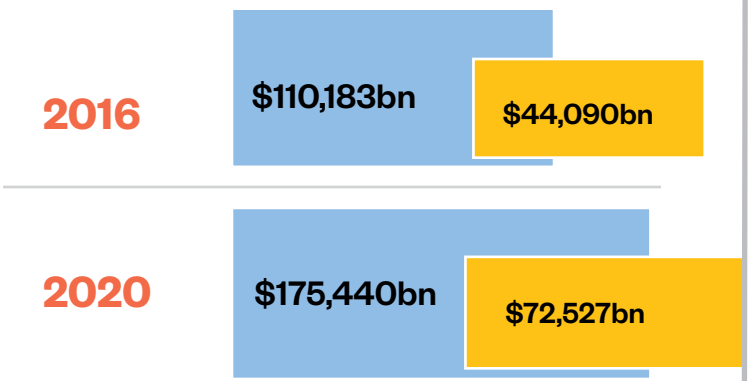
Cyber risk is a major, growing risk to insurance providers, including banks, and businesses looking for insurance, both because of liability exposure and the threat of business interruption that could run into substantial unplanned-for costs. Even though awareness is increasing among business leaders, insurers are struggling with offering the right products with relevant features and pricing because of their lack of experience. An insurer that knows how and is willing to underwrite this new type of risk will quickly capture a sizeable market share. There is a level playing field for insurers and new players as there is no historical data available for both - agility and willingness to use new sources of data could be a competitive edge for new insurtech players.



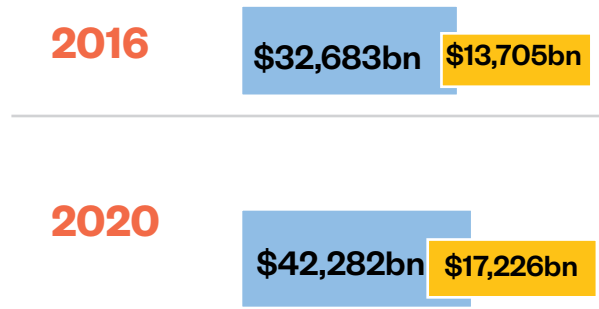
Regional variations in cybersecurity costs versus GDP

Expected Market Sizes for Insurtech

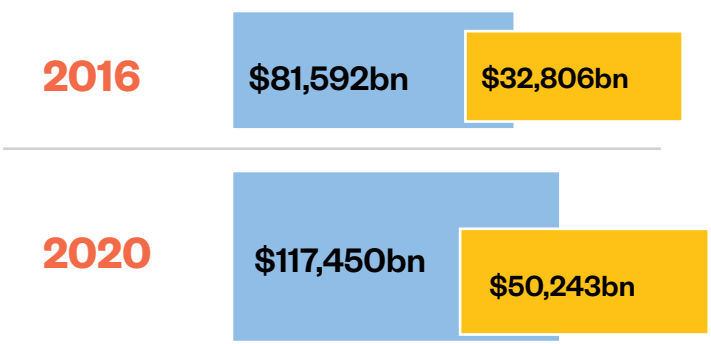
Market sizes - Global



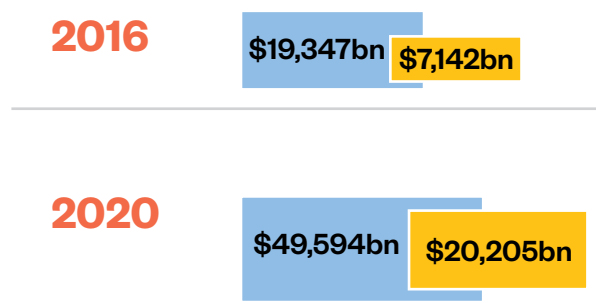
Market sizes - USA



Market sizes - UK+EU



Market sizes - Emerging Markets



Market size available for Underwriting Improvements

Market size available for Claims Processing Improvements

If the numbers seem terribly big and unreal, we need to remember that the market available is extremely difficult to capture in the insurance space due to strict regulations, high risk premiums, large amount of legacy replacement required to reach these levels and high fragmentation in the insurtech space. Let us know your thoughts at info@burnmark.com.

REGULATIONS

Insurtech: Regulatory models

United States of America

The Federal Insurance Office, U.S. Department of the Treasury; How to Modernize and Improve the System of Insurance Regulation in the United States is a briefing on the Obama-passed Dodd-Frank Wall Street Reform and Consumer Protection Act that is relevant to the insurance industry.

USA Federal Insurance Hierarchy

Board of Governors of the Federal Reserve System

Financial Stability Oversight Council

Federal Insurance Offlice

Figure 1: The Dodd-Frank Act established the Financial Stability Oversight Council, which reports upcoming risks to the Board of Governors of the Federal Reserve System. The Dodd-Frank Act also established the Federal Insurance Office (FIO).

Regulations regarding Insurtech

Regulators have welcomed the idea of automotive telematics which are in-car systems that track data such as driving speed, mileage, and braking. Because systems are optional, regulators appreciate that consumers have the option to save on premiums through the use of the technology, but at the same time can also choose the traditional route.

On the other hand, regulators have been more resistant to insurtech's that are not an option. Some insurance agencies interested in analytical data to determine policieson the basis of nutrition, buying patterns, exercise activity and day to day life through parameters. Policies set on this basis would give a much lower level of risk to insurance companies. Although, generally regulators shy away from accepting this kind of use of technology because it would not be optional and brings concerns regarding privacy and discrimination.

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REGULATIONS

Insurtech: Regulatory models

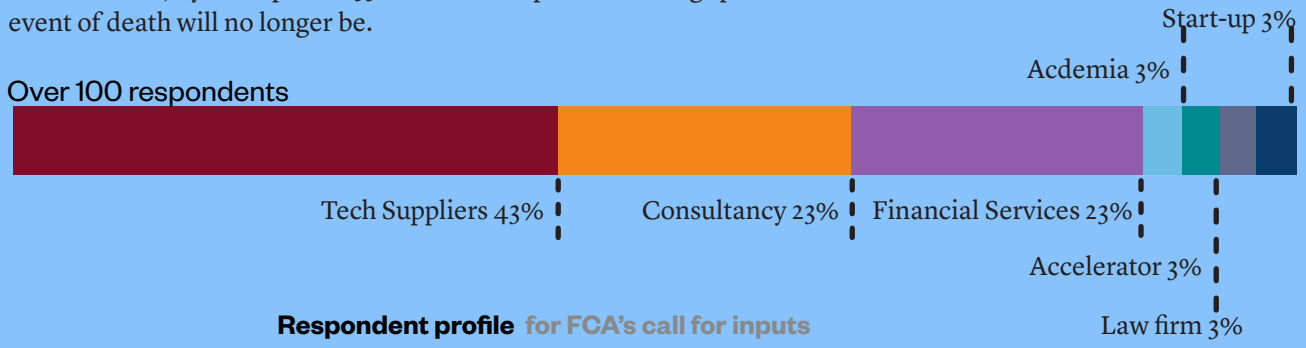
United Kingdom

The Financial Conduct Authority (FCA) has issued a call for input named Project Innovate: RegTech. FCA wants to understand:

- What role they should play
- What blockers to innovation there may be
- Which rules and policies would help
- What RegTech could be introduced in order to make it easier for firms to interact with regulators.

In a report by EY called European Insurance Outlook under the section Macroeconomic UK focus: economic expansion continues, but regulatory and taxation changes will continue to present a challenge the report states, "The Bank of England is likely to start raising interest rates...the Bank of England has made clear that the risks around insurers investing in less traditional assets in a hunt for yield are firmly on their radar."

For insurers a saturated market will mean reduced earning potentials in the UK market. The acceleration of this has been and is being caused by crawling websites, which allow potential customers to easily shop around for the best price and policy available on the market. Meanwhile, tax reforms will make for a tougher life in the UK life sector, by example the 55% tax rate on pension savings passed on in the event of death will no longer be.



Respondent profile for FCA's call for inputs

Singapore

Under the Monetary Authority of Singapore (MAS) insurers are licensed and governed under the Insurance Act (IA).

If in Singapore a licensed insurer is in use of a web aggregator, the insurer may be responsible for fees for any of the following.

- The operation of the web aggregator
- The development of the web aggregator
- The maintenance of the web aggregator
- The usage by the licensedof the web aggregator

A mention regarding possible investments into insurtech's is as follows: "No licensed insurer which is established or incorporated in Singapore shall acquire or hold, directly or indirectly, a major stake in any corporation without the prior approval of the Authority." Any insurer failing to comply could be fined up to $250,000.

REGULATIONS

Insurtech: Regulatory models

Germany

BaFin, Germany's Federal Financial Supervisory Authority published Versicherungsaufsichtsgesetz (VAG) or the Act on the Supervision of Insurance Undertakings.

The Supervisory Authority monitors all business operations of insurance undertakings of general legal supervision and specific financial supervision. It ensures that the interests of the insured are adequately safeguarded and the laws of the operation of insurance business are adhered to. The objective of legal supervision is the proper operation of insurance business, including observance of the rules governing supervision, insurance contracts and any other provisions concerning the insured.

Regarding insurtech, the Act mentions the below regulatory areas.

Transfer of data

- Provisions that restrict the transfer of data shall not apply to the transfer of data between insurance undertakings that are subject to supplementary supervision and between them and their participating undertakings and affiliated companies, if such data transfer is necessary for compliance with the prudential rules applicable to the undertaking domiciled abroad. The Supervisory Authority may prohibit an insurance undertaking from transferring data to a non-member state.

Statistical data in health insurance

- The Supervisory Authority shall publish general probability tables not related to specific premium scales, as well as other relevant statistical data for health insurance
- Insurance undertakings domiciled in Germany that carry on health insurance are required to annually communicate to the Supervisory Authority the data required for the publication
- However this regulation does not impact new private players in the industry as there is only no market competition in terms of risk selection for statutory health insurance companies

Sanctions

RelayRides (now Turo)	Department of Financial service (DFS) sanctioned RelayRides (now Turo) a startup peer-to-peer automobile rental company $200,000 for claims of putting customers at risk through "false advertising, unlicensed insurance activity and other violations." In essence RelayRides/ Turo's violation was selling third-party insurance policies that were not licensed by the DFS.
Zenefits	A health insurance startup is under scrutiny by the states of Washington, Arizona, California, Massachusetts, Michigan, Nevada, New Jersey, and New York for its employees selling policies in these states without the proper licenses to do so. The CEO Parker Conrad does hold licenses for all of them, but that doesn't cover his employees. For 2 years Zenefits was selling policies while only encouraging its employees to have licenses but without the strategy to ensure it.

INSURTECH PLAYERS

There are two major types of innovation happening with insurtech firms.

One type of innovation supports the legacy insurance service providers with their current activities, streamlining the processes, reducing costs and transforming the way traditional aspects of the value chain works, for example with devices that can now handle IoT.

The second type of innovation is customer-facing, helping the customers pick and choose insurance products and services better, helping them compare options or offering them completely new products never seen before. These products also target niche target customer groups (like SMBs)

If you'd like to see the full list of insurtech firms, please contact info@burnmark.com or @burnmark_.

2	Drive Way	http://www.driveway.ai/	2011	San Mateo, Californi	United State	Driver Assistance	Driveway makes software that helps ordinary drivers	$11.63M	AltaIR Capital, Ervington Inv	Seed + Series A
3	EagleEye Analytics	http://eeanalytics.com/	2007	Columbia, SC	United State	Insurance Technology	Eagle Eye Analytics provides SaaS-based predictive an	NA	Guidewire Software	Acquired
4	Enservio	http://www.enservio.com/	2004	Needham, MA	United State	Insurance Technology	Enservio provides software and service solutions help	NA	Solera Holdings	Acquired
5	Finance Fox	https://www.financefox.de/	2014	Berlin	Germany	Digital Insurance Managem	FinanceFox insurance brockerage app lets you manag	$35.5M	AngelList, Horizons Venture	Seed+ Series A
6	Gusto	https://gusto.com/	2011	San Francisco, CA	United State	Employee Insurance	Gusto is a comprehensive HR, payroll, and benefits se	$155M	AFSquare, Altimeter Capital,	Series A + Series B
7	Insureon	http://www.insureon.com/	1997	Chicago IL	United State	Online Insurance	Insureon is an online business agent that provides ins	$31M	Accretive LLC, Oak HC/FT	Venture+Series A
8	Jetty	http://www.jetty.com/	2015	New York, NY	United State	Online Insurance	Jetty is a New York City-based insurance start-up wor	$4M	BoxGroup, David Tisch, Adai	Seed
9	Maxwellhealth	http://www.maxwellhealth.c	2012	Boston, MA	United State	Employee Insurance	Maxwell Health provides a Web and mobile-based en	$69.4M	Adams Street Partners, Box(	Series A+ Series B+ Series C
10	Namely	https://www.namely.com/	2012	New York, NY	United State	Employee Insurance	Namely is a HR, Payroll, and Benefits platform for em	$107.8M	Alan Schanzer, Bullpen Capi	Seed+ Angel+Venture +Series A+S
11	Oscar	https://www.hioscar.com/	2013	New York, NY	United State	Health Insurance	Oscar is a health insurance company that employs tec	$727.5M	BoxGroup, Adam Rothenber	Series A+ Series B+ Series C+ Priva
12	Plansource	http://plansource.com/	2002	Orlando, FL	United State	Employee Insurance	PlanSource Holdings, Inc., a Web-based human resou	$94M	Great Hill Partners, Lemhi V	Venture+ Series B Debt Financing
13	PolicyBazaar	https://www.policybazaar.co	2008	Gurgaon,	India	Digital Insurance Aggregato	Policybazaar is an Indian online life insurance and gen	$69.6M	ABG Capital, Info Edge, Intel	Series A+Series C+ Series B+ Serie
14	Praedicat	https://www.praedicat.com/	2011	Los Angles, CA	United State	Insurance Analytics	Praedicat improves the underwriting and manageme	$12M	NA	NA
15	Social Intelligence	http://www.socialintel.com/	2010	Santa Barbara, CA	United State	Insurance Analytics	Social Intelligence provides social media and next gen	NA	Horizon Technology Finance	NA
16	Zags	http://www	2013	New York, NY	Unit	Insurance Technology	Zags is a provider of insurance software committed to	$30M	Undisclosed	NA
			2013	San Fr		Employee Insura	s HR management and	3.6M	Aaron Levi	con, Seed + Series A + Series B+ Se

Some Insurtech Partnerships

Global Insurance Accelerator

- FLUTTRBOX — $40K / Seed
- CityMile — $40K / Seed
- Tyche — $40K / Seed
- ISAAC RE — $40K / Seed
- DRIVE SPOTTER — $40K / Seed
- WeSavvy — $40K / Seed
- Telematics.com — $40K / Seed
- ClinicNote — $40K / Seed
- Serios Social Media — $40K / Seed

AVIVA

- appyparking — £3M / Series A
- cocoon — Seed
- opun — Seed

AXA

- Particeep — €800k / Venture
- WELLTH — $2M / Seed
- FLYR — $500k / Seed
- mediones — Seed
- policygenius — $15M / Series B
- Art2M — €500k / Seed
- LimelightHealth — $3M / Series A
- autolina.ch — Seed
- BIOBEATS — $2.28M / Seed
- Blockstream — $55M / Series A
- NEURA — $11M / Series A
- Co Promote — $3.17M / Series
- SignUp.com — $11M / Series A

Allianz

- simplesurance — Venture
- ARGUS CYBER SECURITY — $26M / Series B

BBVA

- Hixme — $14.1M / Series B
- Hippo — Seed

B3I Consortium

AEGON, Allianz, Munich RE, Swiss Re, ZURICH

Munich RE

trōv, GCube SOLARPRO, beazley

Swiss Re

eKincare, Touch Kin, GOQii, Slice

POINT OF VIEW

SOLVENCY II

For Europe, a new epoch started on the 1st January 2016 when Solvency II was introduced. Solvency II is a regulatory framework that sets high expectations towards insurance companies and their equity. It forces insurance companies to build equity so that insurance companies can survive any big catastrophic events.

High capital requirements as entry-hurdles to start-ups

Within the three pillars of Solvency, the first pillar describes the capital requirements of insurance companies. Therefore, Solvency demands insurance companies to have additional capital on top of their insurance reserves. What does that mean?

An example: An insurance company sells a liability insurance. There is a personal damage and it is not clear, for how long hospital treatment etc. has to be paid. That is a long-term claim for which an appropriate reserve has to be built. Those reserves can, depending on the lines of business, be more than 100% of the gross written premium per year. For the average insurance company, those reserves were built over a long period of time, since insurance companies often exist for more than 50 years.

For startups, which have the goal to become a real insurance company, this is different. A new venture here has to build up reserves from scratch, which are an additional burden for the performance within the P&L.

Solvency Risk Capital and Minimum Capital

This is where Solvency comes into play. Solvency demands insurance companies to have an additional amount of own funds on top of insurance reserves. That additional equity is needed to cover the risk for nearly all possible dangers and on top the cost of settlement if a company fails.

This amount of capital needed is called Solvency Risk Capital (SRC) and is the result of an extensive formula. Since a startup does not have any business when it starts, the SCR would be close to zero. Since that would also account to small insurance companies, Solvency II sets a minimum capital required (MCR), which is believed to be sufficiently high to fulfill safety needs.

On top of the regulatory capital requirement by SCR or MCR, firms should have further additional funds as a reserve. The problem is that as soon as the ratio of own funds to the capital required falls below one, companies are forced to reduce their risks, e.g. sell their portfolio or stop selling risky but profitable products.

Costs for a new insurance company greatly exceed average startup costs

All in all, founding a new fully licensed insurance company is a very costly thing to do: costs for a general company setup have to be paid, money for reserves has to be planned and the MCR plus additional own funds have to be taken into account, which could run into several million euros.

Consequences for venture capital

For investors, it has to be clear that a large portion of the money invested will be only used to build insurance reserves or own funds due to Solvency II. Thus, building a new insurance company is not a classical venture capital target since the weight of unit economics due to the legal frame is extremely high.

Given Solvency II requirements, a fast growing startup may not turn successful with only one product. If a company solely has one single rocket-speed product, the SCR might increase extremely as well. There will be high additional investment needed due to regulatory capital requirements.

A solution for insurtech's is to become an MGA (Managing General Agent), for which capital requirements are lower.

If a startup insists on becoming an insurance company in order to reshape the backend processes of the insurance industry where some real value is hiding, it might be beneficial to search for strategic investors, who want to enrich their existing business with a digital insurance.

Market-oriented view and valuation

What does Solvency II do differently from existing regulations regarding the valuation of capital? Solvency II introduces a market oriented view. Thus, in addition to local rules, e.g. the trading law HGB in Germany, a second perspective onto the assets of a company characterized through a market-based evaluation is given. This eventually means that each asset or liability of a company is not measured through its book value, but through its market value instead, e.g resale values.

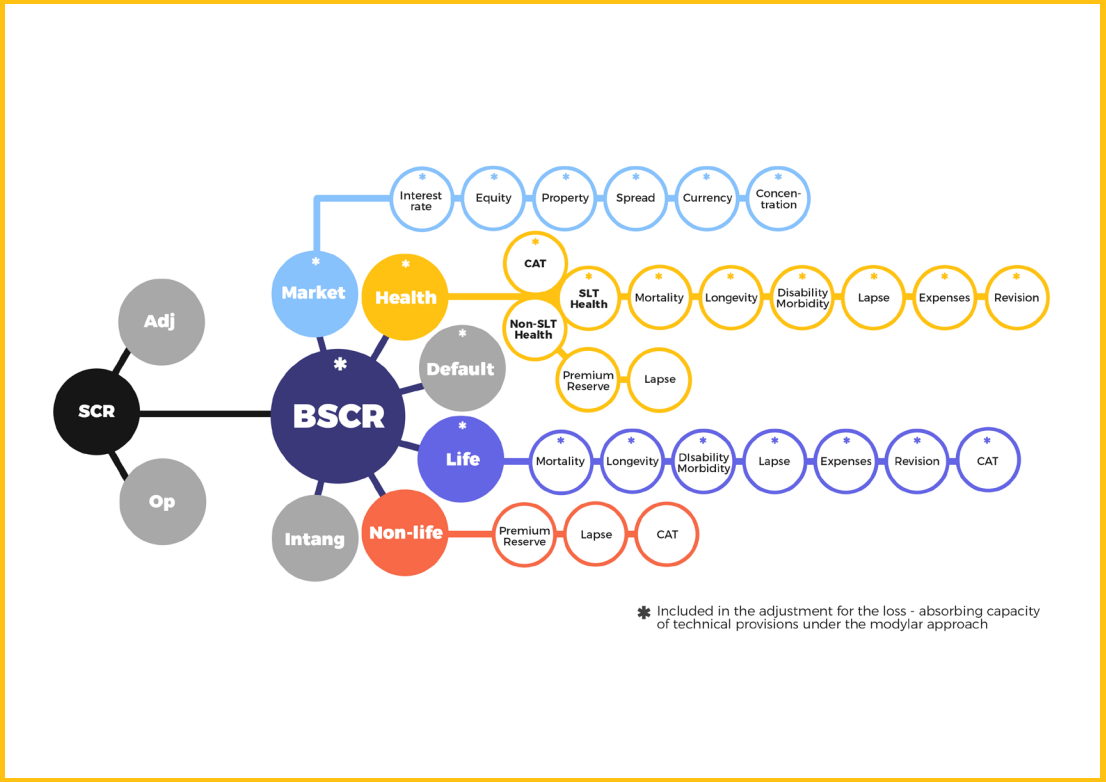
An example for Germany is that insurance reserves are calculated differently for HGB and for Solvency. Normally, HGB reserves a bit stronger than Solvency, so a silent buffer is built along the way.

Tim Kaltofen

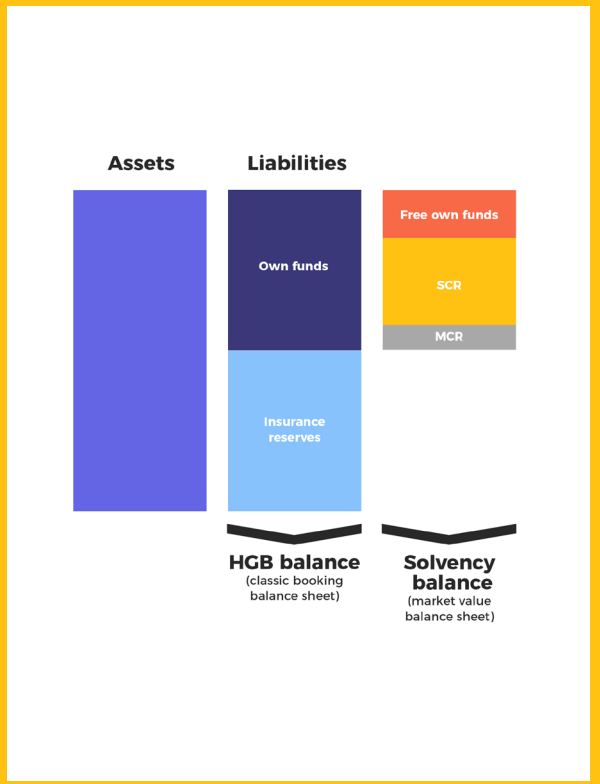
FinLeap

POINT OF VIEW

SOLVENCY II



What is contained in the Solvency formula?



How does a simplified Solvency balance look like?

CASE STUDY

Easy Digital Integration Case Study - Kasko

KASKO

KASKO's vision is to offer the right insurance, in the right place, at the right time, meeting the ever changing models of customer behaviour. It considers itself as the bridge between traditional insurers and digital businesses who want to provide value to their customers by offering protection.

Value Proposition

As the economy moves towards a more on-demand model, consumer behaviour throws up a whole range of new insurance use-case, like instant delivery of products and services. At the forefront are digital and mobile businesses adapting to and creating new consumer behaviours. But with all of this change some things remain the same - we are risk averse and we want protection, but the kind that evolves to our needs.

KASKO aims at leveraging the existing touch- points that digital businesses have with their customers to find new ways to provide value to those customers by connecting them to established underwriters.

What's on offer?

KASKO's platform works at making it easy to on-board insurers and their products, irrespective of whether those are backed by a sophisticated API or simply priced on excel sheets. Once the product is on the platform, it can be quickly and easily integrated onto third party sites though the plug and play web & mobile widget or API.

KASKO – The Past and The Future

KASKO actively engages digital businesses and allows them to start selling relevant insurance products in a hassle free way, but at the same time pools demand, so insures benefit from access to multiple sites through a single integration. This started by offering various forms of car related insurance across multiple sites in German including AutoScout24, Asuro, and CARZADA. However, integration has proven efficient and insurers are using the KASKO platform to test and launch new products within their own sites and apps, like Barmenia in Germany.

CASE STUDY

Telematics Case Study - Roost

Roost

Roost is a smart home technology company; creators of the Roost Smart Battery and the new Smart Water Leak Detector. Roost has developed a unique, patented connected sensor platform that delivers the ultimate in installation simplicity and the most affordable ways for consumers and insurers to enter the smart home space. Roost's Home Telematics program uses smart sensors in the home to identify and communicate real-time perils to both, the consumer and insurer, for immediate mitigation.

The Challenge

The IoT industry is inundated with the great solutions that overwhelm consumers and insurance partners alike. Countless smart home products focus on offering a suite of hub-based solutions with a lack of simplicity and high price tags that makes IoT not only unaffordable for the end-user, but, challenging from an insurance-bundling perspective. Insurers are bombarded by a host of startups and seasoned tech companies, offering smart home devices that do almost anything – monitoring home safety, temperature, movement, intrusion, and so on. Many of these are intuitive and potentially cost-saving, but, few are actually having much impact.

The Solution

Roost Home Telematics is realizing the potential of IoT through the creation of a suite of unique sensor solutions that are simple, affordable, and notification-focused. Homeowners will feel safe and insurers will reduce home perils, thereby saving on claims and establishing new engagement opportunities with their policyholders.

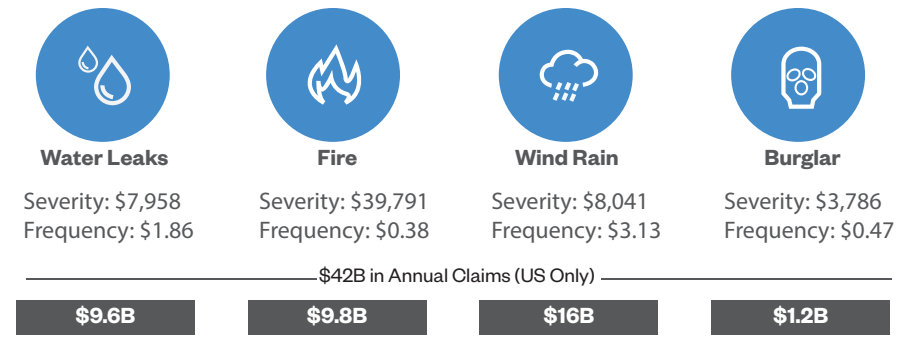
Easy Installation – Download a free Roost smartphone app, connect to your home Wi-Fi and install the Roost sensor in the appropriate location. Smartphone notification is sent when battery needs to be replaced (9V Battery – 5yr; Water Leak Detector – 3yr. Roost sensors are at work delivering peace-of-mind and protecting your home.

Affordable – Most smart home safety products today come with hub-based solutions that are complicated, costing hundreds of dollars and typically requiring professional installation. Roost sensors are designed for the mass-market consumer with retail prices < $50 and easily installed by the consumer themselves.

Future platform-proof–So what's the best single app or platform today (Home Kit, Alexa, Nest, etc) and how does Roost connect with these and other smart home devices? In the immediate short term, Roost is an existing partner with IFTTT enabling smart device interaction such as; "If the Roost alarm triggers, then the smart light fixture should begin flashing". From an architectural perspective, the roost cloud enables simple API connectivity.This ensures that whatever "Winning Platform" emerges in the future, Roost will be able to easily integrate with this ecosystem for both the consumer and the insurer.

There are three key business benefits that Roost can deliver to a P&C Insurer. Claim cost reduction through mitigation of home perils, customer retention through increased engagement and the ability to increase market share growth through differentiation. Roost Home Telematics is a program that enables insurers to employ technology to create the most symbiotic relationship with their current and future policyholders. IoT and insurance are the perfect pair; Roost Home Telematics is here to enable innovation to work for insurers.

To learn more about Roost, go to getroost.com.



Source: http://www.iii.org/fact-statistic/homeowners-and-renters-insurance - weighted average claims 2010-2014 in the U.S

CASE STUDY

Claims Adjustment Case Study - MotionsCloud

MotionsCloud is a one stop mobile and AI claims adjustment solution for customers, loss adjusters and insurers.

MotionsCloud focuses on claims around non-life insurance, especially property and household insurance. The main value proposition lies in helping insurance firms who are struggling with high costs and time consuming claims processes, by mobile and AI solutions. Identifying itself as more of an enabler than a disruptor, MotionsCloud's market focuses are Germany and Central Europe.

More than 60% of claims in Germany are filed through phone calls. MotionsCloud helps convert these into digital channels with the help of a mobile platform that is easy to use, effective and quick.

MotionsCloud helps adjusters and insurers to:

Reduce claims cost and cycle times

Reduce fraud

Improve accuracy of claims value

Self-service & automate claims processes

Claim progress tracking mechanism

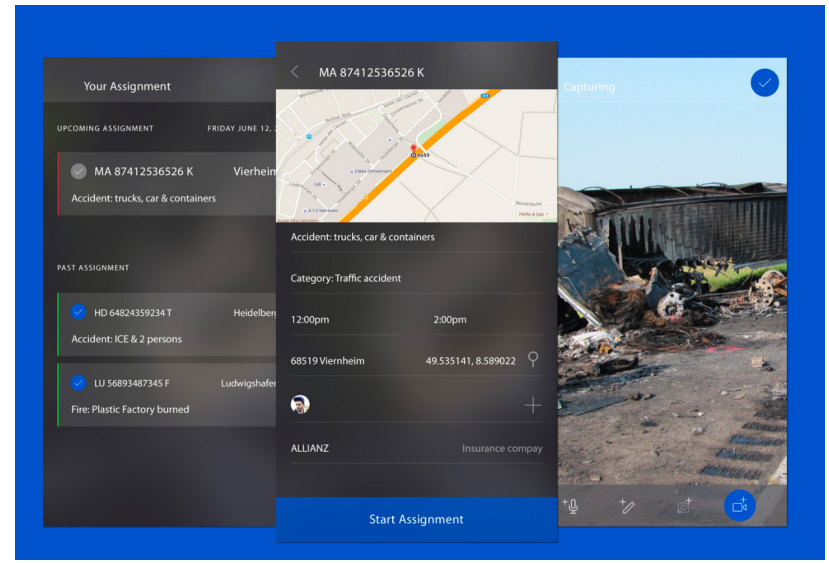
Besides insurers, MotionsCloud also handles companies that handle claims. The company interfaces with them through their APIs. In the absence of an API, MotionsCloud helps them create APIs or use simple and encrypted transactional emails. MotionsCloud offers ease of use, along with the AI capabilities, to analyse the customer's claim information and estimate claim value in almost real-time. The aim is to reduce the average claims processing cycle from 3-4 weeks to 3 hours by reducing decision making time.

MotionsCloud incorporates the use of AI in the claim value process. Through deep learning and machine vision, it can analyze claim information to get an estimate value.

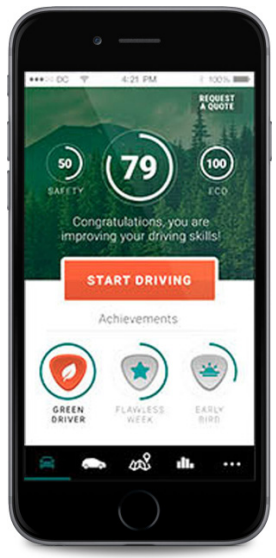
In the future, non-life insurance claims will be fully automated. AI claims machines will be connected with IoT devices, smart homes, cars, cities and location based devices. In this way, the claims process will be very fast and accurate. It will also facilitate early prevention of claims.

Inspection is a key feature that kicks in when the case is complicated or involves fraud. In such cases, the claims expert could setup a live video inspection, performing inspections through the customer's smart phone.

Working with traditional insurers is not very straightforward due to the cultural difference, speed of decision-making and regulatory constraint. However, Insurtech accelerators have been addressing these challenges. They are connecting insurers and start-ups, connecting them to the right people, setting up innovation teams and providing mentorship by insurance experts.



Amodo



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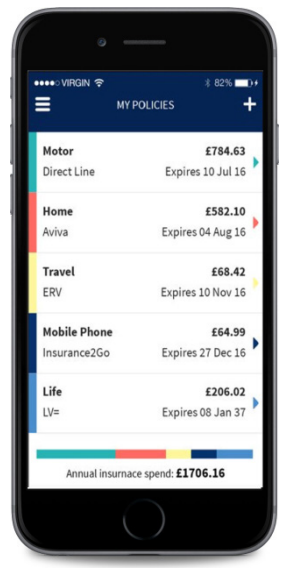

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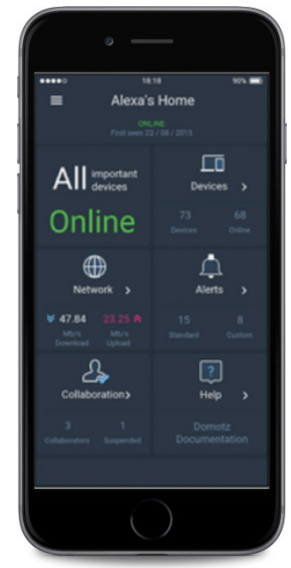

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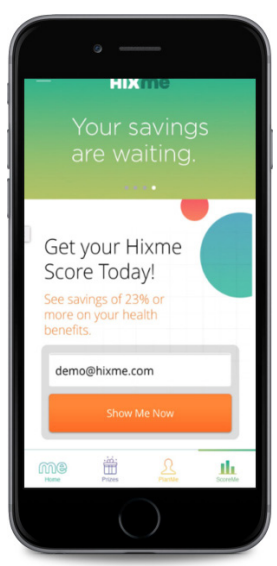
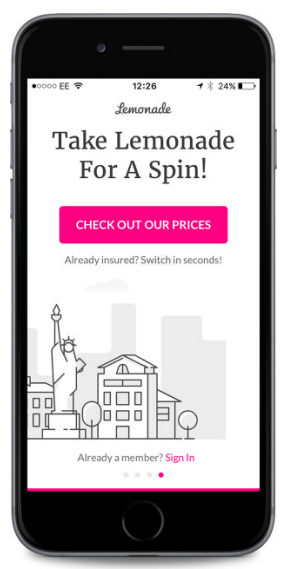
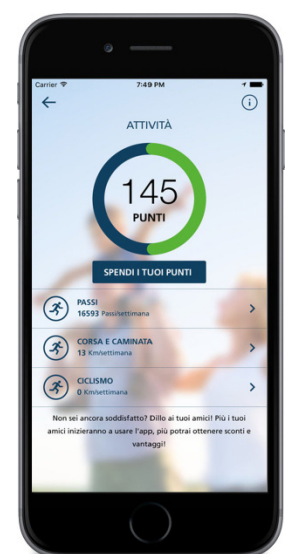


Lemonade



Neosurance



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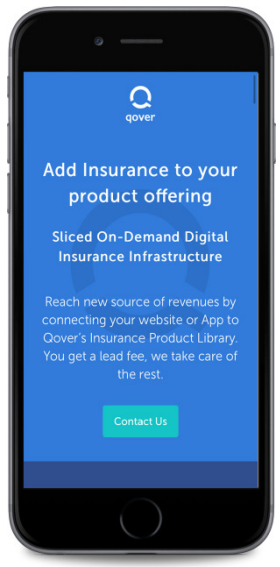

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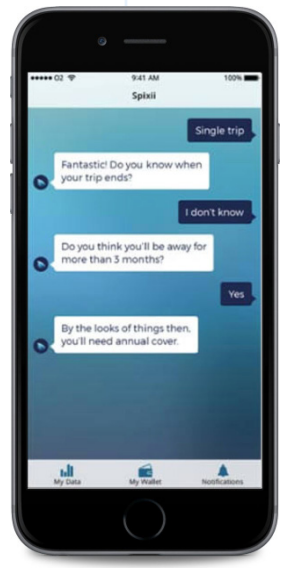

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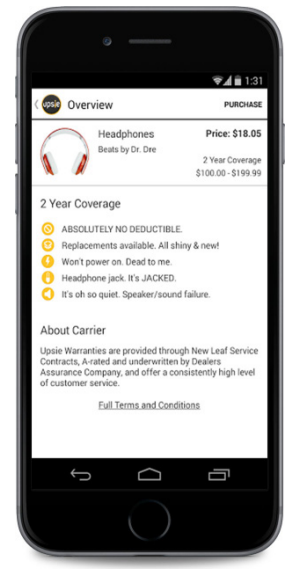
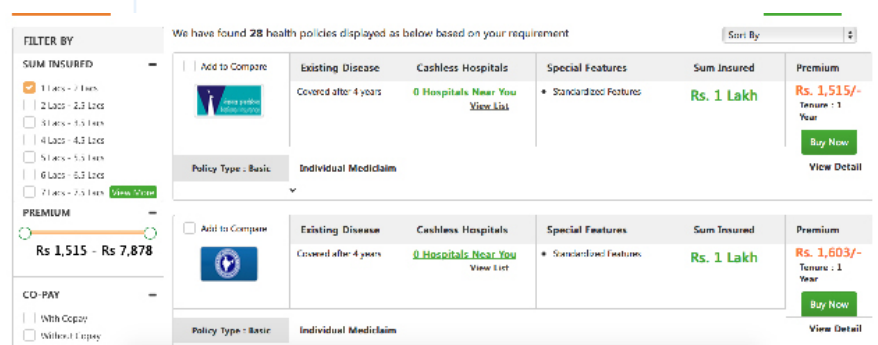


Clark

Green Life



Conclusion

There is only one word to sum up the future of insurtech - huge. The valuations, investments and potential for disruption as well as potential for cost savings in this space are tremendous. If we thought fintech was big, wait till the insurtech sector starts maturing.

There are a few key elements of insurtech to watch out for in the future:

Blockchain as a powerful driver of cost savings

Some of the best and most relevant use cases for blockchain are in the travel and automatic claims processing. The huge manual costs associated with claims handling and holding vast amounts of health or travel data can now be disrupted with the help of distributed ledgers. It is also a great medium for building a common ecosystem between brokers, insurers and reinsurers. It is likely this space will see blockchain adoption far faster than in banking. The analysis of Blockchain use cases in insurance is something Burnmark is undertaking at the moment and we will publish our findings soon.

Regional innovation potential

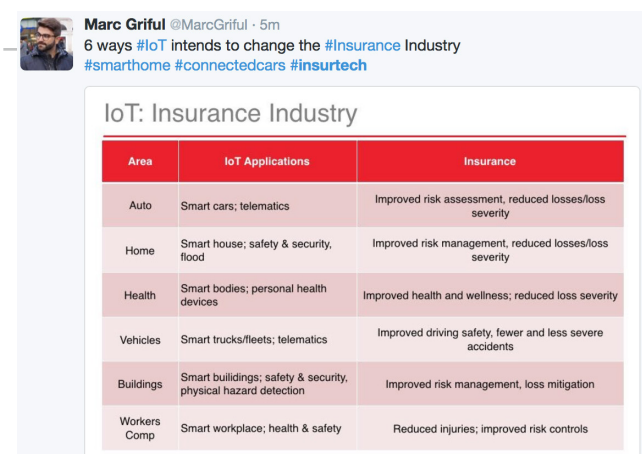
Insurtech innovation, as is obvious, is very regional. Healthcare for example has its own nuances in Asia versus USA versus the UK or Canada where free healthcare dominates. Regulations are unique by country, bringing with it its own challenges for new innovation.

A high portion of the 4.4 billion Asian consumer base is currently without any insurance products, making this one of the largest markets for insurtech. Asia also has the largest number of field agents, making virtual agents or virtual handling of claims via insurtechs a real cost-saving possibility.

Community models

Peer to peer underwriting and risk information sharing has worked well for insurance processing in certain cultures where communities are strong and willing to vouch for close networks. Insurtech firms like Riovic, have used this peer to peer model to disrupt the time and billions of dollars needed to validate users and claims in rural/semi rural regions on a vast scale. This model, when implemented well using social media or other local communities, has an unbelievable disruption potential to change the way insurance is handled at the back-end. And to us, this fundamental shift in the way insurance is handled is far more exciting than the front-end enhancements being made.

Notable Tweets



@SABINEVDL • NOV 14

Why big data should make insurance cheaper - by @JoannaMather @FinancialReview #insurtech #fintech http://bit.ly/2g70kyk

@SBMEUNIER • NOV 21

.@MunichRe partners with #InsurTech #startup @WriskHQ

@BURNMARK_ • NOV 14

The Top 10 #AI And Machine Learning Use Cases Everyone Should Know About! #fintech #data https://t.co/6MxKJEBo3Y

@BURNMARK_ • SEP 14

Neos launches UK first home insurance service! #insurtech #fintech https://t.co/j8Ff7zgeti

@INAYULO • NOV 7

Great to have @devie_mohan @burnmark_ doing her first @BrightTALK webinar on #insurtech. Register now: https://t.co/1krc8711VH

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“Insurtech to boost importance of reinsurance capital” #insurtech #important https://t.co/oAR5nQT185

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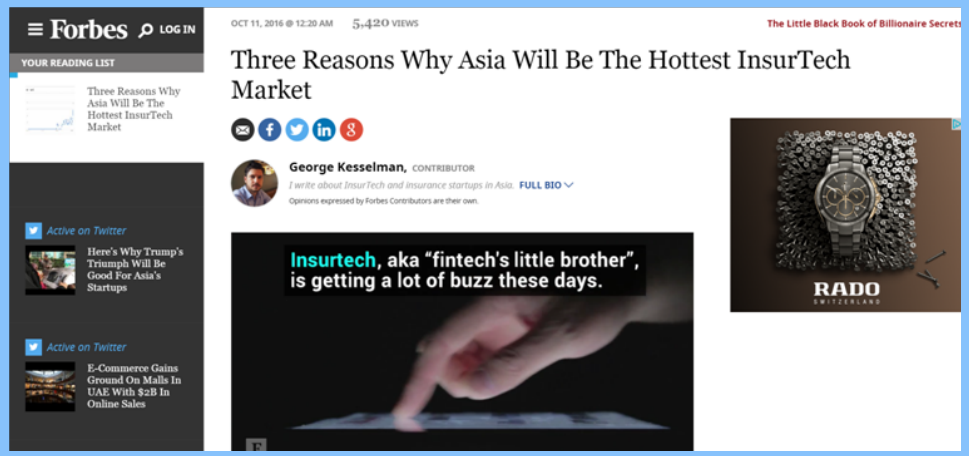

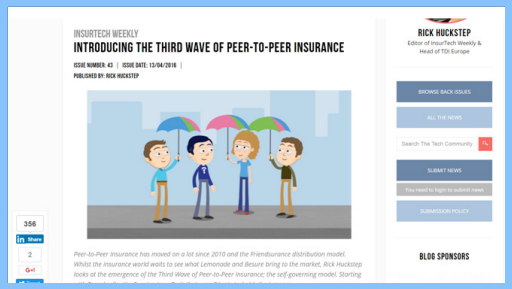

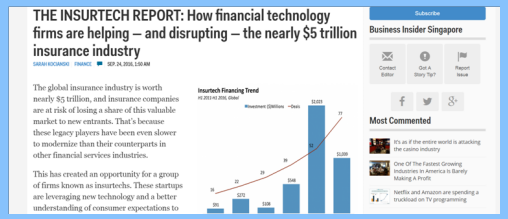


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