"The most imminent effects of disruption will be felt in the banking sector; However, the greatest impact of disruption is likely to be felt in the insurance sector"

93% of Insurance CEOs see the speed of technological change as a threat (compared to 69% in 2016)*

Source: The future of financial services, World Economic Forum 2015
* PWC 2017 Insurance CEO survey
Insurtech – enablers or disrupters?

The 4th Industrial revolution - Digitalisation changing the world “as we know it”
Digitalisation of interactions, increased application of intelligent systems, fast innovation cycles

Customer expectation are driving the changes
Mobile first, tech savvy, less loyal, looking for simplicity and personalised services

Insurance Industry as a whole is behind the curve
Risk adverse culture, legacy systems, poor customer knowledge, channel conflict

Insurtech startups are emerging to bridge the gap
Customer focus, tech enabled, agile, new models, data based, test & learn approach

Source: The future of financial services, World Economic Forum 2015
Insurtech - here to stay, already raised USD6b+

INSURANCE TECH ANNUAL FINANCING TREND

Source: CB Insights Jan 2017

Incl. Zhong An USD 0.93b

Swiss Re
Insurtech - unbundling the services of established players

Source: KPMG 2016
Insurtech - already covering the entire value chain
Insurtech - already covering the entire value chain
A new customer value chain is to be built

Discover
- Changing needs and triggers
- Influencers on the buying decision
- Untraditional providers and distributors that own the customer
- Changing role of agents

Explore
- Research & Education
- Comparison platforms and aggregators
- Financial and Robo advisors
- Online versus in person

Select Product
- New risks
- Emerging products
- Personalization and use of 3rd party data
- Simplification and Standardization

Apply
- Online & Mobile
- Automation
- Personalized using 3rd party data
- Simplified & Personalized using 3rd party data

Approve & Underwrite
- Automation
- Personalized using 3rd party data
- Simplified & Personalized using 3rd party data
- Disruptive technologies impacting the insurance business model

Service & Engagement
- Instant Gratification
- Providing related added value and personalized information
- Iterative and predictive customer service and support

Claims
- Digitization & automation of the process
- New protection:
  - Shift from claims to prevention
  - Insurance as a service

Source: KPMG 2016
Emerging tech impacting Insurance “as we know it”

1. Internet of (every)Things: Wearables, Smart Life, Smart Homes

2. Artificial Intelligence: Chatbots, Enhanced Human Machine Learning

3. "On-demand" API economy, Dynamic Pricing / UBI

4. Digital Communities, Peer to Peer
   Digital engagement, Gamification, VR/AR

5. Social Data / Voice Analytics
   Predictive Analytics

6. Blockchain / Enabling Tech
   Digital ID, Biometrics
Lemonade - USA - launched Sep 2016
Lemonade - USA - launched Sep2016
Promising 1st quarter business results

**Lemonade Weekly Active Policy Count**

![Graph showing Lemonade Weekly Active Policy Count from Sep 2016 to Jan 2017 with weekly counts of 263, 514, 716, 1.21K, and 2.23K.]

**87% are first time insurance buyer**

![Age Groups and Girls vs. Boys charts showing distribution by age and gender.]

**Our Conversion Rate**

- Sep 2016: 13%
- Oct 2016: 14%
- Nov 2016: 21%
- Dec 2016: 26%

1 out of 4 people bought a Lemonade policy

**Over 25% of people that get a price, buy**

Our 'written premium' (basically how much insurance we sold) Since Sept2016 was $179,855. Our 'gross loss ratio' (or claims we received divided by 'earned' premium) was 20%; a portion of that should be recovered from another insurance company, so we expect our final loss ratio for 2016 to end up at about 12%. While our reinsurers are standing by to help pay losses, we have not needed them yet.

**Taking minutes to resolve a claim**

Source: Lemonade
State Farm Life Illustrated Calculator - USA - launched 2014
Ping An Good Dr App - China 2015

Medical Service Mobile App launched in April 2015
Reached valuation of US$3 billion in a year, raised USD 500M in May 2016,
77 million registered users, 50,000+ doctors, 1000+ Self owned doctors, 3000+ hospitals, 1200+ pharmacies, 400+ checkup facilities...

- Free diagnosis, treatment and online appointment booking
- 24/24h doctors consultation through text, pictures, and video
- Healthcare-related articles and health microblog-style discussion
- Online store for drugs, healthcare products, cosmetics (home delivered)
- Digital and physical gift cards for medical services (health exams/gene test)
- Entreprise Version for Corporate Employee Benefits

Source: Ping An
China Giant Tech moving to digital healthcare

China Giant Tech moving to digital healthcare

Tencent has invested in a pharmaceutical company Joincare's Qdoc, a mobile app offering online medical services and in GuaHao.com which helps users schedule appointments online.

Tencent is a major investor of Zhong An (with Alibaba & Ping an) – the leading digital insurance in China (moving to Health in 2017). Also partnered with Aviva for launching a digital L&H Insurer in HK in 2017.

Launched AliHealth that conducts online video diagnoses, provide electronic prescriptions and deliver drugs to patients.

Alibaba also invested in Wanliyun a medical cloud platform where physicians can conduct remote image examination (X-rays, CT scans, MRI) with patients.

Alibaba is also a investor in Zhong An (leverage Taobao platform to sell to SMEs).

Baidu unveiled a “Siri for health” checkups in August 2015. The company launched a voice recognition app called Ask-a-doctor. It gives users a diagnosis after they voice their symptoms and directs them to a nearby doctor.

Baidu also invested in a mobile health startup Quyi
40% of insurance premiums are in the “long tail” of niche insurance needs (Swiss Re)

**UK:** 300 groups, 268k users, 18.6% Avg discount

Using anonymized data from search engines and social media to identify consumer/communities needs that aren’t being addressed by mainstream insurers/digital aggregators.

Target each group with personalized social media Ad and onboard them digitally providing group discount.

**China:** white-labelled with Ping An and launched 7 travel insurance products on WeChat and QQ

- Covering altitude sickness for Hikers
- Covering Food Poisoning for adventurous eaters

*Source: Bought By Many*
What does it mean for Actuaries?

The data deluge
Dynamic risk management

Actuary + Data Scientists
Actuary + Machines

- Learn to collaborate
- Learn to innovate
- Learn to fail
- Learn to learn

LoB, geographies, tech/data experts
Be agile, take risks
Test & learn culture
Face fast tech innovation cycles

Source: Graphs from Cisco 2016
Agile and collaborative insurers will stay ahead of the game

Source: Commerzventures top 50 Insurtech study
Asian Insurers have already started the journey (non exhaustive)

**Build**
- Ping An Direct 2014
- Manulife DBS
- Taikang Life Innovation Lab 2000
- AXA Lab Shanghai 2015
- AIA Edge Lab HK/Singapore 2015
- Ping An Fintech Accelerator Shanghai 2014
- AXA Facebook Linkedin 2015
- Ping An, AliBaba, Tencent Zhong An 2013
- Ping An, AIA Discovery Vitality 2013
- Ping An, AIA, Metlife Blockchain R3 Consortium 2016

**Acquire**
- Ping An Ventures
- China Life 9 investments USD 9.5b+
- MetLife 2 investments USD 386M+
- Manulife 10 investments USD 264M+

**Partner**
- Taikang Life We Chat Health 2014
- China Life 9 investments USD 9.5b+
- Taikang Life 2 investments USD 600M+
- Ping An, Alibaba, Tencent Zhong An 2013
- Ping An Ventures
- AXA Ventures 39 investments USD 142M+

**Incubate**
- Metlife Lumens Lab Singapore 2014
- Manulife LOFT Singapore 2016
- Aviva Digital Garage Singapore 2016
- AIA HealthTech Accelerator HK/Singapore 2015
- Swiss Re Insurtech Accelerator Bangalore 2016
- Ping An Ventures
- China Life 9 investments USD 9.5b+
- MetLife 2 investments USD 386M+
- Manulife 10 investments USD 264M+

**Invest**
- Ping An Ventures
- China Life 9 investments USD 9.5b+
- MetLife 2 investments USD 386M+
- Manulife 10 investments USD 264M+
Swiss Re – Some of our Insurtech initiatives worldwide

Swiss Re is actively engaged throughout the world to innovate and create value for our clients and their customers.
Swiss Re Insurtech Accelerator - Bangalore

Swiss Re has run a 1st Insurtech accelerator programme in 2016 with 6 preselected startups to help them test their solutions and build prototypes. The 2nd programme will be running June-Nov 2017

<table>
<thead>
<tr>
<th>Company</th>
<th>Description</th>
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<tbody>
<tr>
<td>Niki.ai</td>
<td>An AI-fueled smart-purchasing assistant, with the aim to both revolutionize customer interaction and redefine the buying experience as a whole</td>
</tr>
<tr>
<td>Touchkin</td>
<td>A start-up company which uses mobile-based social sensing to build a predictive care platform and enable proactive personalized care – bringing help to those who need it, from care experts or families</td>
</tr>
<tr>
<td>Datasigns</td>
<td>A risk platform that aims to democratize financial services for millions of borrowers who are outside the formal system. In addition, it helps financial organizations access and serve new and underserved market segments</td>
</tr>
<tr>
<td>Arya.ai</td>
<td>A developer platform for Deep Learning that offers tools to build and customize neural networks, and also provides trainable modules and APIs.</td>
</tr>
<tr>
<td>eKincare</td>
<td>An end to end wellness platform that integrates medical records, healthcare services and leverages predictive analytics to design wellness initiatives &amp; reduce healthcare costs</td>
</tr>
<tr>
<td>GOQii</td>
<td>A one-on-one mobile coaching and fitness tracking venture that helps individuals make the shift to a healthier lifestyle</td>
</tr>
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</table>
Swiss Re India Value Proposition for Digital Distribution / Innovation

I. Product Development, Underwriting & Risk Management
- Online product development, underwriting design & optimisation
- Risk management insights bespoke to digital distribution
- Predictive modelling using data analytics

II. Website Optimisation & Behavioural Economics
- Website design consultancy
- Access to global experience and case studies
- Behavioural economics recommendations; full test and learn framework & support model

III. Knowledge, research and in-depth insights on digital distribution
- Access to digital insurance research, reports, data & trend information
- Global best practice case studies covering all elements of online insurance – incl. from the digital insurer.com
- Live test results derived from SR's track record of supporting and developing innovative digital proposition in other markets

IV. Social media insights & monitoring service
- Customized social media reputation analytics service & report
- Global success stories & related information across all elements of a social media strategy for insurance
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