

# Exploring and shaping the **risk** landscape

We engage in regular dialogue with our stakeholders. By sharing expertise and know-how, we help society develop effective responses to key risks.

Our re/insurance solutions help our clients and partners cope with the risks they face. This in turn fosters stability and enables economic growth. But many of today's risks are complex and may threaten sustainable progress. To find effective, long-term responses to such risks, partners from the public and the private sector need to work together.

This is why we attach great importance to ongoing dialogue with our stakeholders. Drawing on the expertise from our core business, we identify key risk topics and take an active role in discussions about them. We share and exchange knowledge through many channels, eg our renowned publications including the *sigma* series, international dialogue platforms, events hosted at the Centre for Global Dialogue and cooperation with governments and

academic institutions. This exchange gives us valuable feedback and new insights for risk management and product development. Established in March 2017, the Swiss Re Institute plays a key role in our stakeholder dialogue (see page 44).

## Risk knowledge topics

Combining insights from our own risk expertise and from our stakeholders, we identify topics that are relevant to our clients, the insurance industry and society as a whole. Sharing our insights is an important element of our stakeholder engagement.

In 2018, we refocused our stakeholder dialogue on the three risk knowledge topics shown on the right:



### WEBSITE

You can find out more about our risk knowledge topics at: [www.swissre.com/risk-knowledge.html](http://www.swissre.com/risk-knowledge.html)



**Mitigating  
climate risk**



**Building  
societal resilience**



**Driving  
digital insurance solutions**



## Exploring and shaping the risk landscape

These topics raise awareness of risks – both current and evolving – that we actually address with our solutions. In doing so, we tap the risk knowledge embedded across our company, in particular our three Business Units, Group Risk Management, Group Underwriting, Swiss Re Institute and Global Partnerships.

### Mitigating climate risk

The effects of climate change and global warming are already evident and shaking up our risk landscape: warmer average temperatures, rising sea levels, longer and more frequent heatwaves and more weather extremes. These phenomena are quickly becoming the new normal and profoundly impacting our way of life, our health and our natural environment. A most urgent question we need to ask is not only how to tackle climate change, but also how we can best adapt and avert the most damaging consequences – in short, how to *mitigate climate risk*.

### Our response

Swiss Re's main response to this challenge is to make societies more resilient to the growing risks of climate change and natural hazards. We do this in a number of ways.

With our re/insurance solutions, we can help communities and businesses get back on their feet quickly after a disaster and prepare them for more frequent and severe climate impacts.

We also offer solutions that support the transition to more sustainable, low-carbon energy systems by reducing the risk associated with renewable energy projects and making them more attractive to investors with re/insurance backing.

And we promote sustainable practices in our own operations to improve good stewardship and long-term performance. We have adopted an investment practice for our assets to consider environmental, social and governance (ESG) criteria in our investment decisions, among them climate-impacting industries. Limiting global warming is part of this effort, and we are reinforcing it by reducing our own fossil fuel footprint across our operations, investments and re/insurance offerings.

With the Top Topic *Mitigating climate risk* we want to connect the dots, and engage our audiences with our expertise and risk knowledge in this area.

### Notable achievements in 2018

- We hosted the third annual Oasis conference in Zurich (see page 44). Oasis is a powerful modelling framework to help build a cost-efficient "view of risk" by building proprietary models or by accessing multiple models from various providers via the marketplace of cat models. It is offered as an open source platform and is free of charge, reflecting the willingness of the re/insurance industry to join forces and control rising costs.
- We launched a new product hub to better serve our corporate clients from the renewable energy industry. Corporate Solutions' Renewable Energy Industry Solutions suite offers clients a holistic, one-stop solution that covers risks along the entire value chain of a typical renewable energy project.
- We actively participated in the second Annual Insurance and Climate Risk conference in London and contributed to key sessions as discussants and panellists. The event gave a comprehensive overview of all the key issues that the industry currently defines as relevant to the topic of climate risk and reaffirmed our own strategy supported by the Top Topic *Mitigating climate risk*.

### Building societal resilience

Technological and economic development, population growth, ageing populations and other societal trends are putting people and assets in jeopardy. Swiss Re's work in the areas of health and longevity, food security and infrastructure represents some of the ways we help *build societal resilience*.

### Our response

Today, billions of people are either uninsured or underinsured for life and health risks. Health gaps are widening, such as those caused by our ageing populations or chronic illnesses like diabetes. At the same time, as the world population increases, so too must global food production. But climate change and soaring food prices pose a serious threat, not least to farmers and the agricultural industry. We share our knowledge, apply new technologies and partner with our clients to come up with innovative solutions to address these challenges.

Furthermore, economic growth depends on investments in infrastructure. However, the funding gap for both maintaining existing infrastructure and building new infrastructure is widening. As a re/insurer and long-term investor, we both underwrite the many projects needed – from transport infrastructure to urban spaces or renewable energy infrastructure – and we provide capital to infrastructure projects to help narrow the financing gap.

With our Top Topic *Building societal resilience* we connect the dots, and engage our audiences with our expertise and risk knowledge in these areas.

### Notable achievements in 2018

- We launched a digital campaign around "modifiable risk" to coincide with World Diabetes Day, sharing our expertise and solutions aimed at improving the health of policyholders and ultimately prolonging lives.
- We continued to engage with stakeholders to advocate for the need for stronger standardisation in infrastructure investing, which will be crucial to closing the infrastructure financing gap and supporting economic growth – for example, through our participation at the World Bank Spring and Annual Meetings.
- Following months of extensive field work and data analysis, we shared key findings about the Asia Health Protection Gap across multiple markets, positioning our insights on the topic with the most relevant audiences (see the related expertise publication on page 44).

### Driving digital insurance solutions

Our customers are seeking quick, intuitive and streamlined digital experiences in order to make their lives safer and healthier. This is a far-reaching phenomenon, and the demand for such services is affecting the entire insurance value chain. While it enables us to deliver value directly to our customers, technology also provides us with new opportunities to close existing and potential protection gaps, which often widen due to lack of affordability, awareness, trust or complexity.

### Our response

Swiss Re's main response to these new opportunities is clustered under three proof points: big data/data analytics, the digital consumer and the digitisation of insurance.

At Swiss Re, our goal is to use data to promote better access to insurance. For example, good data can help streamline processes, which eventually leads to more customer-friendly access to insurance and increases the uptake of insurance products. It can also be used to filter out fraud, increase insurability and make prices fairer. Furthermore, the

efficient use of data allows us to get closer to risk and offer risk cover in a much more efficient manner. This will make insurance more affordable and can give even underprivileged people access to coverage. As a result, we will be able to offer risk cover to a greater number of individuals.

Secondly, end consumers now receive an increasing number of services online. They consequently expect a better experience when purchasing insurance; moreover, there are ample opportunities to help them become aware that insurance cover is available. Customer-driven digitisation is beginning to translate into new product offerings that are simple and easier to compare.

And finally, although insurance is a complex sector that involves substantial administrative duties, many of these duties can be digitised. Examples thereof include sales, underwriting and contract handling, as well as investment, finance and claims management. At Swiss Re, we can assist customers in simplifying the insurance value chain in all these areas.

With our Top Topic *Driving digital insurance solutions* we want to connect the dots, and engage our audiences with our expertise and risk knowledge in this area.

### Notable achievements in 2018

- We co-sponsored a Human Centred Design study to develop a client risk journey for healthcare in Ukraine, Russia and Morocco. The study will provide consumer insights (risk diary) which will be linked back to the digital insurance value proposition for telecoms clients.
- We launched a digital campaign around the Top Topic *Driving digital insurance solutions* in developed markets in Europe and the US to raise awareness of Swiss Re's digital expertise and solutions.
- We continued to invest our expertise in helping people drive more safely. We partnered with BMW to develop an Advanced Driver Assistance Systems (ADAS) risk score algorithm, which will be available from 2019. The use of vehicles equipped with ADAS has the potential to reduce motor accident frequencies significantly.

## DIGITAL RESPONSIBILITY

While creating new possibilities to deliver value directly to our customers and closing protection gaps (see above), the use of big data also raises questions concerning solidarity in society and the insurance principles of risk pooling. We seek to understand and proactively address the ethical challenges surrounding the digital transformation.

Various regulators around the world have started to evaluate the need for regulations on the topic of big data / digital ethics, or have even issued first guidelines. Swiss Re engages actively in the discussion with some regulators by way of feedback to consultations, by responding to regulatory questionnaires, by participating in industry groups, by writing articles and by participating in regulator-initiated discussion groups.

In 2018, we also continued our participation in a three-year research project on "dealing with ethical and legal big data challenges in the insurance industry", conducted by researchers at the University of Zurich and the University of Applied Sciences HTW Chur. The project receives funding from Switzerland's National Research Programme 75 on "Big Data" ([www.nfp75.ch/en/projects/module-2-societal-and-regulatory-challenges/project-christen](http://www.nfp75.ch/en/projects/module-2-societal-and-regulatory-challenges/project-christen)).

Firstly, the project analyses how re/insurers are affected by the ethical and legal challenges arising from the digital transformation and can address them. Secondly, it examines how legislation and regulations address them. Ultimately, the aim of the project is to propose an approach how to handle big data ethically in the re/insurance space.

In addition, we contributed to the publication "Big Data and Insurance: Implications for Innovation, Competition and Privacy", published by the Geneva Association ([www.genevaassociation.org/sites/default/files/research-topics-document-type/pdf\\_public/big\\_data\\_and\\_insurance\\_-\\_implications\\_for\\_innovation\\_competition\\_and\\_privacy.pdf](http://www.genevaassociation.org/sites/default/files/research-topics-document-type/pdf_public/big_data_and_insurance_-_implications_for_innovation_competition_and_privacy.pdf)). The publication looks at three key concerns raised in the public debate: privacy, individualisation of insurance, and competition. With the use of five scenarios, it examines how facts-based regulation can achieve a trade-off between the benefits and risks of using big data.

For Swiss Re's commitment to data protection and privacy compliance, see pages 67 and 69.

## Swiss Re Institute

Swiss Re has long been recognised as a knowledge leader within the re/insurance industry. We are convinced that a better understanding of the risks we all face supports the Group's vision of making the world more resilient.

It was in this spirit that we launched Swiss Re Institute in March 2017. Swiss Re Institute conducts and publishes superior risk research to drive better decisions and innovation in the re/insurance industry. Swiss Re Institute curates risk and market data to enable solutions that create value for clients and to guide the Swiss Re Group's strategic direction. Further, it builds and manages partnerships with world-class academic and research institutions (see examples on page 45).

Swiss Re Institute incorporates successful Swiss Re brands, such as the *sigma* publication series and the Centre for Global Dialogue. The Institute further acts as a coordination point for research-focused business lines within Swiss Re and from external partners.

Based on these activities, Swiss Re Institute supports Swiss Re's commitment to corporate responsibility. We help highlight emerging risk trends, engage in dialogue and provide capacity-building sessions and seminars to clients and other stakeholders in different parts of the world, and seek to identify sustainable risk solutions.

Highlights among our many conferences and publications of 2018 include:

**WEBSITE**  
You can find more information about Swiss Re Institute at:  
[www.swissre.com/institute](http://www.swissre.com/institute)

### SELECTED CONFERENCES OF 2018 ▼

#### Food for thought: The science and politics of nutrition

[www.swissre.com/institute/conferences/food\\_for\\_thought\\_bmj.html](http://www.swissre.com/institute/conferences/food_for_thought_bmj.html)



#### Oasis conference on probabilistic natural catastrophe modelling

[www.swissre.com/institute/conferences/oasis-conference-2018.html](http://www.swissre.com/institute/conferences/oasis-conference-2018.html)



#### The intelligence behind artificial intelligence

[www.swissre.com/institute/conferences/The-intelligence-behind-artificial-intelligence.html](http://www.swissre.com/institute/conferences/The-intelligence-behind-artificial-intelligence.html)



### SELECTED PUBLICATIONS OF 2018 ▼

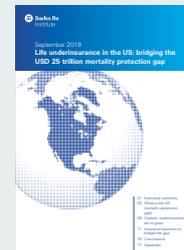
#### Making a beeline for disaster? The decline of pollinators puts agriculture at risk

[swissre.com/institute/research/topics-and-risk-dialogues/nutrition-and-agriculture/making\\_a\\_beehive\\_for-disaster-the-decline-of-pollinators-puts-agriculture-at-risk.html](http://swissre.com/institute/research/topics-and-risk-dialogues/nutrition-and-agriculture/making_a_beehive_for-disaster-the-decline-of-pollinators-puts-agriculture-at-risk.html)



#### Life underinsurance in the US: bridging the USD 25 trillion mortality protection gap

[swissre.com/institute/research/topics-and-risk-dialogues/insurance-markets-and-risk-management/life-underinsurance-US.html](http://swissre.com/institute/research/topics-and-risk-dialogues/insurance-markets-and-risk-management/life-underinsurance-US.html)



#### The health protection gap in Asia: a modelled exposure of USD 1.8 trillion

[swissre.com/institute/research/topics-and-risk-dialogues/insurance-markets-and-risk-management/Health-protection-gap-in-asia--a-modelled-exposure-of-USD-1.8-trillion.html](http://swissre.com/institute/research/topics-and-risk-dialogues/insurance-markets-and-risk-management/Health-protection-gap-in-asia--a-modelled-exposure-of-USD-1.8-trillion.html)



## Collaboration with (inter-) governmental and academic institutions

In recent years, we have collaborated with various (inter-)governmental and academic institutions both to promote effective approaches to sustainability challenges and to share our expertise on managing specific risks.

### Our work with (inter-)governmental agencies to promote effective sustainability responses

- In Europe, we continued our engagement with regulators to highlight the important role insurers play in supporting the transition to a low-carbon, more resource-efficient and sustainable economy in line with the EU's 2018 Sustainable Finance Action Plan. For example, Swiss Re was selected to be part of the European Commission Technical Expert group, specifically to assist with the development of low-carbon benchmarks. We provided input to the European Commission's study on the role of insurance in weather- and climate-related disaster risk and their consultation to evaluate Member State action in response to the Climate Adaptation Strategy, and we participated in climate change focused regulatory roundtables hosted by national regulators (eg the UK PRA).
- In the US, we have maintained regular dialogue with the National Association of Insurance Commissioners (NAIC), principally on climate change and natural catastrophes.
- In the Asia-Pacific region, we are participating in an industry-wide working group with the Monetary Authority of Singapore to develop guidelines for sustainable insurance. And in Australia we are part of an industry-led stakeholder collaboration developing open-source standards for projecting future climate-related repair and replacement costs of buildings and infrastructure.

### Our work with (inter-)governmental agencies to share risk management expertise

- With Global Partnerships, we have a team that works strategically with public-sector bodies to improve risk resilience:
  - directly with sovereigns or sub-sovereigns and their agencies, recently with the Pacific Alliance (Chile, Colombia, Peru and Mexico) to structure an earthquake cat bond, with the Federal Emergency Management Agency (FEMA) to create a reinsurance cover programme for its National Flood Insurance Program, as partner of the World Bank with the Philippine government to develop an earthquake and typhoon cover for exposed provinces, with the government and prefectures of two Chinese provinces to establish major natural catastrophe insurance schemes, and with the UK government as part of a programme set up to make flood insurance more affordable for homeowners;
  - with development agencies such as the United States Agency for International Development (USAID), the UK's Department for International Development (DFID), the Swiss Agency for Development and Cooperation (SDC), the World Bank, the Asian Development Bank (ADB), the Inter-American Development Bank (IADB) and the German Development Bank (KfW).
- We have regularly contributed to platforms such as the World Economic Forum, B20, G20 and G8 to share our insights on key risks, and have supported the United Nations Framework Convention on Climate Change (UNFCCC) process.



#### CONTENT IN THE 2018 FINANCIAL REPORT

For our participation in the Financial Stability Board's Task Force on Climate-related Financial Disclosures, see page 174.

### Working with academic institutions

Through Swiss Re Institute (find out more on page 44), we build and manage partnerships with world-class academic and research institutions, guide Swiss Re's internal capital allocation and business steering processes and provide our stakeholders with cutting-edge risk research.

- We support the ETH Zurich Risk Center ([www.riskcenter.ethz.ch/](http://www.riskcenter.ethz.ch/)), which aims to advance a holistic, scientific approach to assessing and managing risks and educating a new generation of researchers;
- We support Oasis ([oasislmf.org/](http://oasislmf.org/)), an open-source cat modelling platform free to use by anyone. It is owned by the re/insurance industry, with more than 40 re/insurance companies as members;
- With the Institute of Insurance Economics at the University of St. Gallen, HSG ([www.ivw.unisg.ch/](http://www.ivw.unisg.ch/)), we conduct industry-wide studies to better understand market dynamics.
- With the London School of Economics ([www.lse.ac.uk](http://www.lse.ac.uk)) we conduct research on macro resiliency;
- With the University of Peking in Beijing ([www.pku.edu.cn](http://www.pku.edu.cn)) we have carried out an economic analysis of poverty, insurance and resilience;
- We collaborate with the Cyber Policy Initiative, Stanford University ([fsi.stanford.edu/cyber](http://fsi.stanford.edu/cyber)), which conducts research on cybersecurity, governance and the future of work.

Take a look at our website for further information on our collaborative projects: [www.swissre.com/institute/partnerships.html](http://www.swissre.com/institute/partnerships.html)