Parametric NatCat

Facing global risks

Two-thirds of global losses are uninsured

Road safety
There are 1.2 million road casualties a year. Driver and vehicle scoring, as well as technologies like driver assistance (ADAS), can help us dramatically reduce road casualties and develop a safer mobility future.

Natural catastrophes
The natural catastrophe protection gap totalled USD 193 billion in 2017. Parametric solutions can make insurance more accessible, affordable and provide immediate pay out for individuals and businesses to bounce back quickly.

Cyber risk
The annual cost of cyber crime to the global economy exceeds USD 600 billion. Cyber solutions help us better manage and mitigate risks.

Food security
With only 25% of the agricultural market insured, the market is full of opportunities to grow. Agricultural re/insurance solutions leverage latest technologies to help farmers best manage crops and recover from losses faster.

Solutions for a more resilient world

We help you grow your business and improve your profitability

By leveraging our risk expertise, strong capital base and new technology, we help you **grow your business** and **improve your profitability** by developing innovative solutions and by sharing the risk.

P&C Solutions: Support across your entire value chain

From innovative design to claims optimisation

P&C Solutions for your every need

Increase efficiency, steer portfolios and grow into new markets and segments

P&C Analytics

- Portfolio Insights interactive risk visualisation for steering and growth
- Tailored P&C Analytics consultancy services to solve your every need
- Behavioural Economics solutions to boost client conversion & retention

Property & Specialty

- CatNet® natural hazard risk analyser
- CatServer: NatCat modelling and expertise for your tools
- Sophisticated engineering underwriting with PUMA
- Agro Suite modular, end-to-end agriculture solutions

Cyber

- Cyber Product Suite for cyber insurance product development
- Cyber Analytics Platform: Score and manage portfolios & accumulation
- Identify and manage silent cyber exposures with Decrypt

Liability

- Analyse and model liability portfolios with Forward-Looking Modelling (FLM) to grow into new markets and segments
- Manage Casualty Accumulation risks

Parametric

- End-to-end pricing, risk monitoring, policy administration, automated claims pay out and real-time reporting for:
  - Flight delay
  - **Earthquake**
  - **Tropical cyclone**

Automotive & Mobility

- Insurance-relevant driver scoring with end-to-end telematics solution
- Grow strategically and steer portfolios with Motor Market Analyser
- Assess vehicle safety features with the ADAS Risk Score

SwiftRe®

- Online risk placement, claims and accounting platform
- Cost-effective risk management
- Full transparency into entire portfolio

Innovation

- Agile (co-)creation of next generation solutions
- Access to new risk pools and markets
- Fast development and time-to-market via Swiss Re's partner ecosystem

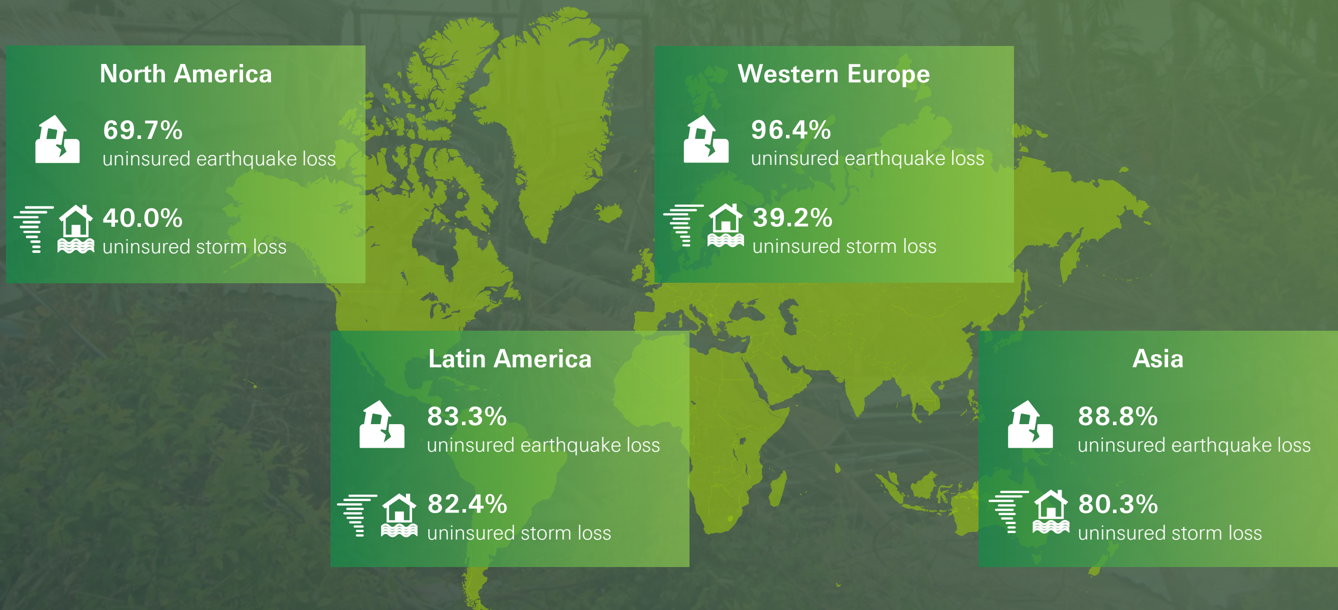
01

Opportunity

Natural catastrophe risks are largely uninsured

The global natural catastrophe protection gap totalled USD193 billion in 2017

Percentage of uninsured economic losses, 1975-2017



Source: Swiss Re Institute

[1]Natural catastrophe protection gap is calculated based on known insured and economics losses by region and peril, 1975-2017

Managing natural catastrophe risks in the future

Large natural catastrophe exposure in US, Japan and China

Global annual **uninsured losses** are estimated to be USD 153 billion,

with the **largest uninsured** natural catastrophe **exposures** estimated to be in US, Japan, and China.

Expected annual uninsured losses[1]

$20.35 billion
uninsured earthquake loss

$7.89 billion
uninsured wind loss

$23.54 billion
uninsured earthquake loss

$1.41 billion
uninsured wind loss

$9.59 billion
uninsured earthquake loss

$2.94 billion
uninsured wind loss

Source: Sigma 5/15 - Underinsurance of property risks: closing the gap from Swiss Re Institute

[1] Estimated figures of the expected loss in 2015 is calculated based on Swiss Re's multi-peril natural catastrophe risk assessment tool

Parametric NatCat solutions

Powered by Swiss Re's fully automatic parametric insurance platform

What is it?

Fully automatic insurance offering with embedded **parametric product design** in a **lean, cloud-based, modular ecosystem.** Features include real-time reporting, steering, dynamic pricing, automated claims payments and policy administration.

How do you benefit?

Gain **access to a broader customer base** through innovative product design. Expand your offering with **high consumer value** at **low investment** cost. Open up **new areas of growth** across various distribution channels.

02

Value Proposition

Parametric insurance

Simple, predictable, fully transparent with few exclusions

- **Parametric insurance** is a type of insurance that settles on a pre-agreed, simple measure (the "parameter" or "index").
- Pay out depends on the **occurrence of a triggering event**, regardless of the actual loss.

- An **independent third party** (e.g. USGS for earthquake) determines the intensity of the event and hence the impact on the claim.

- The insured purchases a **maximum pay out cover** from the insurer. The premium depends on the chosen limit as well as exposure of the insured.
- The pay out on a parametric product is unlikely to be exactly equal to the financial loss of an insured and the difference is known as **"basis risk“**.

***"Simplification is the ultimate sophistication"* Leonardo Da Vinci**

Parametric insurance value proposition

Make your insurance solutions fast, flexible and affordable

Fast access to cash	**Flexible** usage of cash	**Affordable** no claims process low limits

- Parametric insurance makes sense **when traditional insurance is not accessible or affordable**

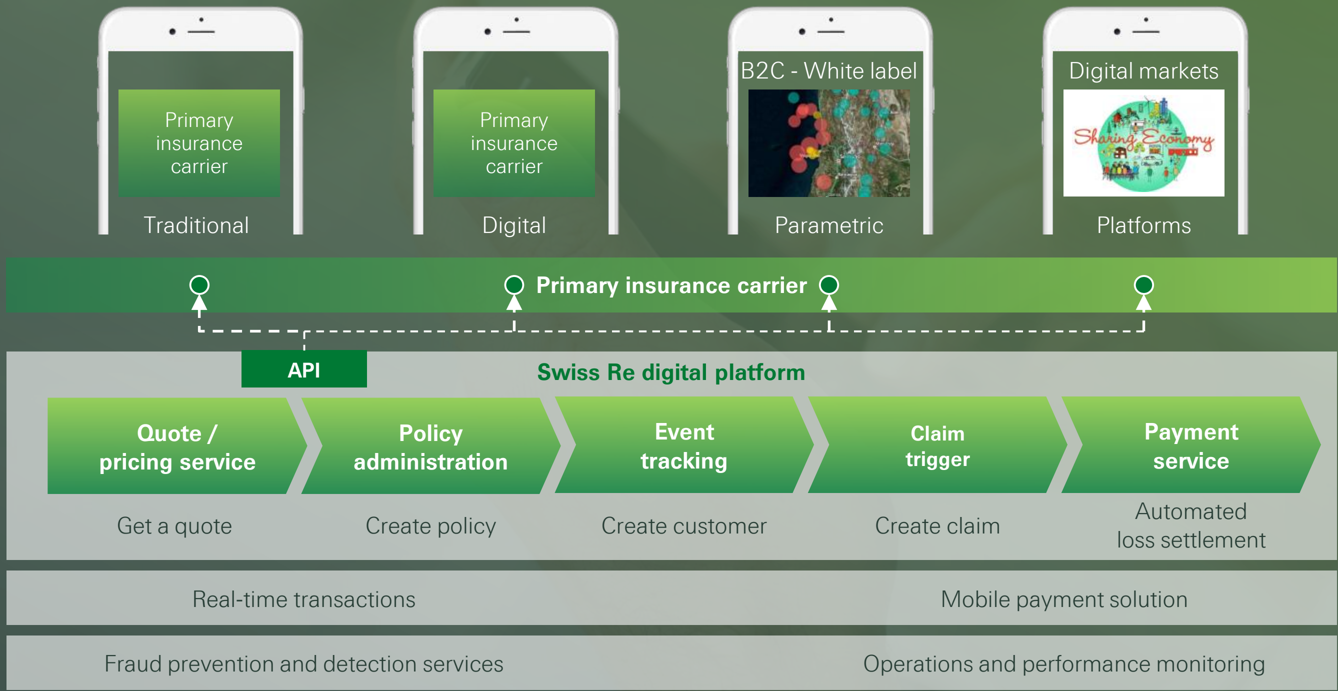
- Parametric insurance acts as a **complement to traditional insurance, not as a substitute**

- Parametric insurance offers **immediate pay out for emergency cash relief**

Parametric NatCat

Swiss Re parametric solutions

A dynamic, easy-to-integrate, modular turnkey solution

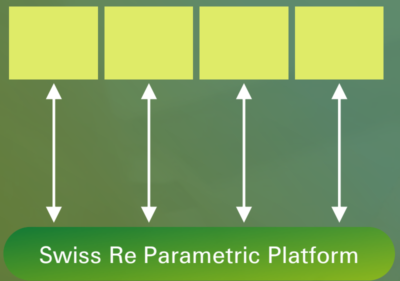


Parametric digital IT platform

A lean digital platform that covers your entire value chain

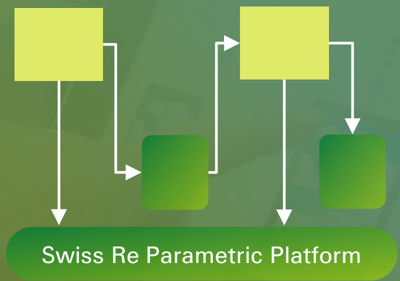
Third-party front-end solution

Insurance Service Model



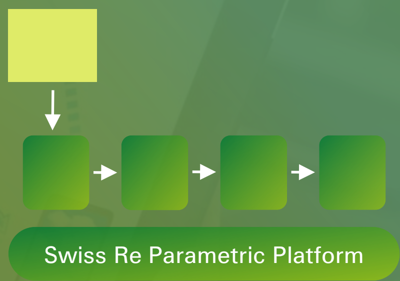
- Customer end-to-end journey developed by insurance carrier or distribution partner
- Integration into digital back end via standard API interfaces

Hybrid Model



- Joint development in customer end-to-end journey
- Integration into digital back end via standard API interfaces

Portal Service Model



- Customer end-to-end journey developed by Swiss Re
- Integration into digital back end

From modular service to a full-stack platform

Orchestrating customer journeys leads to significant business benefits

Behavioural economics and streamlined offering brings higher value for all

Customer journeys: High correlation with revenue...

Revenue growth – insurance industries

... and with significant impact on outcomes

↑ **36%** Customer Satisfaction

↑ **28%** Willingness to recommend

↑ **19%** Likelihood to stay/renew

Source: Rawson A. et al. (2013) Managing the Complete Customer Journey - Harvard Business Review

Simplicity drives satisfaction

Reducing complexity in insurance drives better performance and consumer loyalty

Global Brand Simplicity Index 2017

Willingness to pay

64%

of consumers willing to pay more for simpler experiences

Customer Loyalty

61%

of consumers are more likely to recommend a brand because it provides simpler experiences and communications

Financials

+433% vs.

S&P : +135%
DAX : +116%
DOW : +106%
FTSE : +52%

growth of a stock portfolio comprised of ten publicly traded simplest brands (since 2009)

Channel Switch

2x

consumers tend to use **twice as much** the **telephone** to receive more information about a product or service in complex industries

Source: Simplicity Index (2017) from http://simplicityindex.com/

Parametric insurance products

Innovative retail solutions that allow for simple, fast-purchasing and optimised pay out processes

Earthquake

"Shake vouchers" provide quick cash after an earthquake for insureds to cover incidental losses and expenses. The policy complements property damage insurance with small monetary amounts based on the shake intensity of individual locations worldwide.

Tropical cyclone

"Loss of income" covers combine business interruption and supplemental loss covers. For example, in the aftermath of a hurricane, beachfront hotels may experience losses due to cancellations even if they are not directly affected by the event. The policy pays out a lump sum to be spent at the insureds' discretion if a hurricane occurs within a predefined geographic area surrounding the insured property (e.g. within a 100 km radius of the hotel).

Earthquake parametric insurance product

"Shake vouchers" provide quick cash after an earthquake to pay for incidental losses and expenses

Limit

- Consumer can choose between several different face values

Premium

- Depends on the chosen limit and the geographic area of the insured object

Trigger

- Intensity of the EQ at the location of the insured
- Different possible measures (e.g. Mercalli intensity scale)
- A proof of loss might be required by the regulator

Reporting agent

- Independent, reliable and easily accessible event reports
  e.g. U.S. Geological Survey (USGS) publishes near real-time ShakeMaps after an earthquake, reporting the event intensity on a high-resolution grid

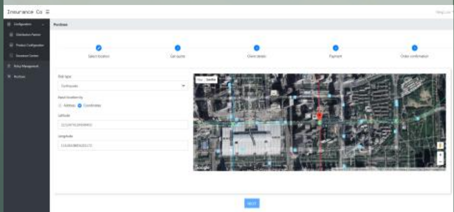
Pay out

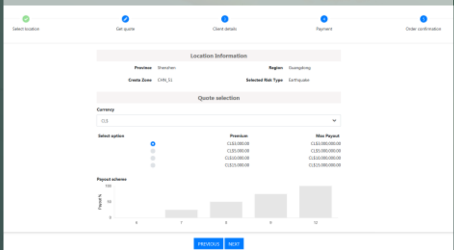
- How much of the limit is paid out depends on the event intensity
- Can be defined as a stepped % function of the face value

Earthquake "shake vouchers"

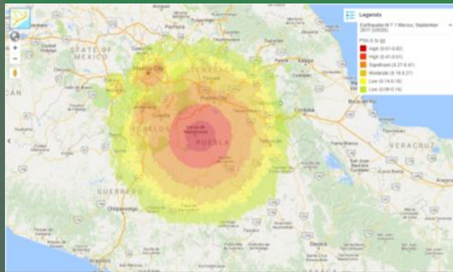
Simple, transparent customer journey

Quote and purchase[1]





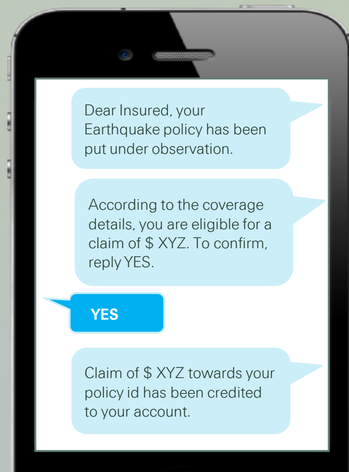
Claim trigger



Reporting agent

- **U.S. Geological Survey** for rest of the world
- **INGV** for Italy

Pay out



[1] For illustration purposes only

Tropical cyclone parametric insurance product

"Loss of income" covers for high risk areas

Limit

- Consumer can choose between several different pay out limits

Premium

- Depends on the chosen limit and the geographic area of the insured object

Trigger

- Storm intensity within a predefined geographic area surrounding the insured property (e.g. 100 km radius)
- Different possible trigger measures (e.g. Saffir-Simpson scale)
- A proof of loss might be required by the regulator

Reporting agent

- Independent, reliable and easily accessible event reports
- e.g. National Hurricane Center (US) publishes six-hourly information on the location, maximum winds, central pressure, and size of tropical cyclones

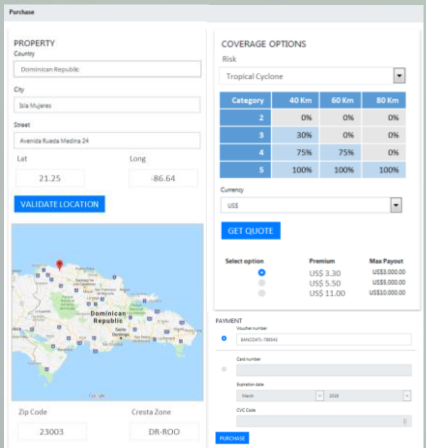
Pay out

- Pay out depends on the distance to the hurricane track and on the hurricane category
- Can be defined as a stepped % function of the face value

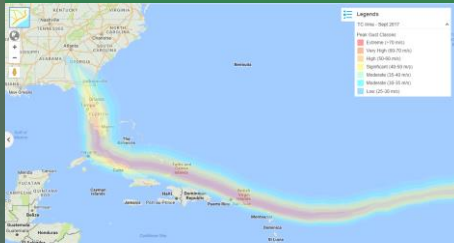
Tropical cyclone “loss of income” covers for high risk areas

Pay out independent of sustained property damage at location

Quote and purchase[1]



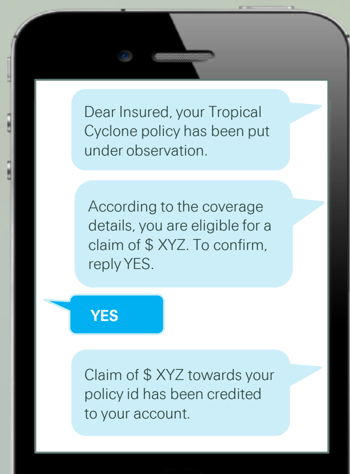
Claim trigger



Reporting agent

- **National Hurricane Center** for North Atlantic
- **China Meteorological Administration** for West Pacific
- **Japan Meteorological Agency** for rest of the world

Pay out



[1] For illustration purposes only

A client story: Digitalization of consumer journey for an existing parametric product

How we help a Chinese client to improve consumer journey, automatize the claims process and lower internal costs

The client

Chinese insurer

Focused on product innovation with an existing parametric product and a manual claims process

The challenge

Replacing an existing process with a fully automatic claims process

Allowing real-time adaptation of product design

Trigger fast claims pay out

Introduce real-time features in the entire value chain

Our support

Out of our end-to-end parametric pricing platform we extract the automation of the claims process

Implement it with local clients by connection through global API's

Review and define new consumer journey with various real-time communication features between insurer and insured.

The result

Platform using parametric claims module adjustable to regulatory requirements

New

Closing engagement gap between insurer and insured with real-time communication features

Go live in under 3 months, saving development costs now and future running costs

A client story: Digitalization of consumer journey and delivery of a parametric NatCat product

How we helped a Latin American client close the NatCat protection gap, improve consumer journey at lowest internal costs with a lean and fast process

The client

Central American insurer

Focused on product innovation and simplification with a view to closing NatCat protection gap

The challenge

High-growth, dynamic market requiring fast turn-around times

Operational inefficiencies pushing insurer to find improved distribution methods combined with the definition of a trigger index

Developing market needed an easy consumer journey and fast claims pay out in case of severe NatCat event

First-of-its-kind solution required regulatory sign off

Our support

End-to-end parametric pricing platform that includes insurance quote, event tracking and policy administration

Innovation through flexible product design, distributed via traditional and non-traditional channels

Streamlined processes allow fast review and acceptance of parametric products into the reinsurance facility

The result

End-to-end parametric pricing platform offered to clients in +10 countries

New

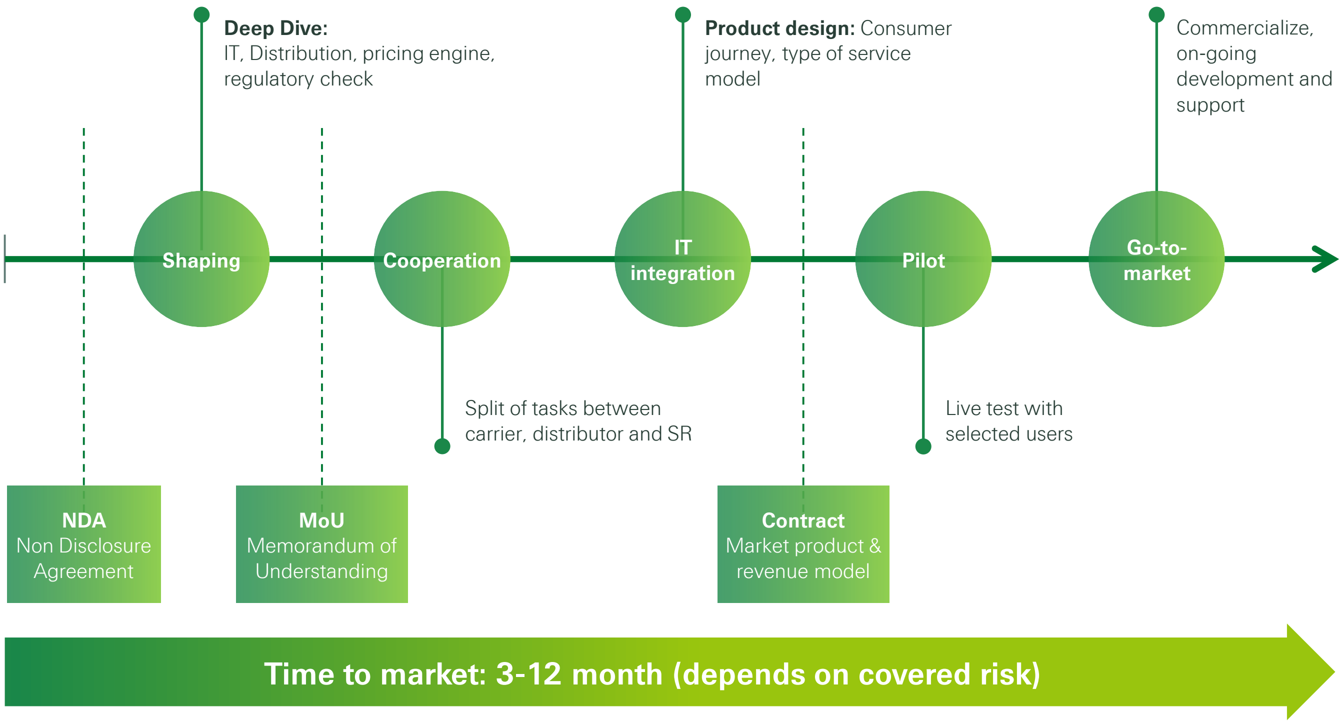
Comprehensive solution including IT, product design, innovative distribution and reinsurance capacity

Go live in under 3 months, saving development costs now and future running costs

03

Rollout

Project scope and duration tailored to your needs



Contact us
PC_Solutions@swissre.com

Swiss Reinsurance Company Ltd
Mythenquai 60
8002 Zurich
Switzerland

Telephone +41 43 285 2121
Fax +41 43 285 2999
www.swissre.com

We're smarter together

Swiss Re