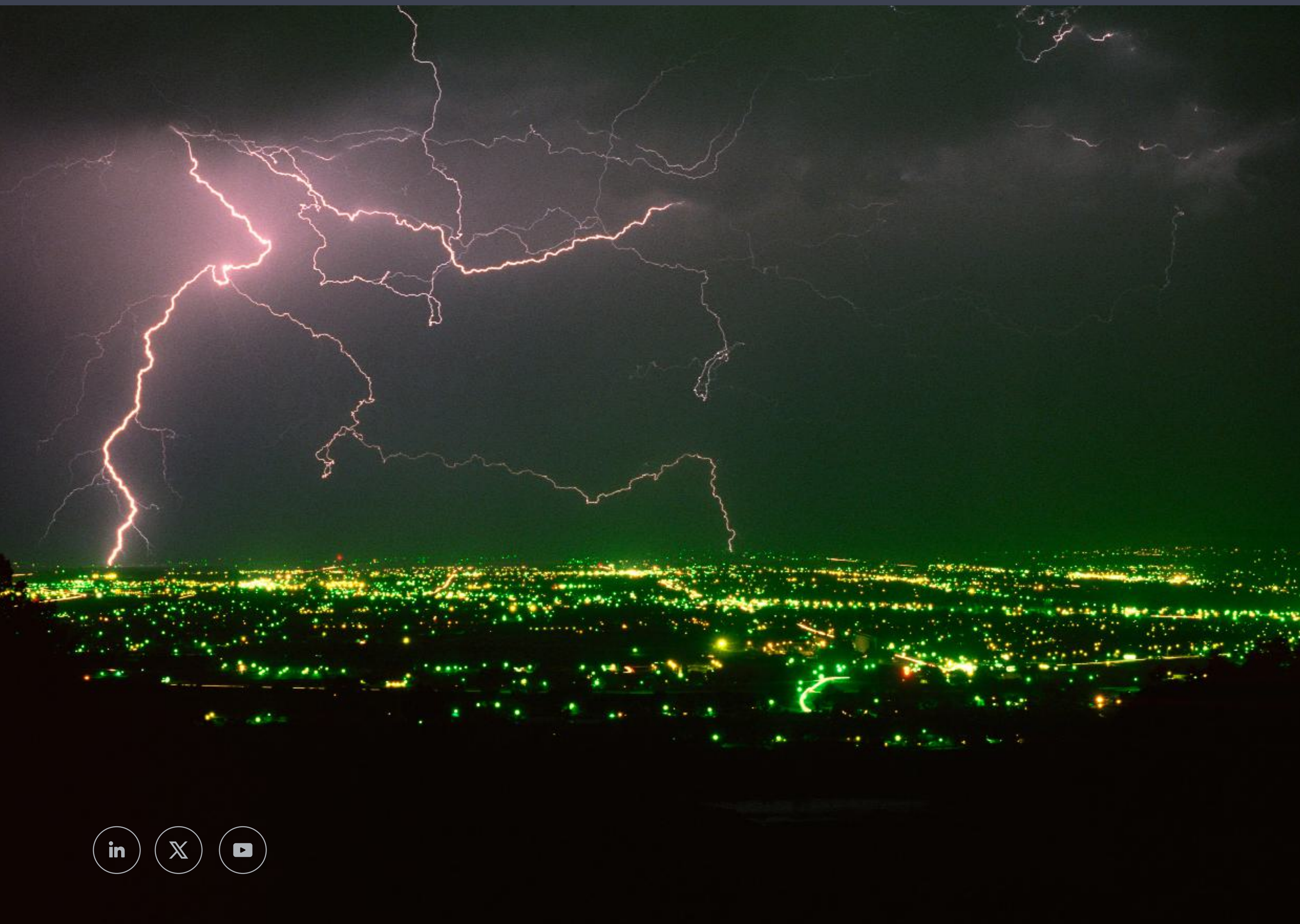
Swiss Re
Corporate Solutions

Comprehensive Guide to Parametric Insurance



Why choose Swiss Re Corporate Solutions for parametric insurance?

At Swiss Re Corporate Solutions, bringing innovative products to our clients to help them improve resilience has always been our core focus. We want to extend our hand as a true and committed risk management partner.

Our corporate clients are looking to address increasingly complex risk management needs. They need a partner that approaches risk holistically and can combine expertise with intelligent technology and data-driven analytics to deliver relevant solutions and services.

It's important to keep insurance sustainable in the long run. That's why Swiss Re Corporate Solutions closely collaborates with some corporate customers to review and quantify their exposure, both physical and financial, with the aim of exploring potential solutions that are attractive and become key components of any prolonged risk management strategy.

We tailor some of our solutions to your specific needs and develop others for broader markets that can be used either on a stand-alone basis or as part of an established insurance strategy. Indeed, we approach complex risk creatively and see it as an opportunity to tailor insurance, reinsurance or non-traditional risk transfer solutions to fit your risk journey.

Today, for example, we're able to go above and beyond, using company data as a benchmark of the business interruption – a solution that can potentially solve the many challenges that corporations face in the settlement of business interruption claims. Innovation is in our DNA. We have the track record to back it up, with both the global reach and local risk expertise to respond effectively to unique risk transfer challenges.

01 Bringing innovative solutions to our clients and helping them improve resilience.

02 Approaching risk holistically and combining expertise with intelligent technology and data-driven analytics.

03 One Swiss Re: delivering a customer experience rooted in the collective focus of the entire Swiss Re Group

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↗ What is parametric insurance

Introduction

Climate change, supply chain disruptions, new technologies, economic uncertainty, budget constraints and tightening insurance markets.

Today, organisations around the world are faced with navigating increasingly complex and extraordinary challenges which are creating a backdrop of uncertainty that continues to drive change. Amidst extreme volatility, many are seeking solutions that help to alleviate some of these pressures, provide peace of mind and build some much-needed confidence. As a result, topics such as liquidity management and risk management are ranking high on priority lists.

The most obvious option for risk transfer is traditional indemnity-based insurance, which has a strong history of managing threats of physical damage that arises from fire or natural perils. However, with a corporate landscape increasingly shifting from physical to intangible assets as well as ever more interconnected supply chains, conventional insurance programs often fail to protect businesses adequately, leaving painful gaps in cover. According to Swiss Re's Sigma, in 2023 natural catastrophes resulted in economic losses of $280 billion, with insured losses standing at $108 billion: The overall protection gap (both from natural catastrophes and man-made) was at $174 billion.

Indeed, boards are demanding that insurance managers source solutions for risks previously deemed incompatible with the traditional market. Be it disruption to business models, emerging risks, or the growing shift from tangible to intangible assets, there is a desire for contemporary products and services that are fit for today's operating environment.

With insurance buyers tasked with finding affordable insurance solutions that offer a fast claims resolution process, attentions are increasingly turning towards parametric or "index-based" insurance. **These innovative solutions are event-driven and work based on pre-agreed triggers or parameters, offering a simple complement to the gaps left by traditional indemnity-based insurance.**

Critically, they're able to enhance resilience and help companies bounce back from natural catastrophes and extreme weather events they experience, providing vital coverage for a rapidly changing environment and complementing traditional covers by reducing exposure for those risks that have traditionally been uninsured.

No longer is parametric insurance niche or exotic. It's nothing new. As the risk landscape continues to evolve at great speed, parametric insurance offers a means of covering those risks that are difficult to insure – an opportunity that many businesses are now grasping with both hands.

This eBook serves as a comprehensive guide to parametric insurance.

Not only will it provide a holistic introduction to parametric insurance. Equally, it will help you to ascertain whether parametric insurance is right for your business and build an effective business case for adopting such solutions.

You'll discover:

- What parametric insurance is and how it works
- Who it's best suited to and its core benefits
- Its evolution, and key trends for the future
- Case study examples

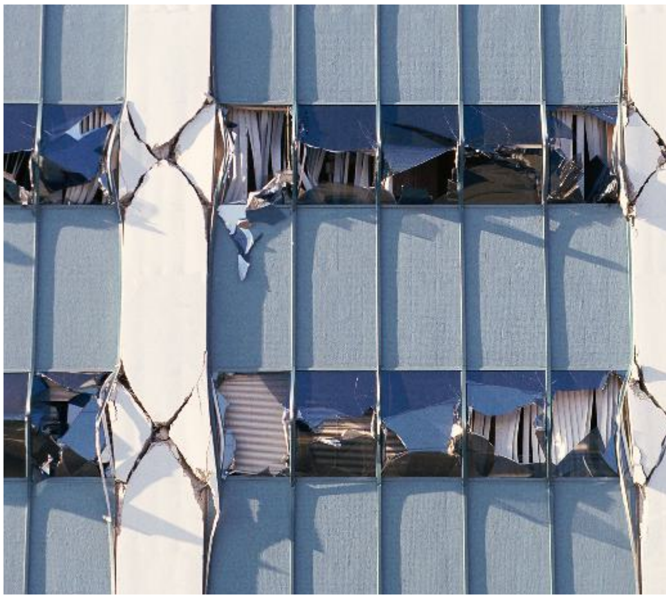
What is parametric insurance?

Parametric (or "index-based") insurance is designed to help both corporates and risk managers address today's complex and fast-changing risk environment.

Fundamentally, parametric insurance is a type of indemnity that pays out a pre-agreed amount when a pre-defined event occurs using a pre-defined index or parameter.

Let's say a customer wants to buy an earthquake cover in Japan for their property. Here the parametric insurance policy might be designed to pay out an amount on a sliding scale based on the intensity of the earthquake. Moment Magnitude of 7 might pay $10 million in claims settlement, whereas a Moment Magnitude of 9 might pay out $30 million.

The final element for the parametric insurance is the independent confirmation of the earthquake magnitude. In our example here we could use the Japan Meteorological Agency as they operate an independent earthquake observation network.



So, the following elements are needed for a parametric insurance solution:

01 The pre-agreed claims settlement amount

02 The pre-defined (triggering) event

03 The pre-defined index that serves as a proxy for sustained financial loss

04 Insurable Interest

Instead of indemnifying for an adjusted loss, parametric insurance covers financial losses on the basis of a pre-agreed and independently reported event parameter. The benefits of this approach are twofold:

01 Being independent of any underlying physical assets, parametric insurance can provide cover for intangible assets and financial losses that are otherwise uninsured.

02 The loss settlement is transparent and pay outs are fast, giving the insured access to liquidity when it's most needed and helping businesses to get back on their feet quickly.

Two key components of a parametric insurance policy

A triggering event	A pay-out mechanism
The insurance cover is triggered if pre-defined event parameters are met or exceeded, measured by an objective parameter or index that is related to an insured's financial exposure. Whilst Natural Catastrophes (Nat Cats) or weather events are the most prominent triggers, there are many others such as market indices, crop yield, power outage and more. The key criterion for an insurable trigger is that I. it's fortuitous II. it can be independently and reliably monitored and reported and III. it can be modelled. An insured must have an insurable interest for parametric insurance to qualify.	**A pre-agreed pay out if the parameter or index threshold is reached or exceeded, regardless of actual physical loss sustained.*** Examples include: • $10 million if a magnitude 7.0 earthquake occurs in a defined geographical area. • $50,000 for every millimeter of cumulative rainfall above a certain threshold. The threshold is usually set in such way that aligns with a client's own business continuity plan and risk tolerance. For example, a client may know that their business can sustain the effects of an earthquake below magnitude 7.0. *Following a model for potential losses in case of events of a magnitude reflected by the parameter or index.

How is this different from indemnity-based insurance?

Traditional indemnity-based insurance is based on physical asset values, deductibles, sublimits and policy terms and conditions. Claims are paid when assessed indemnity losses exceed the retention held by the insured and settlement can take months or years, particularly when it comes to complex business-interruption situations.

Parametric insurance is "index-based", meaning coverage is triggered if predefined event parameters are met or exceeded. Claims adjustment amounts are paid out quickly and with little administration. The parametric payout is pre-agreed and when the parameter is confirmed by an independent 3rd party, the insured is reimbursed quickly for sustained financial loss. The insurer reserves the right to review actual losses and perform a claims adjustment process.

Note: Parametric insurance is typically designed to complement traditional insurance programs, not replace them.

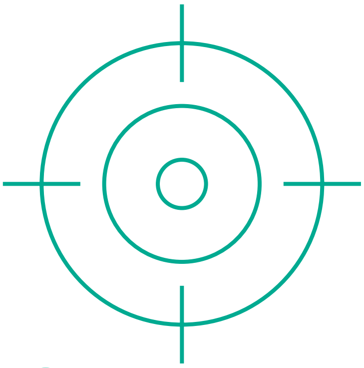
Specifically, it can aid policy holders aiming to address coverage gaps and reduce their risk exposure. This is because parametric insurance can achieve things that are not possible with conventional insurance products indemnifying on an actual loss sustained basis.

Parametric insurance expands coverage beyond physical assets to fill protection gaps left by indemnity insurance, such as deductibles, excluded perils, scarce capacity or pure financial risk where the insured has no control over the underlying asset (but has an insurable interest on it).

Key differences between traditional indemnity and parametric insurance

	Traditional insurance	Parametric solutions
Trigger	**Payment triggered by actual loss of or damage to a physical asset (and consequential business interruption).** Example: A fire causing physical damage to your property resulting in a physical damage and business interruption loss.	**Payment triggered by independently confirmed event occurrence exceeding parametric threshold.** Example: A hurricane of a minimum wind speed within a defined area.
Recovery	**Reimbursement of adjusted loss.** Example: The adjusted loss sustained due to a fire.	**Pre-agreed payment structure based on event parameter or index value.** Example: Increasing pay out amounts with increasing earthquake magnitude.
Basis risk	**Policy conditions, deductibles, sublimits and exclusions.** Traditional policies often include deductibles and exclusions to align the interests of the insured and the insurer. However, this can leave the insured party with significant retained risk.	**Correlation of pre-agreed payment structure, the pay out, and the financial loss sustained.** Whilst basis risk can never be fully eliminated, it can be reduced in parametric insurance by testing against scenarios (historic and future). This might include having a partial pay out for lower category storms and progressively increasing pay outs for stronger storms.
Loss assessment and payment	**Complex and based on loss adjuster assessment.** This can take months or years depending on the complexity of the loss and the clarity of the policy wording.	**Transparent, predictable, based on a parameter or index, quick settlement.** Pay out can be as quick as within two to four weeks after the event as there is no need for loss adjustment.
Term	**Usually annual.** Multi-year deals are more difficult to structure and tend to be less common.	**Single or multi-year.** Multi-year deals are common and up to five year deals are possible.
Structure	**Standard products and contract wordings; some customisation.** Customisation is usually limited as the insurer will still be working from a standard industry wording.	**Tailored product with high structuring flexibility.** Each structure can have a unique index and pay out structure to best meet client needs, balancing cover requirements while meeting budget targets.
Form	**Insurance contract**	**Insurance contract or derivative** Is usually executed as an insurance contract, but derivative forms are also possible, depending on the preference and needs of the client.

How does parametric insurance work?



01

Define the need

First, an insurer that can offer parametric insurance (such as Swiss Re Corporate Solutions), a broker and a client will work together to define the scenario which the parametric insurance should address, and define a risk management strategy, balancing risk retention and transfer to optimise premium spend.

02

Define the coverage

The involved parties will work together to select the independent data provider and their event parameters, and how these correlate with future losses resulting from the covered scenario. Sensitivity testing the coverage to both historic events as well as potential future events is typically part of this iterative process. The result will be a tailored parametric insurance policy that meets the client's specific needs.

03

Monitor the parameters

Once the policy has incepted, the parameters are being monitored in order to determine whether or not a threshold has been triggered. Example: Has there been a hurricane of a certain wind speed in a specified area, as reported by the data provider?

04

Respond to a covered event

Should the data confirm that a threshold has been met or exceeded, and (depending on the jurisdiction) the client can confirm that they suffered a financial loss, then the pre-agreed funds will be paid within weeks of the event. Since a detailed and lengthy loss assessment is not required, this process will happen quickly, with the parametric insurance paying out soon after the event.

Key drivers for parametric insurance

Cover for uninsurable perils or asset classes

Example
Contractors insuring delay penalties when too many rainy days delay a construction project.

Cover for pure economic losses not caused by damage to physical assets

Example
Covering loss of attraction of a hotel due to a decline in tourism in the aftermath of a tropical cyclone in the region.

Cover for excluded or sublimited losses

Example
Uncovered expenses due to debris removal, ingress / egress, landscaping, expediting expense, cost inflation due to shortage of skilled workers and building material.

Events where quick access to cash is critical to recovery

Example
Local councils or government entities who need quick access to liquidity for emergency relief actions post event, like providing shelter, medication, fuel, food or water to the community.

What to consider when designing parametric insurance?

Parametric insurance is tailor-made to meet each customer's individual exposure, risk appetite, budget and legal environment. For this reason, no two parametric insurance policies are the same. However, there are some universal considerations when designing parametric insurance.

Parameter

While Nat Cat related parameters such as wind speed or earthquake magnitude are commonly used parameters, other examples include power outages, booking cancellations or a year over year loss of revenue.

Susceptibility

Consideration of how a parameter might impact a client. If the event were to happen, what level of loss would the client be likely to suffer?

Asset distribution

What specifically needs to be covered to protect the client, and where?

Insurance structure

Consideration of how to structure the solution so that there is a good correlation between the index and financial loss sustained, factoring in risk appetite and budget considerations.

Data source

Objective, independent and consistent data is needed to establish the index. This is usually provided by a third party, such as a national weather service, or specialist firms.

Data modelling

Analysis of historical data and possible future events allows to simulate potential scenarios and refine the insurance structure.

Solution

Consideration of how a solution, such as a payment being triggered by an event occurrence exceeding the parametric threshold, will mitigate the identified risk exposure.

What different types of parametric solutions exist?

There are several different structures of parametric insurance. Here, we'll outline two of the more commonly adopted structures, specifically to address nat cat scenarios.

Cat in a Box

Cat in a Box is the most popular parametric insurance structure, in large part because it's extremely easy to both understand and implement.

With Cat in a Box, a pay out is provided if a catastrophe such as an extreme weather event (the 'Cat') occurs in a given, pre-agreed area of any shape (the 'Box'). To trigger the pay out, the 'Cat' will need to both meet the minimum pre-agreed intensity threshold and occur within the 'Box'.

A luxury hotel may wish to protect itself against losses arising from a hurricane. In such a scenario, a Cat in a Box policy may be structured to pay out specified amounts for a category 3, category 4 or category 5 hurricane occurring within a 30-mile radius of its premises.

Intensity covers

Recent advances in data analytics and data recording have allowed Swiss Re Corporate Solutions to develop '2nd generation' parametric structures, such as intensity-based covers.

Intensity covers are based on the reported intensity of the index parameters (think temperatures, wind speed, precipitation) that occur at specific locations defined in the policy. This allows to achieve a closer correlation with the loss at a particular location and thereby reduce the basis risk.

5 myths about parametric insurance

There are several misconceptions about parametric insurance. Here, we debunk 5 myths that we often come across when presenting parametric insurance to clients.

MYTH 01

Parametric insurance is always more expensive than traditional indemnity insurance

Cost or 'rate on limit' is often a concern that arises when parametric insurance is mentioned. The truth is that parametric and conventional indemnity insurance cannot be compared like for like as they do not cover the same things.

Critically, parametric insurance fills the protection gap left by indemnity insurance from deductibles, excluded perils, scarce capacity, or to address situations like contingent business interruption or wide area damage.

Indeed, it's important to remember that parametric insurance is not designed to replace traditional insurance, but to complement it for pure financial losses or uninsurable perils.

MYTH 02

Parametric insurance is complex and difficult to understand

The opposite is true! Parametric insurance is quite simple and more transparent than traditional insurance: If a defined event occurs and the index threshold is met, the policy is triggered and a pre-agreed pay out is made within days of the occurrence.

Some of the perceived complexity might come from the structuring process, which often involves a few iterations but is key to tailor the solution to meet the specific needs of a client. With parametric insurance, there is no fine print.

Since the asset vulnerability does not enter the equation, the underwriting and claims payment process are much simpler than for traditional insurance: no site surveys or risk mitigation assessments, no tedious loss adjustment processes.

MYTH 03

Parametric insurance is like gambling

This misconception is somewhat related to Myth 4. Fundamentally, the difference between insurance and gambling is the existence of exposure and thus an insurable interest.

Whilst parametric insurance executed as derivative could technically result in a positive basis risk (i.e., a pay out without an actual financial loss sustained), most risk transfer solutions in the corporate world are written as insurance contracts requiring a brief confirmation of loss.

In any case, we're looking at parametric insurance as risk transfer instruments, and it's highly unlikely that any risk manager would have an interest to pay premium for a 'corporate gamble'.

5 myths about parametric insurance **continued**

MYTH

04

You can use parametric insurance to cover all uninsurable risks

Parametric insurance can certainly expand the scope of coverage, but they are not the panacea for every risk. The fundamental requirement is always to have a trigger that is fortuitous, can be modelled and is correlated with the financial exposure of the insured.

As such they certainly can complement traditional insurance programs and fill some gaps left by conventional programs, but there will be residual risks that the insurance industry has no appetite for.

Pure business risks like performance related exposures or product development risk will remain difficult to transfer to an insurer and stay with the shareholders, for example.

MYTH

05

Parametric insurance only applies to Nat Cat events

Whilst Nat Cat events are a very common scenarios for parametric insurance, there are dozens of other scenarios and applications for "index-based" covers.

Any index that has a fortuitous element, that can be modelled, reported independently and consistently, and that correlates to future financial loss can theoretically serve as trigger. Nat Cat events – and weather in general – are just very prominent scenarios because they fulfil the fortuity requirement, are well monitored and usually impact the financial performance of businesses.

Beside the more common weather triggers like temperature, irradiation, wind speed or precipitation, we have structured covers involving a range of other, non-weather-related triggers like evacuation orders or number of power outages in a service area.

History, evolution and current state of parametric insurance

History

Parametric insurance is nothing new. You can even think of traditional life insurance as a form of parametric insurance: When someone dies, their loved ones receive a pre-agreed payout.

The earliest examples of parametric non-life insurance date back to the 1800s.

In 1817, the Hamburger General-Feuer-Kasse (Hamburg Fire Office) gave landlords the option to purchase loss of rent coverage as a supplement to fire insurance.

It wasn't until around the late 1990s that mainstream insurers started offering parametric insurance. And the sophisticated, data-driven and bespoke offerings available now are entirely different to those products first dreamt up 200 years ago.

Today's parametric insurance is an alternative approach to risk. Sitting alongside traditional indemnity insurance, it allows corporates to fill protection gaps in an increasingly risky environment.

"The birth of the modern parametric was largely driven by a demand from larger clients for a faster claims processing time, more flexible protection and greater certainty around pay outs."

Current areas of cover

Parametric insurance offers coverage in a variety of unique scenarios. Some examples include:

- Waterfront hotels in the hurricane-prone Caribbean
- Offshore energy platforms in the Gulf of Mexico
- Hedging lower retail revenue after major earthquakes
- Post-event humanitarian response management by governments
- Car dealers looking to protect against damages from large hail
- Bolstering benefit programs so companies can assist employees following disruptive natural catastrophes

Natural catastrophes are typically easy to create parametric insurance for because there is lots of data available, such as seismic measurements, or wind speed information. Further, the increasing severity and frequency of these events have put parametric insurance higher up the corporate agenda.

Emerging areas of cover

As the sophistication and availability of data improves, new ways of gauging risk continue to open up. While data will usually come from an independent third party, the insurance industry is becoming more confident in using data from clients, offering new ways of indexing.

We can also be creative when it comes to how an event is being monitored. Phone signal data can be used as a proxy for footfall data to help assess how busy a location is – for example, a shopping mall. We have used variations of this approach to establish the impact of railway station closures on shops and businesses nearby.

Resultantly, several new areas of cover are emerging.

Some examples include:

Non-damage business interruption (NDBI):

Businesses are increasingly vulnerable to NDBI in new and more complex ways, with intangible assets making up an increasing proportion of an organisation's value, and supply chains becoming longer than ever before. From media and loss of reputation, supply chain disruption and critical infrastructure challenges, companies are seeking to protect against several forms of NDBI. Here, parametric insurance can meet that gap in the market.

Heavy historic losses:

There are a growing number of risks that can no longer be covered on the traditional insurance market because there have been too many historic losses. Some firms have struggled to find an insurer to cover overhead wire damage (T&D lines) because of the high frequency with which this can happen, for example. However, using data on wind thresholds and recurrence periods, we can price the risk.

Smaller risks:

Parametric products are typically seen as the preserve of sophisticated corporates. However, some companies are now offering parametric insurance to their employees to improve the resilience of the employees and, in turn, their own businesses.

Parametric insurance is:

- Expanding the scope of coverage
- Continuing to evolve as data sources expand and improve
- No longer an outside product limited to sophisticated clients
- A key tool allowing businesses to respond to a hardening risk landscape
- Proven and tested in many successfully handled claims situations

Short survey

While there are several merits to parametric insurance, it can be difficult to know whether it's right for your business. Considering these five questions can help to determine if parametric insurance can add value to your organisation

01 Do you have protection gaps or exclusions in your traditional program that you would prefer to be insured?

02 Is your company/board demanding that you source solutions for risks previously deemed incompatible with the traditional market?

03 Do you have assets or supply chain interests in regions/areas that are impacted by potential natural catastrophe events?

04 Do you struggle to find cover for potentially large financial losses that are unrelated to physical asset loss potential?

05 Would you prefer insurance cover that offers a faster claims processing time, more tailored protection, and greater certainty around pay outs?

If the answer to any of these questions is yes, it is likely that parametric insurance can bring value to your business. Indeed, this unique form of insurance can provide flexible and transparent coverage alongside traditional insurance to improve your risk profile. Get in touch with one of our team members to discuss a tailored solution to support with solving your problems.

What businesses and industries are using parametric insurance?

Parametric insurance isn't exclusive to any specific industry – a variety of companies of all sizes are already benefiting from parametric insurance buying.

To recap, parametric insurance is a type of insurance that offers pre-specified pay outs based upon a trigger event. The insurance cover is triggered if pre-defined event parameters are met or exceeded. Therefore, any exposure that can provide high quality data to create a reliable and credible index can be covered with parametric insurance.

Thankfully, the increasing availability of data is enabling new ways of gauging risk. The insurance industry is becoming more confident in using data from independent third parties. And the more digital and data driven the society becomes, the more creative we can be in modelling the right cover.

As a result, industries and businesses of all sorts are successfully leveraging parametric insurance:

Travel: Those industries particularly reliant on tourists and revenue generated by tourism are using parametric insurance to buffer their balance sheet against declines in visitors. Physical parameters, such as wind speeds or ground shaking at hotels or key attractions like theme parks, or non-physical parameters, such as number of arriving flights or number of passengers transiting through an airport, are possible triggers.

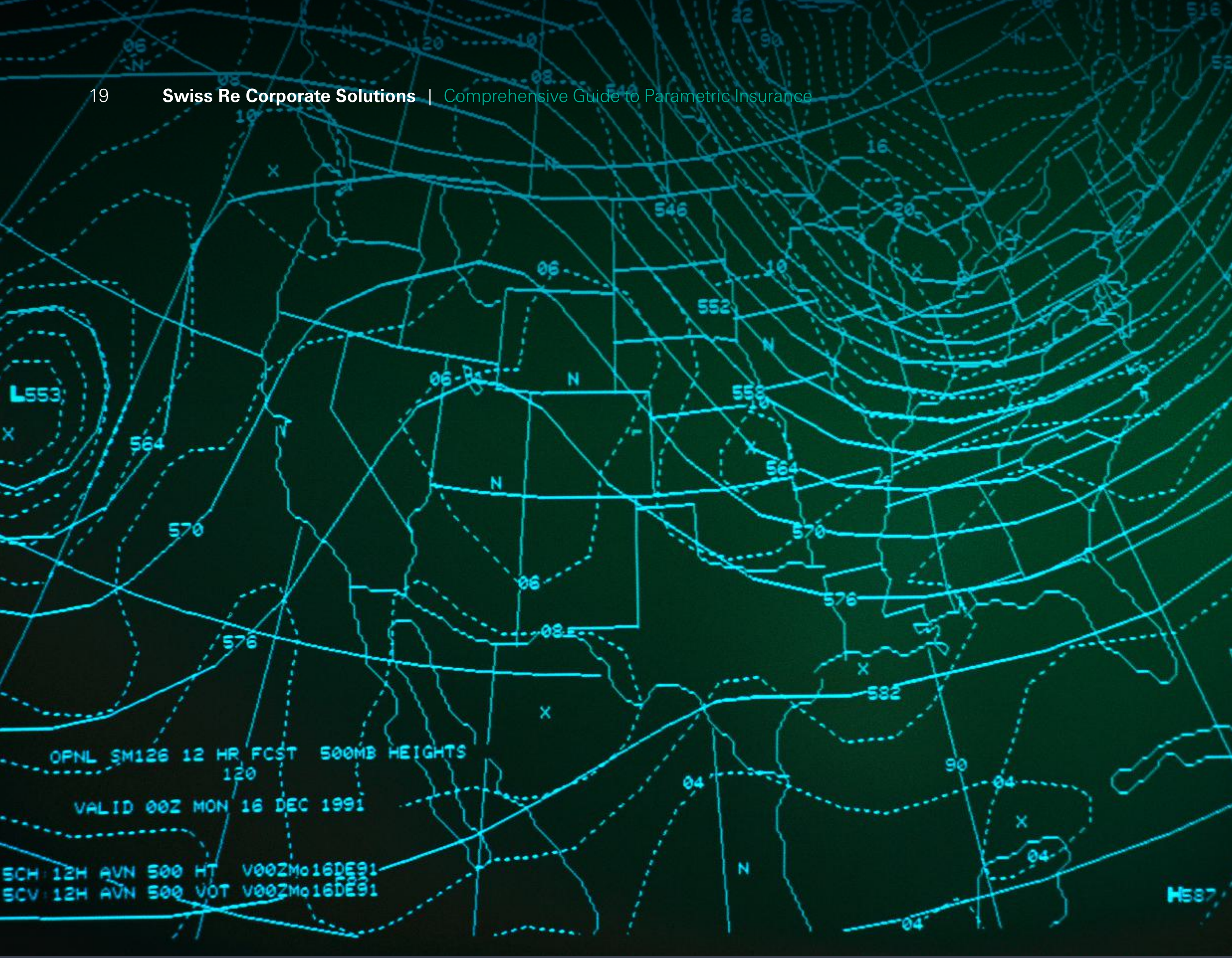
Retail: Loss of sales revenue due to either decreased foot traffic in stores or disruptions to supply chains can be covered via parametric insurance. Currently, one retail client uses reported wind speeds and ground shaking at their stores throughout the United States as the trigger, while another client uses ground shaking at a storage warehouse as the trigger.

Agriculture: Satellite technology monitor weather and climate conditions that are closely correlated with crop production, such as land greenness and flood expanse; these variables can be used as parametric insurance triggers for agricultural exposure.

Renewable energy: Weather stations can monitor wind speeds and irradiation (incoming sun) to determine if the values are below the threshold required for energy production.

Construction: Accumulation of adverse weather days, defined by extreme temperature or excessive rainfall, can delay construction projects. Parametric insurance can be designed to trigger after a certain number of critical weather days is exceeded throughout the duration of the project.

Given this expansive scope and flexibility, parametric insurance be extremely useful for companies that have a variety of exposures to numerous segments of the economy.



Parametric insurance trends

From supply chain disruptions to climate change, the risk landscape is heating up.

Overall, there is now increased awareness around secondary perils and the increases in their economic costs. Risk managers are becoming more pro-active and are seeking improved ways to appraise and mitigate the risk rather than simply relying on traditional insurance and risk transfer.

To avoid steep economic losses, demand has grown for flexible, alternative insurance products that can address protection gaps. For this reason, the parametric insurance market is anticipated to grow significantly.

There are several trends driving the parametric insurance market forwards. Below we'll outline some of those factors that are most significant in defining the market's upward trajectory:

The evolution of data, digital tools and technologies

Advances in data analytics and improvements in modelling techniques have boosted the popularity of parametric insurance, allowing for improved modelling of risks previously deemed uninsurable. Better data also means increased risk assessment certainty, allowing businesses to put sound continuity plans in place and make better-informed insurance purchasing decisions. There is a new world opening up in terms of high-quality sensors and instruments that enable accurate monitoring on a 365/24/7 basis, and this new wealth of data is propelling innovative alternative risk transfer solutions.

Claims certainty

Parametric insurance provides certainty in uncertain times. Policy terms are clearly outlined and based on objective, third party data from public agencies or specialist firms. Since the data is incontrovertible, there's no lengthy negotiation over how much the policyholder is owed. In the pandemic, many firms appreciated what they were covered for – and what they weren't covered for. With parametric insurance, the parameters are clearly defined and settled swiftly, without any need for lengthy, complex loss adjustment processes. Resultantly, these policies are becoming increasingly attractive.

Increasing risk awareness

Many companies were taken by surprise by the extent and severity of disruption caused by the pandemic – very often not an exposure that risk managers had on the top of their minds. This has also made corporations more aware of their upstream exposure to natural catastrophes and potential gaps in their current insurance programs. Consequently, an increasing number of companies are looking for solutions in the alternative risk transfer market. As a result, we're seeing a rising interest in parametric insurance – a very effective instrument to fill the gaps left by traditional insurance programs. A post-COVID world demands certainty and adaptability. And parametric insurance can offer just that.

Flexibility

The market also craves flexibility, further driving up demand for parametric insurance. These premiums can be tailored to a customer's specific budget, as well as being bundled in with indemnity insurance in a bespoke manner to bridge any gaps in coverage. With parametric insurance, customers are provided with flexible protection through bespoke indexing and pay out structures.

Parametric insurance is no longer an unknown

No longer is parametric insurance niche or exotic. As uptake increases, its merits have become increasingly clear, and confidence continues to grow. Indeed, parametric insurance offers a means of covering those risks that are difficult to insure – an opportunity that many businesses are now grasping with both hands. Clients, brokers and insurers alike are waking up to the potential of simpler, faster catastrophe insurance. And many are already experiencing the benefits.

Reducing the protection gap

Right now, a clear protection gap exists. According to Swiss Re Sigma, natural catastrophes resulted in economic losses of $280 billion in 2023, yet insured losses stood at just $108 billion. Resultantly, more and more companies are reviewing their insurance cover through a new lens – looking for ways to fill in gaps and complement their existing traditional insurance programs. Here, parametric insurance is a logical application.

Climate change

The impacts of climate change on our planet are becoming increasingly clear. Global warming has seen the severity and frequency of Nat Cat events rise, with much of the global population now at risk of climate-related threats. Indeed, Swiss Re data shows that Hurricane Ian and other extreme weather events such as the winter storms in Europe, flooding in Australia and South Africa as well as hailstorms in France and in the US resulted in an estimated $115 billion of natural catastrophe insured losses (as of 1 December 2022). Critically, parametric insurance is perfectly positioned to protect against these perils, as well as others such as hurricanes and storm surge.

Parametric insurance in action

Next generation Nat Cat Parametric insurance

QUAKE	**Our standard earthquake parametric insurance offering that settles on the reported ground shaking at the client's location(s).**
STORM	**Our standard tropical cyclone parametric insurance offering that settles on the reported wind speed at the client's location(s).**
FLOW	**An "index-based" water-level insurance, tailored for companies with revenues and costs exposed to rivers' high or low water levels.**
HAIL	**Our parametric insurance product that offers supplemental hail coverage for clients in the United States.**

Parametric Earthquake – QUAKE

Background
A big issue for risk managers is the fact that it can take several months to complete the insurance renewal process. Even then, many insurers rarely receive all the data needed to price the risk and exposure, meaning they must price for the unknown. For many industries, these timescales are unmanageable and unpractical. That is until now.

A Hong Kong based private equity company, with large investments in Japanese real estate, previously purchased standalone traditional bodily injury and property damage (PD/BI) earthquake policies from multiple carriers for each property on an individual basis. This left the customer needing to go through cumbersome administrative processes to purchase and cancel policies, which led to delays in their transactions.

Our alternative risk transfer solution
Using an innovative parametric insurance solution, linked to the Shindo Scale at Japanese Meteorological Agency (JMA) seismic stations, we simplified this process and enabled our customer to buy earthquake cover seamlessly.
The solution allows earthquake capacity purchase at JMA stations which are closest to investments. The premium is pre-determined and provided on a per million dollar of capacity basis, which allows for transparent pricing. Instead of a long renewal cycle, the customer only needs to determine how much cover (capacity) they require. Conversely, if they sell a building, they can reduce earthquake capacity and will receive a pre-determined pro-rata premium reimbursement.

Unlike traditional earthquake PD/BI products, the new parametric insurance provides:

- Access to capacity and consistent coverage prices.
- Better informed decision-making about risk financing strategies.
- Broad cover based on an index reading rather than actual damage to assets.
- A predefined pay out sum, triggered when the JMA registers an earthquake of 5.5 or above on the Shindo scale.
- A quick and easy claims pay out within 30 days.

This approach enables customers to speed up the process of buying new assets as the insurance spend is pre-determined, removing the need to wait for an underwriter to price up and ask for submissions. In addition, the policy allows all the earthquake insurance coverage for all the customer's assets to be in one policy rather than having numerous policies for all their buildings.

Parametric Windstorm – STORM

Background
A large telecommunications services provider with operations in Latin America and the Caribbean faced substantial losses caused by damage, particularly to their transmission and distribution (T&D) network in 2017, during Hurricanes Irma and Maria. Although the company was insured in the traditional markets, the claims process had complications and a significant element of their loss was not reimbursed by insurance. It also took a long time to be settled and caused much frustration to the company.

Swiss Re Corporate Solutions proactively approached its incumbent broker, introduced it to our bespoke STORM solution and crafted a parametric windstorm insurance for the customer.

Our alternative risk transfer solution
Due to the losses sustained in 2017 (where large amounts were not indemnified) and the difficult claims experience, the customer reviewed various alternatives to replace the traditional property windstorm cover. Our parametric STORM solution provided a meaningful limit on an Excess of Loss basis and suited the customer best to cover its windstorm exposure and consider a meaningful retention to them across more than 50 locations in the Caribbean. The solution considers the windspeeds reported at pre-defined locations and provides a quick pay out once the wind speed levels are reached. The speed of pay out helps the company to cope with emergency expenses and allows it to resume operations as fast as possible. Our back-testing and respective as-if-pay outs for Hurricane Irma and Maria provided the firm comfort, in that the solution would have indemnified them in line with their actual losses sustained.

The solution was also offered as reinsurance to its captive and we provided a bespoke solution to cover its local operation in certain territories where its local fronting company faced regulatory challenges to issue local policies.

Typically, transmission and distribution (T&D) lines are underinsured in traditional placements and business interruption losses are a key concern whenever a threatening storm is formed nearby. This solution can be easily replicated for other customers who own, lease or operate this type of assets which are also typically spread over a large territory. Further, it can be structured for any other uninsured/underinsured assets, including natural assets such as reefs, beaches and archaeological sites.

Parametric River Level – FLOW

Background
Our customer operates tourist boats on a river in Europe. If the water levels of the river drop below certain thresholds, boats cannot be operated, and the respective revenues are lost. At the same time, investors are asking for certainty of revenues as a factor in their decision to invest funds in this business. Therefore, the customer decided to buy insurance for situations where boats cannot be operated anymore due to drought resulting in low river water levels.

Since traditional indemnity insurance is difficult to get and because of the usually cumbersome and lengthy process to identify sustained revenue/profit losses, the customer decided to go for FLOW, a parametric insurance.

Our alternative risk transfer solution
The customer receives a daily payment if the water level at a defined gauge drops below a defined level as measured at the gauge. The daily payment is a fixed amount, reflecting the pre-assumed loss of daily revenue.

The principle can be applied to all situations where low river water levels lead to loss of revenue or other negative financial impacts like increased cost of transportation, or production stops, etc. The actual loss circumstances are not relevant, since the coverage only looks at the event and its extent, not at the actual loss for the customer. Therefore, also losses that can otherwise not be covered under traditional indemnity insurance can be covered – for example, NDBI.

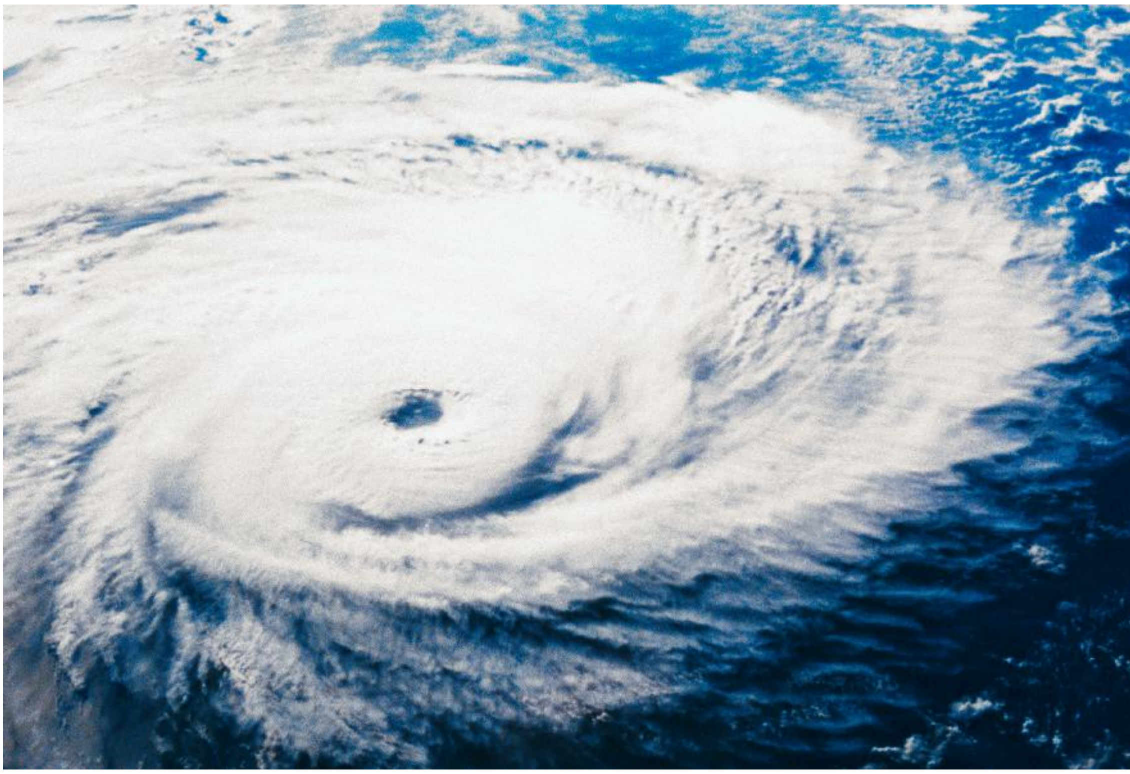
How do claims payments work?

The claims process with parametric insurance is straightforward and transparent.

When disaster strikes, you need liquidity; and parametric insurance ensures a fast payment. You'll get the liquidity you need to help keep your business running smoothly when you have a parametrically measurable claims event.

Receive payment in 30 days

30 days. That's all it takes to pay out a parametric insurance claim after a hurricane, flood, drought or hailstorm has hit your business. Not the months – and sometimes years – a traditional indemnity-based insurance claim takes.



The Swiss Re Corporate Solutions parametric insurance claims experience

At Swiss Re Corporate Solutions, we are committed on delivering on our claims promise.

We put our customers first and at the centre of everything we do. We know that how a claim is handled can be as important as the outcome itself. Our mission is to deliver an exceptional claims service that gives you confidence, peace of mind, and quite simply makes you want to keep doing business with us.

We aim for 'no surprises' when handling claims. Our focus is on working together to resolve your claims in a way that enables us to build a long lasting relationship.

Claims experience feedback from Swiss Re Corporate Solutions parametric insurance customers:

"Already well-established in the parametric insurance space for hurricane and earthquake, Swiss Re Corporate Solutions again demonstrated their forward thinking and ability to innovate by offering HAIL™. A parametric solution that responded exactly as our clients needed. The claims adjustment process was timely and transparent, allowing my clients to quickly address the damage and avoid revenue loss."

Richard Alan Duer, Broker, HailSure
Read the full case study **here**.

"Among the appealing parametric benefits were the promise of prompt payments based upon the location and severity of an earthquake and the opportunity to use those payments for any purpose... Less than 30 days after the earthquake, Swiss Re Corporate Solutions issued payment to the State of Utah."

Brian Nelson, Director, State of Utah Division of Risk Management
Read the full case study **here**.

"After our properties were damaged or destroyed by Hurricanes Ian and Nicole, we were amazed at how quickly Swiss Re Corporate Solutions processed the claim, based on the terms of our parametric STORM policy. The end-to-end claims process, from notifying the insurer we were impacted by Ian and later Nicole to receiving the proceeds directly into our bank account, was fast and efficient and aided us in getting our repairs handled and paid quickly."

Kathy McKnight, Automated Petroleum
Read the full case study **here**.

Swiss Re Corporate Solutions
Mythenquai 50/60
P.O. Box
8022 Zurich
Switzerland

Telephone +41 43 285 2121

www.corporatesolutions.swissre.com

Contact one of our team members at your location to discuss
a tailored parametric insurance solution for your needs:

Martin Hotz
Head Parametric Nat Cat
Martin_Hotz@swissre.com

Ole Ohlmeyer
Head Global Customer and Distribution and ART
Ole_Ohlmeyer@swissre.com

Andre Martin
Head ART APAC
Andre_Martin@swissre.com

Robert Nusslein
Head ART NA
Robert_Nusslein@swissre.com

Andrea Baer
Head ART LatAm
Andrea_Baer@swissre.com

Yann Krattiger
Head ART EMEA
Yann_Krattiger@swissre.com

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