

A satellite-style map of Europe is shown in the background, with a yellow dot marking a location in Central Europe. The map uses shades of blue for water and brown/green for land.

# DESCARTES

## **Bridging the Central European Protection Gap: AI-Driven Parametric Solutions**

**Bratislava  
April 2026**

# Losses from climate risks are on the rise. Despite the urgency, **traditional corporate insurance is not fit for purpose.**

The increased frequency and intensity of climate risks threatens the economy...



Flood



Cyclone



Wildfire



Tornado

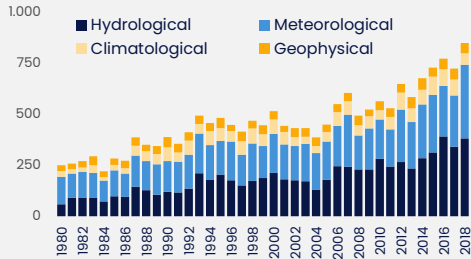


Hail



Earthquake

Natural disasters by cause, 1980–2019



... Yet traditional corporate insurance suffers from legacy systems & low-tech culture

EXTENSIVE

**18 months**  
on average  
between claims  
reporting and  
compensation in  
the US corporate  
market

COVERAGE GAPS

**Financial losses**  
not covered:  
traditional  
insurance only  
covers physical  
damage

COMPLEX

**Exclusions**  
leading to policy  
wording  
complexity (e.g.,  
pandemic vs.  
epidemic)

GENERIC

**Limited use of data**  
leading to  
generic  
contracts, not  
adapted to  
clients' needs

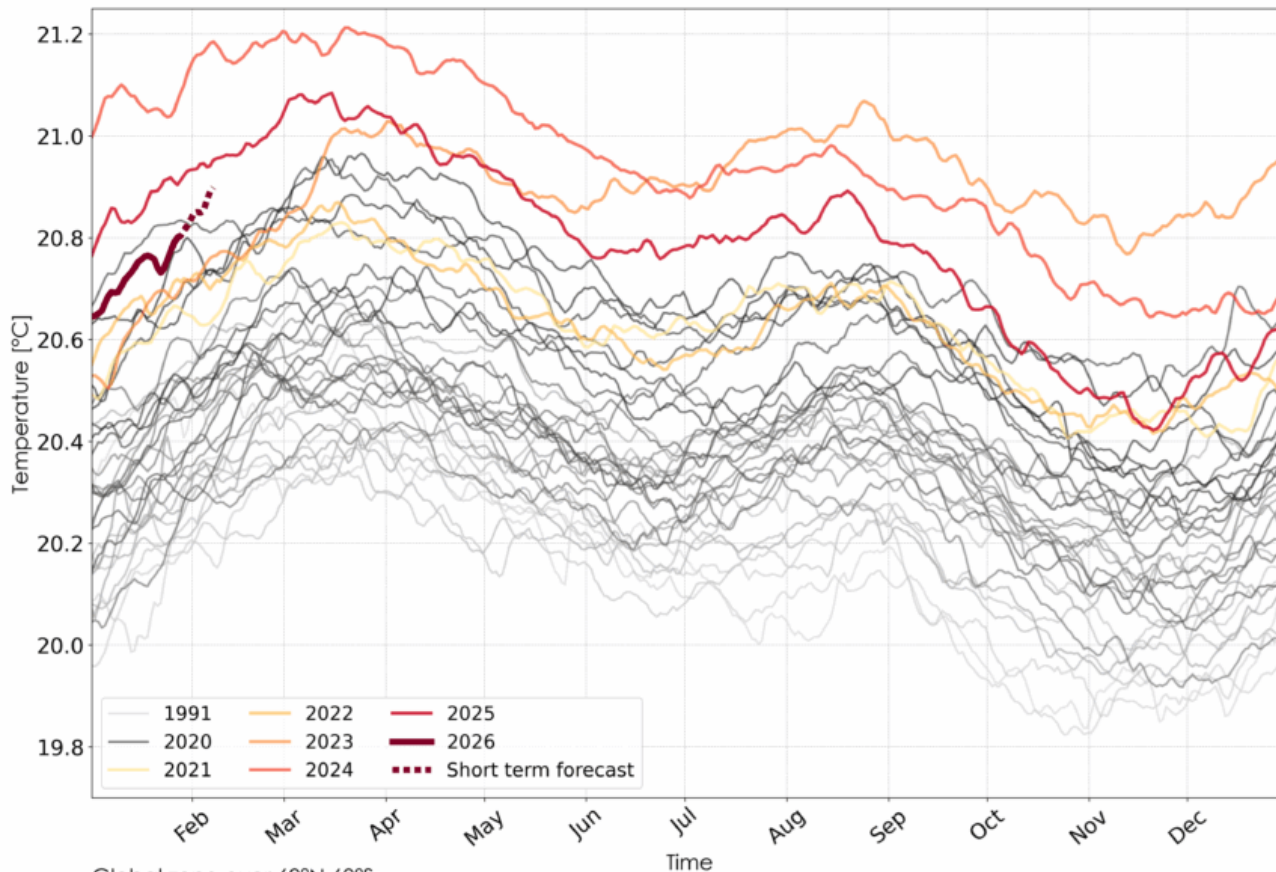
Example of damage



## Sept 2024: Storm Boris

- Insured losses estimated at €2,153M against total economic damages exceeding \$9,000M.
- This represents a ~76% protection gap, highlighting low insurance penetration in Eastern Europe.

### Sea Surface Temperature average, over 60°S-60°N



Global zone over 60°N 60°S

Gray shades represent ESA CCI data between 1991-2020

Coloured shades represent Mercator Ocean GLO12 analysis and forecast

An aerial photograph of a tropical island, likely in the Maldives, featuring a central lagoon with several small buildings and a bridge connecting to the mainland. The water is a deep blue, and the island is lush with green trees. The text is overlaid on the left side of the image.

# Introducing Descartes Underwriting

# The largest team of climate scientists in the industry

We recruit top natural risk modelers & data science engineers from leading universities.



## Deep expertise in climate risk

Supported by an industry **leading of +250 employees**

Including **150 FTE in Tech** (PhDs, natural risk modelers, data science engineers, software engineers)



## Data-driven approach

Incorporate **multiple data sources** (satellites, sensors, meteorological stations, radar) & machine learning to **model the underlying phenomena directly**, better capturing trends & climate change impacts

## +37 PhDs across various fields:



Artificial intelligence



Machine learning



Satellite & radar applications



Peril-specific modeling



Applied mathematics



Physics



# Descartes Underwriting: Data-Driven Managing General Agency

Global leader in parametric insurance, building resilience for corporates and public entities in a world at risk



\$80M in capacity (up to \$200M) written on A+ Paper with leading (re)insurers



Largest insurance team of 150+ FTEs for data science, risk models & software engineering



AI-enhanced risk modeling & data-driven structuring



Global footprint collaborating with 300+ broker partners

**20+ perils covered**

from climate to cyber risks for any asset

**\$13B in capacity**

deployed through brokers since 2019

**15+ global offices**

across 8 countries

Trusted by more than **600+** corporates & public entities

**\$250M+ GWP**

successfully underwritten in 2025

**250+ employees** worldwide

**We provide tailored and cost-effective insurance solutions for each client's unique risk profile and budget.**



# **Parametric Reinsurance:** **How It Works & Recent Trends**

# Introducing parametric (re)insurance

## What is a parameter?

A parameter serves as an objective measure of how severe a natural disaster, weather event or other natural risk is and helps to determine the coverage clients receives.



Payout structure  
built on objective  
parameters



Continuous  
monitoring



Natural event  
occurs



Payout made  
within days

## What are the key advantages?



Transparent



Precise



Client-  
customized



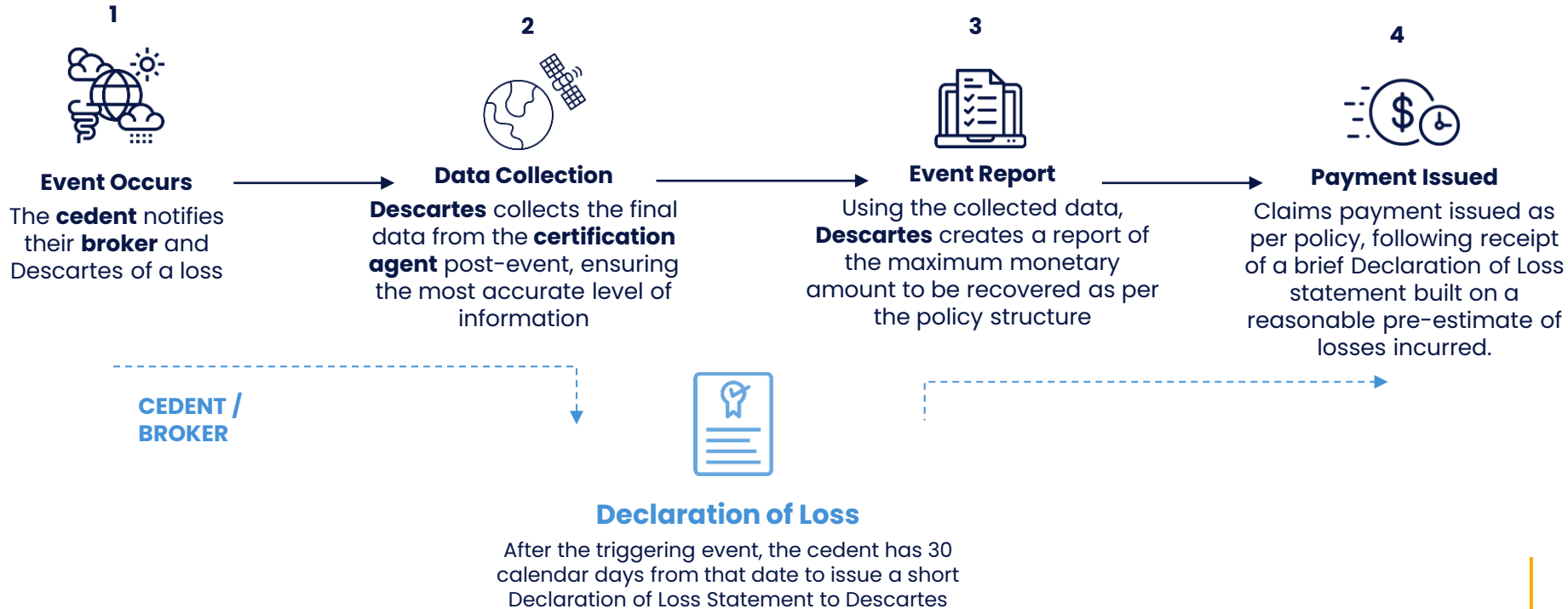
Data-Driven



Swift Payouts

# Parametric claims are straight-forward, quick & reliable for cedents

Within **matter of weeks**, parametric claims are processed for **any type of financial loss** – with the possibility to add further losses at a later stage (e.g. due to delayed claims by clients).



An aerial, satellite-style view of a tropical cyclone or hurricane over the ocean. The storm is characterized by a dense, swirling cloud structure with a prominent eye in the center. The surrounding clouds are thick and spiral outwards, creating a distinct pattern over the dark blue water. The overall image has a monochromatic blue color scheme.

# Parametric Solutions in Action

# River Flood Gauge Insurance

Leveraging public gauges & long data series to offer a flood solution for clients located near rivers

## Product Features

### Public River Flood Gauge

Covers flooding detected by a preselected river gauge during a broader, confirmed flood event.

### Index

Water level reported at the reference station, which is the preselected water gauge, with payouts triggered by water levels surpassing pre-set threshold.

### Loss Calculation

Payout based on breach of water level threshold and the respective maximum level

$$\frac{\text{Index} - \text{Trigger}}{\text{Exit} - \text{Trigger}} * \text{Limit}$$

## Product Advantages

- ✓ Access to capacity at a competitive price
- ✓ Robust model based on gauge data and loss history
- ✓ Rapid payouts upon confirmed water level



## Payout Structure Example

Water Level at River Gauge	Compensation (% of limit)
5 meters	-
5.2 meters	10%
6.4 meters	25%
6.6 meters	50%
7.8 meters	75%
8 meters	100%

# Excess Precipitation Insurance

Rainfall datasets to detect flood events on client sites away from rivers but prone to pluvial flooding

## Product Features

### Excess Precipitation

Occurrence of flood caused by heavy rainfall at the insured location during a confirmed flood event

### Index

Maximum daily rainfall over gridded area or at weather station, with rainfall surpassing pre-set threshold

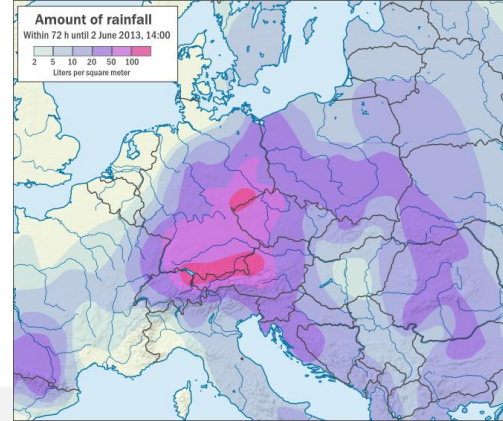
### Loss Calculation

Payout based on max. daily rainfall or avg. rainfall amount across a rolling number of days

$$\frac{\text{Index} - \text{Trigger}}{\text{Exit} - \text{Trigger}} * \text{Limit}$$

## Product Advantages

- ✓ Short-term extreme event cover availability (1-3 days risk period for sport event, etc.)
- ✓ Agnostic to presence of rivers & gauge data
- ✓ Robust assessment & increased spatial cover



## Payout Structure Example

Max Daily Rainfall	Compensation (% of limit)
<2 inches	-
2-2.50 inches	10%
2.50-3 inches	25%
3.01-3.50 inches	50%
3.51-4 inches	75%
>4 inches	100%

# Flood at Location Insurance

When river gauges are too far away, we can monitor flood events directly on site with robust sensor technology.\*

## Product Features

### Flood at Location

Covers flooding detected by the installed on-site sensor during a wider confirmed flood event.

### Index

Water level recorded on-site by no-contact sensor, measuring the flood event at a specific location

### Loss Calculation

Payout based on detection of water level on-site, with water surpassing defined threshold

$$\frac{\text{Index} - \text{Trigger}}{\text{Exit} - \text{Trigger}} * \text{Limit}$$

## Product Advantages

- ✓ Sensor installed and advised by local experts
- ✓ 24/7 access to flood data and emergency
- ✓ Localized data ensures payout accuracy
- ✓ Alternative for lack in river gauge availability



## Payout Structure Example

On-Site Flood Depth	Compensation (% of limit)
0.5 meters	5%
1.0 meter	10%
1.25 meters	25%
1.50 meters	50%
1.75 meters	75%
2.0 meters	100%

\* Currently this product is available for Australia, France, Germany, United Kingdom, and the selected states in the US

# Descartes' approach to flood risk for roads and railway infrastructures

Illustrative example – National railway company in Asia-Pacific

## Landslide



Extract from a claim report



Very high-resolution (<1m) image\*

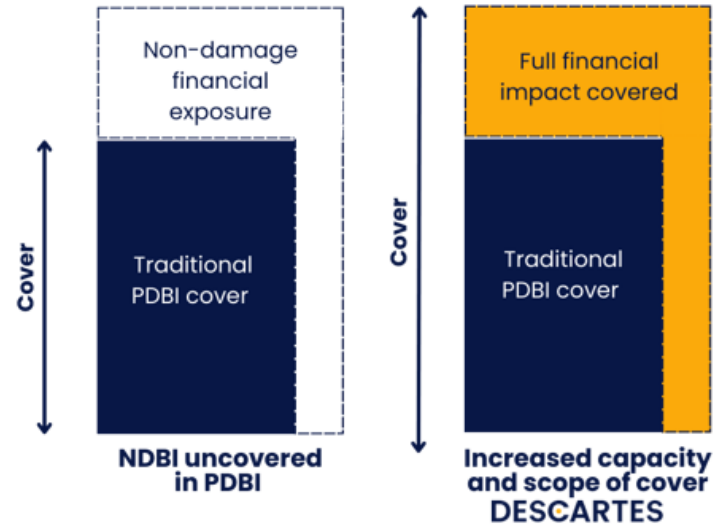


Damage assessment by third-party agent

# Contingent Business Interruption: Supply-Side Exposure

## Global Supply Chain Fragility

- European tier 1 suppliers
- In turn, Tier 2 and 3 suppliers sit in **high-risk countries**
- Particularly raw materials & **electronics**
- **Iron** and bauxite from Brazil, Australia, Guinea
- Electronics and **semiconductors** in **Southeast Asia**
- Battery powered by **lithium/cobalt** from **China**



# Non-Damage BI: Low Water

## RISK

- **Risk:** Water level of one or more major river sections
- **Covered Scenario:** Collapse of river transport (especially coal, steel) leads to saturated tracks, causing cascading delays and overload on infrastructure

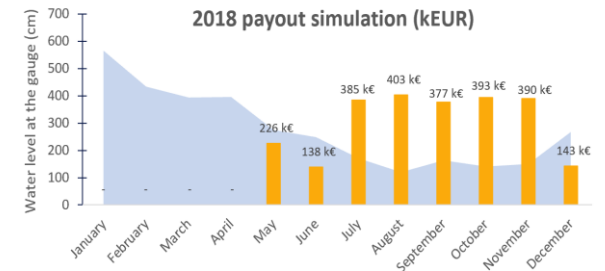
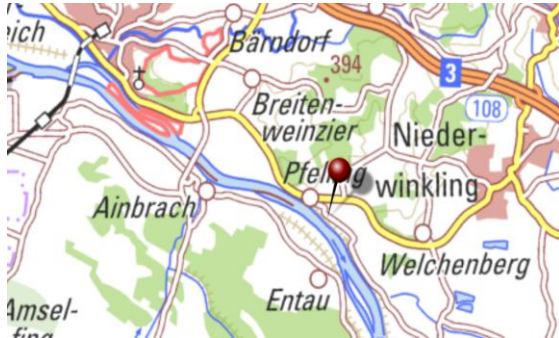
## PARAMETER

- **Index:** Number of days below the cost-increasing water level
- **Data:** Public agencies
- **Required Information:** Location, relevant monitoring stations, daily insurance coverage, and threshold values

## Example

- **Limit:** depending on insured need

Ø Pegelstand	Versicherungsleistung EUR / Tag
< 250cm	5,000 EUR
< 200cm	10,000 EUR
< 150cm	15,000 EUR
< 125cm	25,000 EUR



# Drought due to lack of soil moisture

Product I Drought coverage for agricultural cooperatives

## Product Characteristics



### Drought due to lack of soil moisture

The product specifically targets the risk of severe drought. Losses are covered when low soil moisture levels in the affected geographical zones lead to significant crop failures.



### Index

Daily average soil moisture during the risk period at data points grids



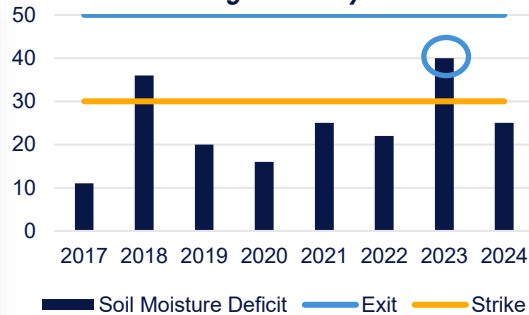
### Calculation of compensation

Daily soil moisture levels are calculated relative to the reference data, and the aggregated deficit over the period is normalized.

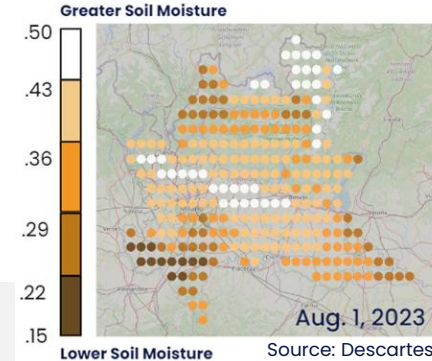
## Product Advantages

- ✓ Direct and indirect losses are covered.
- ✓ Aligned with historical losses.
- ✓ Adapted to the crop and season.

Drought Index by Year

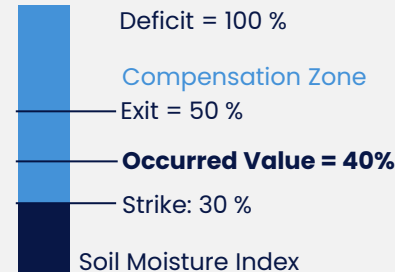


Daily soil moisture levels



## Payout Structure Example

$$(\text{Index} - \text{Strike}) / (\text{Salida} - \text{Strike}) * \text{Limit}$$



Strike value	Exit Value	Occurred Value
30 %	50 %	40 %

In this example, the index value is 40% on the 2023 drought index.

The payment to the client would be **50% of the limit** (according to the payout structure)

# Parametric solutions helping on any reinsurance layer

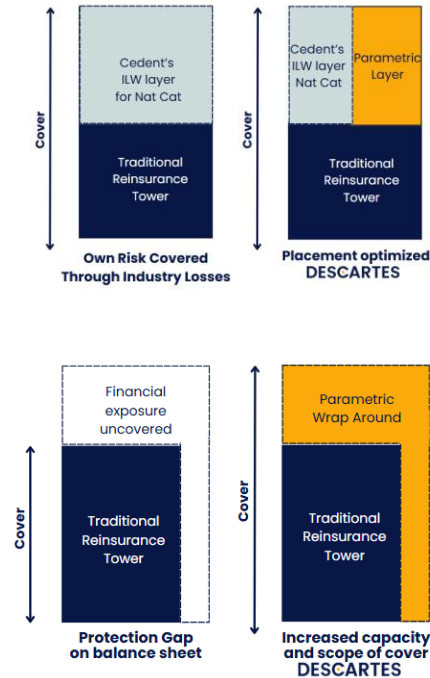
Parametric solutions are flexible in design and can be structured on a per-event or aggregate basis—whichever the portfolio requires.

## Fill gaps on any reinsurance layer



- Model excess layers on more remote structures
- & get **capacity for peak exposures** in hard-to-insure areas
- Leverage parametric flexibility for difficult-to-place mid-layers (e.g. QS)
- & **optimize premium spent** with parametric insurance
- **Target frequency losses** with innovative schemes
- & even utilize quick claim settlement for cedent's own risk management & clients

## Introduce new optimizations



### Supplement ILWs

**Enhance effectiveness** with a powerful tool in addition to ILWs

**Fully independent** of placement & funds immediately available

### Balance Sheet Protection

**Hedge the risk** of severe events impacting annual performance

**Immediate certainty & transparency** for direct information flows

## Final remarks

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**Climate risk is not linear, and therefore the response cannot be linear either.**

The future of insurance is not just about compensating losses, but about providing immediate liquidity when the physical system stops functioning. That is the real shift.

If we look at Central Europe, we see a very clear concentration of risks.

→ These are not isolated risks. They are interdependent risks.

We are moving from independent risks to risk ecosystems, and **parametric insurance is a strong alternative to help close protection gaps and build greater resilience to climate change.**

## CONTACT DETAILS YOUR TEAM AT DESCARTES

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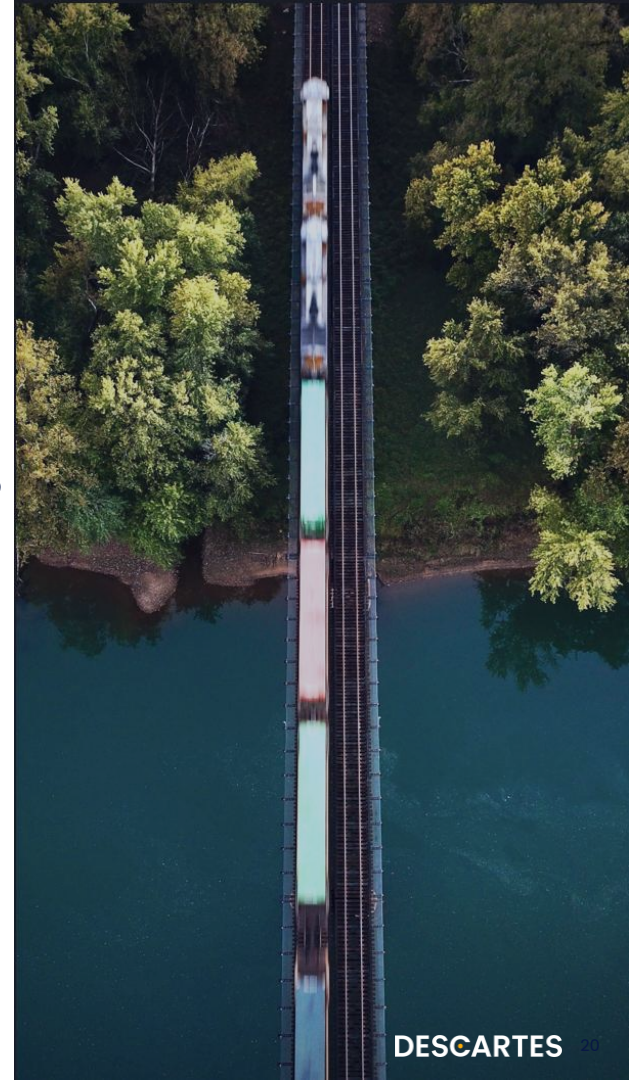


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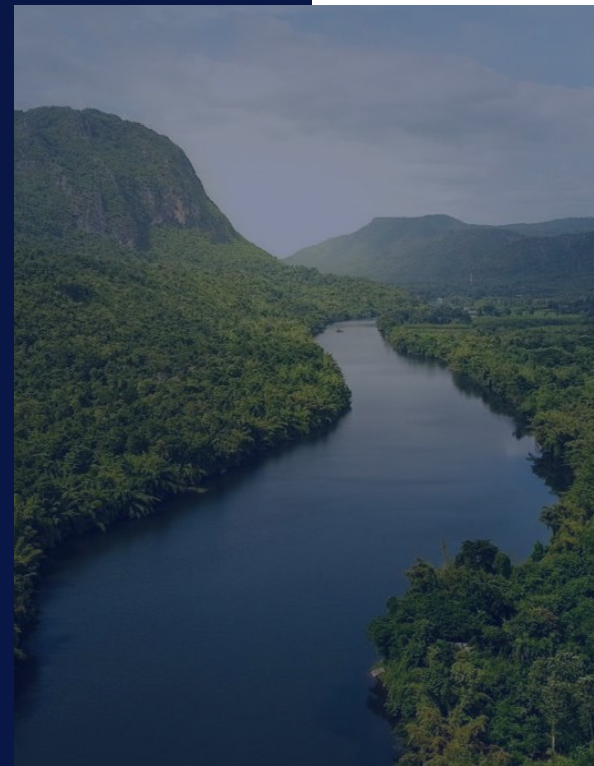
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All parametric cover carries the risk that the trigger index may not be perfectly correlated with the underlying risk exposure, with the result that the insured may suffer a loss without the parametric insurance being triggered.

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# DESCARTES

**BUILDING RESILIENCE IN A WORLD AT RISK**