# The reinsurance industry in 2020

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NO
FUTURE

# The reinsurance industry in 2020

| | |
|---|---|
| 1 | **Five reasons for investing in reinsurance** |
| 2 | **Two trends to monitor: regulatory changes and buyer behaviour** |
| 3 | **One goal: value creation by the optimization of capital management** |

# Five reasons for investing in reinsurance

1. Expanding risk universe
2. Growing risk aversion in modern societies
3. Growth in emerging markets
4. No serious substitutes for reinsurance
5. Reinsurance is embracing and will benefit from new technologies

# 1 We live in an expanding risk universe

## Many traditional risks are on the rise…

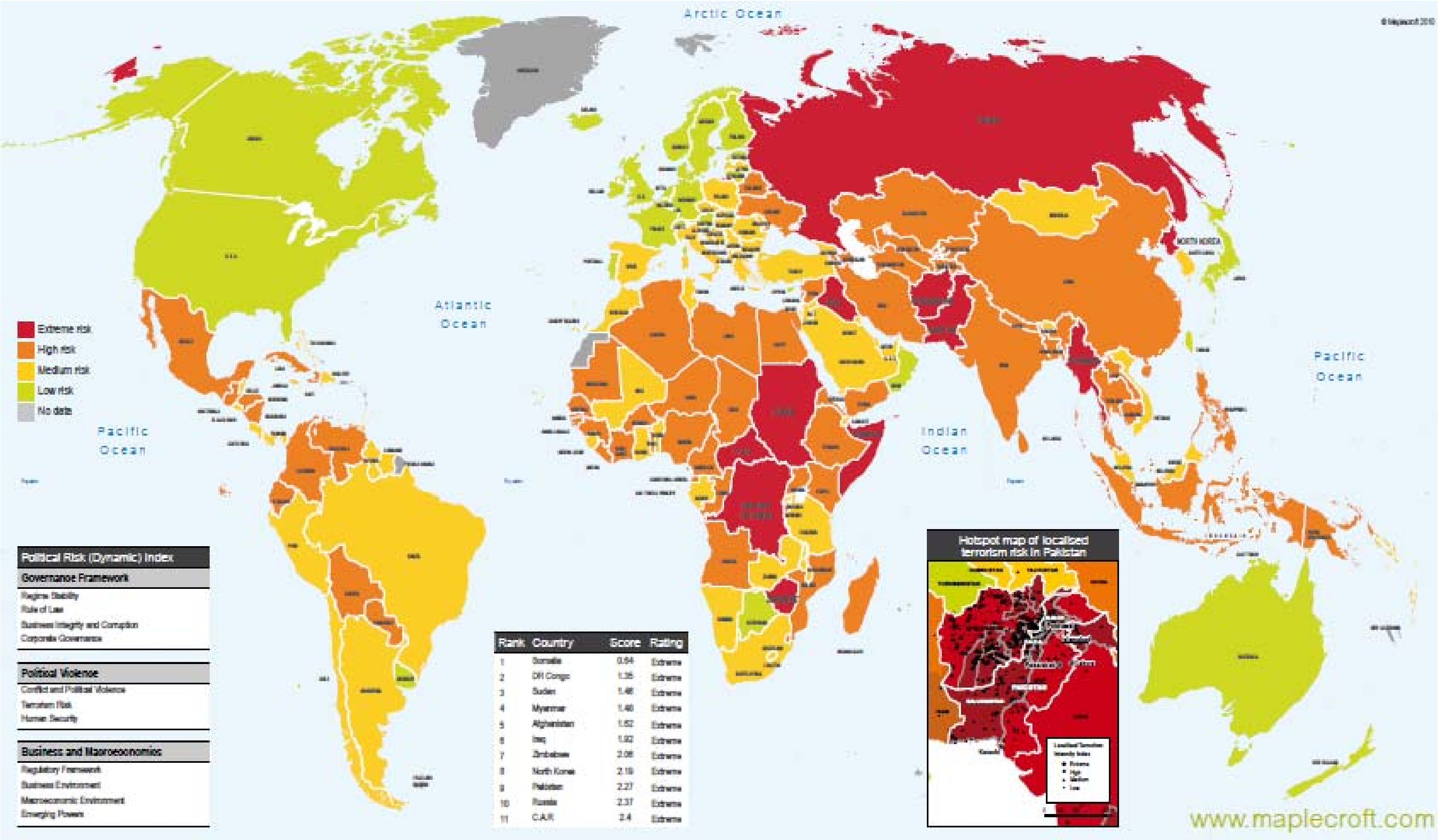
- **Strained public finances** and welfare states create needs for private (re)insurance
  - Pensions
  - Health
- **Urbanization of populations and wealth concentration** lead to a greater exposure to natural catastrophes
- **Geopolitical risks** (including terrorism) remain high as the world has entered into a multipolar distribution of power[2)]
- Heightened risk of **pandemics** due to globalization

## …and new risks emerge

- **Cyber risk**, with increasing risk of "cybergeddon" in the online world, including reputational risks
- **Solar storms**, with the potential to disrupt several human activities (satellites, aviation, power grids, etc.)[3)]
- **Renewable energies** growth, with $2 trillion of investment expected between now and 2030[1)]
- **Global supply chains** lead to complexity and unpredictable vulnerabilities
- **Long-Term Care** due to ageing populations
- **Nanotechnology**, with potential dangers to society from bio-engineering and artificial intelligence
- And so on…

*1) Source: PWC*
*2) World Economic Forum Global Risks 2014*
*3) See SCOR publication #28 on www.scor.com*

# 1 Geopolitical risk: not on a downward trend




1) Source: Maplecroft Global Risks Analytics: www.maplecroft.com

# 2 Societies are experiencing a growing risk aversion

## In today's societies, individuals & companies are getting more and more risk avert


- **A paradox:** risk aversion increases with GDP, whilst from an economist's point of view, the richer you are the more risk you should accept
- Shareholders are increasingly reluctant to bear risks that are insurable

## Many risks are deemed less and less acceptable, as illustrated by claims inflation

*Average cost of severe bodily injury in France*

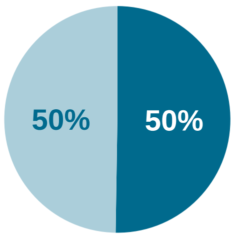

- Over the period 2001-2011:
  - GDP: +34%
  - Inflation: +19%
  - Average cost for severe bodily injury: **+160%**

*Source: SCOR Marketing Research*

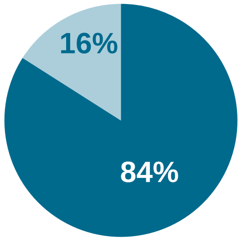
# 3 Emerging markets are still a largely untapped reservoir of demand for (re)insurance products

## Insurance penetration in emerging markets is still low

*World output, 2012*[1)]



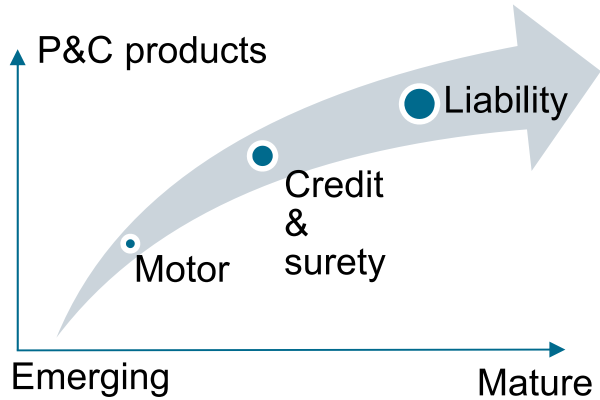

*2012 World insurance premiums*[2)]




Advanced economies

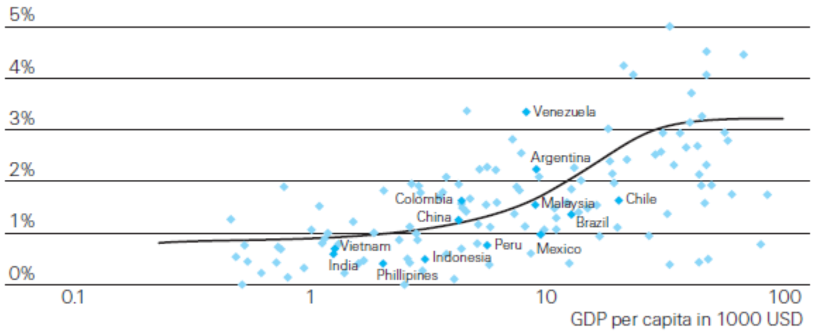
Emerging and developing economies

## Emerging countries will need the whole range of insurance products




## The elasticity of insurance growth is significantly above 1 in emerging markets

*Insurance penetration (premiums as of % of GDP)*[3)]




Insurance penetration increases with GDP, compounding the effect of economic growth on premium volume

1) *Source: IMF world economic outlook April 2013*
2) *Source: Sigma report, May 2011*
3) *Source: Sigma from 5/2012 – Insuring ever-evolving commercial risk (note: Estimates for direct non-life premiums written in 2010 (excluding health). The UK figures do not include London Market business of ~$30bn*

# 4 In the life reinsurance industry, which has increasingly high barriers to entry, there are no real substitutes for reinsurance

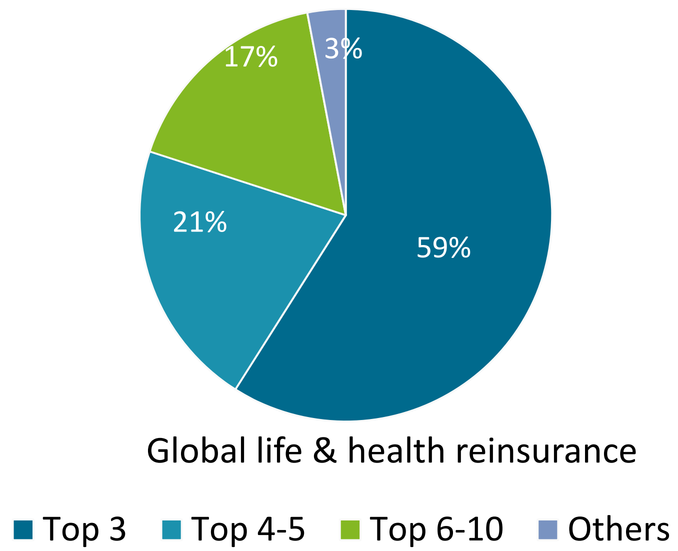
## Life reinsurance enjoys significant barriers to entry…

- Only long-established life reinsurers with a global presence are able to deliver **economies of scale and scope**
- **Strong capital base and ratings** are needed
- **Regulatory constraints** apply
- **Long-term capital investments** are essential for successful participation in life reinsurance business

**No successful global new entrant** into the life reinsurance market in the last 20 years

## …which results in a significant degree of concentration

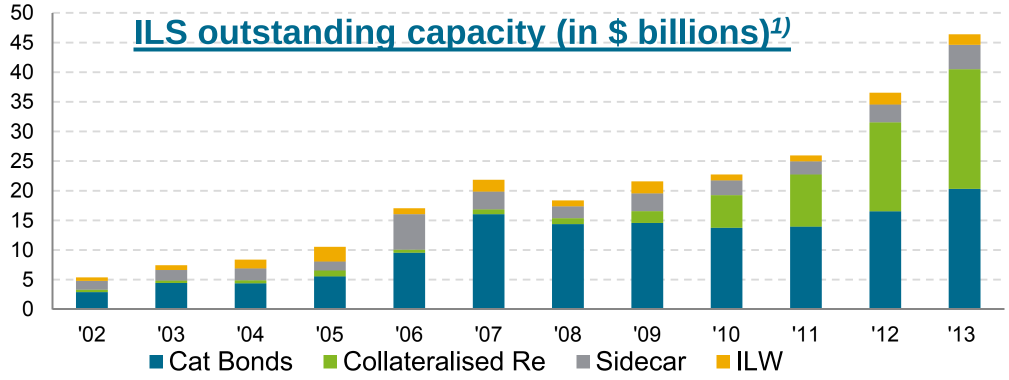
*Market shares[1)]*




1) *Source: SCOR Strategic Marketing based on 2012 Reinsurers' Annual reports*

# 4 Is alternative capital a threat for the reinsurance industry?

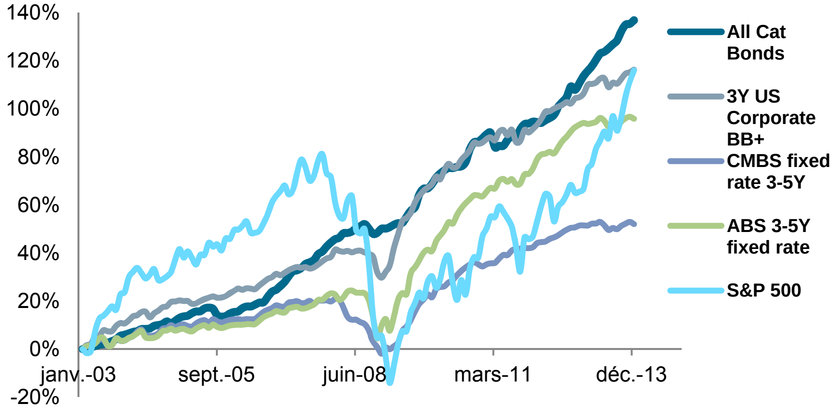
## Alternative capital has been growing quickly




- Alternative capital: > USD 45bn of capacity, while 10 years ago it was < USD 10bn
- But capacity ≠ premiums. Cat bonds often correspond to high layers with low ROLs (typically less than 10%)

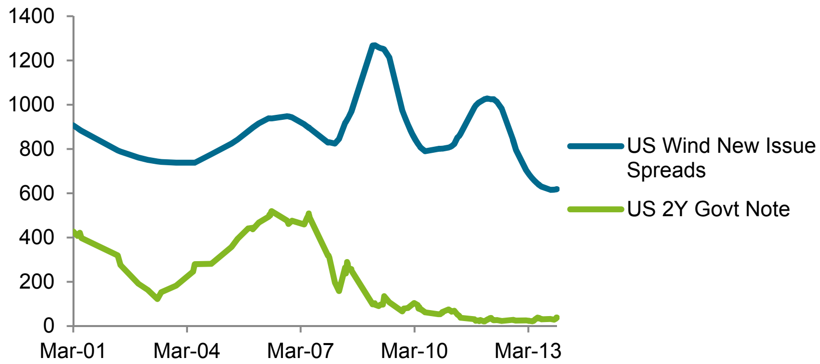
## Cat bonds have a compelling track record for investors

### Cat bond returns vs. other asset classes[2)]




## Growth has been fuelled by low interest rate environment

### Cat bond spreads vs. risk-free rates[3)]




1) Source: Aon Benfield
2) Aon Benfield Securities, Bloomberg
3) Source: Swiss Re capital Markets & Bloomberg. Spreads for US Wind new-issue cat bonds with 2% expected loss

# 4 Properly viewed, "alternative capital" is an opportunity

## SCOR is positioned to benefit from the convergence of insurance and capital markets

### SCOR minimizes the cost of its capital shield thanks to alternative solutions

- **Atlas** series of ILS protecting the Group against natural catastrophes
- Recent issuance of **extreme mortality risk transfer** contract
- **Contingent capital**

### SCOR increases its client offering

- Over the Optimal Dynamics plan, SGPC intends to help **clients** to **access capital market capacity** through ILS
- This will provide **fee income**, and allow SGPC to better leverage **existing relationship**

### SCOR benefits from its expertise to open ILS funds to 3rd parties

- SCOR's ILS team manages 4 funds
- Each fund targets a specific **risk/return profile**

| | Atropos | Atropos Catbond | Atropos Catbond SELECT | GFS Map Trust SCOR ILS |
|---|---|---|---|---|
| launch | 31-Aug-11 | 19-Jul-13 | 12-Jul-13 | 01-Jan-14 |
| AuM[1)] | 187 | 24 | 41.5 | 40 |
| target return | 6-8% | 4-5% | 4-5% | 10-12% |
| 2013 perf | 8.75% | 2.84%* | 3.48%* | n/a |

** fund open for 45% of 2013*

1) *As of 31 December 2013, in USD*

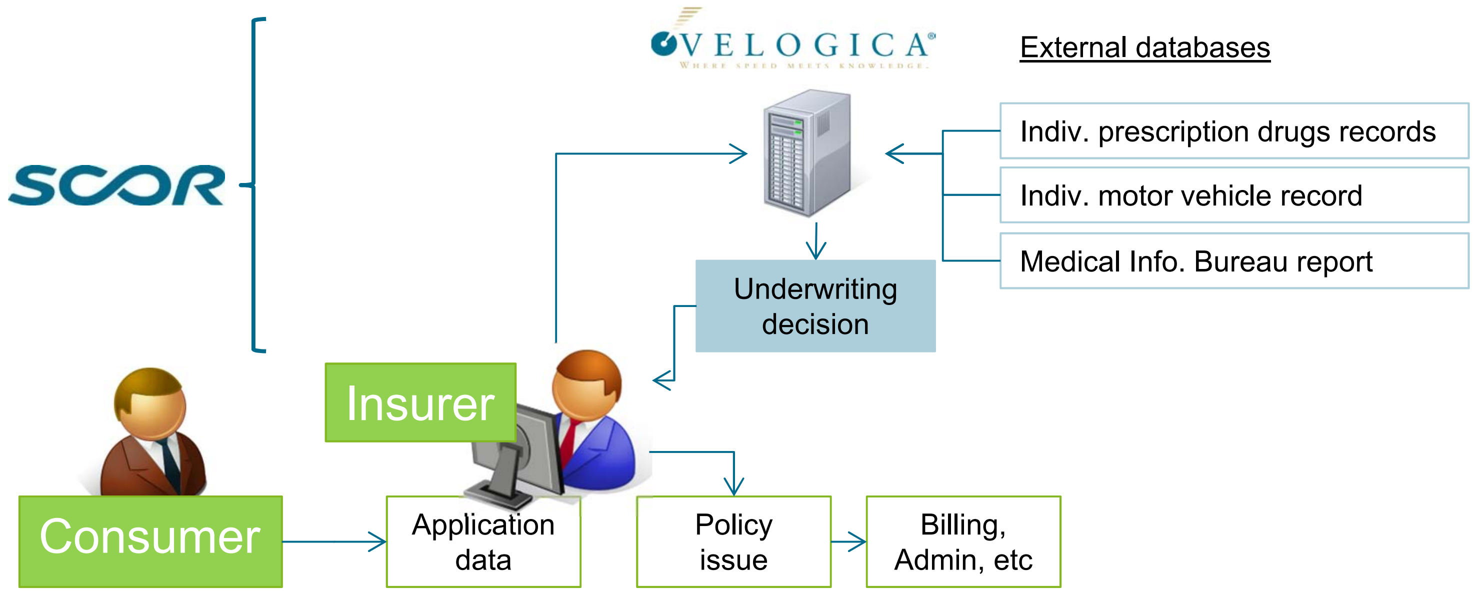
# 5 Technology developments will dramatically help insurers and reinsurers to better run their businesses

- Modelling is key to **better risk assessment**; internal models will contribute to **better management of capital**
- Technology will help **underwriting and pricing risks**
- Technology will contribute to **reduce the asymmetry of information** between the (re)insurers and the insured
- Technology will help to **monitor risks**, **enhance prevention** and precaution effectiveness, and **improve claims handling**. We enter the « era of sensors» contributing to follow and monitor behaviours
- Technology will **increase the level of granularity of risk assessment** towards tailor-made pricing and terms and conditions
- Technology will **reduce delays and increase reactivity** therefore reducing or even eliminating insurance and reinsurance cycles

# 5 Reinsurance will benefit from new technologies
## 1st illustration: Big Data and high granularity

VELOGICA® WHERE SPEED MEETS KNOWLEDGE.

**Automated real time mortality risk assessment engine**, accessing multiple databases to underwrite life insurance applications



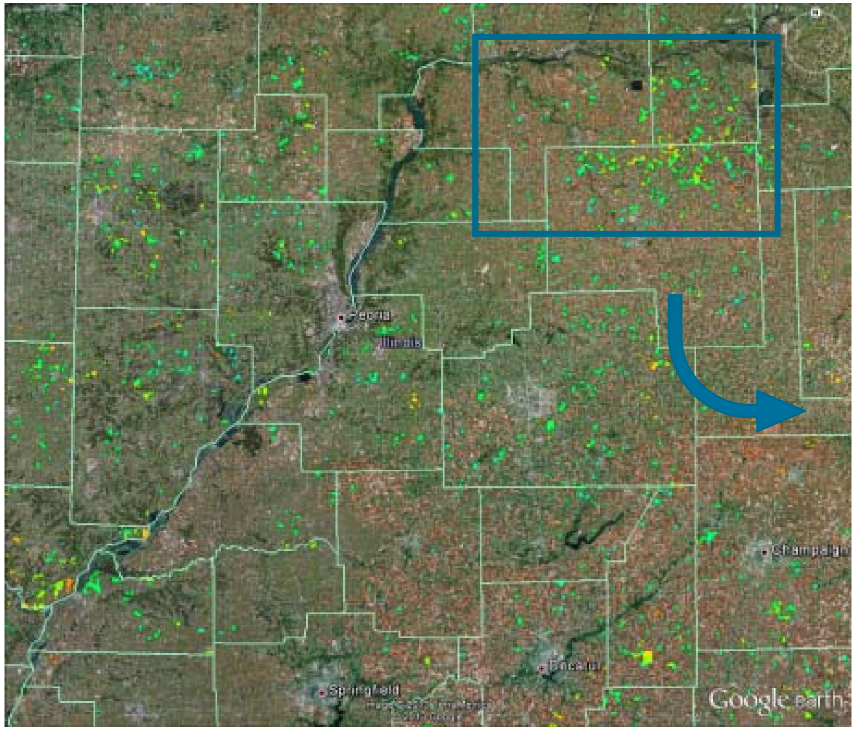

**Highlights**

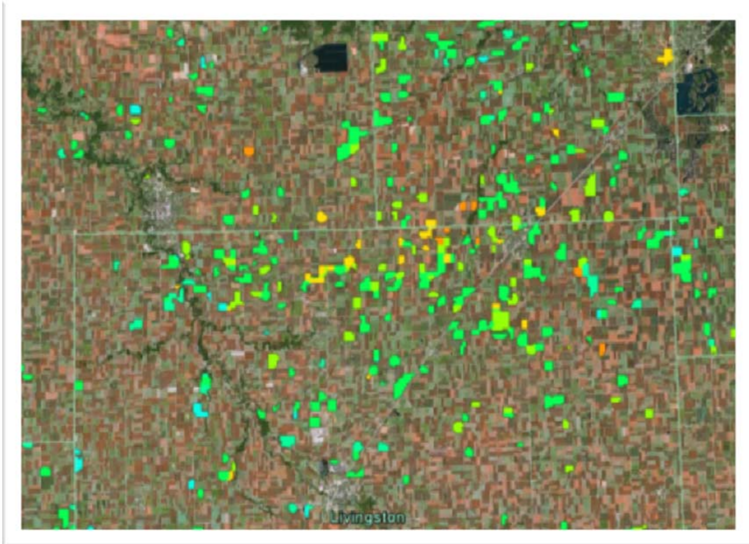
- For the insurer, a 4-6 week process becomes minutes
- Over 1,300,000 applications underwritten in the U.S. as of 2013

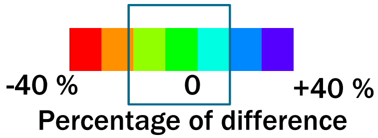
# 5 Reinsurance will benefit from new technologies 2nd illustration: satellite loss assessments

## The use of satellite images enables low cost, efficient loss assessments in agro (re)insurance

**Farmer claims vs. smart satellite index[1)]**




**OK to pay out**

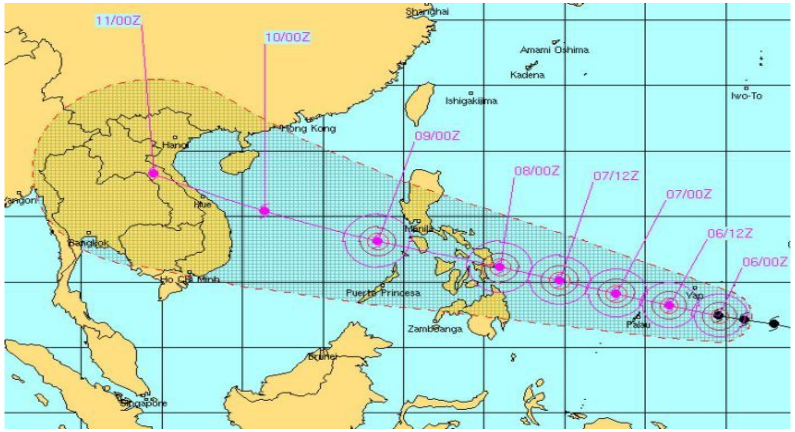
**Check claim**

**Send adjuster**

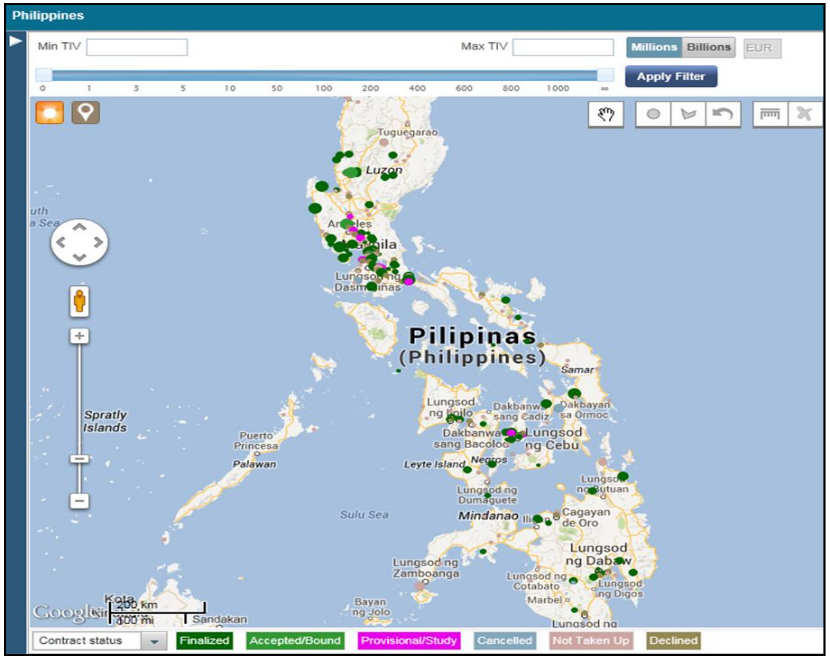
*1) GRAIN, Global Risk Agriculture Intelligence is a service developed jointly by Airbus group CIS and Zedx inc.*

# 5 Reinsurance will benefit from new technologies 3rd illustration: cat modelling

**When there is a cat event (ex: *Typhoon Haiyan*)…**



**… SCOR is able to assess its exposure in real-time…**




**… while having a detailed image of the damages thanks to satellites (e.g.: Tacloban)**

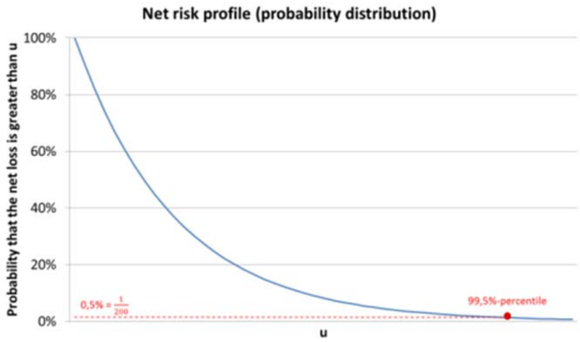
Source: SCOR ForeWriter tool

# 5 Reinsurance will benefit from new technologies
## 4th illustration: footprint scenarios (1/2)

**Footprint scenarios complement our normal probabilistic loss scenarios**

### Probabilistic-based approach

**"How much would a 1-in-200 year hurricane cost?"**




### Footprint-based approach(deterministic)

**"How much would hurricane Betsy, occurred in 1965, cost if it happened today?"**


### Advantages of the footprint analysis

- **Communication / intelligibility**
- **Complementing models' probabilistic-based views:** allows to take some distance from the models (e.g. no reference to the frequency assumptions)
- **Robustness**: it is stable and allows easy comparisons from year to year

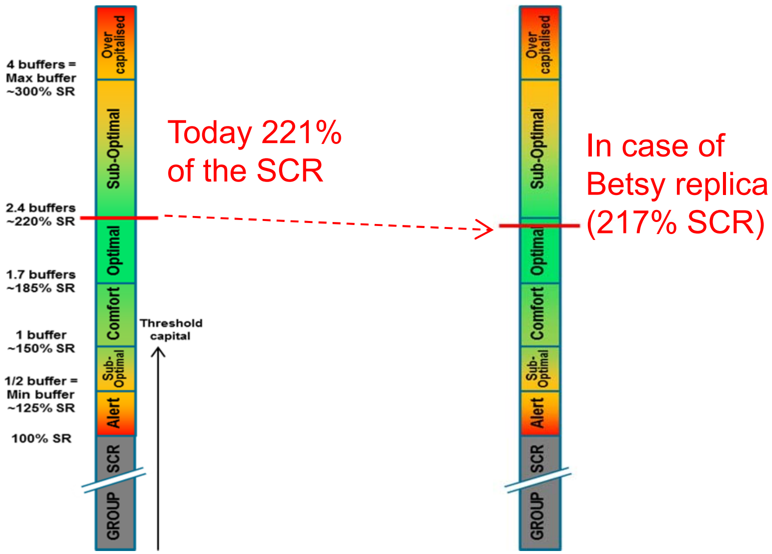
### Technologically challenging

- Apply all the **characteristics of the historically events…** (eg. location of landfall, space extension, wind speed)
- … to our current exposures
- … and assess the impact on the Group's solvency, liquidity, rating, on-the-ground operations

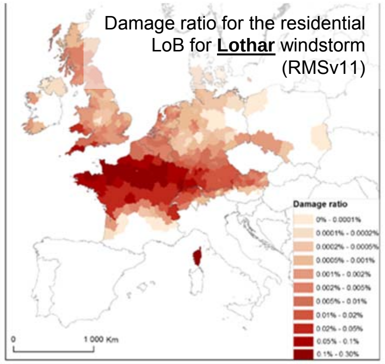
# Reinsurance will benefit from new technologies
# 4th illustration: footprint scenarios (2/2)

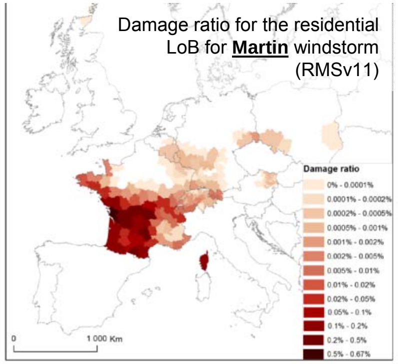
## Scenario 1: Hurricane Betsy (1965)

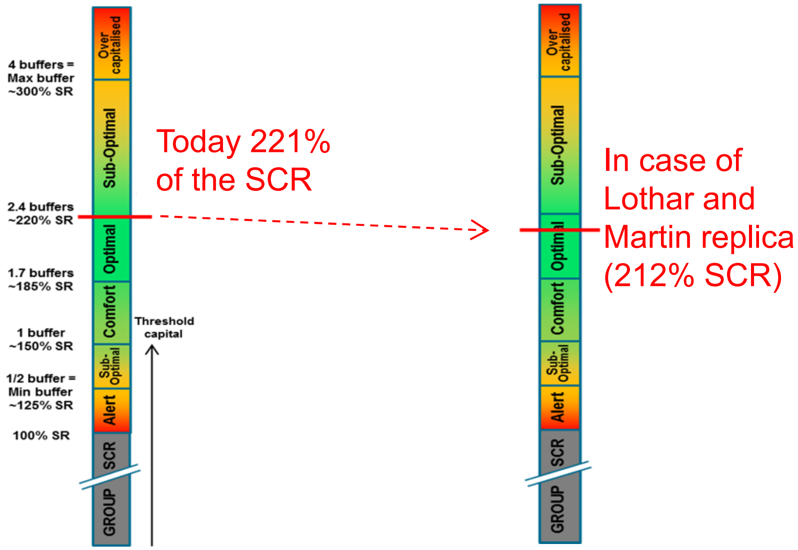
*Track of Hurricane Betsy*




## Scenario 2: Windstorm Lothar & Martin (1999)



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# Will regulatory changes increase capital requirements in the reinsurance industry?

## Solvency II implementation will unveil two different positions

- ❑ Unprepared
- ❑ Undiversified
- ❑ Will require additional capital
- ❑ Might need major restructuring
- ❑ Will need a change of business model

✓ **A key challenge for a certain category of (re)insurers**

- ❑ Well prepared
- ❑ Diversified
- ❑ No additional capital needed (contrary also to banks)

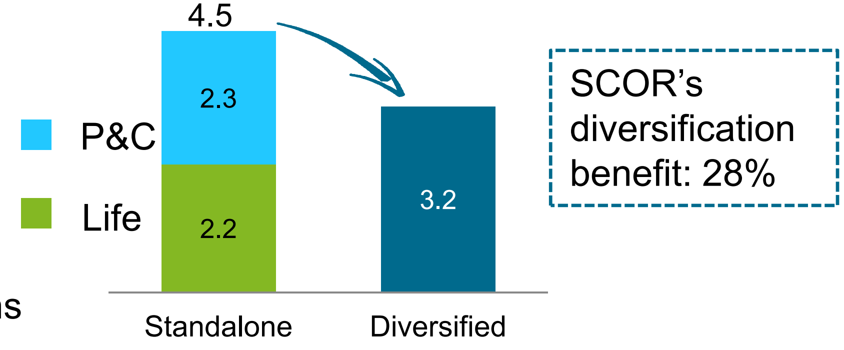
✓ **A non-event for a certain category of (re)insurers**

# SCOR is ready to cope with post-crisis regulation

## Solvency II fits well with the business model of global diversified reinsurers such as SCOR

- ✓ Recognition of diversification benefits
- ✓ SCOR is on track to be Solvency II-compliant
- ✓ SCOR has already delivered its state-of-the-art Group Internal Model to supervisors
- ✓ Management is aligned with regulation through use of internal models
- ✓ SCOR stands ready to provide capital relief solutions to clients

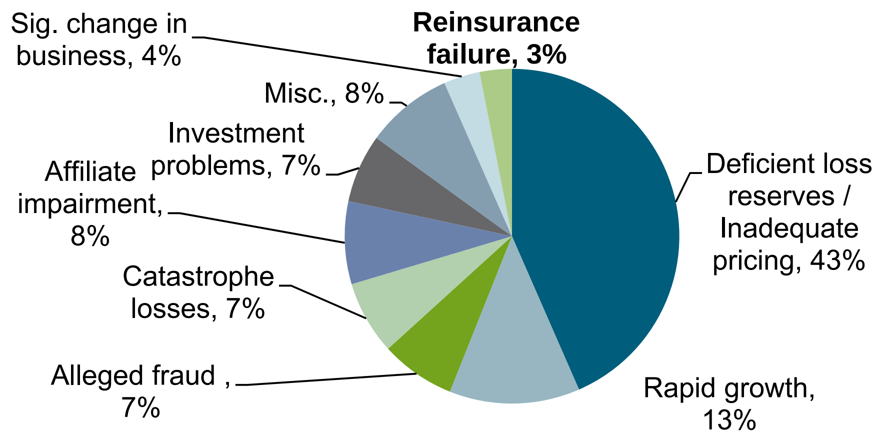
*2013 SCOR SCR[1] in € billions (rounded)*




## There are still some risks in whether reinsurers will be considered systemically important

- ❑ Traditional reinsurance is not systemic
- ❑ Reinsurance failures are extremely rare and do not lead to a chain reaction of defaults
- ❑ If a reinsurer does get designated systemic, consequences are not yet clear

**Reasons for US P/C Insurer Impairments, 1969-2012[2]**




1) SCR: Solvency capital requirement
2) Source: Reinsurance Association of America: www.reinsurance.org

# Buyer behaviour is increasingly bifurcating the reinsurance world

## Two visions of reinsurance

- A commodity
- Just a price-driven product

- The provision of value-added products and services
- A long-term partnership
- Consistency of supply over time
- A local presence with local expertise

# Change in reinsurance buying behaviour among cedants is an opportunity for first-tier reinsurers

## Cedants are rethinking their approach to reinsurance purchase…

- Many cedants focus on meeting their return on capital requirements, even though this means increasing their risk tolerances
- The improvement of their technical profitability over the past years is an incentive for more retention
- Governance is changing towards increased centralization
- Reinsurance programs are being reshaped

## … generating a demand-driven "tiering" of the reinsurance market

**Push for smaller reinsurance panels:**
- "know your counterparties"
- reduction of monitoring costs

**Cedants tend to place the bulk of their programs with a restricted number of reinsurers**

**Preference for reinsurers that can offer:**
- security
- line sizes
- global offering
- network of local presence

**Larger players benefit from an increasing competitive advantage**

# The reinsurance industry in 2020

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# The keys to success in today's reinsurance market are optimality and dynamism

**2 keys to success**

## Optimality

- Optimal risk appetite
- Optimal risk mitigation
- Optimal capital
- Optimal diversification

## Dynamism

- Reactivity
- Ability to adapt
- Speed to reallocate capital and capacity (fungibility)
- Adaptive asset allocation

SCOR's new strategic plan

**« Optimal Dynamics » 2013 - 2016**

# Reinsurers can create value by clearly defining their risk appetite and their capital shield strategy

**SCOR's capital shield strategy is optimized in line with its risk profile and market opportunities**

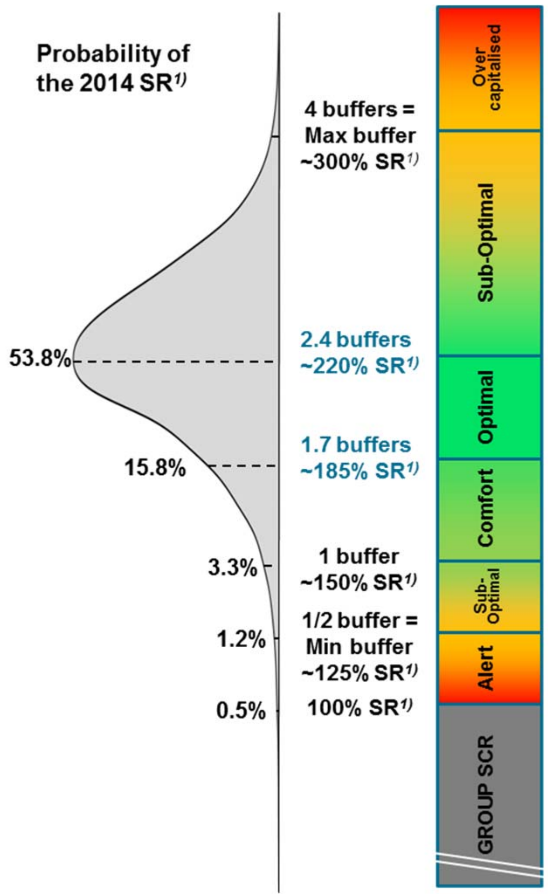
Once the Board has defined the risk appetite…

…the capital shield strategy sets risk tolerances and mitigating mechanisms to ensure protection of the Group's capital

| | | | |
|---|---|---|---|
| ***Traditional retrocession*** | ***Capital market solutions*** *(Cat bonds, mortality bonds...)* | ***Contingent capital facility*** | ***Capital fungibility*** *(global/regional pools of capital, use of branches…)* |

# Reinsurers can create value by optimizing their solvency and profitability targets

## SCOR defines its optimal solvency and profitability level in the 185% - 220% solvency range



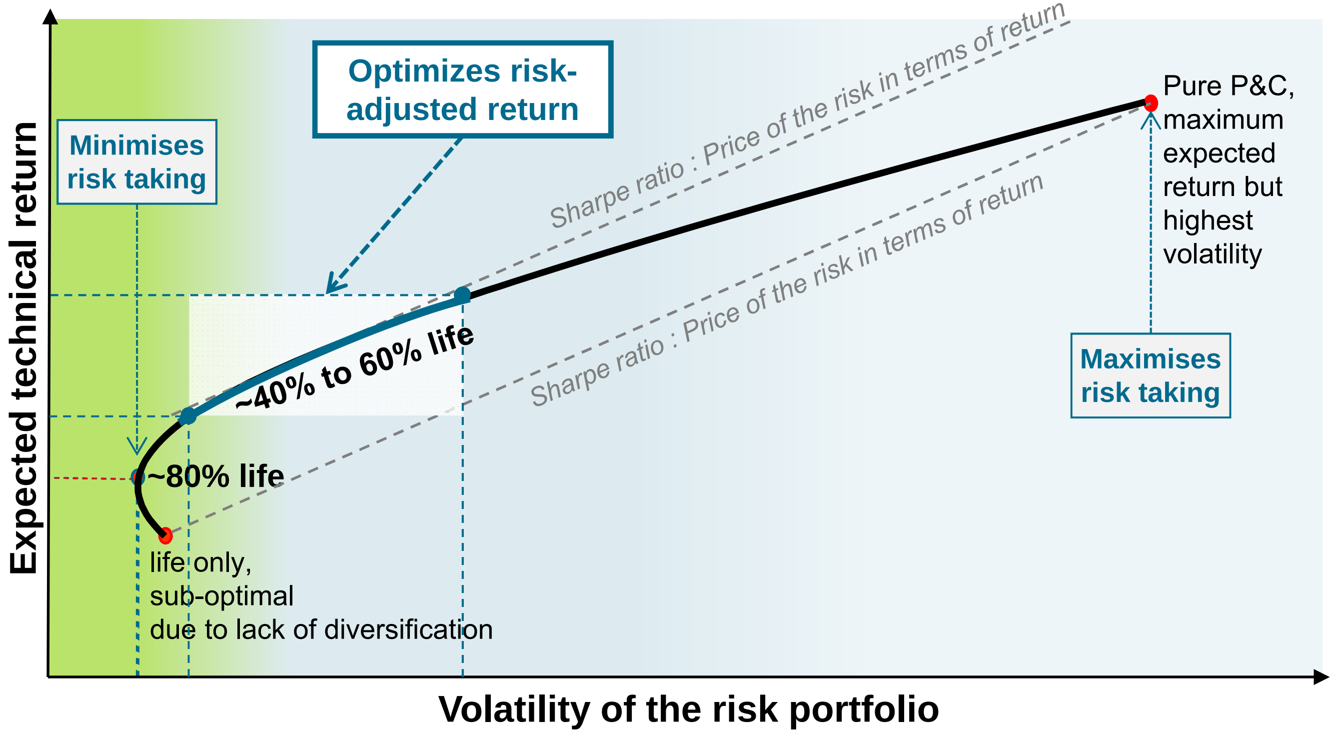

- SCOR aims for an **optimal range of solvency between 185% and 220%** over the plan period

- This **optimal solvency range** is fully in line with SCOR's capital shield strategy, combining the right level of solvency with SCOR's profitability target of 1 000 bps above the risk-free rate over the cycle

*1) Solvency Ratio i.e. ratio of Available Capital over SCR*

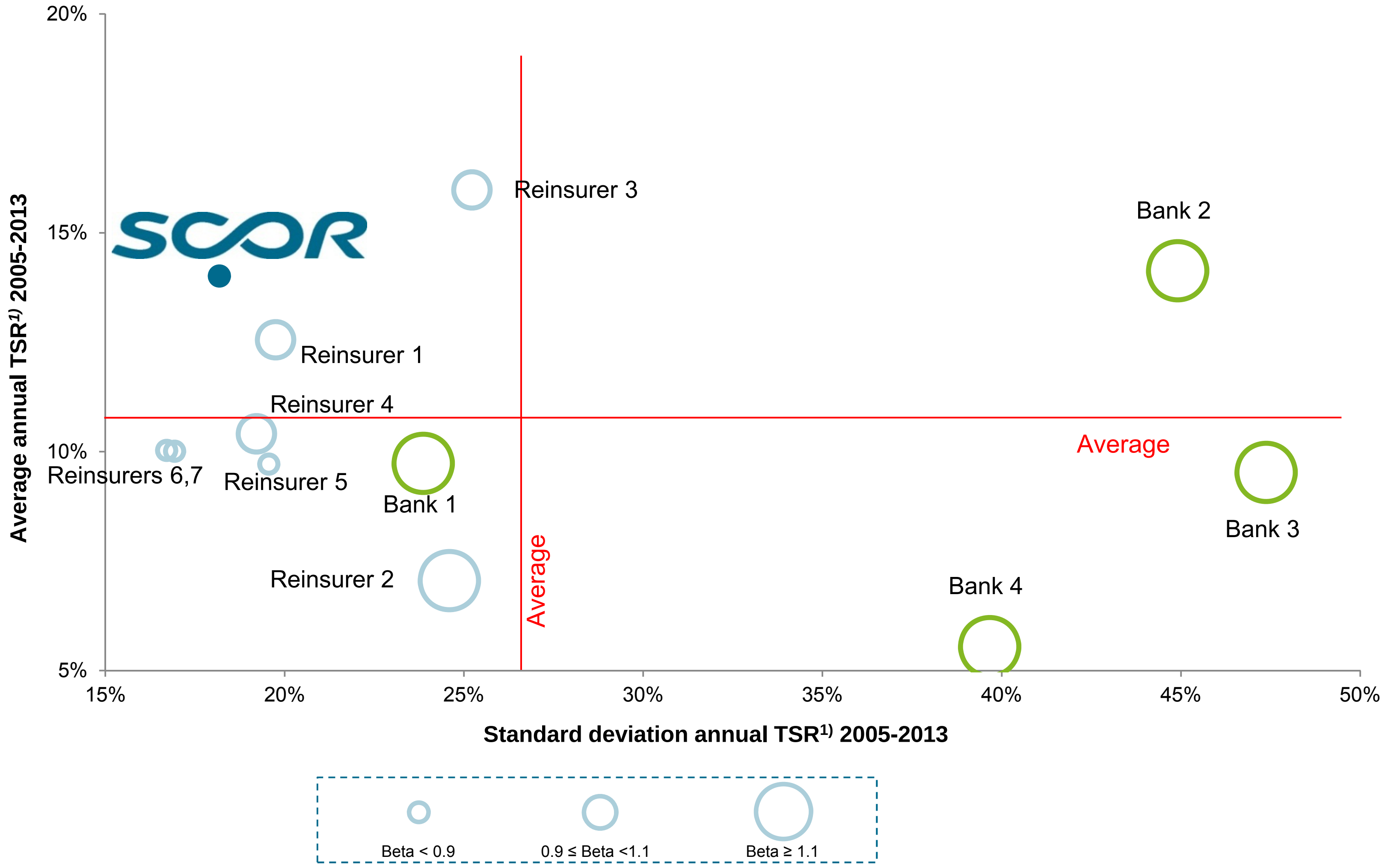
# Reinsurers can create value by reaching the optimum diversification of their portfolios

## Risk / return ratio depends on the relative weights of Life and P&C




- With its current portfolio, SCOR optimizes its returns in the 40%-60% corridor between P&C and life

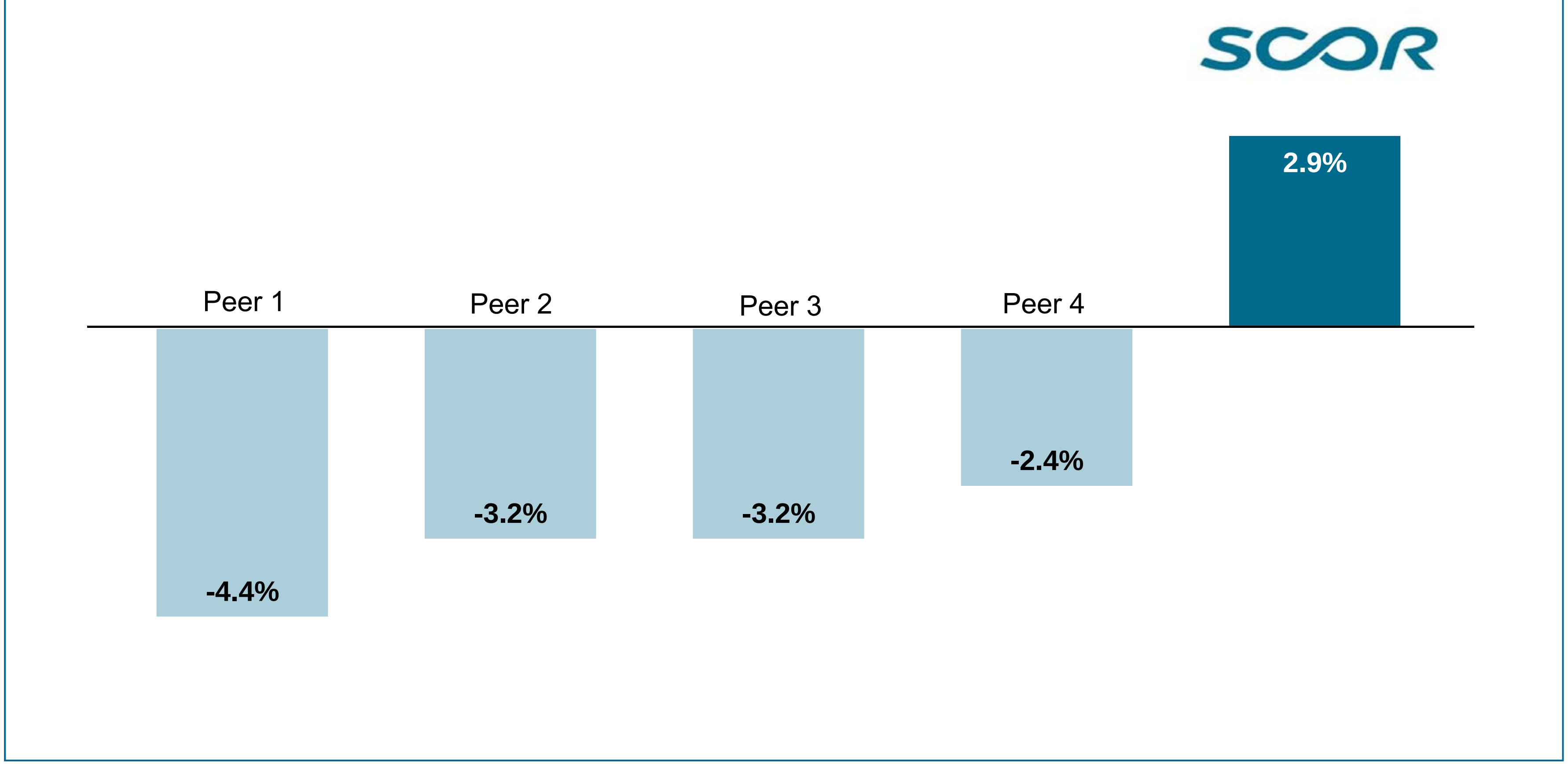
# Optimal capital management is at the core of SCOR's value proposition




*Source Factset; companies shown in this analysis are:*
*Among reinsurers: Axis, Everest Re, Hannover Re, Munich Re, Partner Re, Renaissance Re and Swiss Re*
*Among banks: BNP Paribas, Deutsche Bank, JP Morgan, Societe Generale*
*1) Total shareholders return*

# SCOR's "optimal dynamics" approach is proven in 2013

**SCOR has increased its NAV[1)] between 2012 and 2013, contrary to its peers**




1) *Excluding minority interests*
*Peers in alphabetical orders: Hannover Re, Munich Re, Partner Re, Swiss Re*

# What strategy to implement to be ready for the 2020 reinsurance market

**The success will result from the capacity of each company to anticipate and adapt to market evolutions. Key success factors are:**

- **Capital fungibility** (by line of business, by client, by geography)
- **Capital optimisation**
- **Financial flexibility**
- **Adaptability of the asset allocation**
- **Full leverage on new technologies**


Bright
future