

September 28, 2021



An actuary of the fourth kind in wonderland

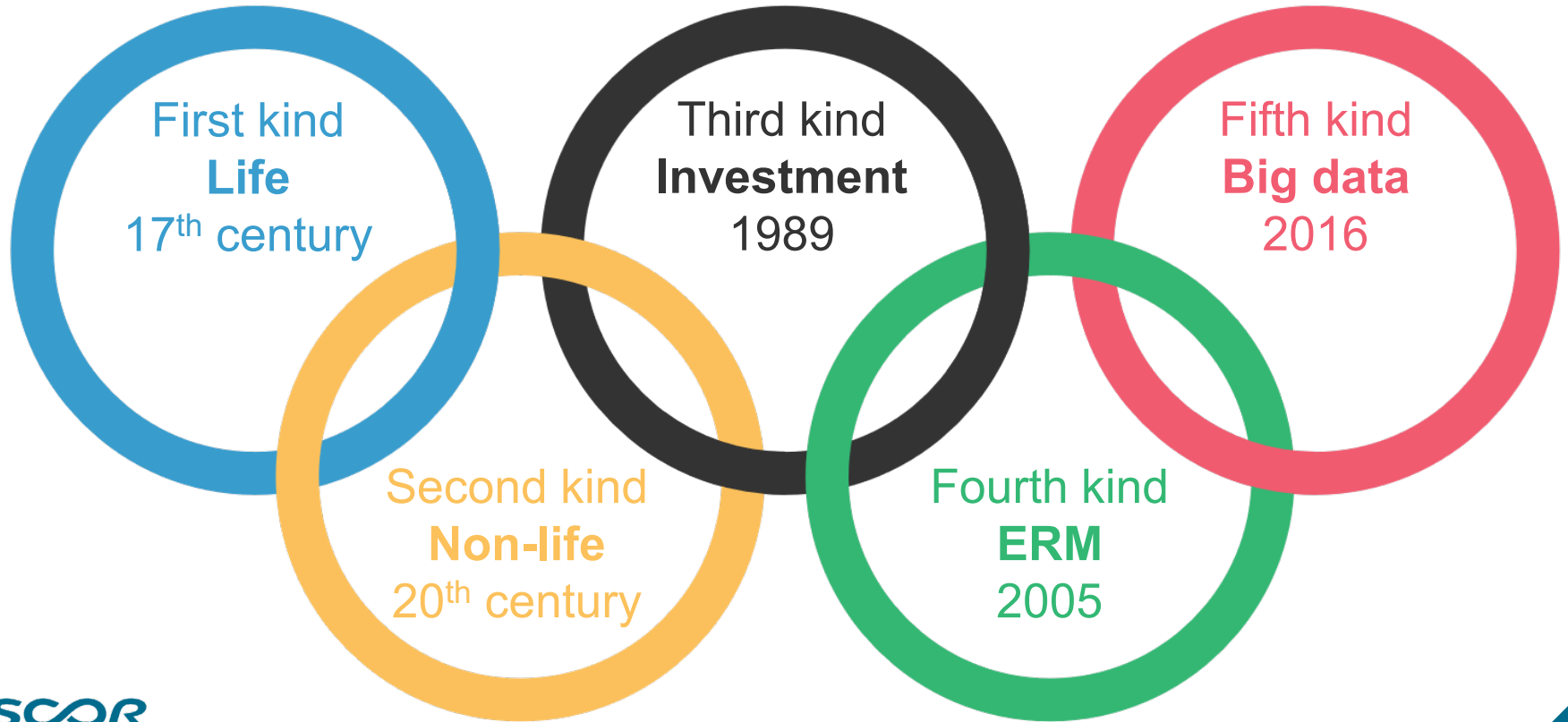
Reinsurance, risk management and risk modeling

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What kind of actuary are you?

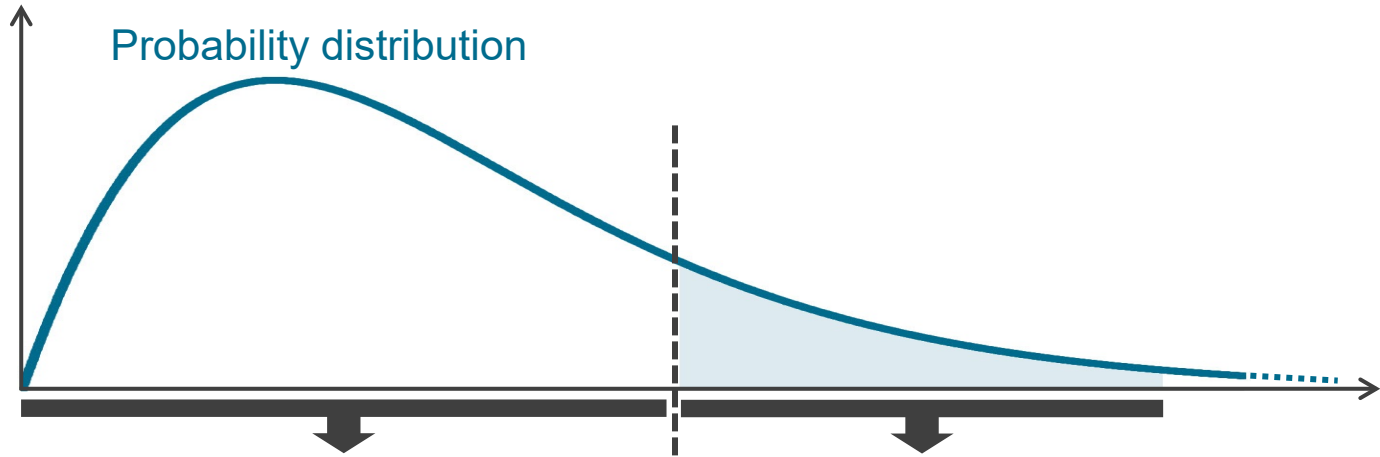


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AGENDA

- 1 Reinsurance and SCOR
- 2 ERM
- 3 Internal model and its use cases

Insurance and reinsurance operate in different “risk spaces”



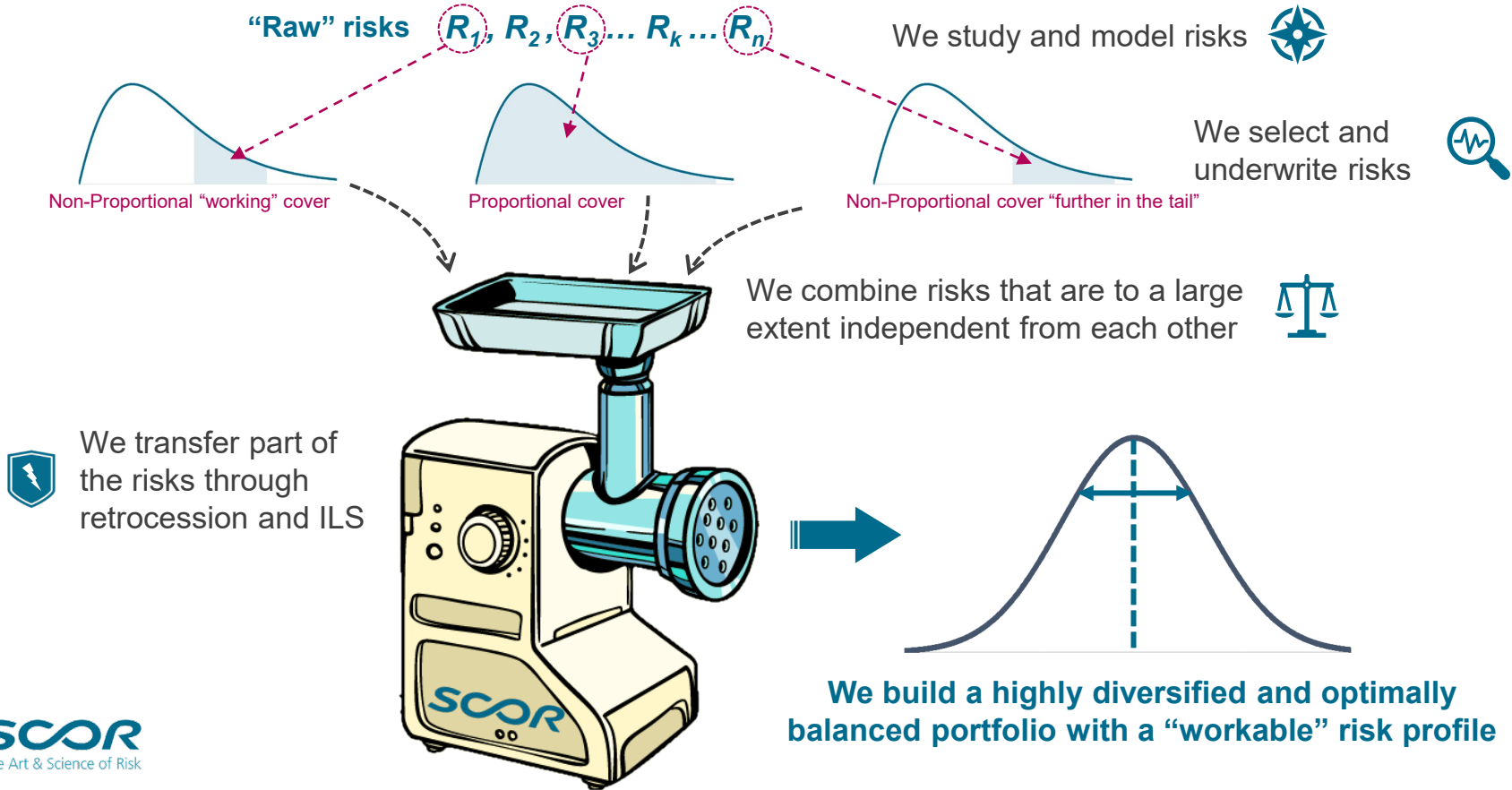
The “insurance Gaussian world”

- Belly of the risk distribution
- Statistical nature
- Abundant and granular data
- High frequency / low severity
- Low variance

The “reinsurance world”

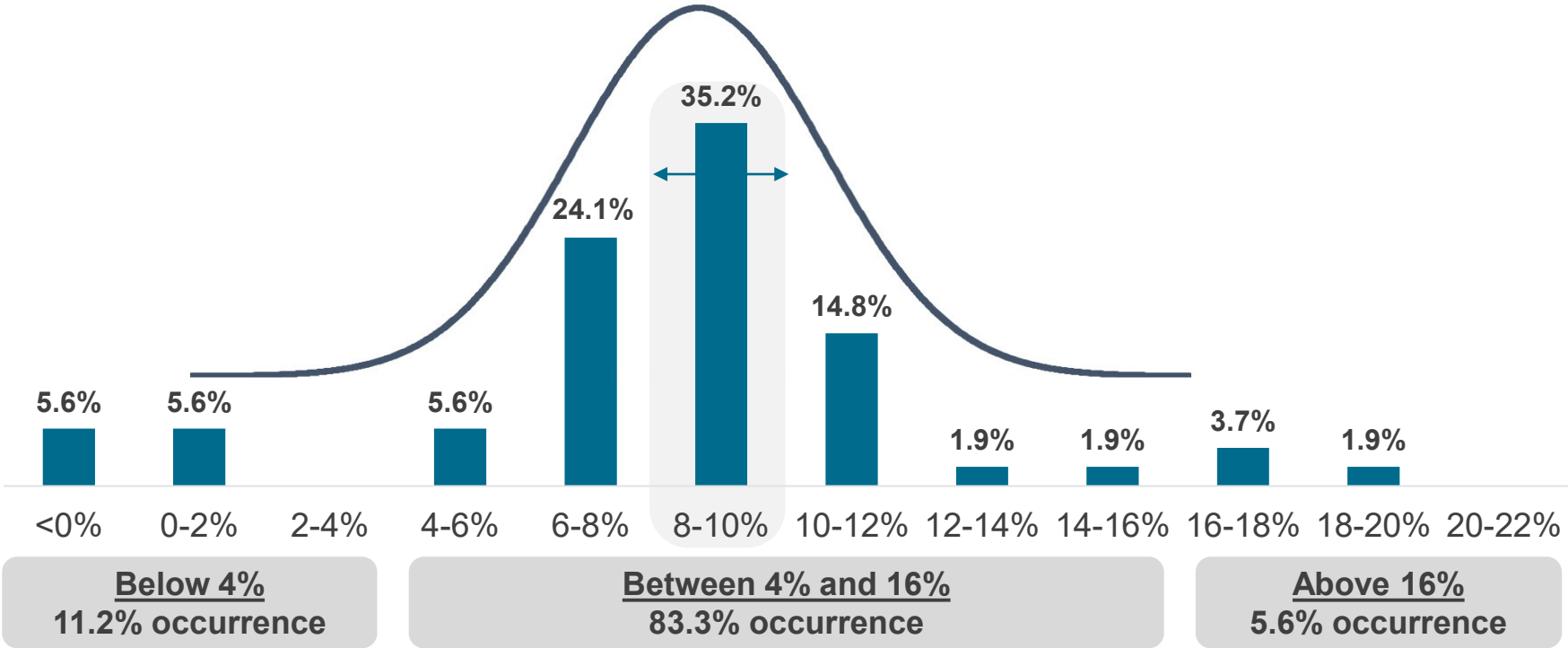
- Tail of the risk distribution
- Probabilistic nature
- Limited data
- Low frequency / high severity
- High variance per risk

In a nutshell... SCOR is a “risk processing plant”!



The volatility of SCOR's profitability at the Group level is even lower, due to the additional diversification with Life reinsurance and investment

Distribution of quarterly adjusted ROE¹⁾ since 2006²⁾ (in %)



1) In excess of 5-year rolling average of 5-year USD rates and 5-year EUR rates
 2) 54 quarters in total, from Q1 2006 to Q2 2019 included



High diversification

A concrete example

Event 1	Event 2	Event 3	Event 4	Event 5
An earthquake in Japan as severe as or more severe than the Great Kantō earthquake of 1923	An earthquake in the U.S. as severe as or more severe than the San Francisco earthquake of 1906	A hurricane in the U.S. as severe as or more severe than the Great Miami Hurricane of 1926	A windstorm in Europe as severe as or more severe than Windstorm Daria in 1990	A typhoon in Japan as severe as or more severe than Typhoon Vera in 1959
Return period ~ 600 years	Return period ~ 150 years	Return period ~ 70 years	Return period ~ 35 years	Return period ~ 80 years

What is the probability p of these 5 events happening in the same year?

$$p = \frac{1}{600 \times 150 \times 70 \times 35 \times 80} = \frac{1}{17\,640\,000\,000}$$

Return period of 17.6 billion years (approximately the age of Earth multiplied by 4)

The 5 considered risks are independent from each other i.e. the occurrence of any of these events does not affect the probability of any of the other events occurring

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SCOR has set two targets for its strategic plan

Profitability (RoE) target



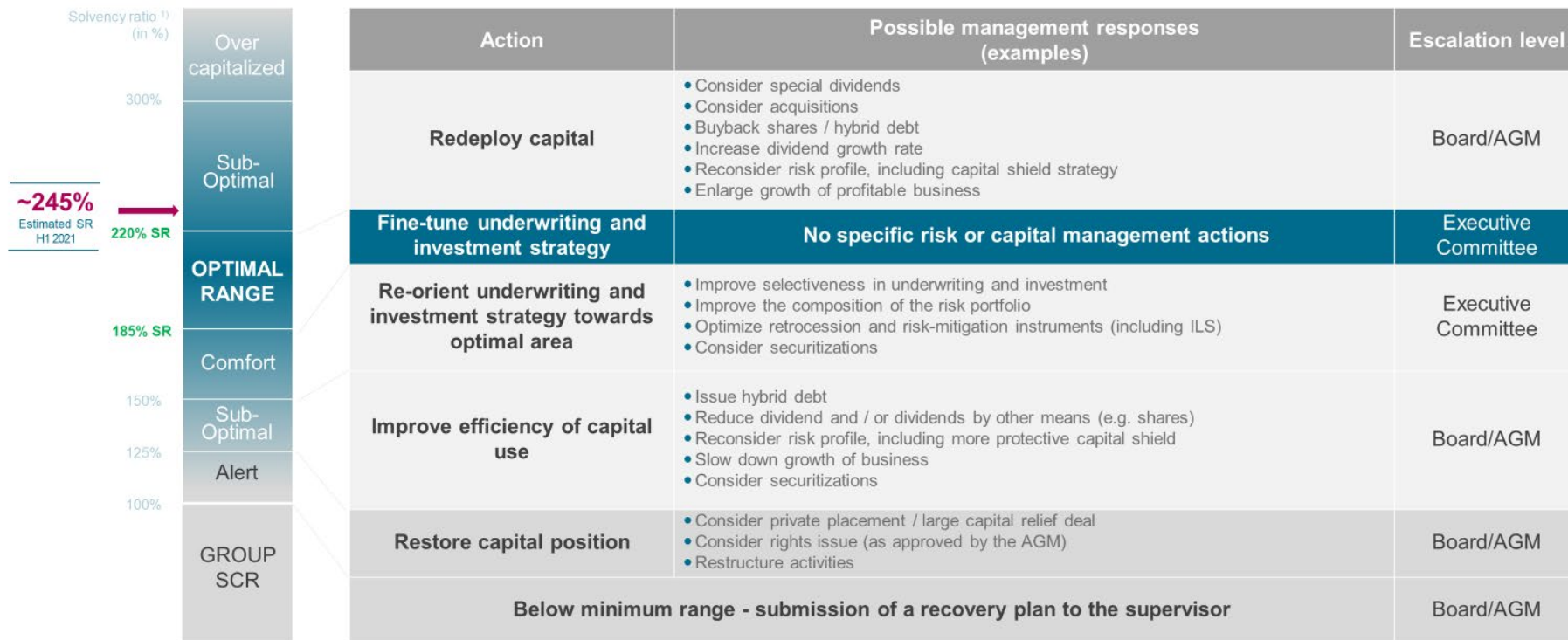
**RoE above 800 bps
over the 5-year risk-free¹⁾
rates over the cycle**

Solvency target



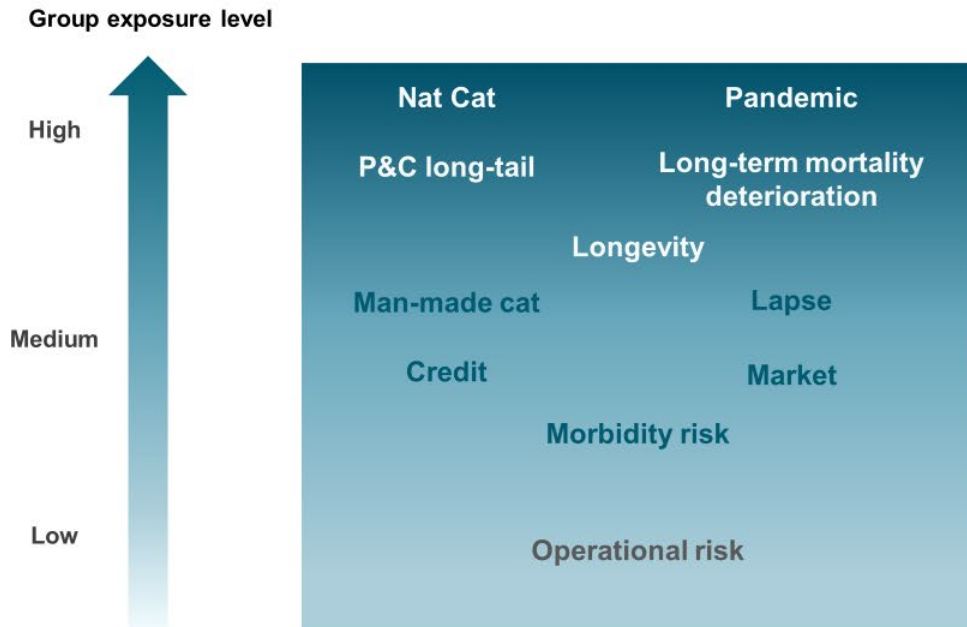
**Solvency ratio
in the optimal
185% to 220% range**

SCOR's strong capitalization provides a solid foundation and additional capacity for business growth in a post-pandemic world



SCOR controls its risk profile with Risk Management mechanisms of the highest standards

Overview of SCOR's main risks



SCOR's Risk Management is supported by strong ERM mechanisms

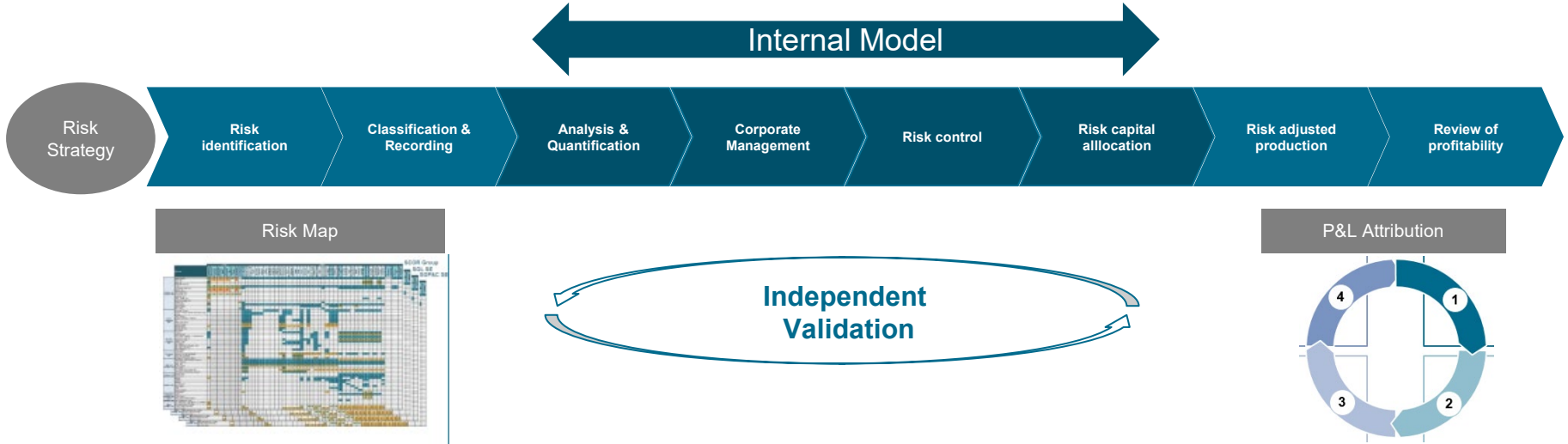
- Risk appetite framework
- Capital shield strategy
- Solvency management
- Exposure monitoring
- Risk analyses
- Capital model
- Internal controls
- Reserving
- ALM

Strategic decision making is supported by strong risk governance



Overview of the Internal Model Control Cycle

Implementing the risk strategy throughout the risk management life cycle



- Risk Map and P&L Attribution close the cycle for the internal model and enhance our process to an extended risk management process
- P&L attribution confirms the internal model projections against actual economic profits
- Validation is following the full process

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Key facts on SCOR's internal model



The Internal Model was developed over last 15 years to assess the various risks SCOR is exposed to



The Internal Model is approved by regulators to calculate the Solvency Capital Requirement under Solvency 2 and the Swiss Solvency Test

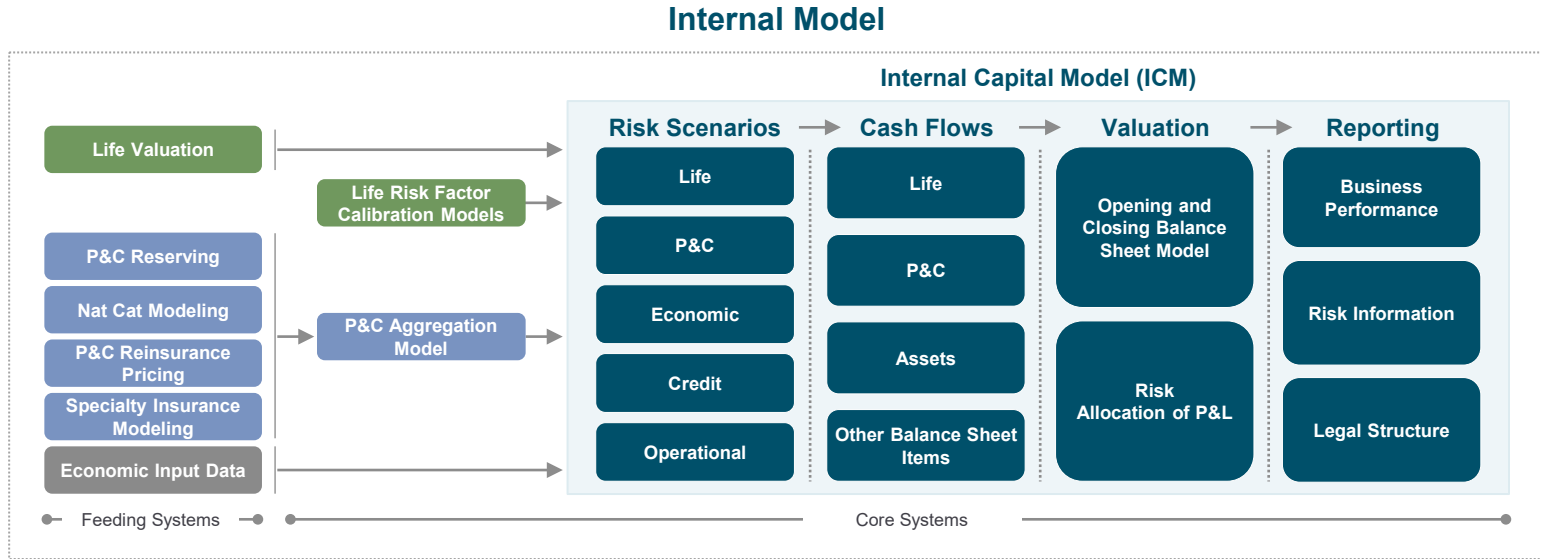


Over the years, the use cases for the Internal Model have become more diverse and ambitious



The Internal Model is now frequently used in various tactical and strategic decisions made by the Group

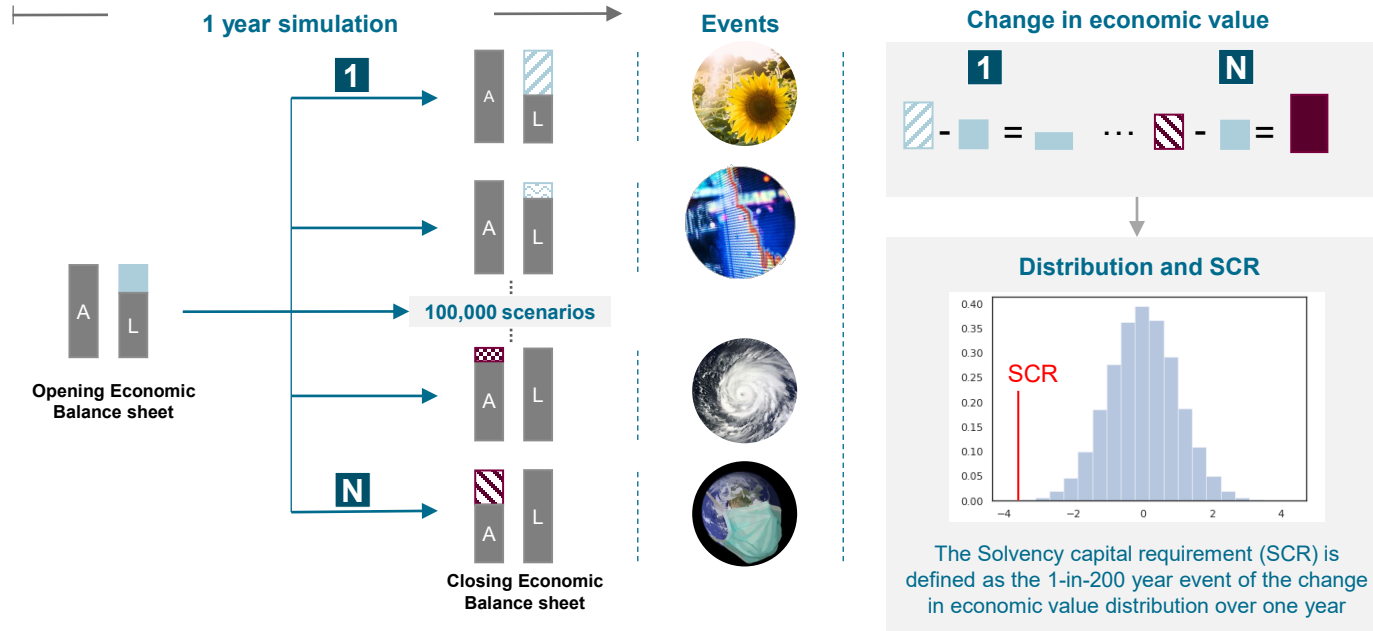
The Internal Model architecture and its components



SCOR's internal model is split in two category of systems:

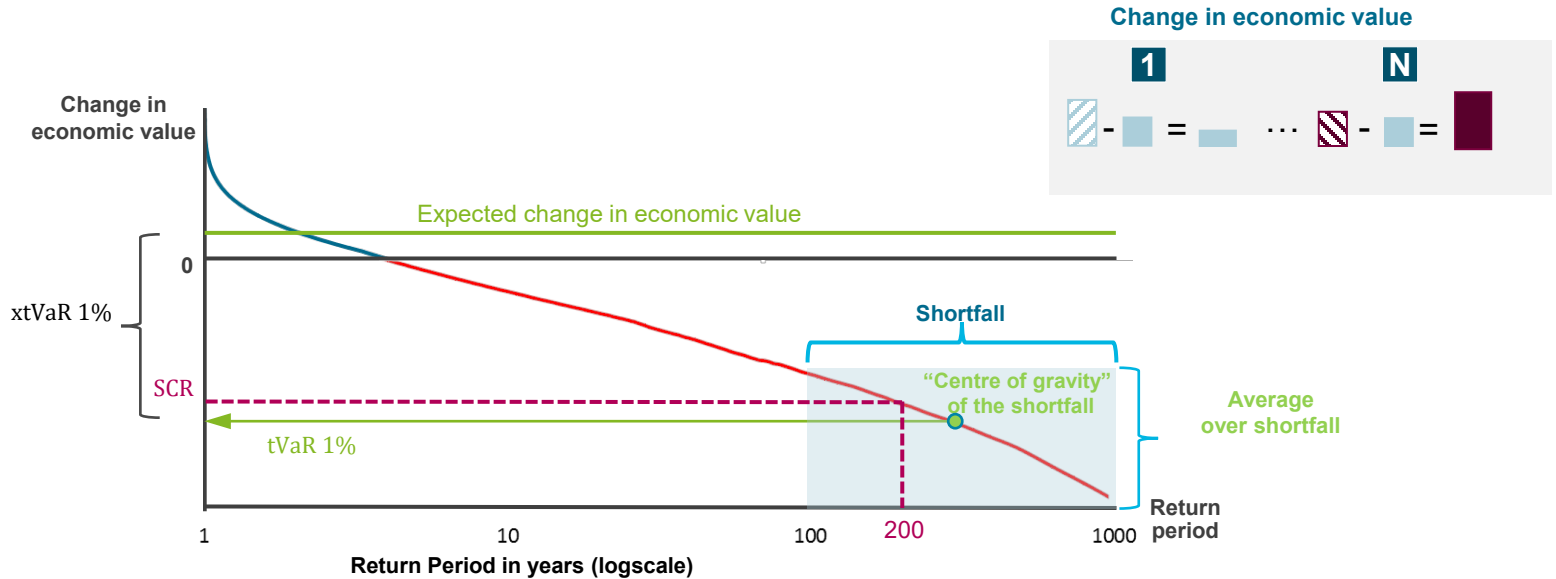
- **Feeding Systems:** These application have a purpose independent of the Internal Model. While part of the overall framework they follow a lighter governance than the core systems.
- **Core Systems:** These applications are developed for capital and risk assessment specifically and form the core part of the Internal Model

What is actually happening in the internal model?



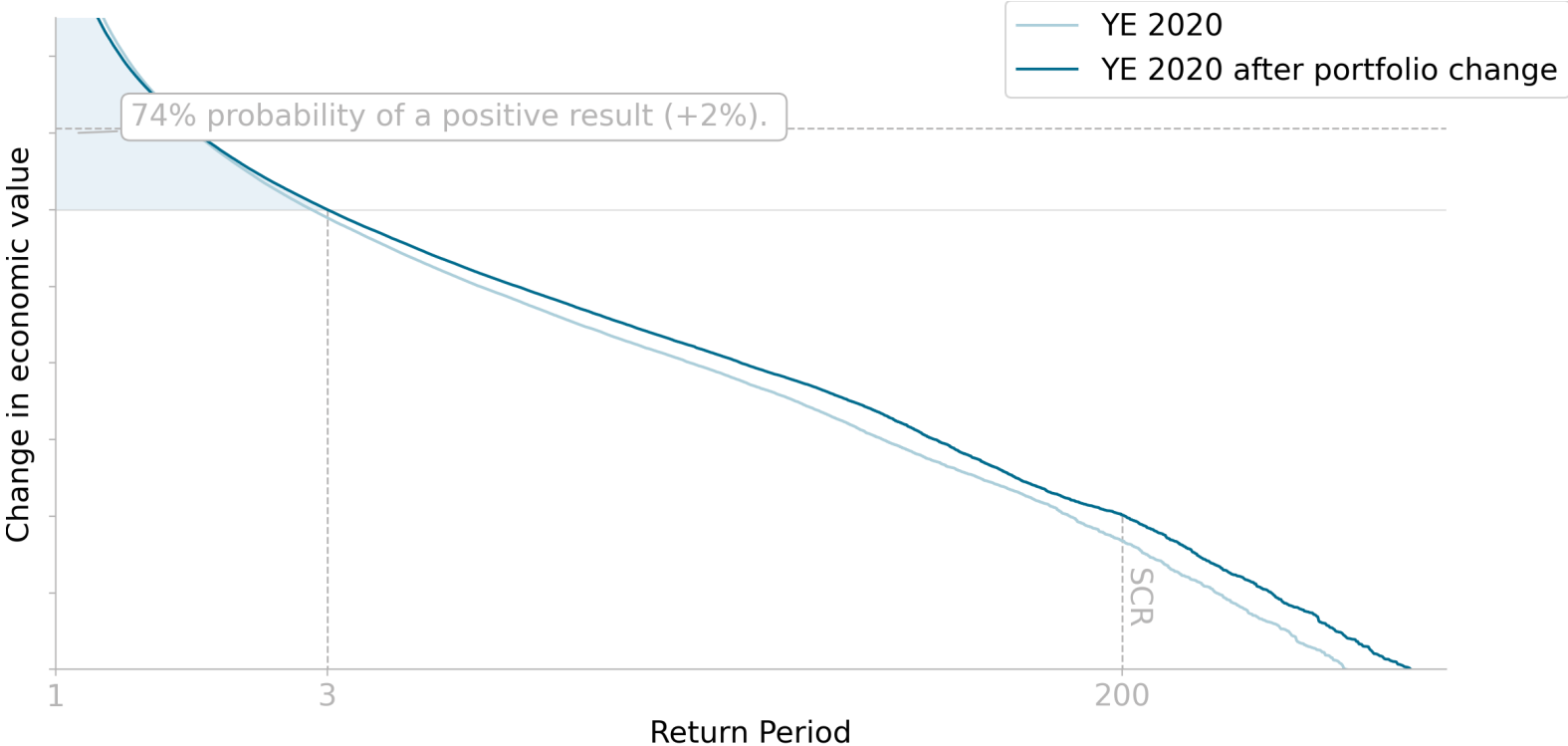
The internal model calculates the change in economic value distribution by evaluating the economic balance sheet under 100'000 simulated events and deducting the value at the beginning of the period.

The risk profile: how to read it

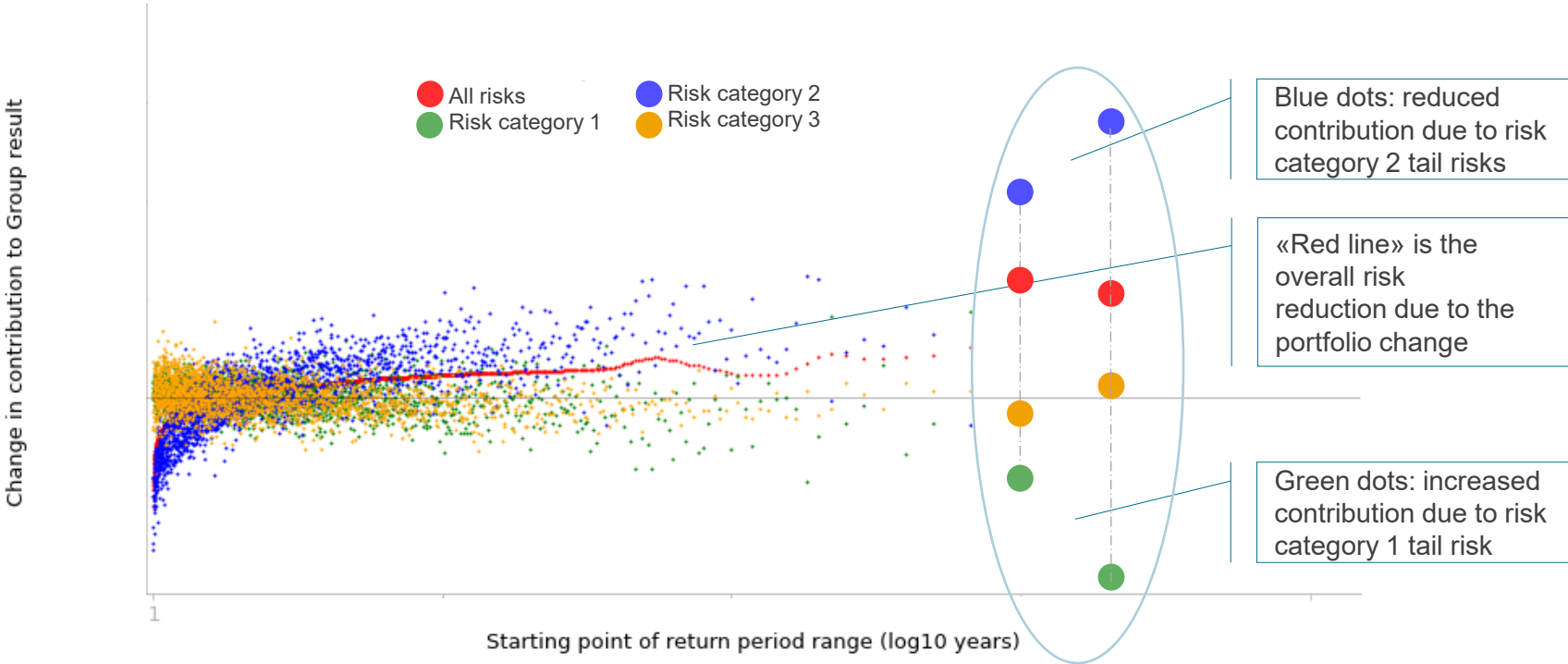


- The simulated scenarios are sorted (by change in economic value) and are plotted on the graph in relation to their likelihood - the horizontal axis shows the return periods in logarithmic scale, the vertical axis shows the respective change in economic value for the return period
- "SCR" is the worst 1-in-200-year (VaR 0.5%) event of the annual change in economic value
- tVaR 1% is the change in economic value averaged over the shortfall, which are the worst 1% results, and xtVaR 1% is the difference between tVaR 1% and the expected (average) change in economic value

How does a specific portfolio change affect the risk profile? (1 of 2)

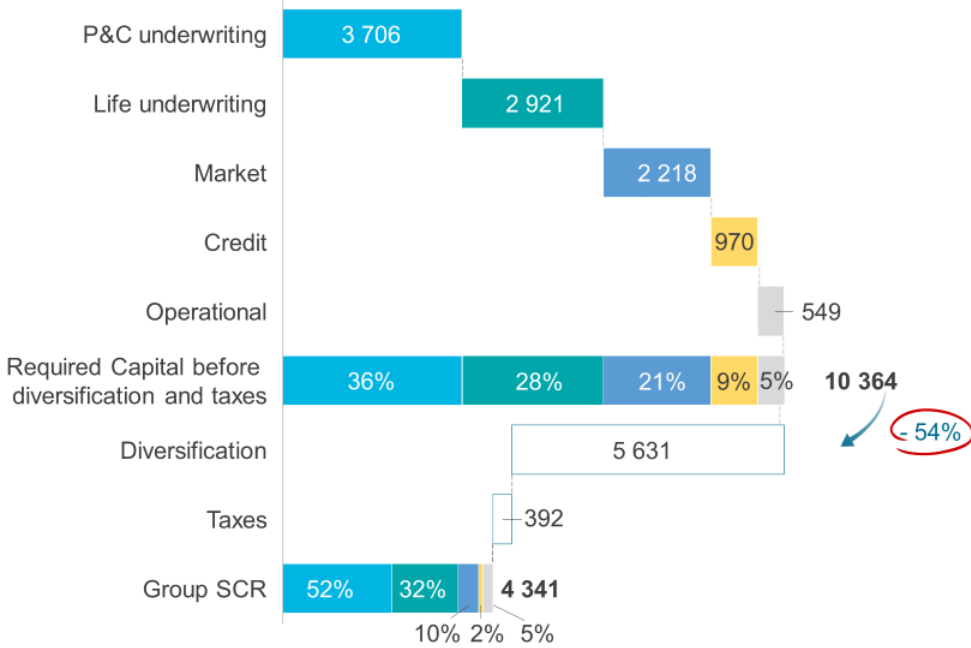


How does a specific portfolio change affect the risk profile? (2 of 2)



SCOR's balanced risk portfolio benefits from excellent diversification

H1 2021 risk capital breakdown by risk category (in EUR millions, rounded)

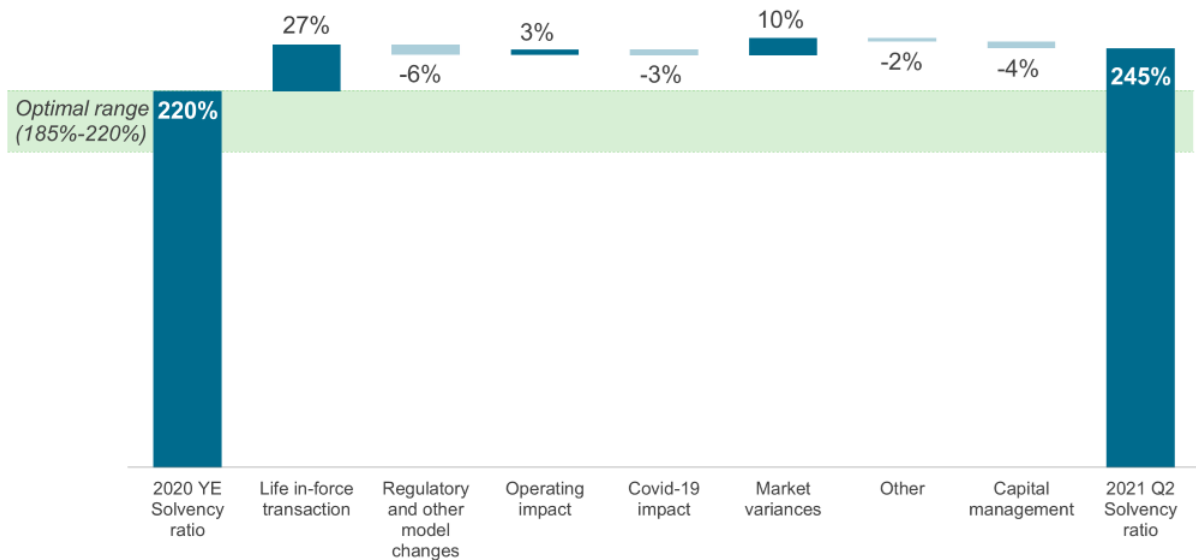


Key comments

- SCOR's requires capital mainly for underwriting risks
- Recent Life in-force transaction reduces Life contribution to SCR
- SCOR's balanced P&C and Life portfolio and strong business model ensure a very strong diversification benefit

Solvency ratio above optimal range driven by the recent Life in-force transaction and positive market variances together with solid operating impact

H1 2021 Solvency ratio evolution (in % and percentage points)

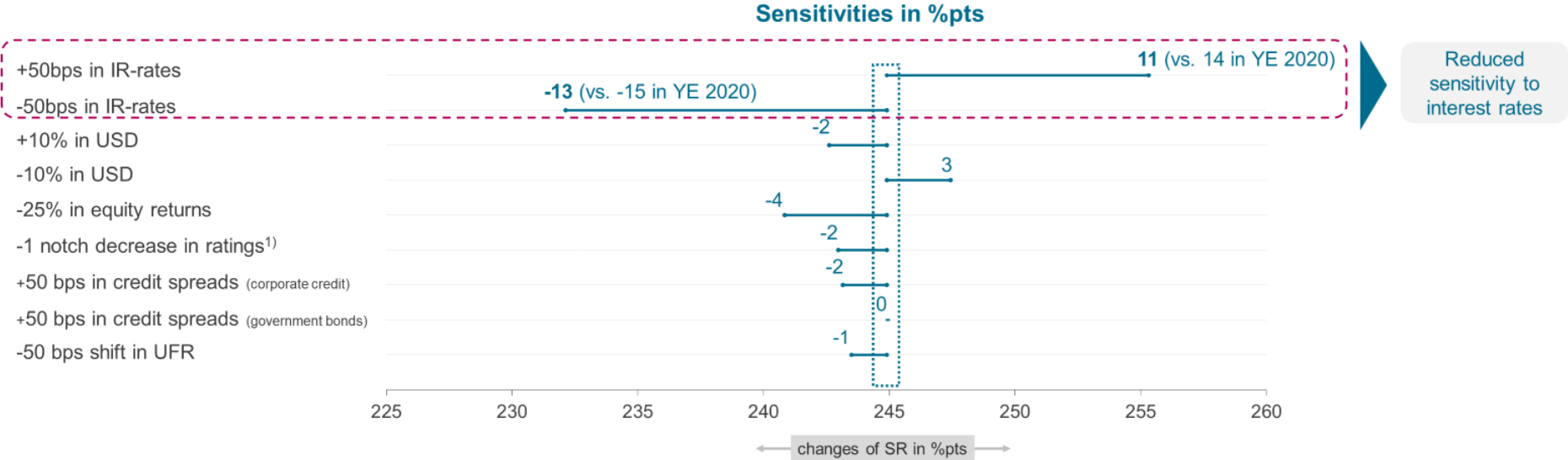


In EUR millions (rounded)

EOF ¹⁾	9 663	+485	-57	+425	-150	+522	-90	-168	10 631
SCR ²⁾	4 399	-291	+83	+118	-	+31	-	-	4 341

- **Life in-force transaction:** Increase mainly from release of risk margin and SCR
- **Regulatory and other model changes:** Improvement in P&C, Life, Credit and FX risk modelling leading to an increase in SCR
- **Operating impact:** Strong EOF contribution to solvency driven by both new business and by performance of portfolio excluding Covid-19
- **Covid-19 impact:** Impact of post 2020 YE updates for all expected excess claims as at Q2 2021
- **Market variances:** Increase in solvency ratio largely from decrease in SCR due to increase in interest rates. FX movements give small positive increase in solvency ratio, with large EOF increase offset by increase in SCR
- **Other:** Includes non recurrent tax items
- **Capital management:** Normal 6 month accrual of dividend for 2021

SCOR's solvency is highly resilient to financial market and credit movements



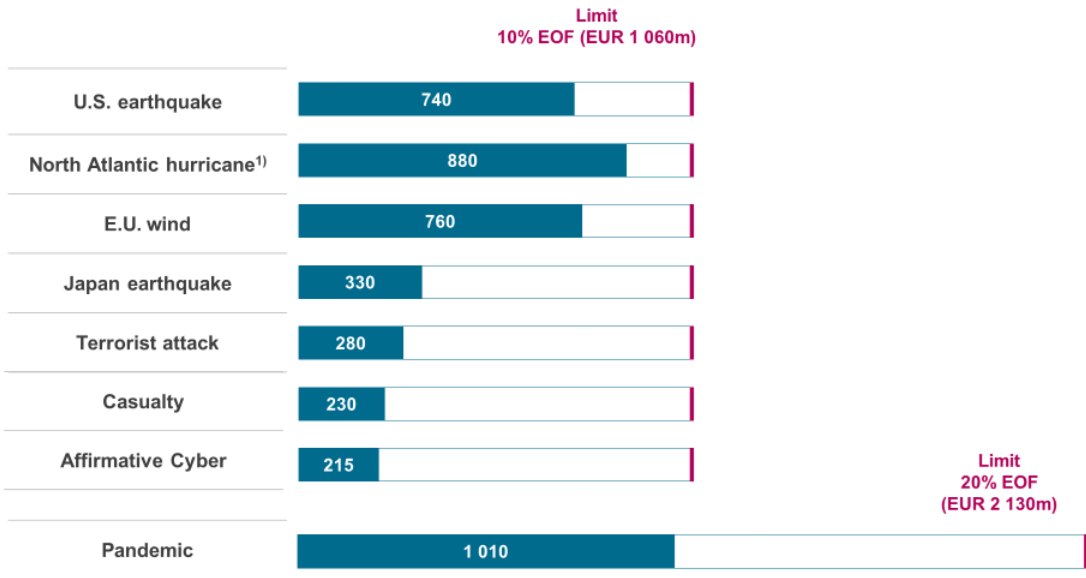
- Further decrease of interest rate sensitivity due to the recent Life in-force transaction and the increase in interest rates during H1 21
- Other sensitivities are broadly stable compared to YE 20

Note: Figures in this slide have not been audited
1) Related to SCOR's fixed income and loan portfolio

SCOR closely monitors risk drivers and extreme scenario exposures against strict risk tolerance limits

1-in-200 year loss as of H1 2021

in EUR millions



- Increase in net Nat Cat exposures since 2020, mainly driven by restructuring of the retrocession program
- Decrease in the pandemic risk driver mainly related to the recent Life in-force retrocession agreement.

Note: The losses include expected new business for 2021 and are calculated net of all risk-transfer instruments (retro, ILS, contingent capital) and after tax.
 1) North Atlantic Hurricane is defined here to include losses from landfalls in the U.S., Caribbean, Canada and the east coast of Mexico.

Thank you for your attention !

