

# Swiss Re

### Innovative insurance protection products

Advanced Analytics team

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## The Swiss Re Group

Reinsurance Leader, Global footprint

**Gross Premium written in** 2017 by the Swiss Re Group: 33.7 billion USD 16.1 10.5 7.1 48% 31% 21% America EMEA Asia

Swiss Re benefits from both its business mix and its balanced geographical diversification for maintaining a profitable growth The **Swiss Re Group** is a reinsurance company, founded in Zurich (Switzerland) in 1863. The Group operates on globally, with around 14,000 employees and a well diversified risk portfolio.

#### Swiss Re is organized in three Business Units:

- **Reinsurance** division offers traditional (as well particular) reinsurance products, and services in all business lines, both in Life and P&C
- **Corporate Solutions** offers insurance coverages to medium and large corporates
- Life Capital manages life insurance portfolios, both active and in run-off

Moreover, the Group supports public sector through the **Global Partnerships** unit, to increase the penetration of its products in the World.

OUR MISSION: Together, we apply fresh perspectives, knowledge and capital to anticipate and manage risk. That's how we create smarter solutions for our clients, helping the world rebuild, renew, and move forward.

## World's top reinsurance companies

Ranked by Gross Reins. Premium written



### **Gross Reinsurance Premium written in 2018 (m USD)**

Source: Reinsurance News



# **Swiss Re**

We build on 150 years of experience and tomorrow's technology to invest into new risk pools, such as OEM branded insurance



OUR MOTTO "We are smarter together..."

### Swiss Re P&C Solutions Technology and innovation in risk assessment and insurance solutions



#### Automotive

- Insurance-relevant driver and vehicle scoring with end-to-end telematics and ADAS solution
- On-demand mobility insurance and AV liability to future-proof the industry



#### P&C Analytics

- Portfolio Insights interactive risk visualisation for steering and growth
- Tailored P&C Analytics consultancy services to solve your every need
- Grow strategically and steer portfolios with Motor Market Analyser



Cyber

- Cyber Product Suite for cyber
  insurance product development
- Cyber Analytics Platform for risk scoring, portfolio, and accumulation management



#### Property & Engineering

- CatNet<sup>®</sup> natural hazard risk analyser
- Sophisticated engineering underwriting with PUMA



#### Parametric

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



#### SwiftRe<sup>®</sup>

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



#### Liability

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



#### Smart homes

- Develop next generation solutions with advanced risk scoring
- Preventive risk services
- Fast time-to-market via Swiss Re's curated partners ecosystem

### Examples of quantitative tools and applications

algorithms/models	MANEUVER	TMR	DPD	SCORING	PRICING	HOME (INVENTORY)	(HOME) ROOF	DIAGNOSIS	RAMS	TASSO	SPREAD	EQUITY	CREDIT	LAPSE	MORTALITY	RAF	AGGREGATION	PVC	CYBER	FRAUD
Montecarlo				x	x				x				x							
Neural Networks (various types)				x	x	x	x											x		x
KNN						x	x	x	x											
RNN/LSTM				x	x						x		x	x						
Stochastic PDE (or similar)												x		x	x					
Clustering		x		x				x												
Kalman filter		x								x	x	x			x					
Particle filter										x	x		x							
Random Forest		x						x						x						
Low pass filter	x		x																	
Procrustes	x																			
Markov Chain														x						
НММ	x									x	x	x	x	x	x					
GLM					x															
"tail correlation" (entropy based)				x	x				x							x	x			
Optimization (various types)									x									x		
Utility (multi-dimensional)									x									x		
Entropy Production				x	x		x			x	x	x	x	x	x					
Large Deviations							x			x	x	x	x	x	x	x	x			
Sklar thm/Copulas									x							x	x			
Entropy (Information)	x	x		x	x				x							x	x			
C5.0	x	x		x				x	x											

### Contact

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