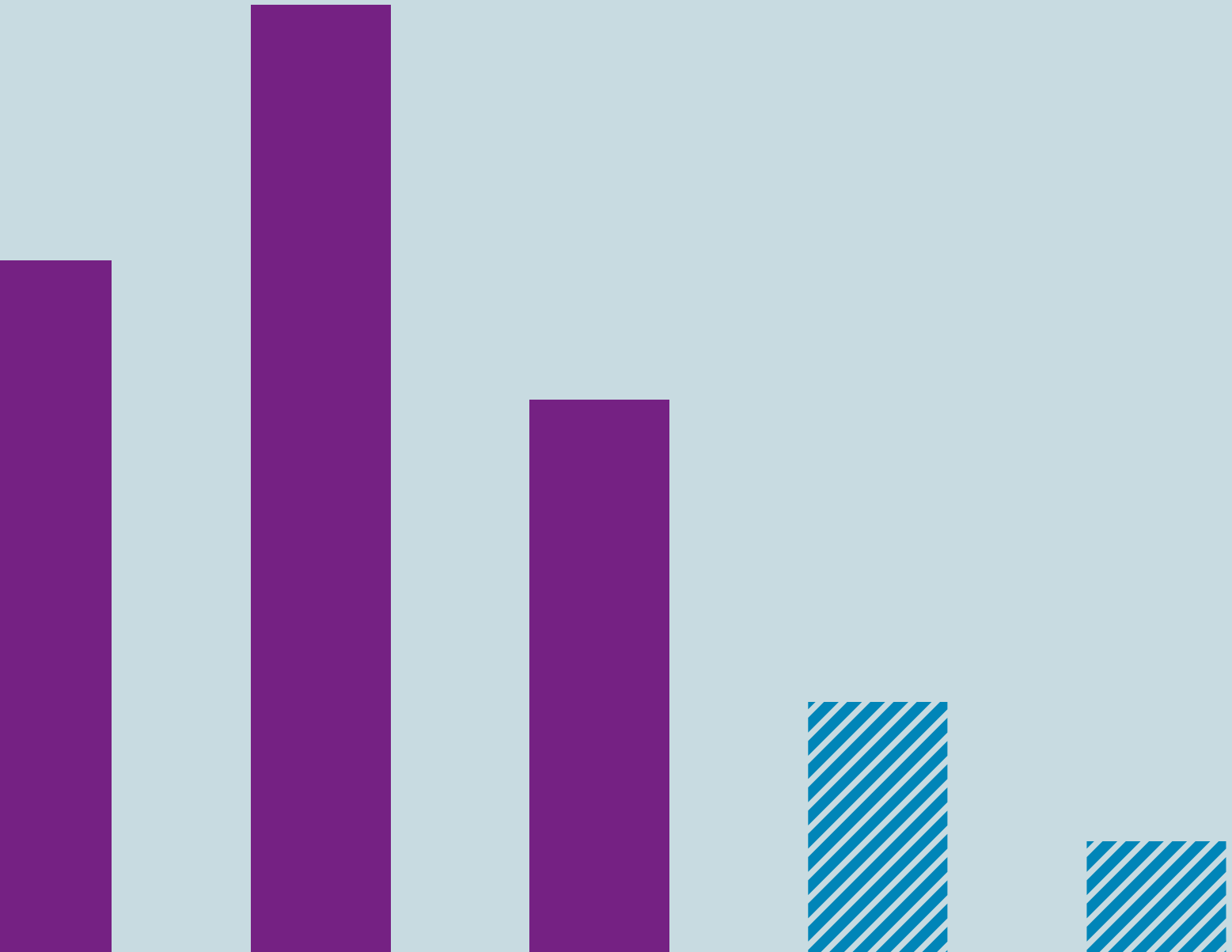


RiskAgility Economic Capital Aggregator (EC)

Sophisticated economic capital risk management techniques
within easy reach





RiskAgility Economic Capital Aggregator (EC)

Insurers are challenged by a variety of competitive, regulatory and stakeholder pressures accelerating the need for improved risk management. Rating agencies, customers, regulators and investors demand risk management programmes that are linked to sophisticated risk analysis and economic capital models, which can react quickly to changes in market conditions and risk dynamics.

As the insurance industry's leading risk specialist, we have developed an innovative software application in response to this critical need: RiskAgility Economic Capital Aggregator (EC).

RiskAgility EC embodies our extensive experience in economic capital design and implementation. It provides real-time analytics that can significantly improve the way you view and respond to risk. With more accurate, timely calculations of economic capital, your company can demonstrate that its risk governance processes are based upon sound methodologies that are fully embedded in your business.

Over the years, we have continually developed and refined economic capital modelling methodology and capabilities, and are using our vast experience in this space to deliver a solution that can be scaled to the requirements of any business, large or small.

RiskAgility EC and Solutions for Life

RiskAgility EC is part of our Solutions for Life portfolio of integrated software, technology and consulting services – a holistic solution to managing the end-to-end risk reporting process.

For more information on Solutions for Life, turn to page 6 of this brochure or visit solutionsforlife.willistowerswatson.com.

Risk management and economic capital

Economic capital is the most realistic measure of a company's risks, compared with other measures such as regulatory and rating agency capital. Economic capital calculations can help you quantify your company's risk structure using technically robust models that simulate the company's economic position over a range of possible future outcomes. The model calculates the amount of capital your company needs to bear its risks in keeping with the level of policyholder security you want to provide.

Insurers use economic capital in a wide variety of ways, including strategic and business planning, product design and performance management. There are a number of approaches taken to economic capital calculations (see figure). In order to use economic capital in your business, you need processes and software that will enable you to produce results quickly and maintain the required level of accuracy and granularity. Until now, this has not been easy.

The difficulty of calculating economic capital

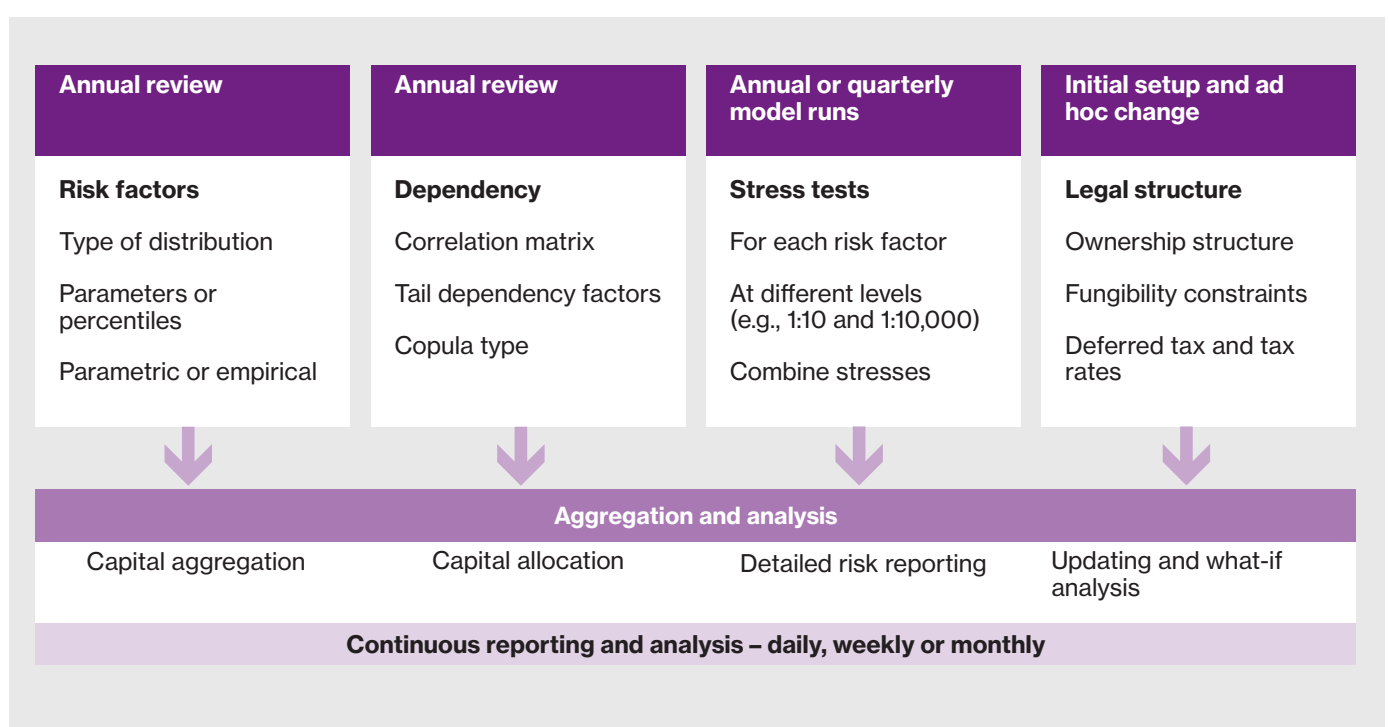
It's difficult to accurately calculate economic capital and embed results in day-to-day business operations because, to yield meaningful results, economic capital models must:

- Fully reflect the nature of an insurer's business, structure and risks, including legal and tax structures, and any constraints on diversification due to a lack of capital fungibility among companies

- Model key features of insurance risk, including risks with long tails, risk dependencies in extreme events, and the optionality and non-linear nature of that many insurance risks
- Combine all types of risk (market, insurance and operational) and all lines of business (life, property & casualty and investment) in a consistent fashion
- Provide robust aggregation and allocation of economic capital on a fully diversified, stand-alone basis and with diversification allocated back to risks or businesses at multiple confidence levels
- Allow for immediate updating of capital when markets or other risk drivers move, or in response to what-if questions from management and regulators

Most insurers struggle to address these requirements. Many can calculate the impact of individual stresses and combine them in relatively simple ways to approximate economic capital. However, few can deal with the complexities set out here. And calculating economic capital can often take weeks or even months.

The difficulty is compounded by the use of many different systems across most businesses. This reflects the way insurers have grown historically and the diverse nature of the business they write. Companies have invested heavily in their systems and typically are reluctant to discard them and start over.





A practical approach to economic capital aggregation and allocation

The solution is an approach that begins with your existing systems and the information they can practically provide, and aggregates data in a way that addresses all of these requirements.

RiskAgility EC has been designed to do exactly that. The software calculates and aggregates your economic capital from marginal risk distributions, stress test information and dependency structures between risks. It allocates capital by risk type at multiple levels of granularity, reflecting your organisation's legal structure. It builds upon existing actuarial models to provide robust, constantly up-to-date economic capital reporting.

RiskAgility EC can provide multiple risk metrics, including the commonly used value-at-risk reporting. It can produce reports on both available capital and economic capital at a group, business unit, product and risk level, or at any granularity an insurer requires down to the level of the underlying inputs. Our software allows simultaneous

reporting at multiple confidence levels, e.g., 1:200 for solvency purposes and 1:2,000 for rating agencies. It reports capital requirements on both a stand-alone and a fully diversified basis, and with full allocation of diversification benefits back to their sources. RiskAgility EC also allows user-definable reports and provides drill-down capabilities. It also models your company's full group structure, along with the associated fungibility constraints, and tax and reinsurance implications. So it fully reflects the true risk structure of the business.

RiskAgility EC supports immediate updating and analysis without the need to rerun underlying actuarial models. This can transform the calculation of economic capital from an annual to a weekly or daily activity to give insurers the information needed to respond to market movements or changes in business profile.

How it works

RiskAgility EC takes inputs from external models and internally expands this information using a fully stochastic Monte Carlo modelling approach. This offers all the advantages of a complex stochastic model while using your existing systems. In fact, any external financial model capable of providing the necessary information can be used, including commercial catastrophe models. Using this approach, you can separate the actuarial modelling and calibration processes, which can be a lengthy exercise, from the economic capital reporting process, which can now be continuous.

RiskAgility EC can quickly give you the information you need for the day-to-day management of risk and capital. Armed with this information, your company can better withstand market volatility and respond to the increased scrutiny of regulators, rating agencies, customers and investors.

Key benefits

- Improve risk management by using real-time risk analytics that fully reflect the nature of your business.
- Gain a better understanding of risk drivers in your company.
- Calculate and allocate economic capital at multiple confidence levels, levels of granularity and by business, product and risk type, including full allowance for fungibility restrictions and the allocation of diversification benefits.
- Use well-developed methodologies and software for a low-risk, controlled approach to introducing leading-edge economic capital systems into your business.

Willis Towers Watson support

We provide the advice, training and support you need to deploy enterprise risk management applications in your company. As your business needs change, we can help you adapt your applications to satisfy them. We can provide the technical and implementation services for installing RiskAgility and integrating it into your company's enterprise framework.

We are one of the insurance industry's leading risk specialists and a thought leader in issues of risk management and economic capital, with extensive experience around the globe assisting clients with economic capital design and implementation. We offer a range of solutions across the spectrum of risk management readiness, from companies that are just getting started to companies addressing the complete range of business, technology and governance issues associated with the effective management of risk.



A holistic approach to the wider risk reporting process

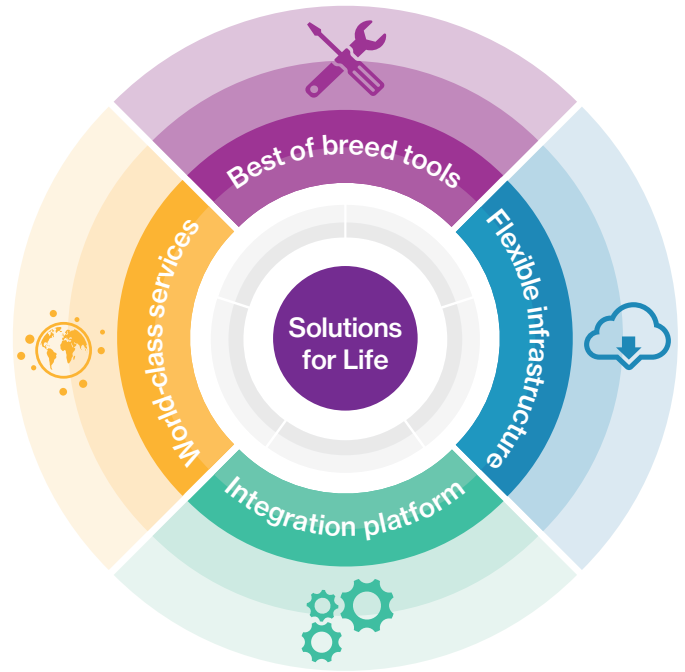
Solutions for Life

Solutions for Life is a portfolio of integrated software, technology and consulting services for life insurers that ensures your risk and actuarial processes adapt to meet changing business requirements – enabling you to save time and money, comply with regulatory demands and optimise legacy systems.

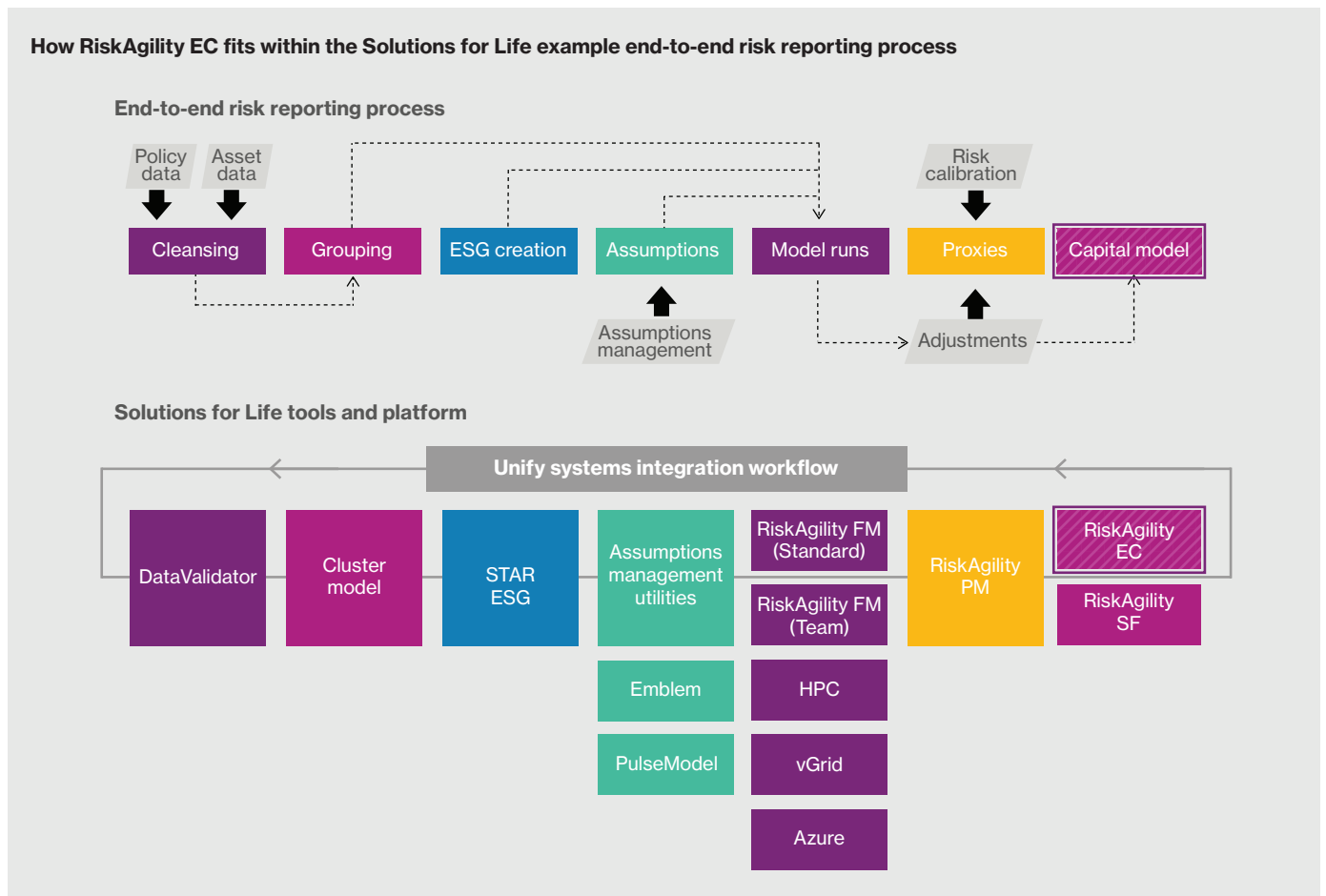
It is made up of four main components:

- Best of breed software tools
- Flexible infrastructure
- Integration platform
- World-class advisory and support services

Solutions for Life breaks down barriers, solves problems and provides confidence through accuracy, performance and control by employing industry thought leadership and advanced technology. For more information, visit solutionsforlife.willistowerswatson.com.



Solutions for Life end-to-end risk reporting process



For more information

Visit: willistowerswatson.com/riskagility-ec

Contact: software.solutions@willistowerswatson.com

Follow us on Twitter: [@WTW_ins](https://twitter.com/WTW_ins)



About Willis Towers Watson

Willis Towers Watson (NASDAQ: WLTW) is a leading global advisory, broking and solutions company that helps clients around the world turn risk into a path for growth. With roots dating to 1828, Willis Towers Watson has 40,000 employees serving more than 140 countries. We design and deliver solutions that manage risk, optimize benefits, cultivate talent, and expand the power of capital to protect and strengthen institutions and individuals. Our unique perspective allows us to see the critical intersections between talent, assets and ideas – the dynamic formula that drives business performance. Together, we unlock potential. Learn more at willistowerswatson.com.

Towers Watson Limited (trading as Willis Towers Watson) is authorised and regulated by the Financial Conduct Authority in the UK.

The information in this publication is of general interest and guidance. Action should not be taken on the basis of any article without seeking specific advice.

To unsubscribe, email eu.unsubscribe@willistowerswatson.com with the publication name as the subject and include your name, title and company address.



willistowerswatson.com/social-media

Copyright © 2017 Willis Towers Watson. All rights reserved.
WTW-EU-GL-SAL-5382a1

willistowerswatson.com

Willis Towers Watson