



Willis Towers Watson 

# Solutions for Life

Risk and actuarial transformation

Modular. Flexible. Integrated. Powerful.





# Solutions for Life

Solutions for Life is a comprehensive, integrated portfolio of software tools and consulting services that provide cutting-edge solutions across all areas of the risk reporting process. They are designed to work together or individually within your existing eco-system and can either replace entire processes or just individual sub-optimal elements.

## Broken processes not delivering

Demanding regulatory reporting timescales and governance requirements, cost pressures and new technologies are forcing insurers to work smarter and achieve more. However, for many companies, analytics processes are not fit for purpose today, not least the future, with legacy systems and processes having evolved in an ad hoc fashion resulting in inefficiencies, lack of governance and exposure to process failure. The future will require analytics that underpin timely decision making and support the transformation of day-to-day business.

Life insurers need their business to be capital efficient, to produce increasing revenues whilst managing costs downwards, all whilst complying with current regulations and reporting requirements.

To support these ends, the actuarial function should be:

- Providing insightful analysis
- Using robust processes
- Cost efficient in its own right
- Able to respond quickly and adapt

However, in many cases a number of roadblocks are holding companies back, namely slow, inflexible, inefficient, unreliable processes with a focus on regulatory tick boxes.

Figure 1. **Moving actuarial systems to an efficiency beyond regulation**

<b>Cost efficient</b> Optimised use of resources allows costly and scarce resource to be focussed on value-added activities.	<b>Fast</b> Produce reports quickly to meet regulatory and market challenges.	<b>Robust</b> Systems and processes are integrated and automated, eliminating error-prone manual processes.	<b>Compliant</b> Readily reproducible processes are secure, governed and transparent.	<b>Flexible</b> Adapt to changing market and business conditions.
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## Meeting your needs

A pathway to overcoming these obstacles is not easy. A life insurer is a web of interconnected systems and processes. In order to understand where efficiencies can be realised, connections between these processes need to be considered. That way, an insurer is able to see which individual components need to be improved and give priority to the most important elements. By taking this approach, an insurer can make improvements incrementally in a consistent and coherent way, and achieve the ultimate goal of transforming the whole analytical landscape.

## A compelling vision

Our vision is an integrated analytical systems architecture, building from where an insurer is today to transform and deliver solutions that address the whole risk and actuarial risk reporting process to enable them to deliver in a challenging marketplace. Solving the whole problem requires an end-to-end integrated approach, not just point solutions. However, this can be a daunting and challenging concept, with many projects failing to deliver on their promised benefits. To ensure success, software tools and processes should be integrated so that they work seamlessly together, and they should be hosted on appropriate infrastructure, underpinned by world-class services.

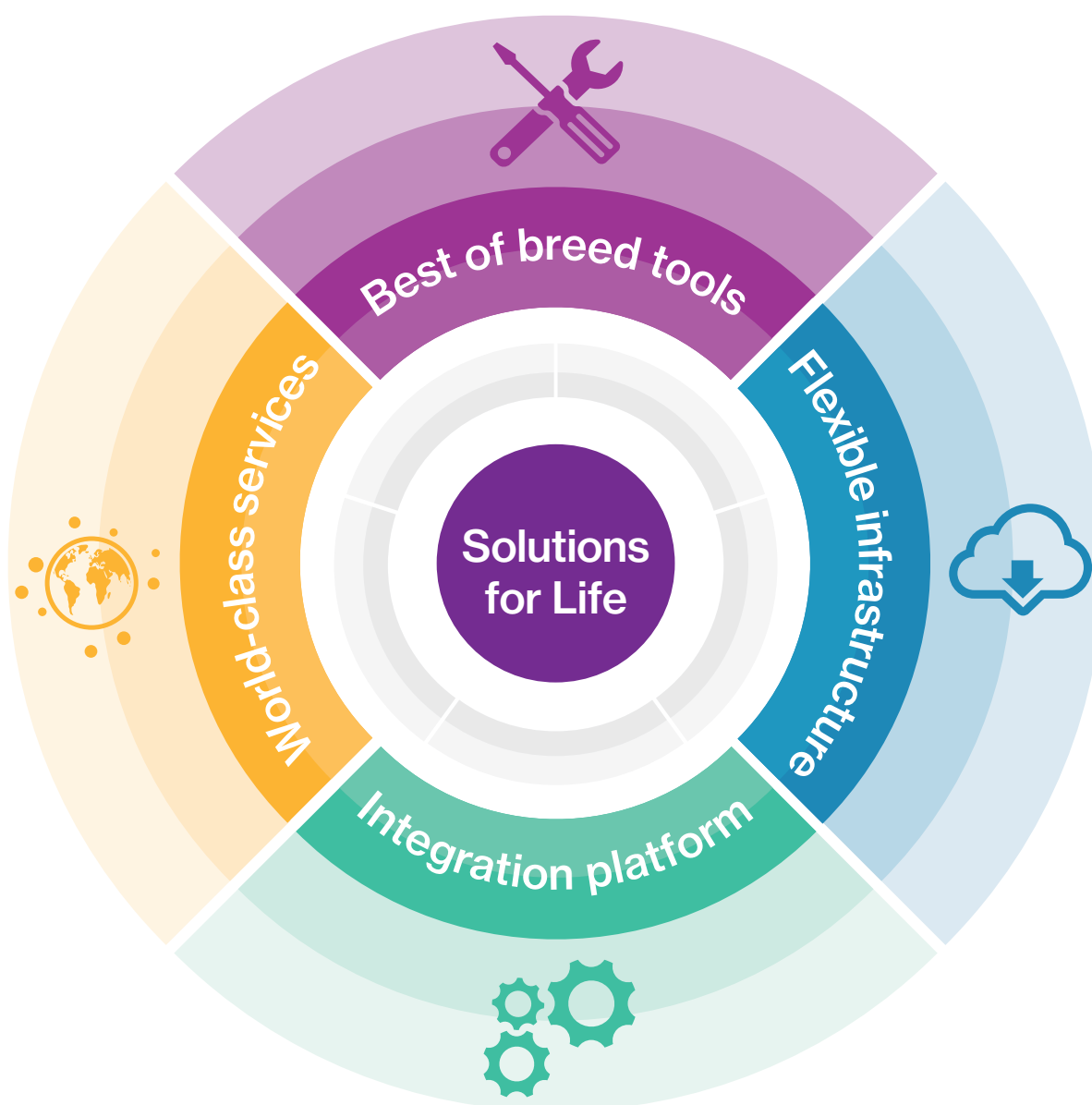
## A complete solution available now

In response to these challenges, we have developed Solutions for Life, a comprehensive portfolio of integrated software, technology and consulting services that provide cutting-edge solutions across all areas of the risk reporting process. Individual elements are designed to work together or stand alone within existing eco-systems and so can either replace entire processes or just sub-optimal elements. It allows an organisation to save time and money, comply with regulatory demands and optimise legacy systems.



## Solutions for Life is made up of four main components:

- Best of breed software tools
- Flexible infrastructure
- An integration and automation platform
- World-class advisory and support services



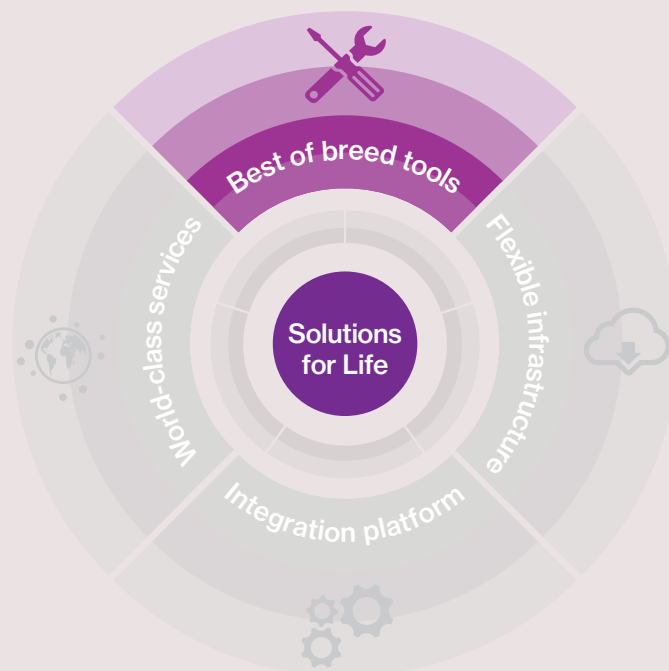
Our software vision is an integrated, automated and fully governed end-to-end risk reporting process.



## Best of breed tools

Flexibility is a key consideration when choosing the right software solution. It is important to build upon components already in place and only select new tools where existing systems are not fit for purpose or where gaps exist.

Solutions for Life draws upon market-leading tools specifically designed to support end-to-end risk reporting needs. Using a modular system to facilitate a best of breed approach, it enables an organisation to leverage new capabilities whilst protecting the investment made in existing products.

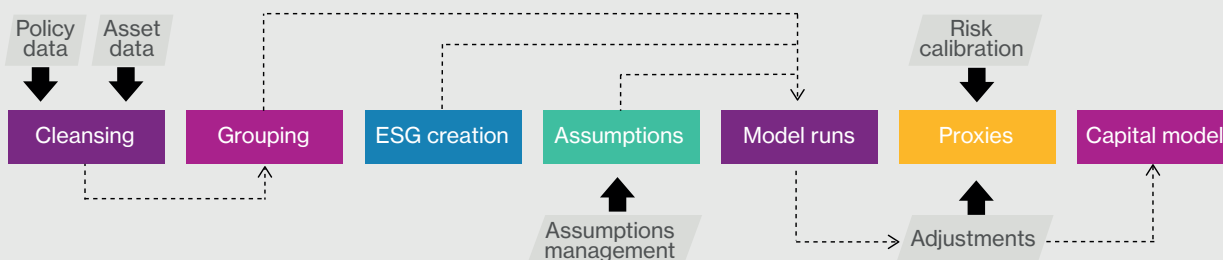


### An end-to-end solution

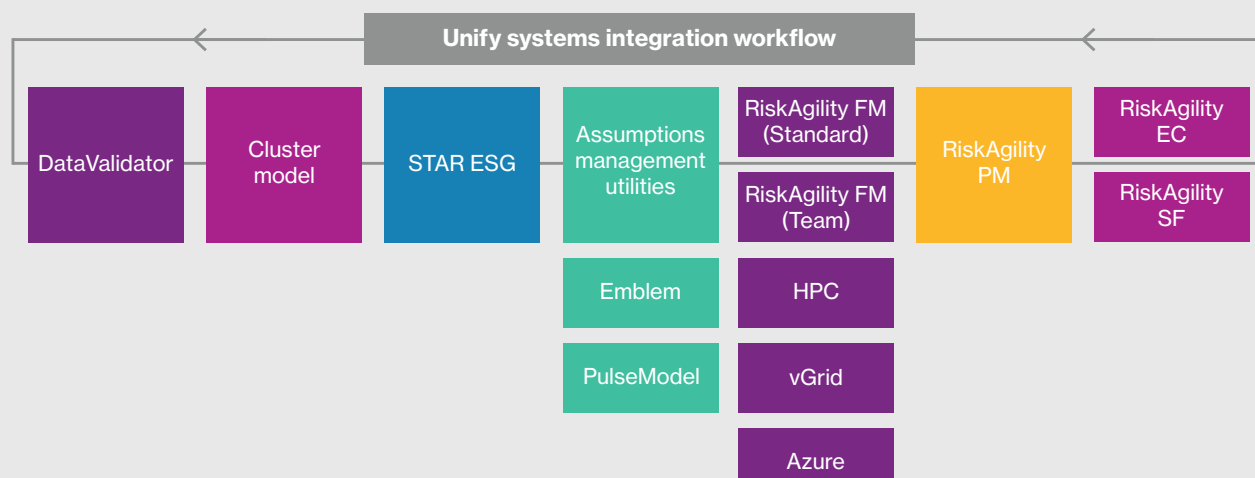
Our software vision is an integrated, automated and fully governed end-to-end risk reporting process. *Figure 2* outlines an example end-to-end risk reporting process with our best of breed software tools available at each stage.

Figure 2. **Solutions for Life** example risk reporting process












#### End-to-end risk reporting process



#### Solutions for Life tools and platform

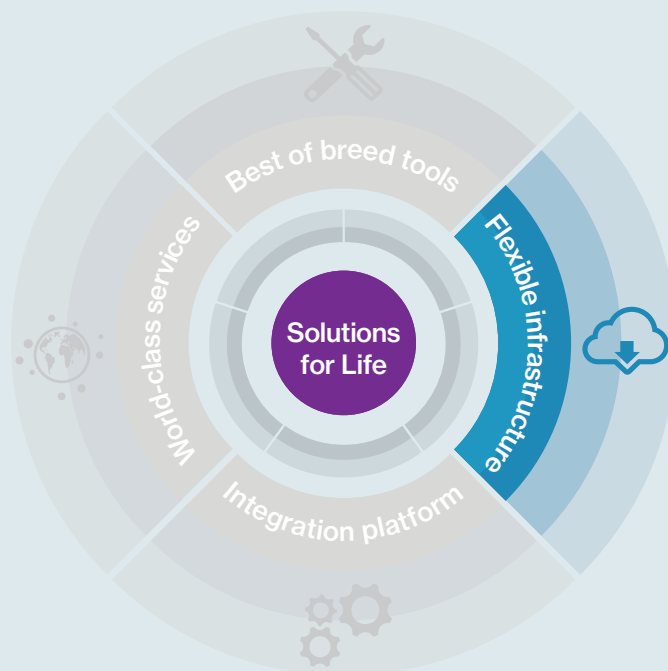


*The Solutions for Life software portfolio:*

	<b>DataValidator</b>	Validates and cleanses data to prepare it for use in downstream financial modelling and reporting processes, providing easily auditable reports to bring a level of rigor and governance to your data processes
	<b>STAR ESG</b>	Generates economic scenarios and asset returns under risk-neutral or real-world bases in a globally consistent framework
	<b>Emblem</b>	The industry standard for robust predictive modelling, delivered in a fast, highly efficient, user-friendly environment
	<b>Radar</b>	Provides powerful management information to pricing teams to support portfolio monitoring and rate setting. Further products are available that enable real-time processing by integrating with rating systems, and perform price optimisation.
	<b>PulseModel</b>	A stochastic multistate mortality/morbidity model informed by detailed medical research combined with expert medical opinions; allows firms to rate business based on various medical risk factors
	<b>RiskAgility Financial Modeller (FM)</b>	Enables life insurers to run financial models that accurately reflect their company's products and to run them in ways that are easily adapted to their business processes
	<b>RiskAgility Proxy Modeller (PM)</b>	Standardises and automates all stages of the proxy modelling process, reducing the manual effort in what can otherwise be a resource-intensive process
	<b>RiskAgility Economic Capital Aggregator (EC)</b>	Calculates and embeds flexible economic capital models in day-to-day risk management with greater speed and precision
	<b>RiskAgility Standard Formula (SF)</b>	Aggregates the solvency capital requirement using the EIOPA Solvency II standard formula for life, health and PC business across single entities and groups
	<b>Unify</b>	A systems integration workflow platform that helps automate and govern the end-to-end financial modelling and reporting process by incorporating a wide variety of software applications into user-defined workflows
	<b>Customised applications</b>	Applications and libraries to accelerate model implementation: country- and product-specific applications, ALMs and model pointing tools

# Flexible infrastructure

Infrastructure options have evolved. The evolution started by moving from desktop to data centre, but now the data centre is moving into the cloud. The cloud delivers on-demand, flexible performance so that model runs and process times become a choice rather than a constraint. There are a number of infrastructure options an insurer can choose to complement our tools, and we are on hand to advise the right solution to suit your business needs. These options include:



## On-premise



### Microsoft HPC

Access to a fixed, on-premise, high-performance computing (HPC) grid for distributing model calculations across calculation cores in a physical data centre. Software can scale processing demand to utilise all in-house grid computing infrastructure, efficiently handling many thousands of cores. Standard Microsoft technology means that companies can utilise their own IT support staff, with the necessary Windows software administration skills, to manage the data centre rather than putting the burden of managing the actuarial computing resources on the modelling teams. Windows HPC Server is simple to deploy and operate, and is as secure and stable as a single system. It automatically handles failed jobs without user intervention. If more power is required, additional capacity can be added with ease.

## Infrastructure as a Service (IaaS)



### Microsoft Azure Cloud

Provides fully scalable, on-demand, access to compute resource in conjunction with a Microsoft Azure Cloud subscription. It enables in-house computing infrastructure to handle typical base workloads and then seamlessly expand available resources on demand to include cloud services. This option is both highly reliable and available with a 99.95% service-level agreement in which Microsoft takes care of the Windows Azure server infrastructure. It enables automatic operating system and service patching, built-in network load balancing and resiliency against hardware failure. Data are exchanged using Internet security protocols commonly used in banking and other sensitive online computing scenarios.

## Software as a Service (SaaS)



### vPlace

We have developed a range of SaaS solutions designed specifically to meet the unique needs of the insurance industry. Powered through Microsoft Azure, these solutions enable our clients to easily implement a SaaS delivery model and maximise their investment in our market-leading analytical and modelling software. Our SaaS solutions include:

**vPlace:** A online analytical and modelling workspace to securely host, manage and run Willis Towers Watson software online in the cloud for optimal performance. As a fully outsourced service delivered by us, it removes the burden for internal I.T. to install and manage specialised analytical systems and overcomes individual I.T. limitations – providing an integrated, optimised and cost-effective solution to managing complex analytical technology.



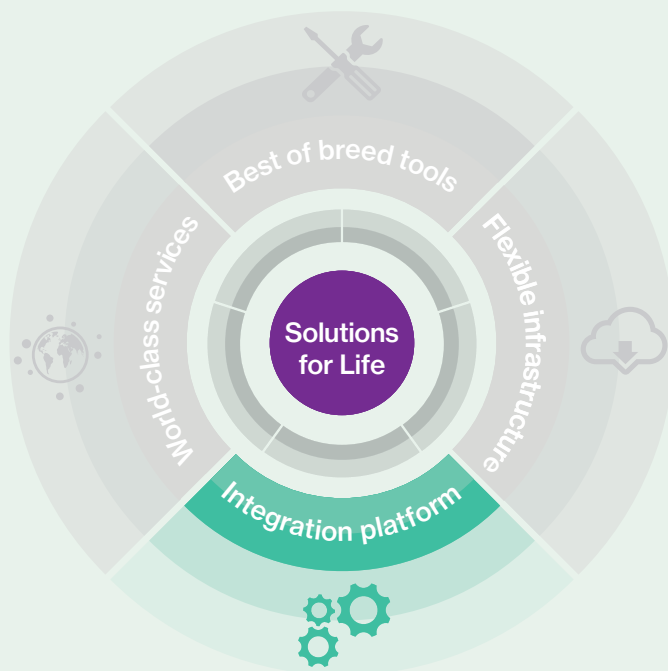
### vGrid

**vGrid:** A flexible computational grid solution for RiskAgility FM users. It provides pay-as-you-go, scalable, on-demand access to additional compute resource. It is a straightforward option for distributed processing as an alternative to purchasing and maintaining an on-premise computational grid or managing a Microsoft Azure account.



## Integration platform

A complete solution requires a level of integration and automation to orchestrate the end-to-end reporting process and should be subject to mandatory levels of governance. Only then can genuine efficiencies and new capabilities be delivered to provide an assurance around analytics that can truly drive business decisions. In response to this issue, we developed Willis Towers Watson Unify.



### Unify: A transformational solution

Unify is an enterprise risk and actuarial systems integration platform. Unify will enable your company to fundamentally change your financial modelling and reporting processes by implementing a comprehensive integration, automated process management and governance solution:

- **Integration.** The Unify framework can manage your company's end-to-end financial modelling and reporting processes and incorporate a wide variety of software applications into the workflow.
- **Automation.** With Unify, user-defined workflows can be used to fully automate an end-to-end modelling and reporting process, which can be scheduled in advance or executed at the press of a button.
- **Governance.** Role-based permissions can be defined to create a custom security and access framework. All models, inputs, outputs and processes are locked down and versioned within Unify's secure database, providing for robust audit trails and reproducibility of results.

Unify is a comprehensive integration, automated process management and governance solution.



## World-class services

Our world-class insurance consulting services inform our tools – meaning they continue to be leading edge and remain at the forefront of the insurance industry's latest thinking. This same capability ensures that solutions can be bespoke to fit your needs.

Our services continue to expand as the business reacts to new challenges and opportunities in the market. This means that Solutions for Life moves beyond the traditional actuarial services, encompassing IT integration services and Software as a Service (SaaS) to bring you an innovative solution for your risk technology demands.



## Our services



**Software as a Service (SaaS).** An efficient, scalable software delivery model, providing easy access to Willis Towers Watson software as a robust and securely managed service 24/7. Our SaaS solutions, vPlace and vGrid, make use of the latest Azure and cloud technologies to deliver exceptional user experience without the burden associated with running sophisticated software solutions. We manage the infrastructure, software updates and patches, backup and disaster recovery, removing reliance on overstretched in-house IT or outsourcing agreements.



**Technology consulting services.** A complete solution to the design, implementation and optimisation of risk management software provided by specialists, not IT generalists.



**Actuarial consultancy.** A global community with the strategic and analytical skills to solve practical business problems, applying the latest techniques and software solutions to help you measure and manage risk and capital, grow revenue and create a competitive advantage.



**Technology support services.** Willis Towers Watson's global IT unit is dedicated solely to specialised insurance risk solutions rather than general IT. Tied directly into Willis Towers Watson software development and linked into Willis Towers Watson actuarial consulting, our experts understand the actuarial business, risk software and IT. They are able to deliver the skills to address the specific issues required to manage insurance risk software, implementing unique solutions by leveraging technology appropriate to meet your needs.



**Managed hosted solutions.** An expansion on SaaS where client data and models are also hosted at the Willis Towers Watson data centre. A range of tailored solutions are available to meet individual needs, designed to completely remove the reliance on in-house IT, with the same benefits of Willis Towers Watson managed infrastructure, software updates and patches, backup and disaster recovery.



# Solutions for Life – transforming your business

By taking a holistic approach through four main components – best of breed tools, flexible infrastructure, integration platform and world-class services – Solutions for Life provides an answer to the full analytics delivery problem. It opens up possibilities to a very different future, a future where models and processes work seamlessly as an enabler of analytics, driving better business decisions where resources are freed up to think, analyse and act in a more efficient and effective way.

## The Willis Towers Watson difference

Solutions for Life is developed, maintained and supported by Willis Towers Watson, a leading global professional services company with expertise in risk, financial management, software and information technology.

With our combination of software and actuarial expertise, we are uniquely qualified to deliver a fully integrated business technology solution that will satisfy your company's needs for best practice risk and financial modelling, reporting and management.

Our consultants are active in actuarial societies around the world and have worked extensively with leading insurers to provide pricing, financial reporting and modelling advisory services.

Our technology consulting services staff can guide you in determining a proper configuration for your company's financial modelling and reporting compute environment. Let our experts work with your IT department to make deployment a smooth, easy process.

### For more information

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## 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, optimise 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](http://willistowerswatson.com).

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