

Willis Towers Watson Pricing Software

Delivering effective pricing



Effective pricing

Willis Towers Watson provides pricing-related software and consulting services to hundreds of property and casualty (P&C) insurers globally, including carriers of different sizes that write many product lines and operate through different distribution channels. Our extensive experience gives us unrivaled insight into the pricing capabilities required to deliver your particular strategy.

Willis Towers Watson is the world's leading provider of P&C actuarial software, and our pricing suite is used by over 80% of the world's top 50 P&C insurers.

What does effective P&C pricing and underwriting look like?

In today's competitive market, insurance pricing requires numerous capabilities, efficient processes and organizational alignment. Modern systems, access to robust data and sophisticated modeling are just a few key components. To support our clients, we have articulated our vision of what effective pricing looks like in our pricing effectiveness framework (*Figure 1*).

Foundations

The foundations of effective pricing ultimately determine both the quality of technical analysis and the underwriting approach. Key building blocks include appropriate data (internal and externally enriched) and enough people with the right skills and access to appropriate tools. Clearly defined "house views" on regulatory issues are important, and sound governance of the various pricing activities also ensures good risk management.

Analysis

Predictive modeling is now standard practice in personal lines and increasingly so in commercial lines. Its benefits in assessing claim costs and customer behavior in helping to set prices are well proven. Techniques evolve and modeling innovations should be incorporated into business as usual. Even the most sophisticated statistical analyses need to be supplemented with up-to-date, pertinent monitoring of emerging experience and results, as well as the regular use of market intelligence.

Decision making

While the frequency of rate reviews varies by state/province, most companies regularly adjust prices for major products, or at least evaluate the need for a tactical revision.

Timely business information and predictive models can be evaluated in a rate scenario testing environment to provide essential support to pricing and underwriting decisions. These decisions, their rationale and the impact on customers need to be communicated to relevant stakeholders. Insights from the analytics will also guide wider product design and portfolio management.

Implementation

The systems that deliver prices to the market should accommodate the desired degree of sophistication in the rating plan, as well as achieve the required speed to market, agility and accuracy of premiums quoted.

Using our framework for effective pricing, we can quickly and efficiently assess capabilities, either broadly or by focusing on select areas. Moreover, our pricing suite of software is specifically designed to support the entire workflow of effective pricing.

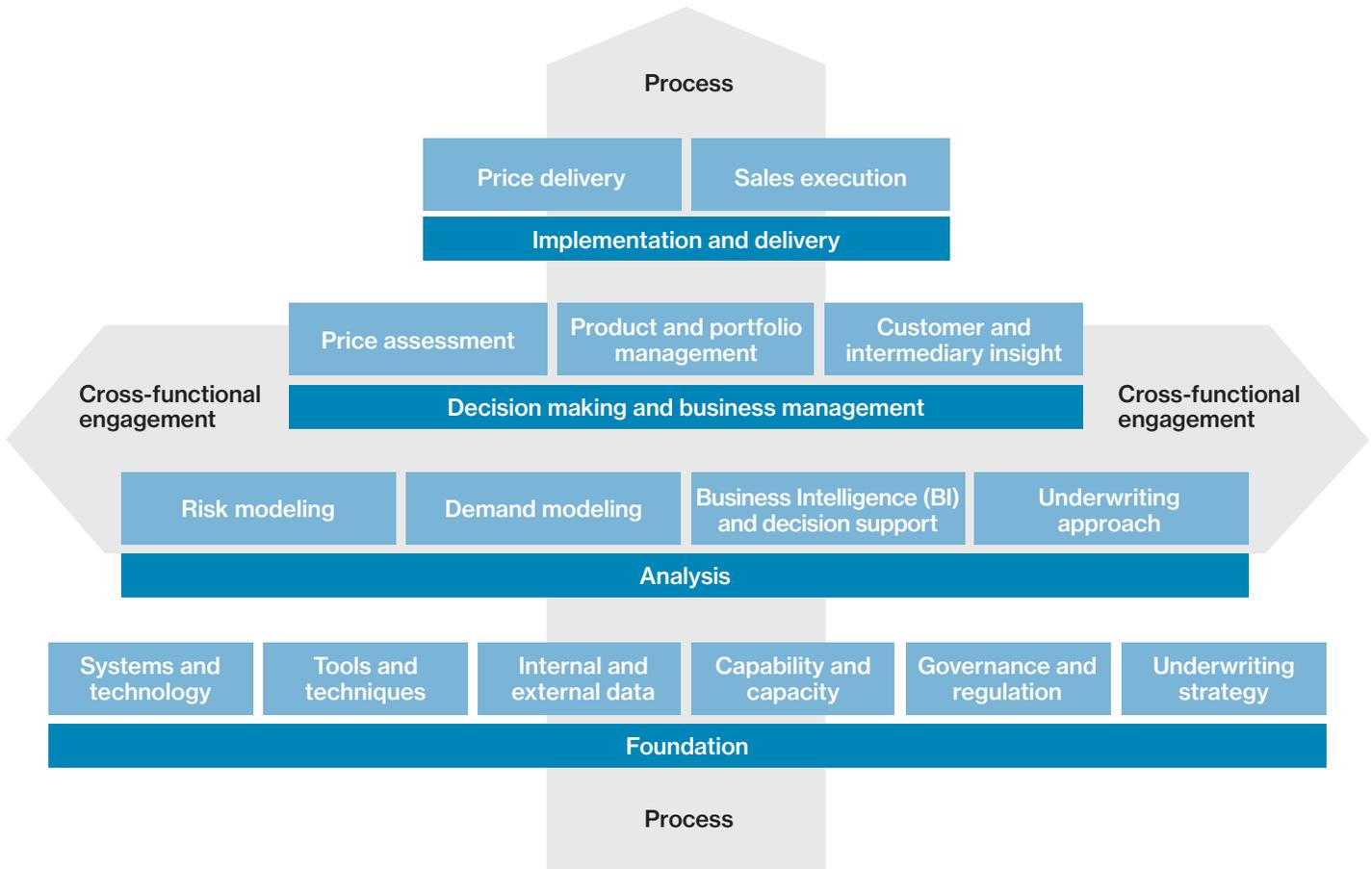
Process and engagement

The coordination of all elements of pricing needs to be well managed, with all stakeholders clear as to who is making what decision based on what information. Truly effective pricing requires that the pricing function works well with other functions such as product management, underwriting, claims, sales and marketing, as well as technical areas such as claims reserving and capital management. Common metrics and understanding help align activities and improve performance across the company.

We have developed a suite of market-leading pricing software and services to help you address each stage of the pricing effectiveness framework. Whether you're a start-up or an established provider, our experts can assess your needs, advise on the most appropriate software solution and help you to implement an effective pricing strategy.

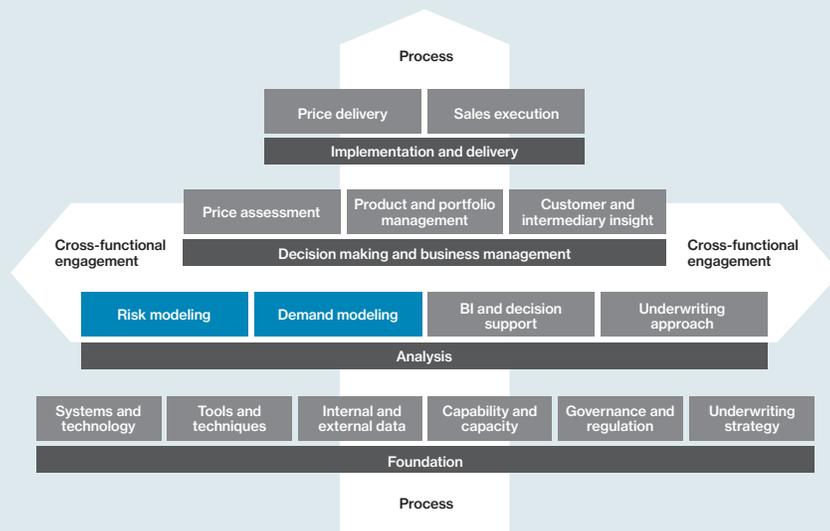


Figure 1. Willis Towers Watson's pricing effectiveness framework



Predictive modeling software

-  Emblem
-  Classifier



Emblem and Classifier employ sophisticated statistical techniques in a fast, user-friendly interface to deliver financial performance improvements to clients at all levels of pricing sophistication.

For many insurers, enhancing their technical pricing capabilities represents a fundamental approach to reducing risk and improving profitability.

Risk modeling

Our predictive modeling software, Emblem, shifts the emphasis from time-consuming data manipulation and programming to the creation of better models and interpretation and analysis of findings. Our wealth of experience means that we know what pricing analysts are looking for, making it much easier to spot patterns and insights using our software.

We pioneered the use of generalized linear models in insurance pricing, which have become the global industry standard technique. We continue to innovate, harnessing new techniques to meet new challenges and developing tools that enable us to push the boundaries of these techniques.

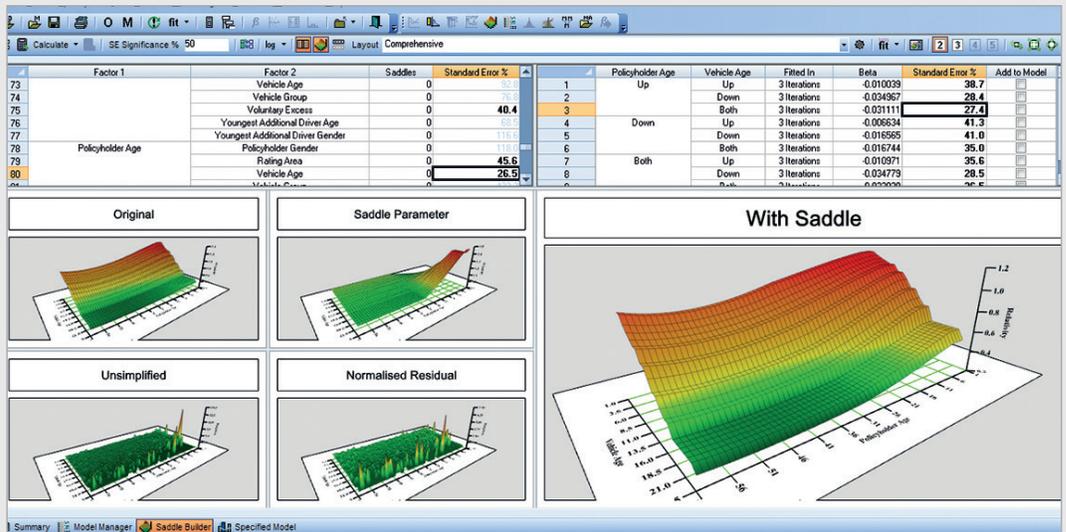
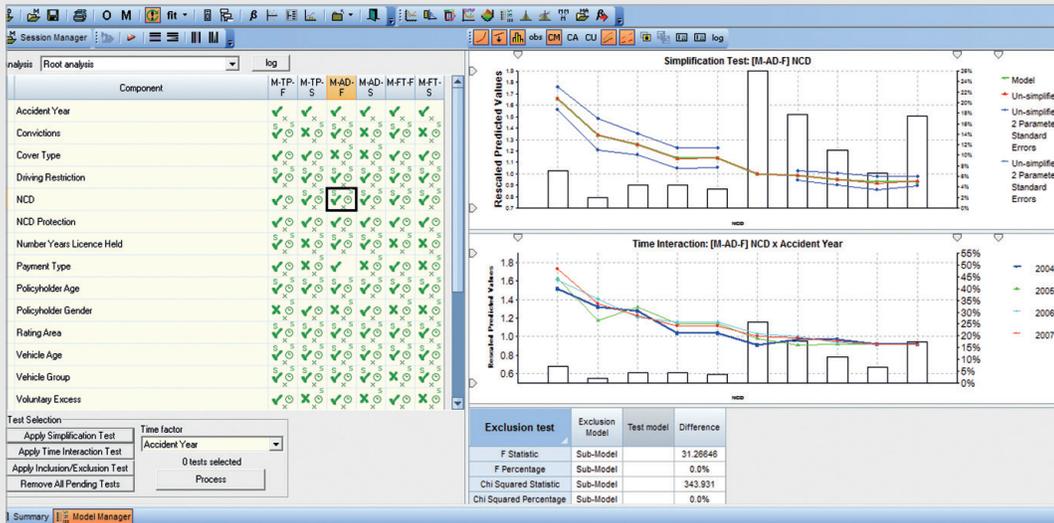
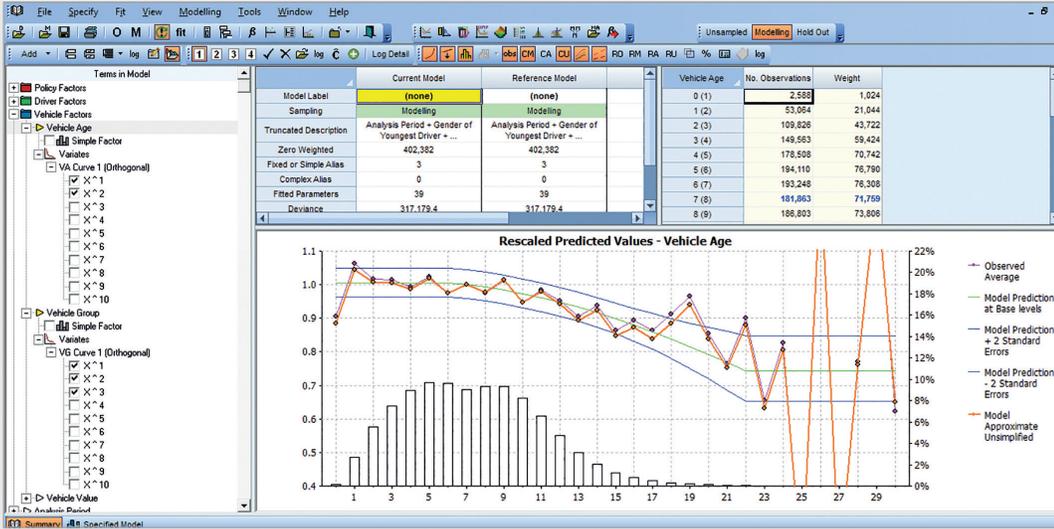
Our Classifier software extends the capabilities of Emblem by performing spatial analysis of high-dimensional variables such as geography or vehicle groups.

Demand modeling

Understanding customer buying behavior can help inform pricing decisions and provides valuable insights for marketing, distribution and business forecasting. We have experience with a wide range of data sources that are predictive of risk, demand or both.

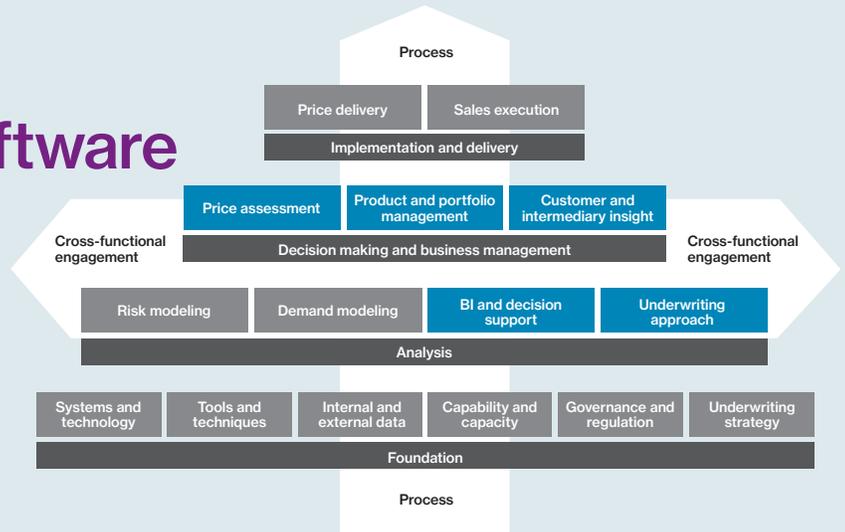


Figure 2. Emblem's interactive modeling environment enables improved model discovery



Decision-support software

- Radar Base
- Radar Dashboard
- Radar Optimiser



Well informed pricing decisions must rely on the effective use of all relevant information and models. Moreover, it's imperative that pricing decisions, their rationale and any expected impact are properly communicated to other relevant parts of the company.

Decision support

Radar Base is at the heart of the Radar platform, providing a robust framework to support pricing and portfolio management decisions. Radar Base can integrate models and assumptions on customer data and undertake an incredibly flexible range of calculations, which can then be clearly displayed in custom-designed interactive reports (graphs, tables, maps) and dashboards that support extensive drill-

down and filtering capability (see *Figure 3*). This enables companies to examine how rates are performing in the market – for example, tracking expected profitability of recent business written, comparing actual versus expected experience and monitoring competitive position.

Dynamic impact analysis

Companies can test alternative rate scenarios to dynamically forecast the impact on a variety of performance metrics (for example, dislocation, expected profitability and volume, and competitive position). Rate scenarios can be based on current rates or cost-based rates; or derived manually or via rules.

Figure 3. Reporting dashboards in Radar



Radar Base allows users to:

- Visualize the results of integrating loss cost and customer behavior models
- Highlight weaknesses and cross-subsidies in the current or proposed pricing structures
- Perform sophisticated competitive market analysis
- Model the impact of potential pricing decisions on volume, profitability and other performance metrics, either at a simple level or with complex multi-period, multi-product projections
- Manage many aspects of the technical modeling process – importing data and models from a wide range of sources, comparing model performance in a single environment and creating data extracts for tools such as Emblem

Radar Dashboard is an alternative Radar product for users who want to run reports interactively without needing to build or modify Radar projects.

Radar Optimiser, an optional additional component, can be used to perform ratebook or individual price optimization, incorporating practical business and regulatory constraints.

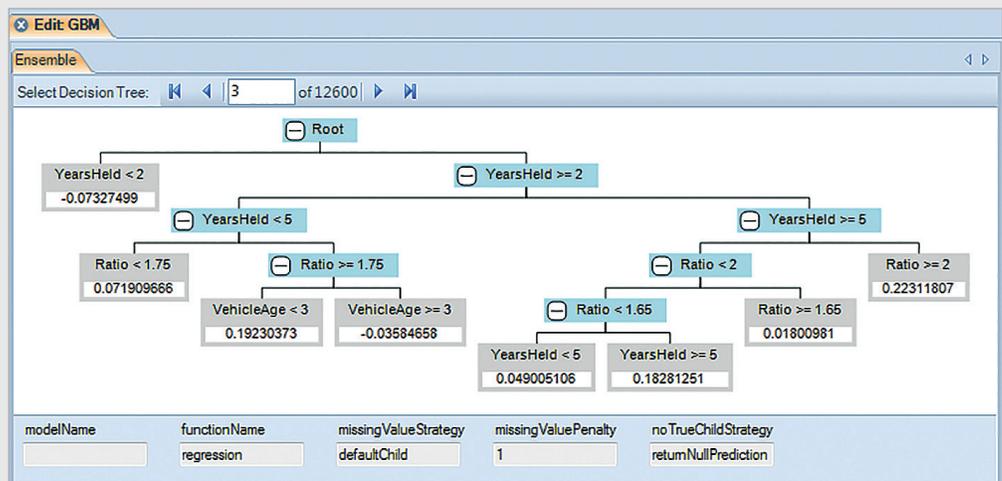
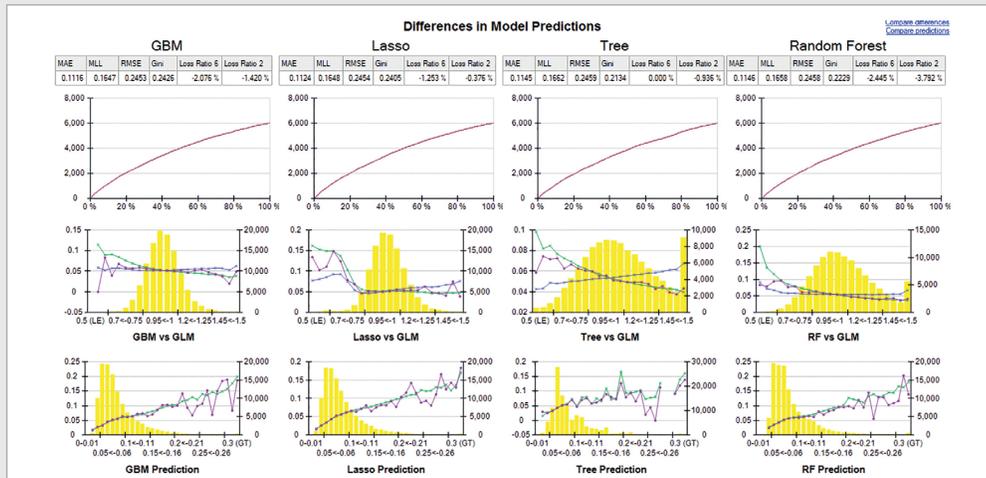
Machine learning and advanced analytics

The Radar platform has continued to evolve to allow users to benefit from the latest technology and analytical techniques. Users can now use PMML to import a wide range of machine learning methods into Radar Base (and Radar Live), allowing them to use model forms from *R* and other packages.

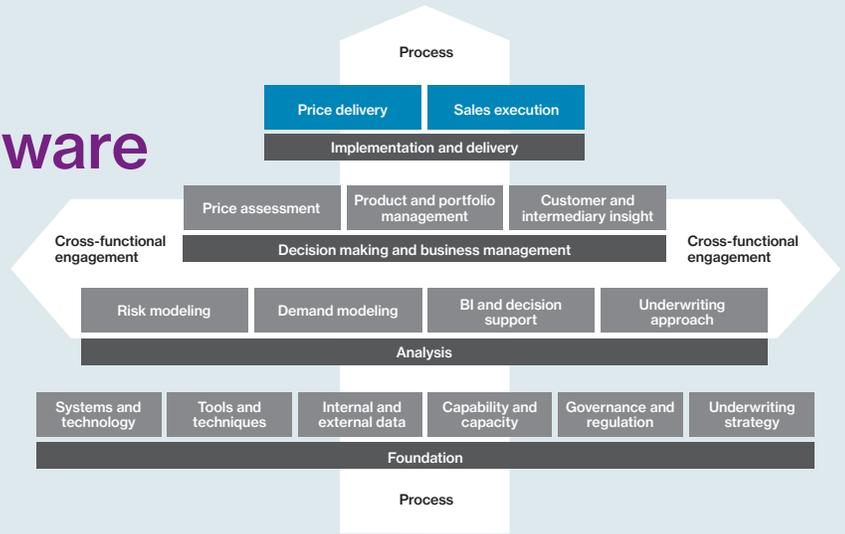
Machine learning methods currently supported include:

- Gradient Boosting Machines (GBMs)
- Random Forests
- Penalized Regression (Lasso, Ridge, Elastic Net)
- Regression trees
- Classification trees

Figure 4. Evaluation of machine learning models in Radar



Pricing delivery software



A major leap forward in pricing delivery

Insurers face intense competitive pressure to employ new data sources and advanced analytic techniques in setting rates, while also delivering rates and rules to market quickly and accurately. Insurers depend on the right technology to deliver sophisticated pricing with agility, speed to market, accuracy and operational efficiency.

Analytics and implementation in a single environment

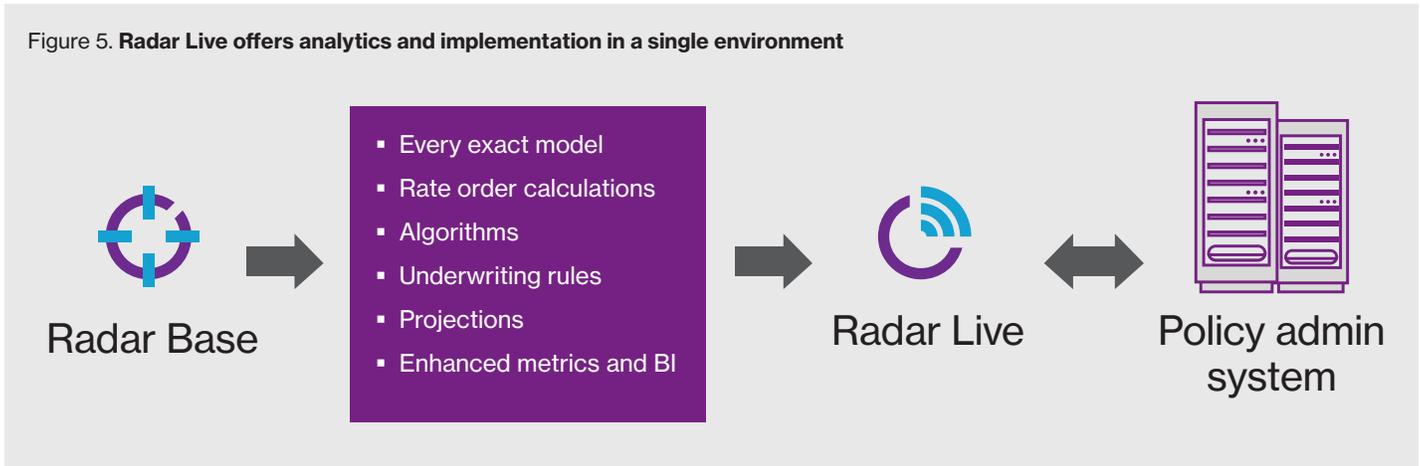
Radar Live is more than an external rating engine. It enables a wide range of analytics to be deployed in real time at the point of sale – from traditional rating structures to complex pricing algorithms with sophisticated embedded risk models. Any risk classification, rule, model or calculation programmed in Radar Base can be tested and then immediately uploaded into the Radar Live production environment (*Figure 5*). This not only provides great pricing flexibility and responsiveness to market developments but also creates material operational efficiencies and reduces the risk of costly errors in programming rates in multiple environments.

Radar Live global credentials:

- Radar Live has been pricing policies since 2011.
- Radar Live is licensed in over 25 countries across six continents.

Adding Radar Live to the Radar platform provides a single, holistic environment for analytics and price delivery, undiluted by systems constraints. The combined environment supports the full workflow of analytics, rate recommendations and scenario testing, price optimization (where allowed by regulation), rate validation and testing, individual price quotations (new business, renewals, midterm amendments and re-rates) and post-implementation experience monitoring.

Figure 5. Radar Live offers analytics and implementation in a single environment



The enterprise-architected software sits alongside existing administration systems and interfaces with them using standard modern information technology protocols. It is based on widely used technology and data standards, and cloud deployment for the entire Radar platform is fully supported. Installing Radar Live involves a straightforward implementation project.

How it works

Radar Live captures all pricing and underwriting rules, including every supporting model, parameter or projection, and replicates them perfectly in its real-time calculation engine.

It is entirely scalable and can cope with tens of millions of quotes per day. The flexible architecture permits optimal use of processing power. Components within Radar are reusable, enabling the rapid development of new products or enhanced analysis. This is particularly valuable when several new products are brought to market in parallel or sequentially. Both the time to market for each individual product and the bandwidth for processing multiple products is greatly improved, and potential bottlenecks are eliminated.

Radar Live is game-changing enterprise software that revolutionizes the way insurers can deliver prices to their customers.

Key benefits of Radar Live

Pricing sophistication	<ul style="list-style-type: none"> ▪ Enhanced profitability from sophisticated pricing decision support ▪ Can make wider use of data sources
Speed to market	<ul style="list-style-type: none"> ▪ Increased agility of pricing and portfolio management ▪ From analytics to decision to execution within a day
Operational efficiency	<ul style="list-style-type: none"> ▪ Significant cost reduction through effective, rapid and accurate delivery of rates from conception to production all in one environment
Accuracy	<ul style="list-style-type: none"> ▪ Integrated workflow – audit and security for governance ▪ Significantly reduces risk of errors

Governance

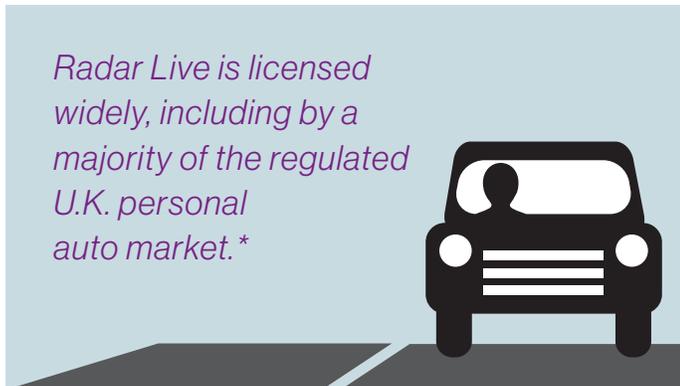
Today's risk management protocols mean proper governance is a must. Radar Live has sophisticated access, governance and audit capability. Access is controlled via role-based security, which can be configured within Radar itself or by using a client's existing security infrastructure.

Workflow and systems integration

In addition to the Radar platform, we offer a sophisticated workflow and integration product called BrovadaOne. Where relevant, BrovadaOne can provide seamless integration between the Radar platform and legacy systems, using a host of integration capabilities.

Unparalleled support services

To maximize the impact of implementing our pricing software suite, we offer unparalleled support from multidisciplinary experts including pricing specialists and technology professionals.



*by PRA regulated GWP

Further information

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Beyond pricing – wider uses of our pricing software suite

Our pricing software has several wider business uses outside the pricing function:

- Agent/underwriter support
- Underwriting performance management
- Claims workflow management (for example, claims triage)
- Customer lifetime value scoring

And it can be used for many kinds of insurance, including:

- Auto/home and other personal lines
- Commercial and specialty lines
- Health, long-term care, and accident and health
- Life insurance
- Variable annuities

Willis Towers Watson is a leading insurance software and technology provider:

- We advise **more than three-quarters** of the **world's leading insurers** and are a leading provider of financial modeling software to the insurance industry.
- We have **more actuaries** serving the insurance industry than any other consulting firm.
- We are **Microsoft Gold Partners**.

Willis Towers Watson pricing software:

- Our pricing software has been used by the industry since **1998**.
- Over **400 companies and over 3,600 users** license Willis Towers Watson pricing software.
- This includes **19** of the world's **20** largest insurance groups.
- Radar Live has been pricing policies since **2011**.
- Radar Live is licensed **in over 25 countries across six continents**.
- Radar Live is licensed by insurers representing **the majority of the U.K. personal auto market** (by PRA regulated GWP).



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 over 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.



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