



# Radar

Pricing reinvented

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Innovative solutions to deliver profitability and growth

The price your company charges for its products is fundamental to how it does business, but determining pricing strategy is not straightforward. It needs both intelligence and insight to make it effective, and there are the extra complications that consumer behaviour and markets are changing.

Data and analytics offer opportunities to gain a deep understanding of pricing dynamics while reducing exposure to risk. This is why Radar exists.

Radar allows you to use data in tandem with the latest analytical machine learning approaches to improve pricing decisions. You will be able to bring new prices to market much more quickly, with actionable intelligence behind them, giving you the agility you need.

Radar is used throughout the insurance value chain within pricing, underwriting and claims, and across a range of business lines including personal, commercial, life and accident and health insurance.

## Pricing superiority

Radar offers you the flexibility you need to deliver industry-leading pricing.

## Pricing agility

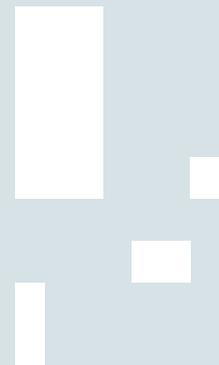
Radar enables you to deploy the pricing strategy you want, when you want to. It reduces the time it takes to make pricing decisions and allows you to deploy them to the market in minutes, keeping you ahead of the competition.

## Focus on pricing, not coding

Radar allows you to concentrate on pricing, not on coding, re-keying or other time-consuming processes.

## Trusted, proven and secure

Radar provides an end-to-end, governed, auditable solution that you can rely on. Open-source tools rarely provide this.



# Radar

## Innovative and adaptable

Markets are changing continuously. Whether constrained by regulation or requiring hourly updates, Radar adapts to these changes. It enables you to move with the market without costly IT changes, and without the significant risks or costs associated with bespoke coding or the obsolescence of open-source software.

## Created by experts for experts

As leading global insurance practitioners, we have deep experience in solving the most challenging problems faced by the industry. We understand your business and have evolved our pricing solutions to respond to the needs of our clients.

## Enhancing performance through ease of use

Radar focuses on what matters: Its rich graphical interface puts decision making in the hands of business specialists, delivering appropriate sophistication without the need for complex coding skills. Transparent and visual structures allow you to carry out quick analyses and manage complexity.

**23** out of **25**  
of the world's **largest**  
**insurance groups**  
license Radar

Radar Live is  
licensed in  
**35** countries  
across six continents

**6000+**  
pricing specialists  
use Radar

**500+**  
companies  
license Radar

Users and licensees of Radar, Emblem and Classifier as at December 2019.

*You will be able to bring new prices to market much more quickly, with actionable intelligence behind them, giving you the agility you need.*

# Analyse, decide, deploy

Radar adds value throughout the pricing process

## Analyse

### Realise the power of your data

Powerful, accessible and well-governed predictive modelling and machine learning software focused on insurance industry needs.

Allows you to understand how risk factors and customer characteristics affect risk cost and customer behaviour – key for marketing, pricing, underwriting and claims management.

 Emblem  Classifier

## Decide

### Use analysis to decide your direction

Accessible and flexible scenario testing, management information and decision support for insurance pricing and portfolio management.

Allows you to interpret results of predictive models and emerging experience, and then act on that insight to derive pricing and underwriting rules and portfolio management actions.

 Radar Base  Radar Optimiser  Radar Dashboard

## Deploy

### Deliver quotations and rules without constraint

Fast, flexible and agile rating and rules engine – executing models in real time for policy and claims administration systems.

Allows you to deploy pricing algorithms and other rules developed in Radar and Emblem; Radar Live integrates with policy administration systems and calculates individual quotations in milliseconds.

 Radar Live  Radar Workbench

### **Sophisticated modelling**

- Embeds 25+ years of evolving insurance modelling experience not found in generic software
- Enhances the modelling process to provide highly predictive models with lower cost

### **Speed**

- Fits models to millions of observations in seconds, many times faster than alternative software
- Modelling tools allow time to be spent on interpreting data rather than programming

### **Accessibility**

- No coding required; your analysts are fully focused on analysis, unlike open-source alternatives
- Powerful graphical display of results enhances understanding within pricing, underwriting and claims

### **Accessible insight and improved decision making**

- Gives accessible insight into the key drivers and impact of pricing scenarios through an easy-to-use interface
- Highlights weaknesses and cross-subsidies in the current or proposed pricing structures
- Allows real-time interactive testing of strategies in pricing committee meetings

### **Security and governance**

- Provides a robust governance process which is auditable and secure, in contrast to open-source solutions

### **Optimisation**

- Where regulation allows, an optional component automatically calculates optimised pricing algorithms that meet real-world goals

### **Speed to market and flexibility**

- Enables rapid and efficient reaction to market developments
- Scalable to hundreds of millions of quotes per day

### **Enhanced sophistication – pricing and non-pricing across the insurance value chain**

- Supports the full range of pricing and underwriting rules available in Radar, without compromise
- Easy integration places the level of sophistication in the hands of the business

### **Operational efficiency**

- Materially reduces the time and cost of rate implementation, significantly reducing IT overheads

### **Accuracy and risk management**

- Completely removes re-coding errors from rate deployment processes

# A closer look

## Emblem

**Improving profitability through pricing that's based on a thorough understanding of risk**

- Fast: fits to millions of observations in seconds
- Fits a range of machine learning and predictive models:
  - Generalised linear models (GLMs)
  - GLM elastic nets (when licensed with Radar Base)
  - Gradient boosting machines (GBM) (when licensed with Radar Base)
- Widely used for risk and behavioural modelling
- Offers a wide range of modelling features to support custom model development, including:
  - Data and correlation analyses
  - Automated testing and model management
  - Interactive simplification tools
  - Regression splines
- Allows fitting to larger data sets quickly by leveraging 64-bit technology and many processors

## Classifier

**Enhancing loss ratios by providing detailed categorisation and assessment of risk by geography**

- Enhances predictive power of granular categorical variables, such as geographical areas or vehicle codes, by considering experience from nearby categories
- Provides adjacency- and distance-based spatial smoothing

## Radar Base

**Providing powerful management information to support business plans and summarise results of risk modelling and competitor analysis**

- Allows you to:
  - Model the impact of pricing scenarios on key performance indicators at a simple level or complex multi-period, multi-product projections
  - Import and use data and machine learning models from a wide range of sources, comparing model performance in a single environment
  - Highlight weaknesses and cross-subsidies in the current or proposed pricing structures
  - Perform sophisticated competitive market analysis
  - Create highly interactive, visual and customisable reports, including rich mapping data
  - Build reusable projects and model libraries
  - Embed customer lifetime value measures and multi-year projections through flexible calculation
  - Support callouts to third-party systems or models, and import Predictive Model Markup Language models
- Build a robust governance process which is auditable and secure, unlike open-source software and manual coding
- Facilitate reporting for insurer committees and governance functions
- Visualise interactive reports with Radar Dashboard without needing to build or modify Radar projects

## Radar Dashboard

**Radar Dashboard provides easy organisation-wide access to the interactive reports built in Radar Base. These reports include the full interactivity and analysis available within the Radar Base reporting environment.**



## Radar Optimiser

**Offering sophisticated price optimisation capabilities in markets where regulation allows**

- Provides an optional additional component to Radar Base
- Directly addresses multiple strategic targets such as profitability, conversion and retention rates and premium volume through user-defined optimisation objectives and real-world constraints
- Allows for individual policy-level price constraints to fulfil pricing promises and commitments to policyholders
- Identifies efficient frontiers between competing user-specified optimisation targets, allowing you to target alternative strategic outcomes
- Provides significantly faster optimisation calculations than alternatives
- Supports individual and ratebook optimisation
- Includes both multi-year and multi-product optimisation
- Delivers a rich graphical interface to understand the drivers of optimisation

## Radar Live

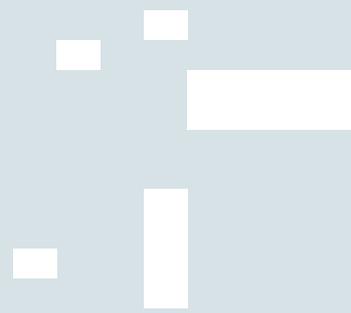
**Enabling prices and rules to be deployed directly to a rating system and calculated in real time**

- Delivers sophisticated prices and, optionally, price optimisation
- Delivers prices, underwriting rules, defaults, endorsements, management information and machine learning models
- Delivers quotations in milliseconds and scaling to hundreds of millions of quotes a day
- Stores and rates using multiple rating sets
- Supports multiple and parallel pricing strategies, including champion/challenger, A/B testing and price testing
- Provides a governed, auditable deployment process
- Uses standard technologies for ease of installation and maintenance
- Supports SOAP and RESTful web services running in Linux and Windows environments

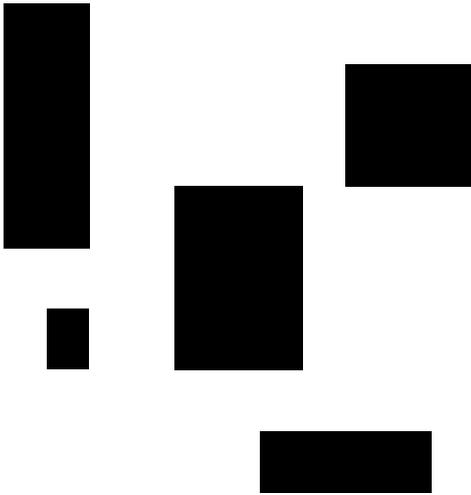
## Radar Workbench

**Supporting experts to make informed decisions and enabling efficient processes**

- Support for frontline claims and underwriting experts assisting them with complex decision making to deliver improved performance
- Interactive portfolio management allows real-time performance analysis, scenario testing and strategy changes, that can be published in real time to your frontline experts
- Provides for both simple and complex pricing calculations including exposure and experience-based pricing plus layering and blending
- Modernise your underwriting through a flexible, configurable user interface and modeling environment
- Easy to use, low code environment supporting self-sufficiency and enabling simple change management



Radar supports cloud, hosted server or desktop deployments, and help is available in your local time zone.



## 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 45,000 employees serving more than 140 countries and markets. 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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wtw-HP-2021-0484

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