



Asset Liability Suite

Clear. Accurate. Responsive. Value for Money.

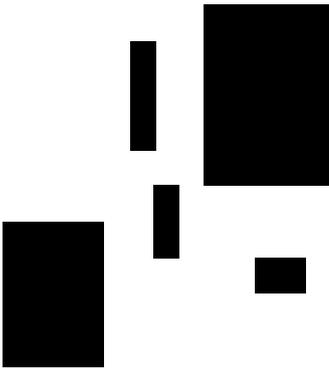
Asset Liability Suite is Willis Towers Watson's defined benefit pension fund management software

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**Clear. Accurate. Responsive.
Value for Money.**

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Asset Liability Suite

Asset Liability Suite is Willis Towers Watson's defined benefit (DB) pension fund management software.

Asset Liability Suite is a powerful, reliable modular web-based software platform designed to support your planning, monitoring, reporting and decision-making needs. Whether you are a Trustee, Corporate Sponsor or Investment Specialist, you are likely to be facing increasing pressure to control the risks and costs of your DB pension arrangements. Asset Liability Suite gives you the management information tools you need to help you achieve this and to run your DB pension scheme efficiently.

While the increased access to management information that Asset Liability Suite provides can be transformational for pension governance, it becomes even more powerful when integrated with the expert interpretation, processes and advice from Willis Towers Watson's dedicated consulting teams.

As the UK's leading provider of pension services, Willis Towers Watson has a wide and diverse client base, with pension schemes ranging in size from a few million to tens of billions of pounds. We work with our clients to develop tailored and effective management solutions through our consulting services, coupled with our market-leading technology solutions within Asset Liability Suite.

How can Asset Liability Suite help you?

-  **Governance:** produces management information quickly for Trustees, Corporate Sponsors and Investment Specialists, in a dynamic and cost-effective manner
-  **Budgeting:** produces input for corporate budgeting easily
-  **Stakeholder management:** helps manage discussions about cost and risk, illustrating the impact of different market conditions and de-risking strategies
-  **Developing de-risking strategies:** aids in developing scheme-specific de-risking plans, including both investment and settlement options
-  **Implementing de-risking strategies:** monitors de-risking plans, including continually assessing the attractiveness of bulk annuity transactions, and prompts timely action in order to ensure opportunities are not missed
-  **Informing funding strategy:** helps to develop recovery plans that meet the objectives of Trustees, Corporate Sponsors and Investment Specialists
-  **Journey planning:** supports strategic asset allocation decisions by modelling where you are heading, what you can do about it and what the risks are



Highly accessible: allows you to monitor and plan your pension scheme strategy and make informed decisions on multiple devices through our easy-to-use modular software system



222 companies with **281** schemes and pension liabilities of around **£500bn** track their schemes using Asset Liability Suite.



23% of the liabilities of Pension Protection Fund eligible DB schemes on a buyout basis are tracked in Asset Liability Suite.

This includes more than **50%** of the **top 10 UK pension schemes**.



Asset Liability Suite is used by funds ranging in size, from **£20m** to **£48bn**.

Around **40%** of clients tracked in Asset Liability Suite have



Modeller Module

The Modeller Module allows you to perform deep, interactive asset liability modelling in order to support your strategic planning and asset allocation decisions.

What-if Module

The What-if Module helps you understand, interactively, the sensitivity of your assets and liabilities to changes in market movements, assumptions and scheme membership.

Triggers Module

The Triggers Module is a must-have for when you need to make dynamic market-based decisions, helping you ensure that strategic opportunities are not missed.

Bulk Annuity Module

The Bulk Annuity Module monitors the affordability and attractiveness of a bulk annuity transaction for your scheme using live pricing information provided by leading insurers, allowing you to quickly identify opportunities to reduce risk.



Tracker Module

The Tracker Module, a key governance tool, gives you direct access to the daily asset and liability information, which our consultants themselves use to advise you on your funding position.

Risk Module

The Risk Module allows you, in an intuitive and easy way, to identify and manage the key financial and demographic risks within your scheme and to improve your overall portfolio efficiency.

Projections Module

The Projections Module allows you to determine whether your funding plan is on track and explore the impact of varying contribution patterns and asset returns, making it invaluable during valuation or journey planning discussions.

Accounting Module

The Accounting Module (Channel) gives you direct access to your key balance sheet and P&L figures with its powerful corporate governance and budgeting capabilities. It also combines results for schemes around the world, allows you to model future scenarios and includes on-demand disclosures.



Are you a



Corporate Sponsor?

Use Asset Liability Suite for risk planning and management, funding and accounting purposes, as well as to support your engagement with key stakeholders. Asset Liability Suite provides you with up-to-date asset, liability and risk information on a daily basis.

Key benefits

Real time accounting

Access to up-to-date accounting balance sheet and profit and loss (P&L) information, including on-demand disclosures, in real time.

Cash planning

The ability to interactively explore how changes in contributions or expected asset returns will affect your funding plan.

Risk assessment

Understand and manage key financial and demographic risks and their impact on your expected returns, funding and journey plans.

De-risking assessment

The ability to continually assess the attractiveness of transacting a bulk annuity contract or implementing other de-risking options.

“Asset Liability Suite enables us to track the financial position of the various segregated sections within the Plan both on the funding and accounting bases. With Accounting (Channel) we can monitor the balance sheet and projected pension expense position as we approach the year-end which helps us manage expectations within the Group. It also provides useful information arranged to correspond to each reporting unit within our business.”

DHL

You will use:





Trustee?

Use Asset Liability Suite to access the key funding and risk information needed to manage your DB pension assets and liabilities in real time. Additionally, you can use Asset Liability Suite to inform your funding and investment strategy decisions.

Key benefits

Full visibility

Understand whether your funding plan is on track and explore the impact of varying contribution patterns and asset returns.

Funding assumptions

Explore the impact of changes in assumptions on scheme funding so that you will have a clearer picture of your position.

De-risking journey

Develop and implement de-risking journey plans that enable you to set triggers signalling when to de-risk. If your ultimate target is to buyout your liabilities, you can continually assess the attractiveness of transacting a bulk annuity contract to help you pick the right moment to engage with insurers.

Risk assessment

Understand and manage key financial and demographic risks and their impact on your expected returns, funding and journey plans.

“Asset Liability Suite enables us to keep track of our long-term journey plan in real time, allowing us to address any opportunities or concerns that arise in a timely way – significantly contributing to our overall governance framework.”

Tesco Pension Trustees Limited

You will use:



Investment specialist?

Use Asset Liability Suite to formulate your investment strategy, track journey plans and identify risk management opportunities in real time. Asset Liability Suite couples your pension fund tracking with your risk modelling and monitoring, to help you formulate and track your investment risk management plan and journey plan, in order to meet your ultimate scheme objectives.

Key benefits

Robust modelling

Plan your journey towards your ultimate objectives with robust and consistent asset liability modelling.

Strategy assessment

Assess different investment strategies against your long-term objectives by modelling the likely range of funding outcomes over time under different assumptions and investment strategies.

Opportunity monitoring

Monitor when funding conditions are met and flag opportunities – for example, to de-risk the scheme.

Risk assessment

Monitor key risk metrics and the expected performance of assets over liabilities to check whether your scheme remains within acceptable risk tolerances and on course to meet long-term objectives under the current strategy.

“We use Asset Liability Suite to monitor the schemes’ funding positions, which can now be obtained instantly. A key function of Asset Liability Suite is to help measure progress against the schemes’ journey plans – for example, the Triggers Module plays an important part in this because it gives an early alert for de-risking and investment strategy decisions that may need to be taken. In addition, the Risk Module supplements the regular reporting of key risk statistics.”

Lloyds Banking Group, Pensions Investment and Finance Team

You will use:



Tracker Module

The Tracker Module, a key governance tool, gives you direct access to daily asset and liability information, which our consultants themselves use to advise you on your funding position.



The Tracker Module provides you with the asset and liability information needed as the basis for managing your pension scheme effectively. It provides daily valuations because markets move and opportunities come and go on a day-to-day basis, not just quarterly or at month end.

The Tracker Module is customisable and highly flexible, allowing it to reflect the circumstances of your pension arrangements and the specific needs of the Trustees, the Corporate Sponsor and Investment Specialists. This includes the ability to:

- Track one or more of your scheme-specific liability measures, determined by what is important to you at the time
- Track assets using your scheme's specific asset allocation, investment manager benchmarks and benefit/contribution/expense cashflows
- See the assumptions underlying your liability measures on a daily basis and understand how they change over time

The Tracker Module provides a range of asset and liability tracking options. This means you can choose the option that best meets your needs:

- At its most powerful, the Tracker Module performs daily valuations of your pension scheme liabilities using very detailed cashflows derived from individual member data.
- At an intermediate level, the Tracker Module can be configured to track your liabilities based on the characteristics of an existing set of cashflows for your scheme.
- At its simplest, the Tracker Module can be configured to track liabilities based on the valuation balance sheet, duration and inflation sensitivities of your scheme.

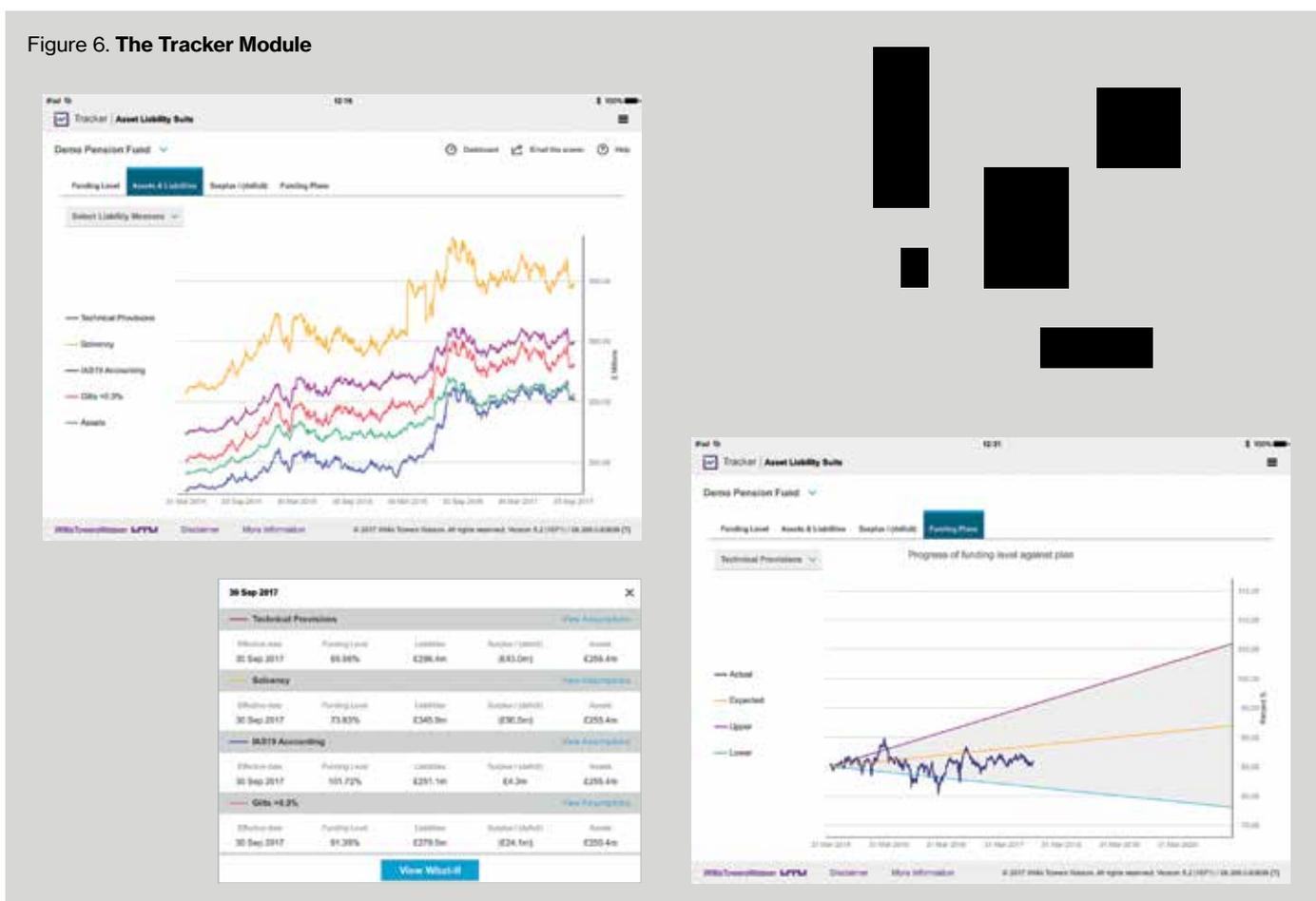
The assets and liabilities within the Tracker Module can be updated as frequently as needed based on asset values from custodians and member data from administrators.

Funding plan

As Trustees, Corporate Sponsors or Investment Specialists, you can map the funding position of your pension scheme against your target funding plan. As well as providing important governance information, this provides an indication of future contribution requirements and supports discussions around investment de-risking strategies.



Figure 6. The Tracker Module



Risk Module

The Risk Module allows you, in an intuitive and easy way, to identify and manage the key financial and demographic risks within your scheme and to improve your overall portfolio efficiency.



The Risk Module facilitates a better understanding of the risks being run in your arrangement, which allows you to effectively monitor your risk management plan.

There has been an increasing focus on risk management over recent years, supported by comments from the Pensions Regulator suggesting that a greater awareness of scheme risks is a key component of the management of defined benefit pension schemes.

The Risk Module provides key risk management information allowing you to answer questions such as:

- What risks are currently being taken?
- What level of return could you expect from your current strategy?
- How have your risk levels changed over time?
- Where is your risk concentrated?
- How might changing asset allocation affect risk?

The Risk Module gives you access to daily updates of the value at risk, tracking error and the expected 'outperformance'

of your portfolio over your liabilities. Together, these provide a quantitative snapshot of the key financial and demographic risks that you are running, as well as providing the context of how they have changed over time and how they might change under alternative asset allocations.

The intuitive and easy-to-understand results are built on robust modelling that uses Willis Towers Watson's sophisticated investment models behind the scenes to generate realistic scenarios, capturing the interactions of the economic drivers of risk consistently across the asset and liability side of the balance sheet.

This not only gives you an effective governance tool to enhance your understanding of risk, but also a tool that can be used to help prompt, support or challenge potential changes in strategy. For example, the Risk Module is often used in practice to give a high-level view of what risks are being taken and how the magnitude of these risks compare, allowing you to prioritise which risks you wish to tackle and helping you set your risk agenda. For those with a de-risking plan, the Risk Module, in conjunction with the Triggers Module, can assist with assessing the risk and reward implications of de-risking when an opportunity is flagged.

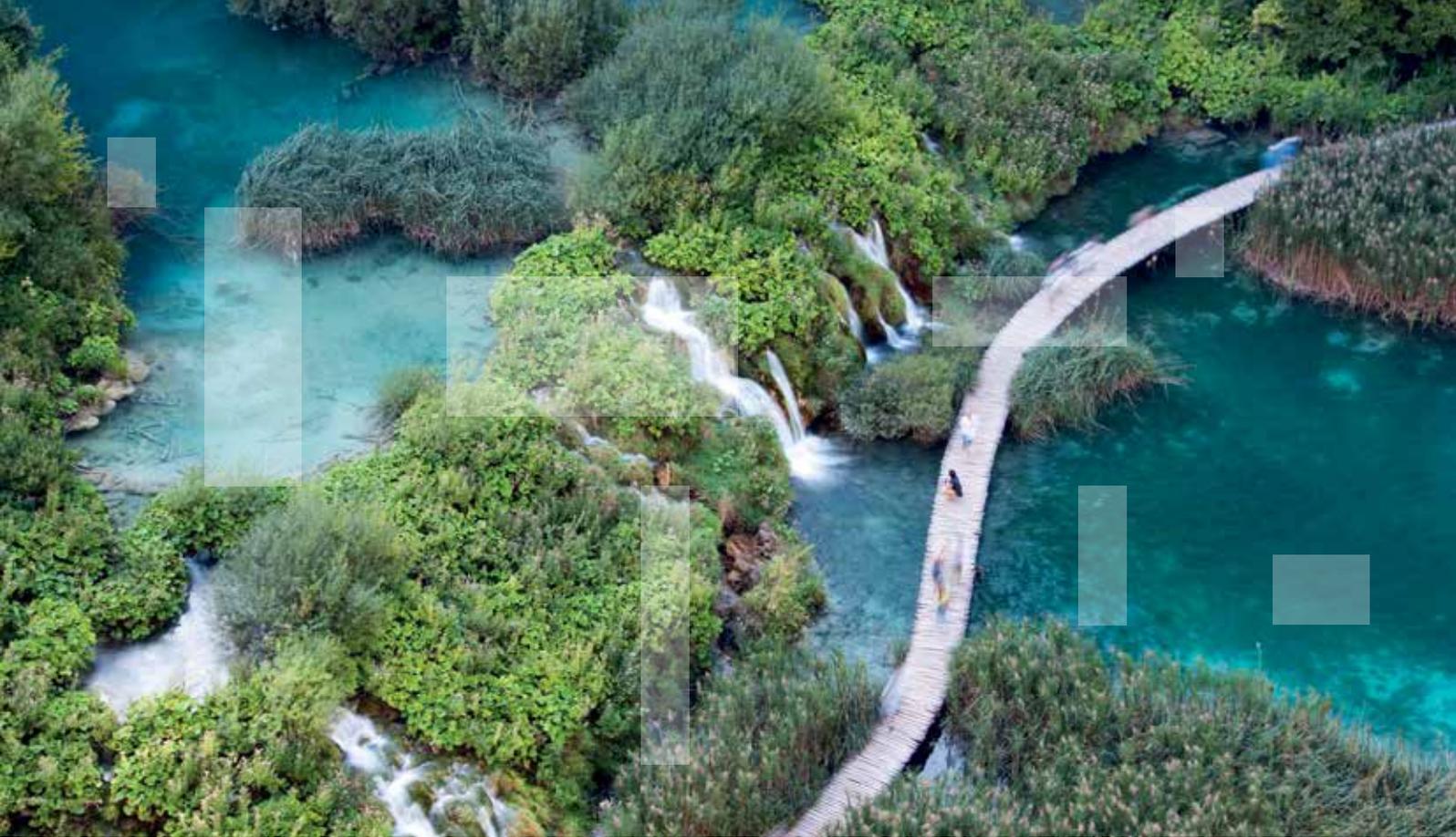
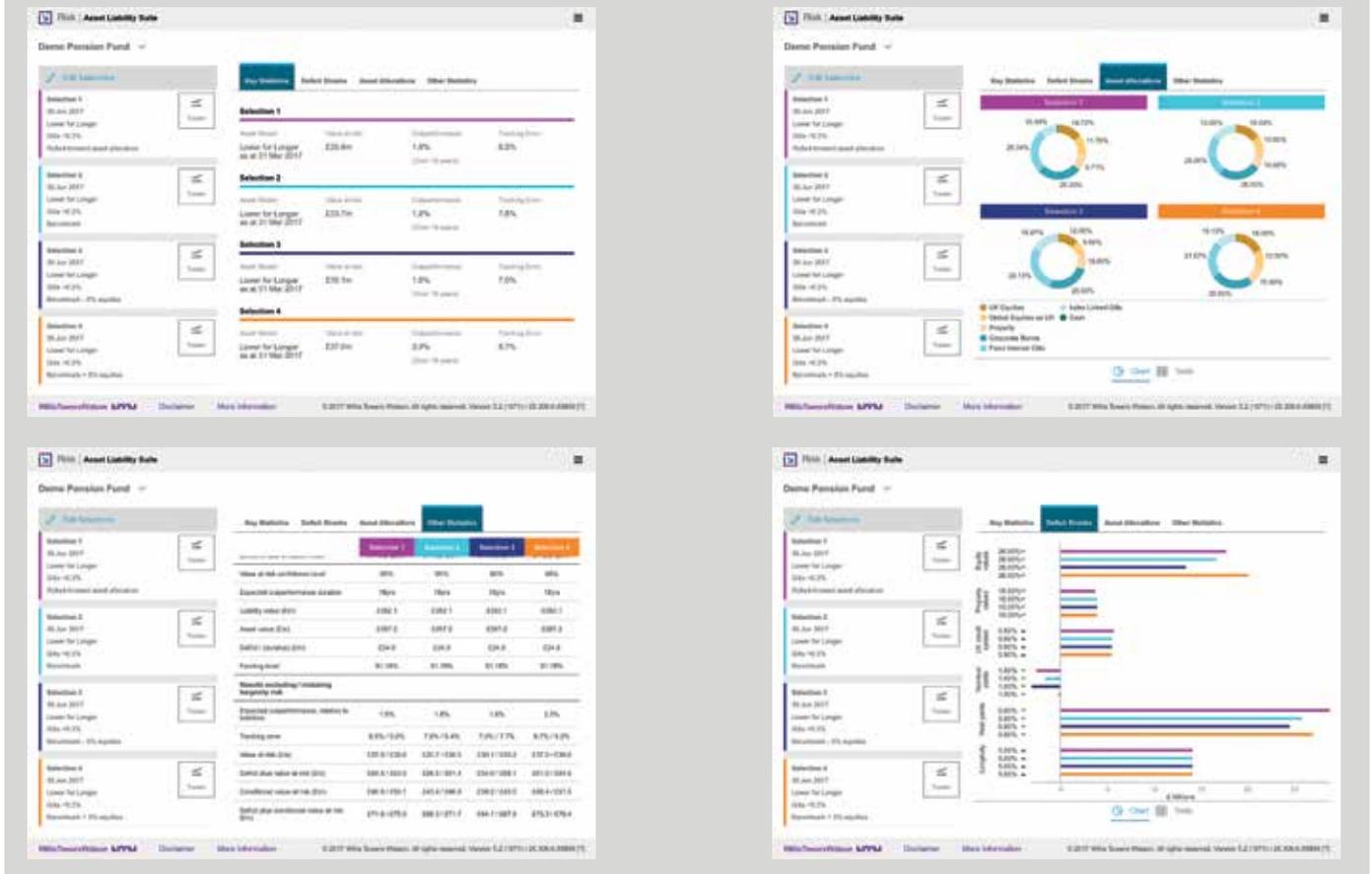


Figure 5. The Risk Module



Projections Module

The Projections Module allows you to determine whether your funding plan is on track and explore the impact of varying contribution patterns and asset returns, making it invaluable during valuation or journey planning discussions.



The Projections Module allows you to understand how the financial position of your scheme might develop in the future. It can also be used to:

- Compare your financial position to scheme-specific funding targets
- Consider the impact of adding or removing contributions during your projection period
- Investigate the link between your scheme's funding targets and the future rate of return needed from your assets

The clear presentation, as well as the ability to vary key parameters and see the impact immediately, makes the Projections Module particularly helpful when used during valuation or journey planning discussions.

For example, the Projections Module can help you to:

- Set a recovery plan, allowing for variations in contributions and asset returns
- Monitor recovery plan adequacy in preparation for or during funding discussions, arming you with the information you need for scheme funding negotiations
- Understand the implications of investment strategy changes for your future financial position and required level of contributions, allowing you to make more informed decisions about investment strategy changes

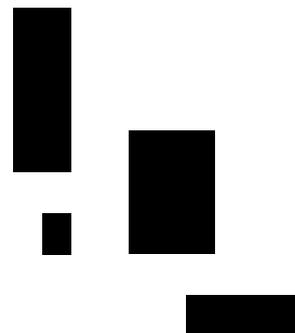
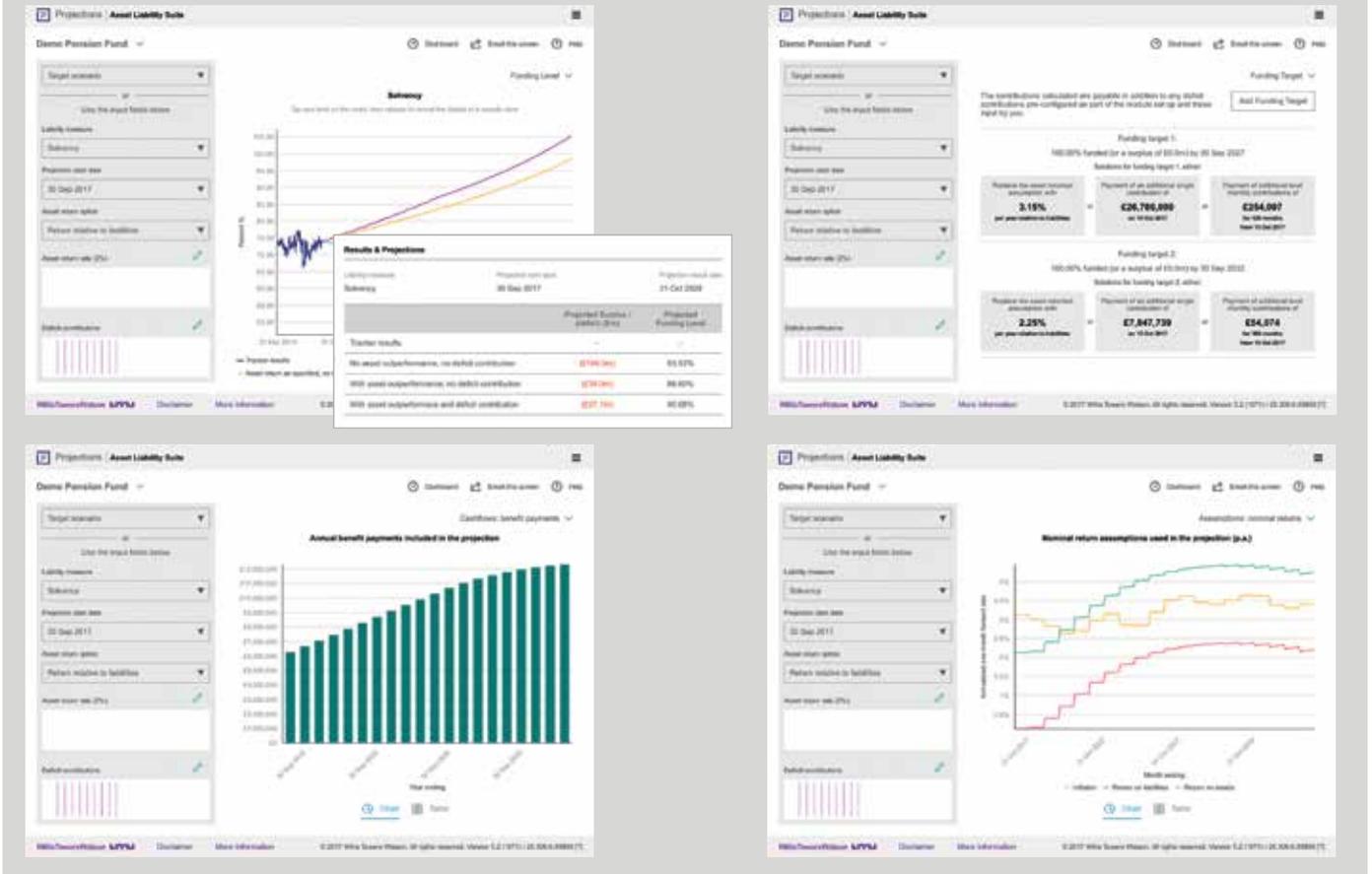
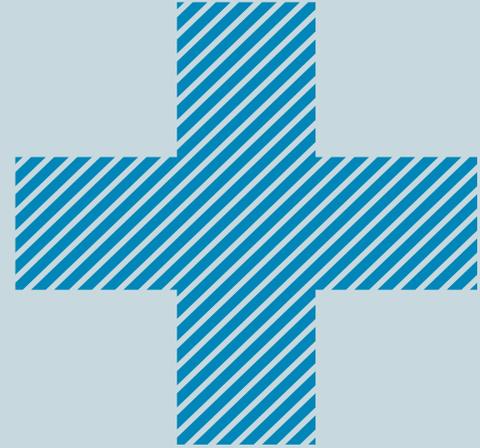


Figure 4. The Projections Module



Accounting Module



The Accounting Module (Channel) gives you direct access to your key balance sheet and profit and loss (P&L) figures with its powerful corporate governance and budgeting capabilities. It also combines results for schemes around the world, allows you to model future scenarios and includes on-demand disclosures.



The Accounting Module presents up-to-date accounting information via an easy-to-use and intuitive online platform. Building upon the scheme-specific sophistication of the Tracker Module, the Accounting Module delivers the following features via Willis Towers Watson's Cost and Risk Management Channel:

- Daily updates of your P&L and balance sheet information based upon emerging financial conditions
- Forecasts of your balance sheet and P&L position over the next 10 years
- Flexible 'what-if' functionality that helps you explore the potential impact of different economic scenarios
- The ability to model the impact of business-specific future events (for example, plant closure or a reduction in headcount)
- Information about asset returns and assumption changes to help you understand the changing position
- Figures based on the requirements of International, UK and US GAAP, making allowance for local funding regimes
- The ability to produce accounting disclosures and downloadable reports on demand

If your business is multinational with many benefit schemes across the world, the Cost and Risk Management Channel can be extended to cover your group's arrangements globally. This enables your global headquarters to gain oversight of their consolidated global benefits position and, where needed, to drill down into the schemes in each region or country.

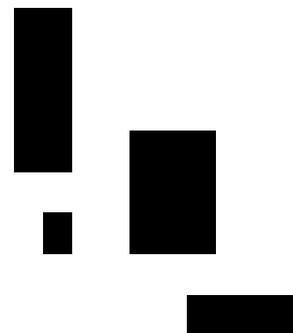




Figure 1. The Accounting Module

Summary of Results
 United Kingdom - XYZ UK Pension Scheme (Results in Consolidated Currency - GBP, Unrounded)

	Disclosed 31 Dec 2016	Interim 01 Sep 2017	30 Sep 2017 Projection
Defined Benefit Obligation (DBO)	4,377,447,474	4,332,067,829	4,361,279,128
Fair Value of Assets (FVA)	5,814,847,454	4,238,229,269	4,382,054,839
Funded Status = FVA minus DBO	(1,437,399,980)	(1,106,161,439)	(100,775,711)
Funded Status Percent	85.03%	85.84%	89.93%

Assumptions

Used to Determine Benefit Obligations on:	31 Dec 2016	01 Sep 2017	31 Dec 2017
Discount Rate	5.00%	5.00%	5.00%
Exchange Rate (GBP to USD)	1.00000	1.00000	1.00000
Used to Determine Asset Values or Investment Return	6.00%	6.00%	6.00%

Defined benefit obligation - 10 Year Projection

Year	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Defined benefit obligation	4,377,447,474	4,332,067,829	4,361,279,128	4,400,000,000	4,438,731,299	4,477,462,578	4,516,193,857	4,554,925,136	4,593,656,415	4,632,387,694	4,671,118,973

Grossed Share and Benefit Cost Data, 2005-2016

	31 Dec 2005	31 Dec 2006	31 Dec 2007	31 Dec 2008	31 Dec 2009	31 Dec 2010	31 Dec 2011	31 Dec 2012	31 Dec 2013	31 Dec 2014	31 Dec 2015	31 Dec 2016
1. Defined benefit obligation (DBO)	4,377,447	4,175,447	4,271,281	4,371,028	4,470,864	4,570,700	4,670,536	4,770,372	4,870,208	4,970,044	5,069,880	5,169,716
2. Fair value of assets	5,814,847	4,164,357	4,429,475	4,741,040	5,052,604	5,364,169	5,675,733	5,987,297	6,298,861	6,610,425	6,921,989	7,233,553
3. Funded status	(1,437,399)	(1,000,000)	(158,194)	370,012	581,740	793,469	1,005,197	1,216,925	1,428,653	1,640,381	1,852,109	2,063,837
4. DBO as percent of FVA	85.03%	85.03%	85.03%	85.03%	85.03%	85.03%	85.03%	85.03%	85.03%	85.03%	85.03%	85.03%
5. Net defined benefit liability asset	(1,437,399)	(1,000,000)	(158,194)	370,012	581,740	793,469	1,005,197	1,216,925	1,428,653	1,640,381	1,852,109	2,063,837
6. Funded status %	85.03%	85.03%	85.03%	85.03%	85.03%	85.03%	85.03%	85.03%	85.03%	85.03%	85.03%	85.03%

Bulk Annuity Module

The Bulk Annuity Module monitors the affordability and attractiveness of a bulk annuity transaction for your scheme using live pricing information provided by leading insurers, allowing you to quickly identify opportunities to reduce risk.



The bulk annuity market provides attractive opportunities for schemes to insure some or all of their liabilities. However, knowing when to engage with insurers for quotations can be challenging:

- **Too soon:** you risk wasting your time and money, coming across as under-prepared and receiving little interest from insurers.
- **Too late:** this can mean pricing opportunities have passed by the time you are ready to transact or that you are at the back of the queue for receiving pricing from insurers.

The Bulk Annuity Module delivers daily information on the affordability of a bulk annuity transaction, covering some or all of your liabilities, using detailed pricing information provided by the main insurers in the bulk annuity market and supplemented by our transactions team's experience of the pricing achieved on actual deals in the market. This will give you confidence in the likely outcome of a quotation process as well as the information you need to engage with stakeholders and prepare a credible proposition with which to approach the insurance market, ensuring you get maximum attention and your transaction is prioritised.

The Bulk Annuity Module allows you to:

- View the price of a transaction against your liability measures – including technical provisions, self-sufficiency and a gilt-based measure
- View the price for a full buyout, pensioner buy-in or the pricing of any subsets of the liabilities you are interested in insuring
- Get a feel for how much appetite there is in the insurance market for bulk annuity business
- Readily access the latest insights into the bulk annuity and longevity hedging markets released by our transactions experts

When the Bulk Annuity Module identifies an opportunity for your scheme to transact, one of our transactions experts will be on hand to guide you through the process. This team has extensive experience in the market, having completed over 600 bulk annuity transactions ranging in size from £1 million to £3 billion.

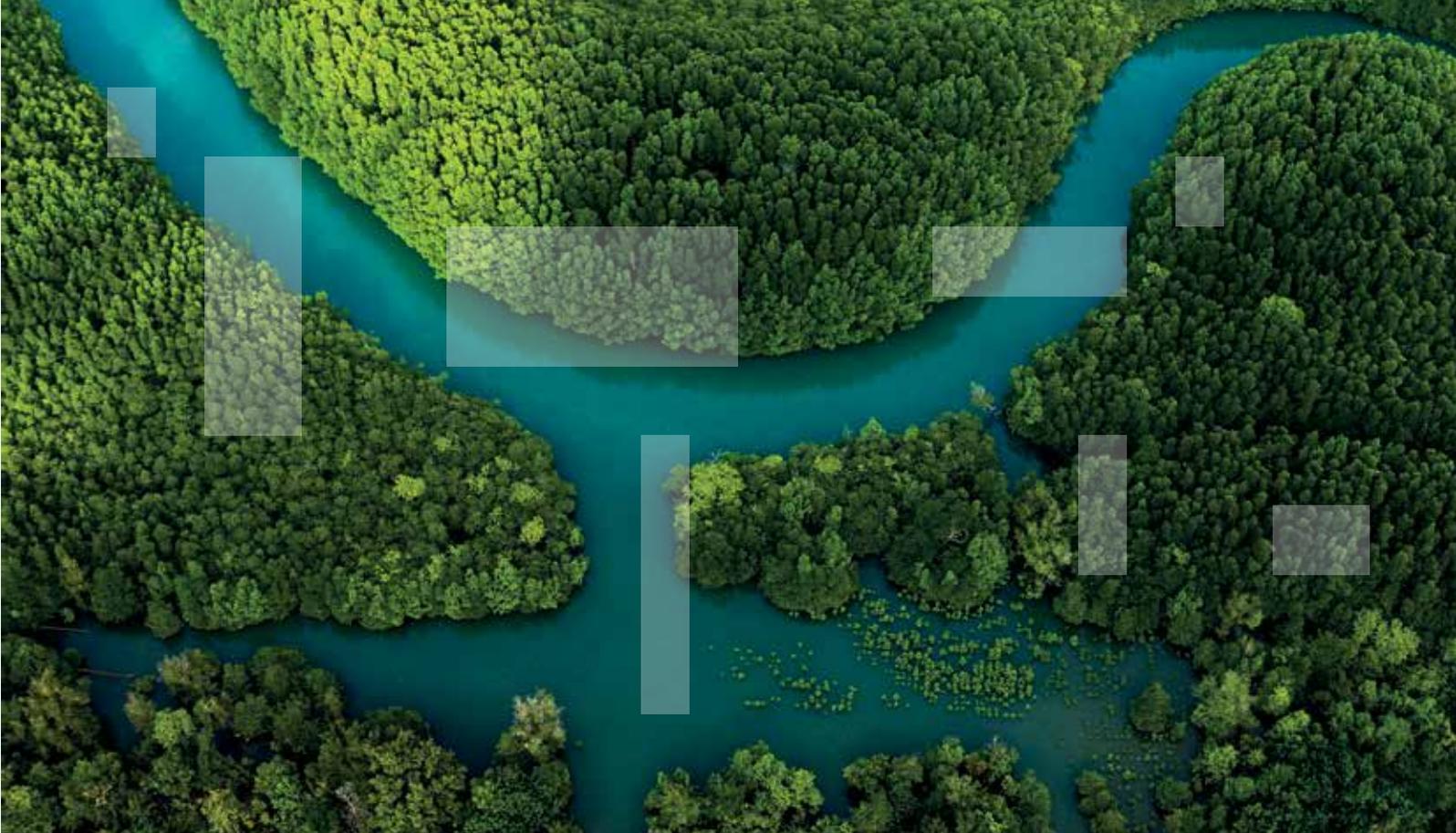
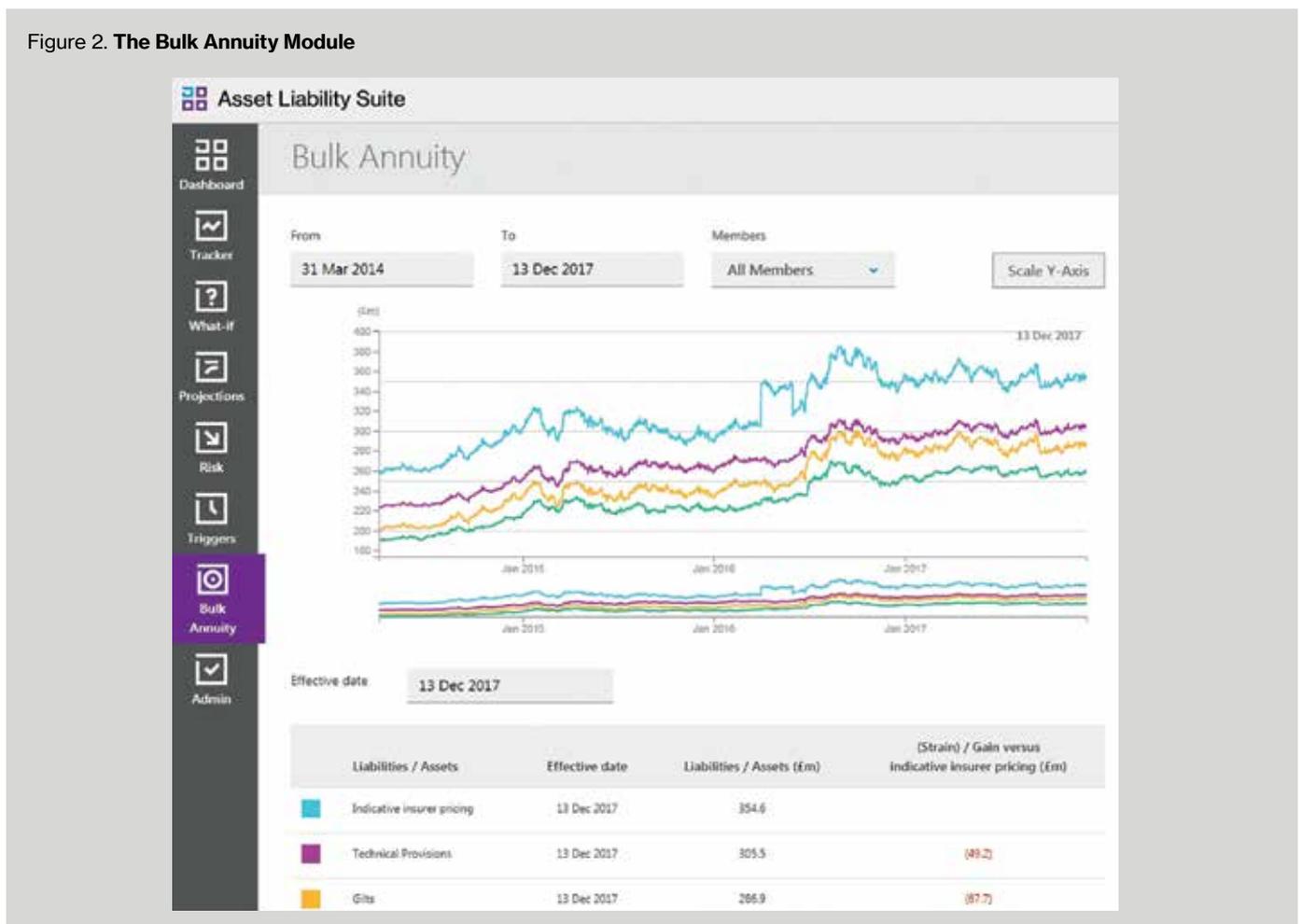


Figure 2. The Bulk Annuity Module



Triggers Module

The Triggers Module is a must-have for when you need to make dynamic market-based decisions, helping you ensure that strategic opportunities are not missed.



The Triggers Module monitors, on a daily basis, the status of decision points that have been defined by the Trustees, the Corporate Sponsor or the Investment Specialists. The system issues an email alert whenever a trigger changes status, providing a prompt for action to ensure that issues and opportunities are not missed.

The Triggers Module also offers considerable flexibility in configuration, allowing you, as a Trustee, Corporate Sponsor or Investment Specialist, to tailor the triggers to your scheme's specific circumstances and action plan.

The Triggers Module includes:

- **Funding level triggers:** used to identify when your scheme is ahead of its journey plan and you may have an opportunity to de-risk, or when your scheme is behind its journey plan and you may wish to consider re-risking, securing additional funding or revising your journey plan.
- **Relative return and yield triggers:** used to identify when a switch between asset classes might be valuable – for example, between equities and bonds, or between corporate and sovereign bonds.

- **Duration triggers:** used to identify when a change in the profile of your matching assets may be attractive – for example, following a change to the shape of the market bond-yield curve.

You can develop the triggers you use as you evolve your strategy over time, keeping you in control of the pace of change but ensuring you capture opportunities.





Figure 7. The Triggers Module

Triggers **Asset Liability Suite** ☰

Demo Pension Fund ▾

-  03 Oct 2017
Solvency upside trigger
Solvency funding level is under 80% upside trigger

-  03 Oct 2017
Solvency downside trigger
Solvency funding level is above 73% downside trigger

-  03 Oct 2017
Settlement terms better than Gilts + 0.5%
Settlement terms less generous than G+0.5% trigger

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What-if Module



The What-if Module helps you understand, interactively, the sensitivity of your assets and liabilities to changes in market movements, assumptions and scheme membership.



The What-if Module can be tailored to your scheme, which means that you can more accurately model the key variables that drive the financial position of your arrangement, allowing for more effective decision making.

The What-if Module also allows you to create 'what-if' scenarios, which can be stored for easy reference in the future.

The What-if Module can be used for a variety of purposes:

- The production of sensitivity information for regular reporting
- The monitoring of the sensitivity of assets and liabilities to changes in market conditions or financial shocks
- The exploration of the effect of adopting different financial assumptions or, for example, what might happen to your scheme as a result of raised levels of transfer activity or the running of a liability management exercise

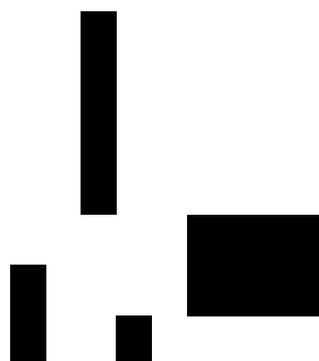
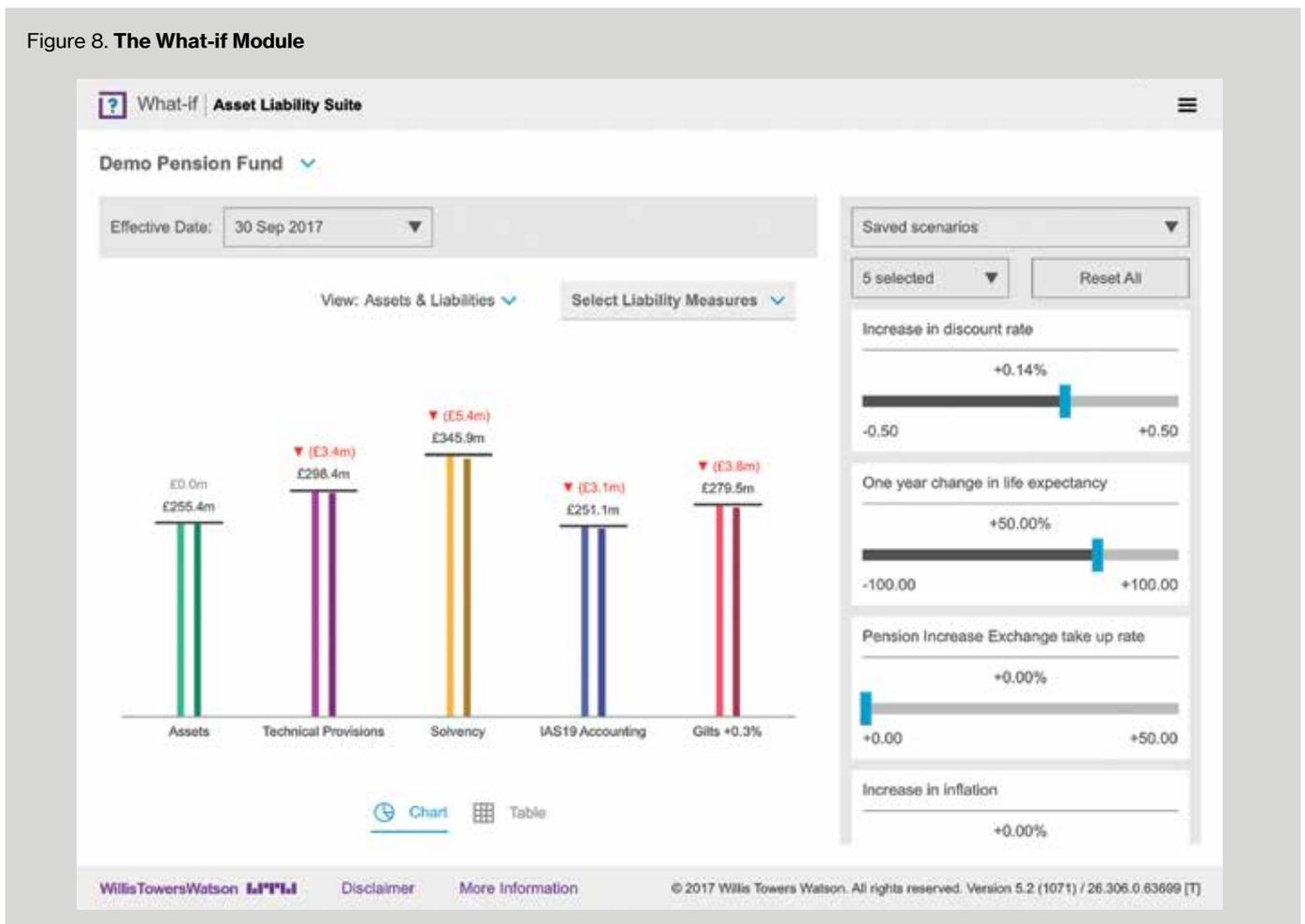




Figure 8. The What-if Module



Modeller Module

The Modeller Module allows you to perform deep, interactive asset liability modelling in order to support your strategic planning and asset allocation decisions.



The Modeller Module provides sophisticated and flexible analytics for analysing risk, journey planning and supporting portfolio construction. It is trusted by Willis Towers Watson's clients and internal investment professionals alike to support decision making and provide professional advice. Clients with their own internal investment functions or internal investment expertise have found the module particularly valuable, as it has enabled them to bring asset liability modelling in-house without the considerable cost and risk of building their own models.

Like the Risk Module, the Modeller Module is powered by Willis Towers Watson's sophisticated investment models, which generate realistic distributions of economic quantities and projected asset returns, capturing long- and short-term risks, as well as extreme risks and tail events. It can capture the complex interaction of your liabilities with the economic environment and investment market, and also has the ability to capture caps, floors and correlations within your asset portfolio.

The Modeller Module's key feature is its ability to project assets and liabilities over many years under a range of economic scenarios, enabling the projection of a range of outcomes and an assessment of their probability. Flexible user-defined inputs (multiple bases, economic models, asset allocations and contribution schedules) and flexible outputs (including a full range of statistics on funding level, deficit, asset returns and many more) mean the Modeller Module is

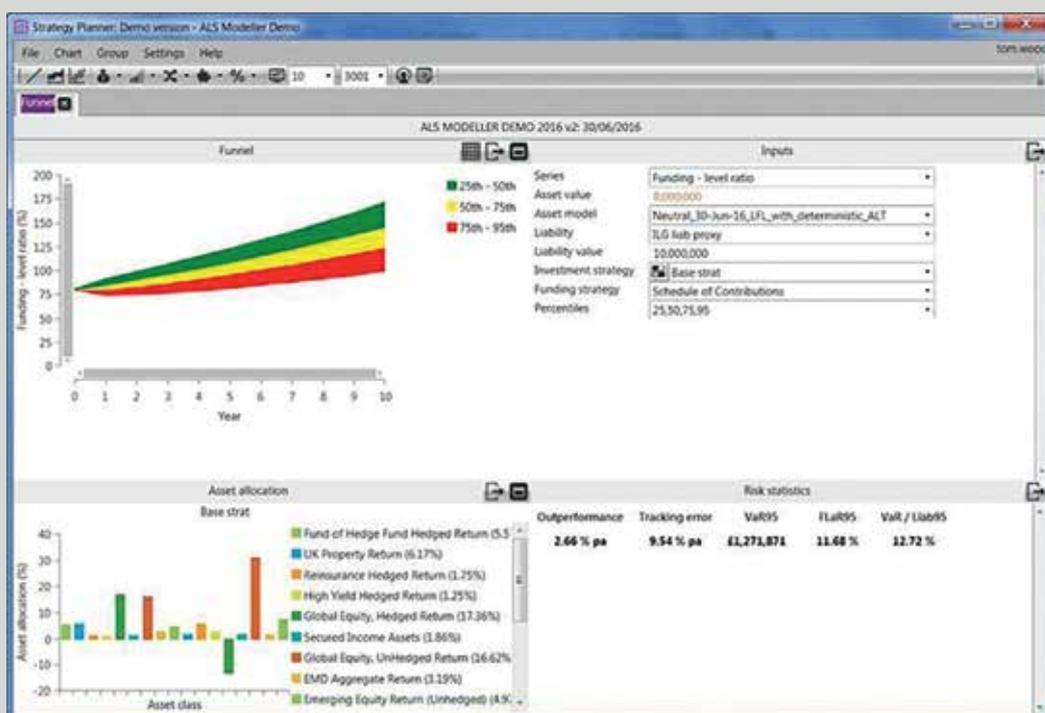
extremely flexible in its uses. For example, it can be used to investigate:

- **Journey planning**
 - Where is your scheme heading and what can you do about it?
 - What is the chance you will meet your objectives under your current strategy or an alternative?
- **Risk analysis**
 - What are the chances something could go wrong?
- **'What if?'**
 - How robust is your portfolio to, changes in contributions, changes in economic assumptions or economic shocks?
- **Portfolio construction**
 - What are the risk and return trade-offs you need to consider when constructing your portfolio?

Sophisticated liability modelling, combined with realistic and market-consistent economic projections, captures extreme risks and allows you to use the results from the Modeller Module to change your strategic direction with confidence.



Figure 3. The Modeller Module





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, 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.

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