



VEGA® Milliman STAR Solutions

VEGA

Milliman Solvency II Analysis and Reporting (STAR) Solutions

Solvency II does not simply change how insurers' technical provisions and capital requirements will be calculated. The extent and scope of the reform is such that it affects all operations and strategies which are the core of the insurance business model: pricing, underwriting, risk assessment and management, asset management, and internal and external reporting.

From our leading position in Europe in helping insurers comply with Solvency II, as well as in streamlining reporting and risk management systems, we have developed VEGA®, which is part of the Milliman STAR (Solvency II Analysis and Reporting) Solutions suite.

VEGA is a fully-developed software solution that allows for simple and quick installation and configuration. VEGA is designed with a high degree of flexibility and is fully compatible with all existing actuarial and IT systems.

VEGA addresses the following challenges:

- Production and analysis of the SCR calculation under the Standard Formula
- Meeting all regulatory reporting requirements including Quantitative Reporting Templates (QRTs), and automation of XBRL tagging and reporting
- Projecting the SCR and Eligible Own Funds for the ORSA
- Bringing together the necessary data inputs which can come from many diverse sources
- Providing a reliable aggregation and analysis tool for the SCR
- Producing, automating and centralising the quantitative reporting defined in Pillar 3 (QRTs)
- Enabling different stakeholders to contribute to the calculation and production of the SCR, QRTs and the quantitative projections component of the ORSA
- Communicating information produced to all departments and at all levels
- Complying with the requirements for both solo entities and groups

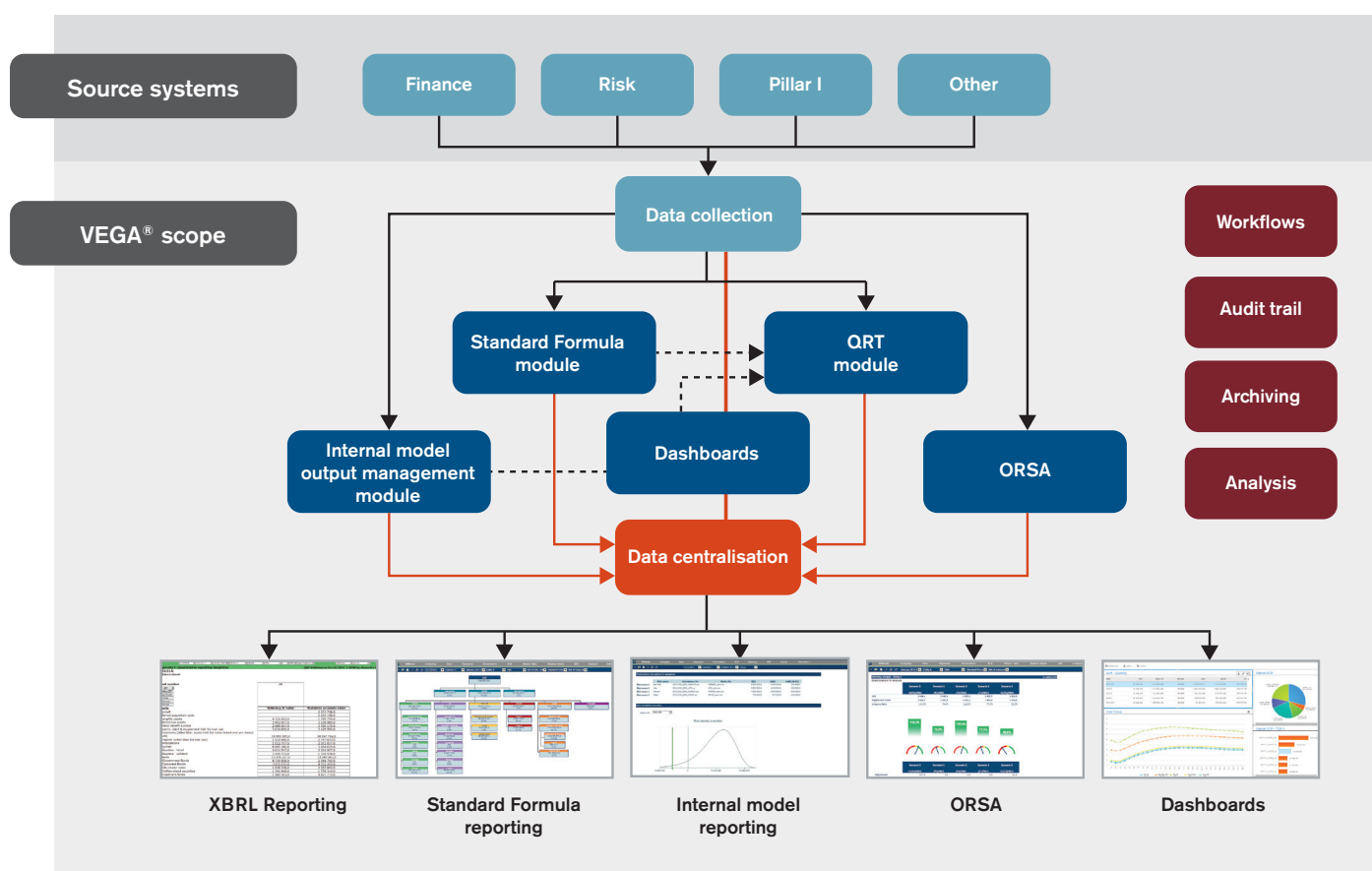
WHY VEGA?

More than a regulatory software tool, VEGA is a decision-making tool that facilitates internal reporting and relevant analysis. Based on Milliman's practical Solvency II expertise, it provides a full range of reporting and analysis capabilities, including unique calculation, reporting and workflow capabilities which are essential for the secure production of the Standard Formula SCR, regulatory reporting QRTs and ORSA projections.

VEGA is based on the most up-to-date Solvency II specification, with guaranteed future regulatory updates. The intuitive, easy-to-use tool is focused on the end user, and provides a scalable solution that can be easily and quickly integrated.

VEGA's unique features include the following:

- Offers low-cost licensing and integration
 - Offers multi-user and multi-sites capabilities (with 'cloud' version also available)
 - Provides secure data flows, calculations, audit trail, and archiving
 - Produces the Pillar 1 Standard Formula SCR calculation and provides a full suite of analysis and reporting tools
 - Allows the comparison of Internal Model output against the Standard Formula SCR
 - Produces all of the Pillar 3 Quantitative Reporting Templates (QRTs), with built-in consistency checks both within and between QRTs
 - Automatically converts the QRTs into XBRL format for upload to national regulator(s)
 - Allows the projection of both the SCR and Eligible Own Funds at future dates for use in the ORSA
- Covers and supports the requirements of Pillars 1, 2 and 3
 - Considerably reduces the operational risk associated with these processes



KEY FUNCTIONALITIES

VEGA is a multi-user and multi-site tool for the production of the Standard Formula SCR, QRTs, XBRL transformation and forward-looking assessment (ORSA projections).

- The web-based interface provides all stakeholders involved in the production, analysis and validation (risk department, actuarial department, finance department and management) with a detailed and/or global vision of the whole operation.
- VEGA replaces the Standard Formula spreadsheet. It strongly limits the operational risk associated with using spreadsheets by securing data flows, calculations, the audit trail and the production and storage of internal and regulatory reports.
- VEGA offers multiple and user-defined analysis dimensions to enable analysis and reporting at different levels within the company/group.
- Equipped with in-built graphs and reports, VEGA is a solution that enables the automation of management information and regulatory reports (e.g., QRTs) as well as providing the option to develop additional customised reports.
- VEGA facilitates the validation and analysis of results, thanks to an audit trail which can be viewed at a very granular level.
- The centralised and secure calculation process within VEGA facilitates governance, control and transparency in the production of the new regulatory reports.

ANALYSIS

VEGA incorporates Milliman's significant expertise gained in the implementation of Solvency II for many companies. Users of VEGA have a complete set of reporting analysis options, allowing for easier understanding and validation of results.

For each user, VEGA offers comparison capabilities including:

- Year-on-year
- Central value versus sensitivities/stressed values
- Calculation with Standard Formula parameters versus calculation with undertaking specific parameters

The intuitive 'click-through' interface allows the user to easily drill-down to further levels of detail and to understand and compare results.

A Microsoft Excel® add-in offers a range of tools to help further analyse and understand the components of the Standard Formula SCR.

Solvency Capital Requirement			
Loss Absorbing Capacity of TP	Gross	Net	
+ Default	28 340,2	28 340,2	
+ Health	336 484,1	326 076,8	
+ Intangible	300,0	300,0	
+ Life	54 185,6	52 101,6	
+ Market	995 954,7	540 219,8	
+ Non-Life	294 140,7	294 140,7	
Total	1 709 405,4	1 241 179,0	
Diversification	-454 702,6	-404 431,6	
+ BSCR	1 254 702,8	836 747,5	
+ Operational	29 194,4	29 194,4	
+ Adjustment	-472 796,5	-54 841,2	
+ SCR	811 100,7	811 100,7	

Solvency Overview				
	Tier	Eligible own Funds	Solvency ratio	
MCR	1	1 059 600,5	100%	418%
	2	0,0	0%	0%
	3	0,0	0%	0%
	Total	1 059 600,5	100%	418%
SCR	1	1 059 600,5	100%	131%
	2	0,0	0%	0%
	3	0,0	0%	0%
	Total	1 059 600,5	100%	131%

Solvency ratio	130,64%
Surplus / deficit in own funds	248 499,8

MCR : 418,2%

SCR : 130,6%

IT ARCHITECTURE

VEGA is a web-based client solution supported by server components which are the foundation of the application:

- A database server
- An application server
- One or several web servers

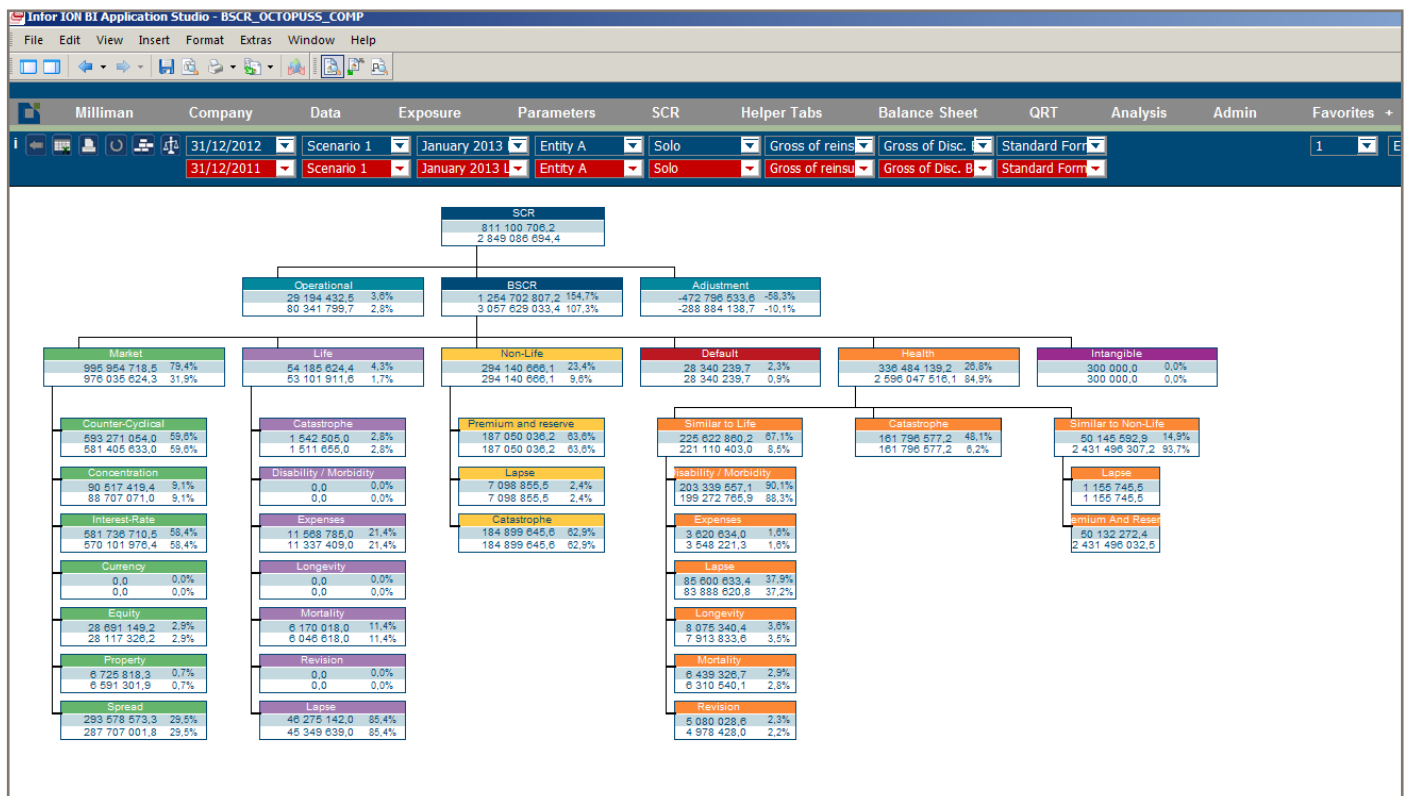
The end user access to the software is via a web browser.

VEGA can be installed at the client site or hosted in our cloud in software as a service (SaaS) mode.

SECURITY

VEGA includes all market standards related to security and provides:

- Storage of historical results
- A clear audit trail of production calculations (data feed, data modification and validation)
- Authorisation management (data input, validation, access to results, etc.)



VEGA's functionality includes calculation, reporting and workflow that we believe to be essential for a secure production of the Standard Formula SCR and regulatory reporting.

DATA

An insurance data framework

VEGA provides users with an insurance data framework. Insurers can choose to use pre-defined templates, allowing the classification of data into several categories:

- Lines of business or distribution channels for liabilities
- Asset class, country of issuance, the rating or the sector of assets
- Solvency I and/or Solvency II balance sheet

Alternatively, any other company-specific framework can also be configured in the solution.

Data feed and data quality

From the “download console” within VEGA, the insurer selects and imports the necessary data from its actuarial and accounting systems or any other data source required for the SCR, QRTs and ORSA.

The module assesses data quality by detecting outliers and establishing cross reconciliations between the different sources.

Data can also be entered manually if required.

CALCULATIONS

Aggregation and consolidation of risks

One of the main benefits of VEGA is to provide a robust alternative to spreadsheet-based solutions. As such, VEGA allows insurers to determine the overall SCR (Standard Formula or undertaking-specific) and all risk sub-modules (Life, Non-Life, Market, Default, Health, Operational etc.) from the building blocks needed for the calculations (central and shocked market values, best estimate liabilities, volumes at risk, etc.).

The calculation of the MCR and all approved approaches for calculating the risk margin are also built in.

Helper tabs and simplifications

The helper tabs developed by EIOPA and widely used by many companies are integrated into VEGA. Thus, the calculations of non-life and health/non-life catastrophe risks, counterparty default risk, concentration risk and spread risk are facilitated by the availability of these modules within VEGA.

Ring-fenced funds

VEGA manages the particular issues relating to ring-fenced funds (RFF). It includes a set of specific reports for this purpose and correctly performs the calculation of the SCR, managing the specifics of multi-directional risks.

Group consolidation

The calculations can be performed either for solo entities or at a group level. VEGA performs the necessary operations to obtain the group SCR, QRTs and ORSA: identification, adjustments, consolidation and classification.

REVIEW AND DISPLAY OF RESULTS

VEGA provides three options for review and analysis of your results:

- Through the web-based interface
- Via ad-hoc or predefined reports
- In Microsoft Excel® using the supplied add-in, making it easy to export graphs and figures for use in management or board packs.

Navigation

VEGA's user interface works like an intranet site. This allows the user to see everything from the input data through to the consolidated results. Navigation is intuitive across the different dimensions of analysis:

- From group level to product level, by country, by line of business or by distribution channel
- From risk sub-module to overall risk SCRs

CREDENTIALS

VEGA has already been selected by a wide range of European insurers and reinsurers—from large multi-national groups to small mutual insurers—writing all types of business (life, non-life, health). Excellent references are available from our clients.

VEGA includes three main modules:

Standard Formula SCR

- Based on latest Solvency II specifications
- Replaces spreadsheet solutions, including helper tabs
- Covers solo and group calculations
- More than 100 in-built reports for analysis and comparison, with the ability to design additional custom or ad hoc reports
- Allows impact of alternative scenarios to be investigated ('what-if' analysis)
- Automatic population of the SCR-related QRTs and XBRL tagging

QRTs

- Produces all QRTs for both the preparatory phase and full Solvency II based on latest specifications
- In-built cross-checks both within and between QRTs
- XBRL format and electronic signature
- XBRL processor including the taxonomy and checking for consistency immediately before sending to the supervisor, providing 100% successful transmission to the supervisor

ORSA

- Projection of future SCRs and Eligible Own Funds on a central scenario and alternative scenarios
- Permits use of full standard formula SCR or proxies by risk module
- Specific ORSA reporting and analysis functionality

VEGA has excellent workflow and reporting capabilities and is quick and easy to implement:

Workflow

- Based on a web interface, end users can import data and perform calculations
- Allows roles and responsibilities to be defined in terms of importing, calculating and validating data/information
- Allows target dates to be set for importing, calculating and validating data/information
- Creates an audit trail of who did what when

Dashboard

- Intuitive web-like interface
- Allows ad-hoc reports with tables and charts to be created in a few clicks

Installation and integration

- Quick and efficient
- Support available from consultants with expertise in Solvency II and VEGA
- VEGA can be installed and ready to go within three months
- Excellent references available from existing customer base



ABOUT MILLIMAN

Milliman is among the world's largest providers of actuarial and related products and services. The firm has consulting practices in life insurance and financial services, property & casualty insurance, healthcare and employee benefits. Founded in 1947, Milliman is an independent firm with offices in major cities around the globe.

MILLIMAN IN EUROPE

Milliman maintains a strong and growing presence in Europe with more than 250 professional consultants serving clients from offices in Amsterdam, Brussels, Bucharest, Dublin, Dusseldorf, London, Madrid, Milan, Munich, Paris, Stockholm, Warsaw, and Zurich.

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For more information on VEGA, please contact your local Milliman consultant.