

Five Steps Toward Solvency II and Beyond

Meeting Long Term Goals and Commitments within
New Regulatory and Risk Management Requirements

WHITE PAPER:

INSURANCE SERVICES PRACTICE



Five Steps Toward Solvency II and Beyond

Meeting Long Term Goals and Commitments within New Regulatory and Risk Management Requirements

2

ABSTRACT

THE EUROPEAN UNION SOLVENCY II DIRECTIVE IS DUE TO BE IMPLEMENTED BY 2012. THE EU DIRECTIVE, HOWEVER, ALLOWS INSURERS TO DEVELOP AND CERTIFY THEIR OWN INTERNAL MODEL TO CALCULATE THE SOLVENCY CAPITAL REQUIREMENTS.

MEETING THESE DEMANDS REQUIRES A COMPREHENSIVE, INTEGRATED APPROACH TO RISK ANALYSIS; AN AUTOMATED APPROACH TO DATA MANAGEMENT WITH CLEAR OWNERSHIP AND HIGH QUALITY DATA; AND A STRATEGIC, BUSINESS-FOCUSED DESIGN THAT IS EASY TO UNDERSTAND AND MANAGE. WHILE EACH INSURER WILL FACE UNIQUE CHALLENGES, THERE ARE FIVE STEPS TO AN EFFECTIVE SOLVENCY II MODEL:

- HIGH QUALITY DATA
- GEOCODE WITH CONFIDENCE
- LEVERAGE WITH PREDICTIVE ANALYSIS
- FIND WAYS TO INTEGRATE MULTIPLE FUNCTIONS
- GO BEYOND SOLVENCY II

SOLVENCY II IS A FUNDAMENTAL REVIEW OF THE CAPITAL ADEQUACY REQUIREMENTS FOR THE EUROPEAN INSURANCE INDUSTRY

Solvency II

The European Union Solvency II Directive is planned for implementation in 2012. Covering the 27 European Union (EU) countries, plus Norway, Lichtenstein and Iceland, it is the largest ever exercise in establishing a single set of rules governing insurer creditworthiness and risk management.

Its impact for insurance companies operating in the EU's thirty countries is far-reaching. Solvency II is not only about the technical calculation of capital reserves, but also about each company's approach to risk management.

In simplest terms, "solvency" involves an organization's ability to meet its long-term expenses. In the case of Solvency II, members of the European Union have developed standards to facilitate the development of a single market for insurance services across Europe. By setting minimal capital requirements, the EU wants to provide consumers with an adequate level of protection.

See Figure 1 below.

Organizations familiar with Basel II from the banking industry will recognize the three pillars of Solvency II compliance:

Pillar I: Quantitative Requirements

- Measure assets, liability and capital
- Calculate minimal capital requirements
- Understand risk dependencies and interactions

Pillar II: Governance Requirements

- Internal controls and risk management
- Enterprise-wide visibility to key information
- Consistent risk management

Pillar III: Disclosure Requirements

- Transparent market disclosure
- Frequent, forward-looking and relevant
- Providing consistent information on a timely basis

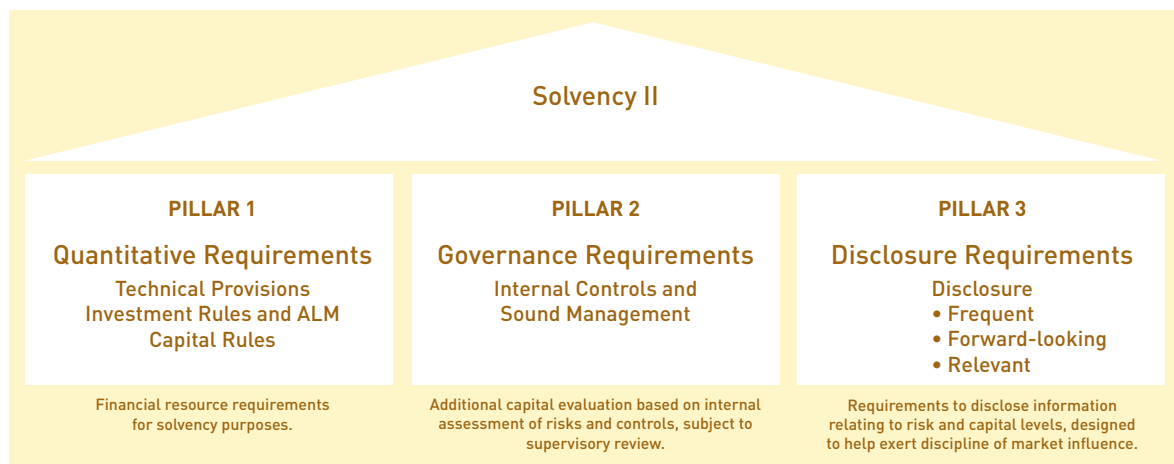


Figure 1: The three Pillars of Solvency II

Five Steps Toward Solvency II and Beyond

Meeting Long Term Goals and Commitments within New Regulatory and Risk Management Requirements

4

Solving for Solvency II

For large insurance companies, these capital requirements could total hundreds of millions of Euros (or dollars) or more. Therefore the ability to accurately measure assets and calculate risks can have a significant impact on cash flow and investment capital.

If a company overestimates its capital requirements, the insurers could be at a competitive disadvantage – with money tied up that it could otherwise use for investment or expansion. Many insurers fear that this could happen if they use the standard model provided by regulators. The EU directive, however, allows insurers to develop and certify their own internal model to calculate the solvency capital requirements. While adopting an internal modeling approach can offer a significant capital reduction, this can only be achieved against a backdrop of “accurate, complete and appropriate” data, as stated in the EU Solvency II Directive. In other words, the effectiveness of an internal model cannot be guaranteed without easy access to high quality, historical and predictive data.

Solvency II is designed to help the insurance industry calculate its capital requirements more efficiently using a risk-based system. With Solvency II, insurers will be required to hold capital against four different kinds of risk:

- Insurance risks – such as flooding, wind, hail, wildfire, terrorism
- Market risk – such as decline in the value of an insurer's investments
- Credit risk – such as, for example, when debt obligations are not met
- Operational risk – such as malpractice or system failures

The Five Steps Towards and Beyond Solvency II

Meeting these demands requires a comprehensive, integrated approach to risk analysis; an automated approach to data management with clear ownership and high quality data; and a strategic, business-focused design that is easy to understand and manage. While each insurer will face unique challenges, there are five steps to an

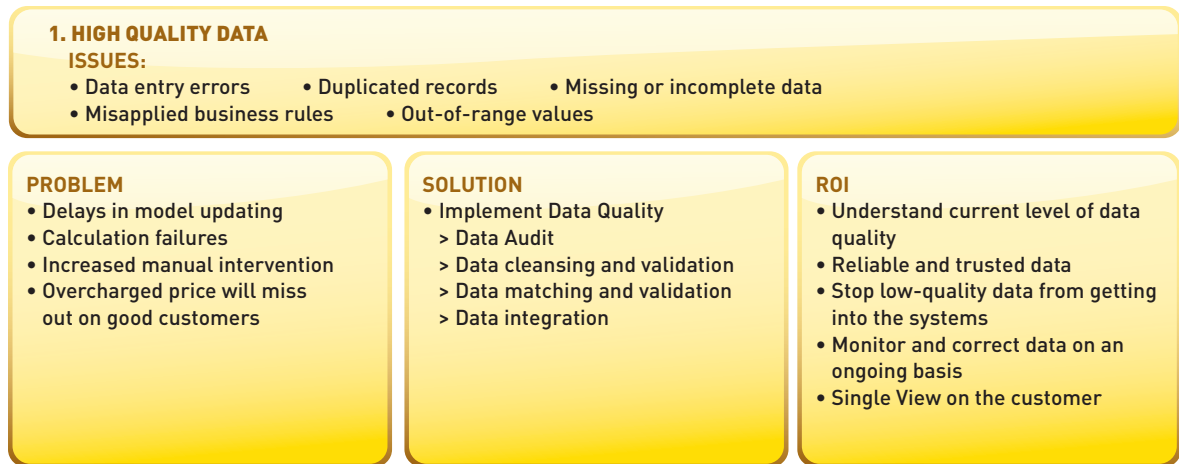


Figure 2: Step 1 – High Quality Data.

THERE ARE FIVE KEY POINTS TO SOLVENCY II THAT MUST BE UNDERSTOOD AND INTEGRATED INTO ANY SUCCESSFUL IMPLEMENTATION

effective Solvency II model:

- High quality data
- Geocode with confidence
- Leverage with predictive analysis
- Find ways to integrate multiple functions
- Go beyond Solvency II

Begin with High Quality Data (See Figure 2 on page 4.)

While initial attention has focused on getting the capital calculations correct, this investment will not pay off unless these calculations are driven by accurate, complete and appropriate data. Poor data quality can impact the modeling process in a number of ways such as calculation failures, punitive default values, increased manual intervention and delays in model updating. This can ultimately lead to an increase in the level of capital held as the regulators place a capital charge on top of the firm's own assessment.

Unfortunately, many organizations are not satisfied with their data quality, citing incorrect information, missing or misfiled data, duplicate records and inconsistent standards that lead to significant costs, delays and an incomplete understanding of the truth. Considering the need to aggregate and account for market risk, operational risk, credit risk and insurance risk across geographies and multiple lines of business, it is easy to see why data quality is so important.

Actuaries and compliance groups responsible for doing the necessary calculations will need accurate data, which can be delivered though:

- Data auditing: to understand the quality of data it is necessary to profile and monitor data quality across the enterprise
- Data cleansing and validation: automated ways to standardize, normalize, parse and validate data such as addresses and names



Figure 3: Step 2 – Geocode with Confidence.

Five Steps Toward Solvency II and Beyond

Meeting Long Term Goals and Commitments within New Regulatory and Risk Management Requirements

6

- Data matching and consolidation: comparing and consolidating data records obtained from a variety of sources through de-duplication and data synchronization
- Data integration: most insurance companies maintain multiple databases, but the right tools make it easy to access, extract and analyze records and create a single view of customers and insured assets

Geocode with Confidence (See Figure 3 on page 5.)

When it comes to assessing insurance risk, location is everything. Geocoding turns addresses into geographic coordinates that can be measured, compared, accumulated and analyzed by using location-based analysis.

Consumer-oriented geocoding solutions can often be acquired at little or no cost, but organizations that use information to make business decisions need to be more concerned with the validity and accuracy of addresses. A business-strength application will offer the ability to cleanse, parse, standardize and validate addresses before determining location, which adds confidence to the process.

Even when source addresses are fully validated, the geocoding engine needs to ensure that the address is located at the right spot. Some geocoding tools provide latitude and longitude coordinates based on postcode or city centroids instead of addresses. This level of accuracy might be acceptable for risk accumulations based on CRESTA (Catastrophe Risk Evaluating and Standardizing Target Accumulations) zones or other administrative boundaries, but more accuracy is required when assessing risk of flooding or analyzing fire and terrorism accumulations. Other geocoding solutions return geo-coordinates without providing any details, or providing insufficient details, regarding the obtained accuracy level. These “false positives” can create a false sense of confidence, which can increase the risk for poor decisions. A first-class geocoding solution will provide the match accuracy, positional accuracy and geoconfidence level – and follow a path of exception processing if the potential for incorrect results exists.

Leverage with Location Intelligence and Predictive Analytics (See Figure 4 below.)

Ultimately, the goal of any solution is to provide answers,

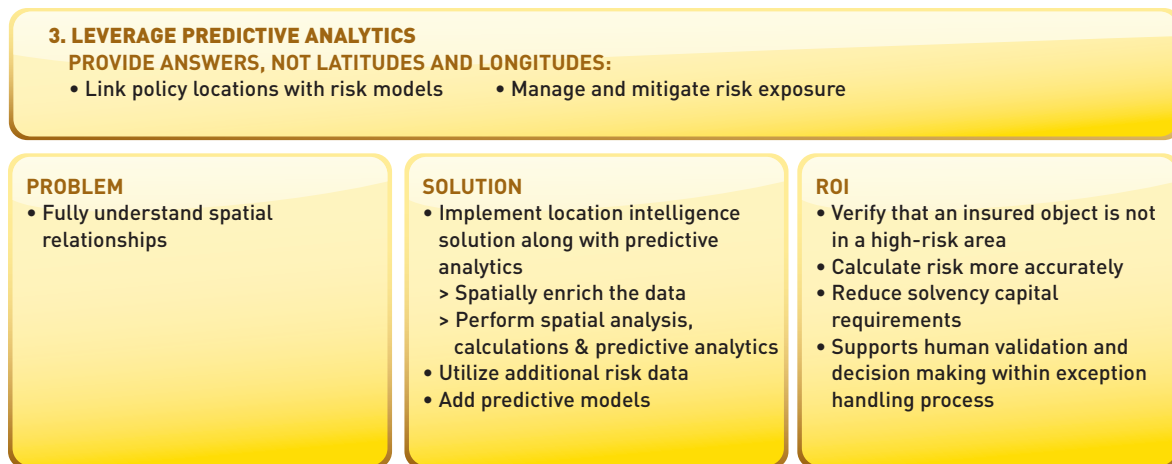


Figure 4: Step 3 – Leverage Predictive Analytics.

INSURERS MAY BE BETTER SERVED BY BUILDING AND ENHANCING THEIR OVERALL CAPABILITIES IN DATA INTEGRATION, DATA QUALITY, GEOCODING AND SPATIAL ANALYSIS

not latitudes and longitudes. A best practice approach will combine geocoding with the ability to spatially enrich the data, perform analysis, make calculations and conduct predictive analytics.

If you can verify that an insured is not in a high-risk area such as a flood zone or hurricane path, your aggregate risk will be lower – as will your solvency capital requirements. Automated tools can perform point-in-polygon analysis and closest site analysis and can calculate distances among multiple points so you can more accurately calculate and assess risk concentrations. Combined with mapping tools, the ability to visualize risk supports human validation and decision making within any exception handling process.

Find Ways to Integrate Multiple Functions (See Figure 5 below.)

The solutions employed to meet Solvency II requirements need to be simple to use and flexible enough to meet different business requirements. Identifying a single, modular technology platform that matches up with overall corporate objectives helps ensure a consistent standard will be applied in every market. Maintaining one platform

reduces cost of ownership and can speed up system integration. A single interface also simplifies training and education, and makes it easier to gain the skills and capabilities needed to achieve a competitive advantage.

When you can find ways to link portfolio, rating and loss characteristics with exposure and market data – then centralize data validation, standardization, geocoding and spatial analysis in a single enterprise platform, you can:

- Gain confidence and consistency in your data and internal model
- Speed up time to market
- Reduce errors through automated data capture and data quality processes
- Produce transparent insight into the actual risk

Add value beyond Solvency II (See Figure 6 on page 8.)

While there is a place for point-level solutions designed specifically for Solvency II, insurers may be better served by building and enhancing their overall capabilities

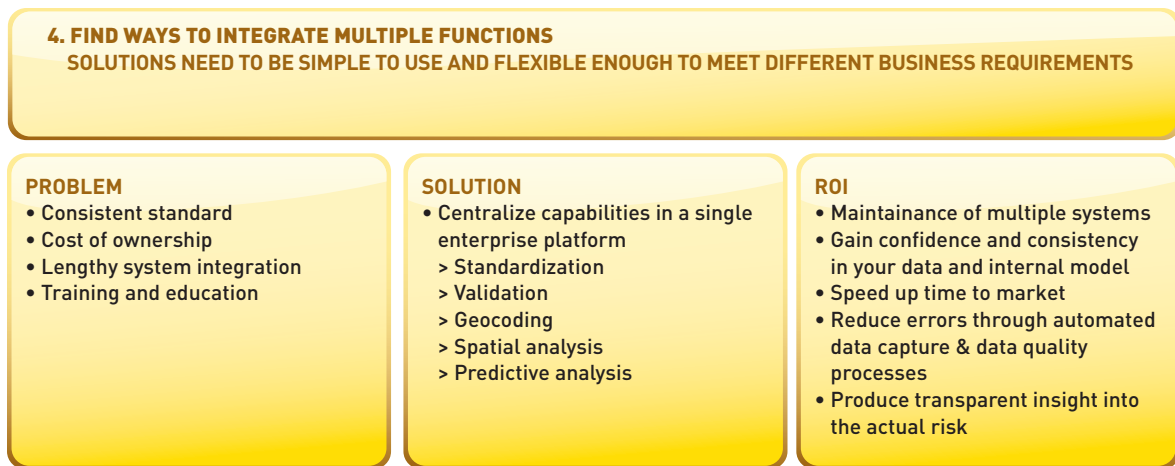


Figure 5: Step Four – Find Ways to Integrate Multiple Functions.

Five Steps Toward Solvency II and Beyond

Meeting Long Term Goals and Commitments within New Regulatory and Risk Management Requirements

8

in data integration, data quality, geocoding and spatial analysis. These core capabilities can help them step up to the demands of Solvency II and reduce solvency capital requirements – but they also add value across the entire operation. From territory assignment, marketing and pricing to straight-through underwriting, online quotation systems, natural catastrophe modeling and claims management, the power of location intelligence can pay dividends in many ways:

- Improve customer insight
- Increase customer loyalty
- Improve efficiency
- Improve agility
- Improve Business/ IT alignment

Pitney Bowes Business Insight provides powerful solutions that enhance an insurance company’s existing capabilities. (See Figure 7 on page 9.) With insurance focused services that are critical for addressing today’s market changes,

such as compliance to Solvency II, we leverage the service-oriented architecture, with services to easily orchestrate results for:

- Data augmentation, leading to more informed decisions
- Automation of more business process tasks
- Configuration and reuse of business logic
- Integration into existing IT infrastructure
- Increased agility
- Increased response and compliance
- Improved Business/IT alignment

FOR MORE INFORMATION ON DATA QUALITY, DATA INTEGRATION AND LOCATION INTELLIGENCE SOLUTIONS, CALL PITNEY BOWES BUSINESS INSIGHT TODAY OR VISIT OUR WEBSITES.

NOTE: Additional information on the Solvency II Directive along with more detailed highlights of the Three Pillars requirements is provided on pages 10 and 11.



Figure 6: Step 5 – Go Beyond Solvency II.

PITNEY BOWES BUSINESS INSIGHT PROVIDES POWERFUL SOLUTIONS THAT ENHANCE AN INSURANCE COMPANY'S EXISTING CAPABILITIES

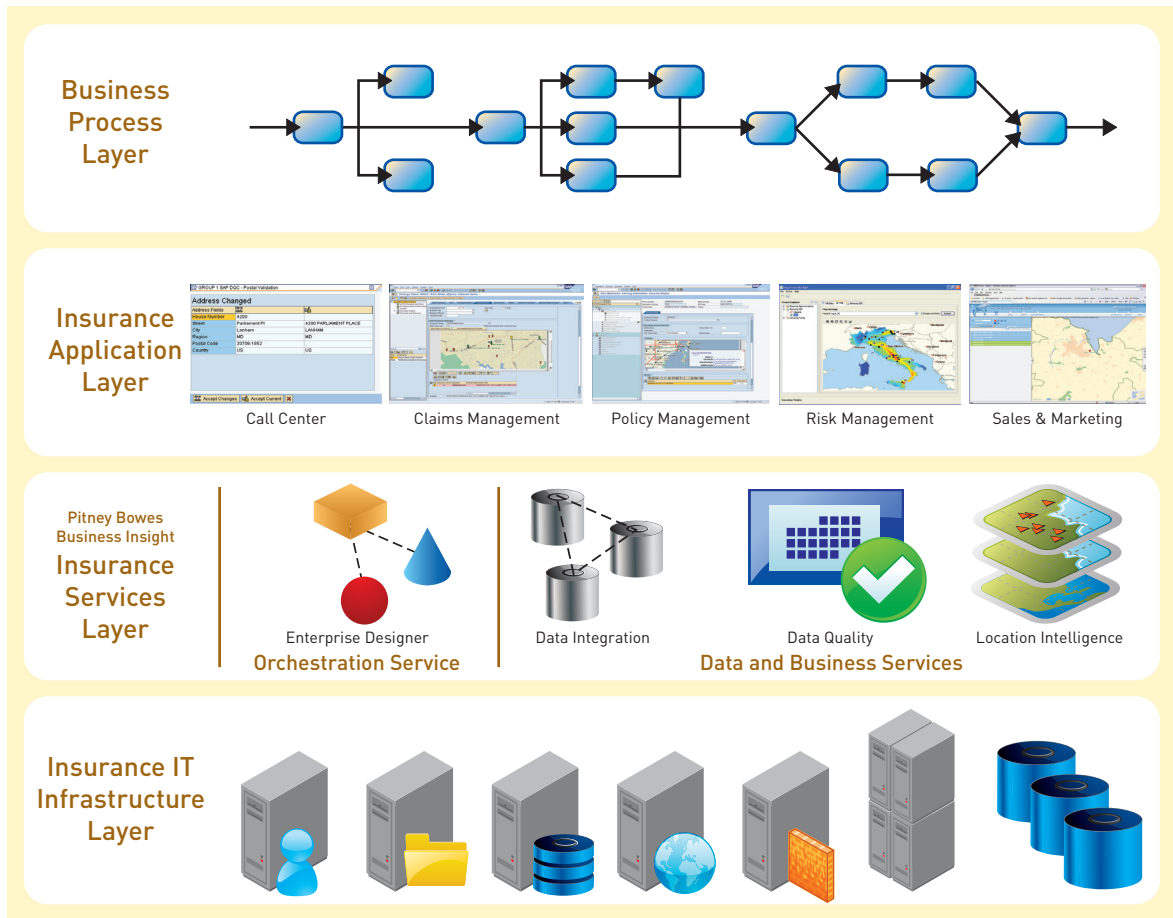


Figure 7: Applications are Made Better with Pitney Bowes Business Insight.

ABOUT THE AUTHOR: Burchard Hillmann-Koester has been an EMEA Product Marketing Manager for Pitney Bowes Business Insight since 2008, responsible for Platforms and Developer Tools. Previously, Burchard was a Product Manager and a consultant to business supporting commercial and public sector clients. He has also managed an insurance competence center for Germany, Austria and Switzerland.

Solvency II: Highlights of the Directive

The Solvency II Directive covers the European Economic Area (EEA) including Norway, Lichtenstein and Iceland, as well as the twenty-seven countries of the European Union (EU). Solvency II is a fundamental review of the capital adequacy requirements for the European insurance industry. The goal is to establish a revised set of EU-wide capital requirements, risk management and reporting standards that will replace current requirements. Other country regulators, such as Japan, are watching Solvency II with interest and a view to introducing similar risk-based capital regulation within their own jurisdictions.

Provided all implementation measures are agreed and in place in 2010, the proposed implementation date for Solvency II is November 1, 2012.

There are five key points to Solvency II that must be understood and integrated into any successful implementation:

- Solvency II is based on principles not rules
- The insurance organization governance and risk management system is key to governance
- An effective risk management system is key to governance
- Internal models used for Solvency II must be embedded into the insurance organization, including strategic decision making
- A risk-management function, if not already in existence, needs to be established

The Directive aims to align risk measurements and management. Along with the requirement for private and public disclosure – forming the Three Pillars of Solvency II:

- **Pillar 1: Quantitative Requirements**
 - > Balance sheet evaluation
 - > Solvency Capital Requirements (SCR)
 - > Minimum Capital Requirement (MCR)
- **Pillar 2: Qualitative (Governance) Requirements**
 - > System of governance
 - > Own Risk & Solvency Assessment (ORSA)
 - > Supervisory Review Process (SRP)
- **Pillar 3: Disclosure Requirements**
 - > Annual Published Solvency & Financial Condition Report
 - > Information provided to the supervisors
 - > Link with IFRS 2

Three Pillars Highlights

Solvency Capital Requirements (SCR) – is a new solvency standard, calculated annually.

- The SCR is intended to reflect all quantifiable risks that the insurance organization might face including:
 - > Non-life underwriting risk
 - > Live underwriting risk
 - > Special health underwriting risk
 - > Market risk
 - > Credit risk
 - > Operational risk
- The SCR covers all risks faced by the insurance organization for a 1-in-200 year confidence level. The SCR can be calculated using either the standard formula or an internal model. The standard formula is more risk sensitive than the existing standard

The Minimum Capital Requirement (MCR) – is a lower solvency standard.

Own Risk and Solvency Assessment (ORSA) – Every organization must conduct its own risk and solvency assessment (ORSA), based on its risk profile, risk appetite and business strategy. Organizations must highlight assumption differences between the ORSA and SCR. The results are submitted to the supervisor as part of the supervisory review process.

Supervisory Review Process (SRP) – The Supervisor will regularly review and evaluate both the qualitative and quantitative compliance of the insurance organization in relation to its operating environment and risks, current and potential. Supervisors will determine the frequency and exact scope of each review and will use monitoring tools to identify any financial deterioration. The objective is to assess the organization's ability to withstand possible adverse events or future changes in economic conditions. The review will consider:

- The system of governance and risk assessment
- The technical provisions
- The capital requirements
- The investment rules
- The quality and quantity of own funds
- The use of a full or partial internal model, if used

For organizations operating across multiple territories, a single authority will be appointed as a group supervisor.

Annual Published Solvency and Financial Condition Report – organizations are required to publish an annual report. This may be done in a special report or within an existing regulatory publication. The report covers the risk profile and the assumptions underlying the technical provisions, and allows for confidentiality of competitive and policy holder information. The report contains:

- The business and its performance and governance system
- A description of risk exposure, concentration, mitigation and sensitivity by risk category
- The bases and methods of valuation for assets and technical provisions, including any significant differences between those used for valuations in financial statements
- Details of the capital management, including for example, the MCR and SCR and information on the main differences between the standard formula and internal model used

International Financial Reporting Standards (IFRS 2) – prescribes the measurement and recognition principles for all share-based payment awards. IFRS 2 applies to transactions with employees and third parties, whether settled in cash, other assets or equity instruments.

UNITED STATES

One Global View
Troy, NY 12180

1.800.327.8627

pbbi.sales@pb.com
www.pbinsight.com

CANADA

26 Wellington Street East
Suite 500
Toronto, ON M5E 1S2

1.800.268.3282

pbbi.canada.sales@pb.com
www.pbinsight.ca

EUROPE/UNITED KINGDOM

Minton Place
Victoria Street
Windsor, Berkshire SL4 1EG

+44.800.840.0001

pbbi.europe@pb.com
www.pbinsight.co.uk

ASIA PACIFIC/AUSTRALIA

Level 7, 1 Elizabeth Plaza
North Sydney NSW 2060

+61.2.9437.6255

pbbi.australia@pb.com
pbbi.singapore@pb.com
pbbi.china@pb.com
www.pbinsight.com.au