

# The InsFocus Advantage for Insurance Companies

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## 1. Executive Summary

InsFocus BI is a comprehensive reporting and analysis software system designed for insurance companies, which covers all the data warehousing and business intelligence functionalities required for management and operations.

*The system's built-in insurance capabilities make InsFocus the preferred choice for insurance companies.*

The InsFocus data model is designed and built by insurance professionals, encompassing profound industry executive experience, along with years of implementation best practices.

### 1.1. The System Advantages

- **Functionality:** InsFocus is built for insurance companies providing out-of-the-box insurance-specific calculations and information analysis solutions.
- **Data Model:** The system's prebuilt, tested, and optimized insurance data model, is the foundation for its insurance data management.
- **Insurance Content:** The InsFocus definitions library consists of hundreds of insurance measurements, dimensions, risk factors and sample reports, covering the requirements of insurance business users such as marketing, sales, underwriting, claims, reinsurance, actuaries, internal auditors and financial accounting.
- **Infrastructure:** Based on a robust database infrastructure, the system provides information security, data access control, complete system administration, SOA connectivity and multilingual capabilities.
- **Self-Service:** A user-friendly self-service interface enables business users to create sophisticated analysis and reports.
- **Comprehensive Solution:** InsFocus manages the full DW/BI lifecycle, without the need for additional software tools.

### 1.2. Business Benefits

- **Improved business performance:** Information-based decision-making facilitates business decision-making including underwriting control, risk selection, claims reserving and distribution channel reporting.
- **Easy creation of operational reports:** Customizable operational reports and bordereaux can easily be created by users to serve various functions in the organization such as claims, reinsurance, supplier accounts and more.
- **Short Implementation:** Structured implementation methodology ensures a quick and predictable project.
- **Risk management:** Self-service BI enables insurance professionals such as risk officers and actuaries to analyze risks and exposures by providing sophisticated data management capabilities.

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*“Whereas a regular insurance DW project takes a company’s data and business processes and creates a specific model based on them, an InsFocus DW project maps the company’s data and business processes into the product’s model adjusting definitions where needed.” (Don Canning, Microsoft’s director of insurance for its worldwide financial services group).*

## **2. Insurance Value Proposition**

### **2.1. A pre-built insurance data model**

The InsFocus DW model is a star-schema dimensional model<sup>1</sup>, adapted specifically for insurance company data and optimized for insurance reporting and analysis. The system’s data model is seamlessly designed for performance optimization and stores granular policy, coverage, claim and claimant details, enabling flexible drill-down functionality and line reporting.

### **2.2. An insurance metrics library**

InsFocus includes over 280 items - insurance metrics and KPI’s (Key Performance Indicators), such as sums-insured, outstanding claims, loss ratios, loss frequencies, exposures etc.

Item calculations are stored in the system’s definitions library which can be edited and customized to meet the company’s accounting conventions and business rules.

### **2.3. Insurance specific functionality**

The following features are pre-built into InsFocus and provide out-of-the-box reporting and analysis functionalities required to effectively manage an insurance enterprise:

#### **2.3.1. Time rollback**

This feature allows users to reconstruct any report to any particular historical date, thus enabling insurance professionals to review underwriting decisions as they were made in the past and review financial results as of their effective date.

#### **2.3.2. Time bases**

Insurance time dependencies are built into the system’s data model and calculation methods, offering analysis capabilities from different time perspectives and meeting the information needs of marketing executives, underwriters, claims and reinsurance managers, actuaries and accountants.

Time bases include operational, financial, underwriting, accident and snapshot options, altering the way measurements are calculated and providing full analysis of time base interdependencies.

#### **2.3.3. Dynamic earned premium and unearned reserve calculations**

InsFocus provides calculation templates for dynamic earned and unearned calculations at any selected date. Calculations are done on “pro-rata temporis” basis and are defined for each relevant time base. Calculations are performed at any information level, from the individual policy coverage to the company’s entire product line. This feature allows executives to monitor their portfolio profitability on a daily basis and detect trends ahead of time.

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<sup>1</sup> Ralph Kimball type model

#### **2.3.4. Sums insured and Exposures**

InsFocus provides insurers with pre-built calculation methods and measurements to analyze and monitor their sums insured and unit-exposures. Measurements are calculated on underwriting period, exposure period and snapshot basis.

#### **2.3.5. Complex and changing organization structure**

The system supports asymmetric organizational structures and multiple hierarchy chains. It also provides “as-is” and “as-if” views when the organizational structure changes. This ensures correct reporting of distribution channel performance, as well as correcting distortions as a result of reorganization.

#### **2.3.6. Product line crossover reporting**

The majority of insurance products are made up of “sections” or “coverages” representing different insurance coverages, insured objects, or a combination of both. InsFocus’ data model and query building functionalities provide seamless analysis for both insurance “products” and “lines,” giving the company’s underwriters invaluable insight into their portfolio behavior.

#### **2.3.7. Renewal and lapse comparisons**

Policies and premiums coming up for renewal are grouped by their renewal date. The system provides renewal lists, lapse analysis and comparison of renewal to expiring rates. These functionalities highlight product characteristics and distribution channel behavior, as well as offering active marketing and sales support.

#### **2.3.8. Unlimited risk parameters**

The InsFocus data model supports unlimited number of risk parameters<sup>2</sup> for each insurance product, in a single unified structure. These views provide essential pricing information at the underwriter’s fingertips.

#### **2.3.9. Claims activity monitoring**

InsFocus incorporates claims’ transactional information, including outstanding claim estimates, claim payments, indemnity and expense components, event codes, subrogations and deductibles. The system’s built-in metrics provide claims managers with the full spectrum of information required to monitor claims activity, including analysis of opened, closed, and re-opened claims.

#### **2.3.10. Claims triangulation statistics**

A built-in triangulation statistics mechanism provides the ability to compare measurements on any time base to any dependent time base (e.g. claim payments by financial year can be compared to accident year or underwriting year). Using a built-in Chain-Ladder extrapolation mechanism, the company’s actuaries can estimate the IBNR reserves required for a particular line of business.

#### **2.3.11. Claims reserves analysis**

The system’s Claim-Status-Filter provides out-of-the-box runoff statistics, comparing historic reserves to the actual values at which claims were finalized. This tool is very useful for auditing outstanding claims estimates at financial statement closure.

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<sup>2</sup> E.g. - vehicle type and driver age for motor vehicle insurance, building type and floor for home insurance, and occupation and health status for health and accident insurance.

### **2.3.12. Parametric IBNR allocation**

InsFocus' calculation mechanism is based on reusable calculation templates. Such templates are available for allocation of global IBNR reserves to an individual policy and claim level. This mechanism, which must be customized according to the insurance company's claim reserving practices, gives executives the power to drill down from a company-wide profit-loss analysis to agency, product, geographical area, or even individual client levels.

### **2.3.13. Multi-currency accounting**

InsFocus features multi-currency management that enables reporting by both base and original currencies. This mechanism supports different conversion schemes including mid-quarter R.O.E. conversions used in reinsurance accounting.

### **2.3.14. Index-adjusted calculations**

Seamless index-adjusted reporting is especially useful for preparing historic long-tail claim statistics used for pricing of excess of loss protections for motor and liability lines. The system supports multiple index bases and can be customized to specific territorial indexation standards.

## **3. Insurance content**

InsFocus contains predefined insurance measurements (items), dimensions, risk parameters, and sample reports which can be customized and edited using the InsFocus System Center.

### **3.1. Measurements (Items)**

#### **3.1.1. Policy items**

Measurements derived from policy data, such as premiums (new or renewed), sales targets, earned and unearned premiums, sums insured (issued or exposed), agent commissions, number of policies, endorsements, cancellations, days elapsed, coverage sections and exposures.

#### **3.1.2. Claims items**

Measurements derived from claims data, such as claims paid, outstanding, incurred, number of claims (opened, closed, reopened), claim elements (indemnity, expenses), deductibles, subrogations and reporting delays.

#### **3.1.3. Profitability items**

Items that combine policies and claims information, such as loss ratio, loss frequency, underwriting profitability and risk premium.

#### **3.1.4. Premium accounting items**

Items that monitor the company's premium billing and collection process, such as collected premiums, open premiums, amounts paid in time, amounts overdue and average days open debt.

### **3.2. Dimensions**

Model dimensions are customized to fit a company's portfolio according to geographic risk location, clients' information, marketing information, policy administration process, currencies, product and coverage definitions, operational information, claim event types, claimant information and claim parties.

### 3.3. Risk parameters

InsFocus provides a unique “risk parameter” mechanism that holds the different insurance products’ specific attributes into a single uniform data model.

Examples of such risk parameters may be:

- Home insurance - building type, number of stories
- Property insurance - industry code, fire classification
- Motor insurance - vehicle, model, manufacturing year, driver age
- Accident insurance - age, gender, occupation, lifestyle
- More – mechanism allows defining an unlimited number of parameters

### 3.4. Reports Library

InsFocus’ reports library addresses business issues concerning executive management, sales and marketing, underwriting, claims, reinsurance, actuarial analysis, internal auditing and accounting.

#### 3.4.1. Executive reports

Dashboards displaying ongoing performance, profitability and KPIs.

#### 3.4.2. Sales and Marketing reports

- Comparative sales figures by distribution channel, product and marketing campaigns
- Reports highlighting exceptional cancellation and commission ratios
- Lapse analysis and renewal rate comparisons
- Detailed renewal lists
- Administration reports keeping track of operations
- Cross-selling and up-selling lists to support sales initiatives

#### 3.4.3. Underwriting reports

- Profitability analysis by underwriting years and line of business
- Loss ratio and loss frequency analysis of coverage sections
- Product’s claims experience by claim type
- Analysis by risk parameters
- Section take-up of multi-peril policies

#### 3.4.4. Claims reports

- Monitor opened, closed and reopened claims
- Report claims payments and outstanding reserves
- Control cash flows vis-à-vis claim parties and service providers
- Latency and service-level reports, showing days elapsed between relevant dates in a claim’s lifecycle
- Runoff reports to validate outstanding reserve estimates

#### 3.4.5. Reinsurance reports

- Aggregate exposures
- Target risk lists
- Risk profiles
- Index-adjusted large claims development

- Cession margin analysis
- Treaty experience

### 3.4.6. Actuaries

Claims development triangulations are available on a paid or incurred basis, along with the ability to compare between time bases.

### 3.4.7. Internal Auditors

InsFocus enables generating exception lists on policy and claims activity by predefined criteria, serving to highlight suspected fraudulent activities.

### 3.4.8. Accountants

Daily profit-and-loss pro-forma reports, extraction lists for generating regulatory reports, and management expense allocation assist accountants in preparation of financial reports.

## 4. Reporting and analysis infrastructure

InsFocus leverages a robust data querying and management infrastructure built on top of Microsoft SQL Server 2005/2008. The data integration module resides on Microsoft SQL Server Integration Services (SSIS).

### 4.1. Open code calculation templates

The system's business logic is based on reusable open code SQL calculation templates that can be created and adapted by the company's IT professionals. These templates are integrated into InsFocus System Center (The system's metadata management module), providing a platform for complex business calculations.

### 4.2. Data-level, role-level, and restriction-based permissions

InsFocus incorporates enterprise security measures that control user functionality and data permissions on three levels:

- **Data-level permissions** allow users to view only the data defined in their organizational domain.
- **Role-level permissions** prevent users from performing technical actions prohibited by their roles within the organization.
- **Restriction-based permissions** control which items and dimensions are accessible to each user group (e.g. claims-users, reinsurance-users, etc.).

### 4.3. Central system administration

The System Center provides tools to perform administrative tasks, view logs, change settings, define new users, change user restrictions and edit item and dimension definitions.

### 4.4. Report scheduler

Any user with appropriate permissions can schedule reports to run automatically on predefined schedules:

- Reports can be scheduled to run daily, weekly, or monthly.
- Schedules can include both reports saved in a library and unsaved queries.
- Results can be sent as emails or SMS messages.

#### **4.5. Secure SOA with REST services**

InsFocus BI is fully SOA-based, exposing all system functionalities as secure HTTP web services. These web services follow common REST (Representational State Transfer architecture) patterns, allowing easy discovery and use of services. This feature is extremely useful in connecting InsFocus to other applications in the organization. Results can be returned as XML (used in all high-level languages), JSON (used in JavaScript), and HTML (for direct display).

#### **4.6. Excel Connector**

An external connector mechanism integrates InsFocus reports into Excel, saving connector definitions internally and allowing users to reopen the sheets and refresh data. This feature is extremely useful for comptrollers, actuaries and users that want to create their own Excel analytics based on data extracted from the data warehouse.

#### **4.7. Pre-aggregation mechanism**

The system builds a set of aggregation tables at the end of each ETL session, each based on company-specific definitions. These tables enable InsFocus to return commonly used queries in seconds, while retaining unlimited drill-down and reporting capabilities.

#### **4.8. Data warehouse-centric ETL**

The data integration module is written over Microsoft SSIS to handle loading InsFocus BI's data warehouse model from a large number of source systems. The module is designed to integrate data from sources that include relational databases, such as SQL, Oracle or DB2, text (flat) files, Excel tables, XML files, and websites.

The data integration processes provide solutions to common data warehousing issues, including slowly changing dimensions, staging area maintenance, surrogate key generation, erroneous data handling, process logging and incremental loading.

The module is completely table-driven and can be fully customized to fit an insurance company's data structures.

### **5. User interface features**

InsFocus' user interface is the single point of contact between the user and the system for report creation, report viewing, analysis and dashboards.

#### **5.1. Graphical report library**

Reports are displayed and accessed from a graphical reports library. Each user has a private library for their reports. The public library contains the company's master reports.

Each report is displayed with a graphical preview for easy browsing.

#### **5.2. Intuitive report definitions**

Defining new reports requires only a few simple steps, which business users can learn in a very short period. Users can define ad-hoc queries independently without the need to engage the company's IT department. Additionally library reports can be used as a basis for creating and saving their personal versions.

### 5.3. Result viewing & manipulation

Results returned by the system can be visually presented using split-screen tables, charts, and gauges. An Excel-like tab control enables users to view multiple sheets of information in the same report. Results can be extensively manipulated by the user through an array of controls, such as sorting, advanced filtering, result highlighting, contribution view, cumulative view and user-defined calculations.

### 5.4. Flexible drill-down and drill-through

Unlike systems with rigid drill-down hierarchy, InsFocus BI enables drill-down (row/column) and drill-through (cell) to any defined dimension, organizational member or time period as far down as the client, policy or individual claim level. This helps users understand the facts underlying any displayed result.

### 5.5. Batch run

This feature enables running the same report on a large number of organizational members and creating individual files containing their organizational data that can be sent by mail, printed or placed in a portal.

### 5.6. Measurement filters

Data can be filtered not only by static dimensions, but by dynamic calculations. For example, a user may ask to see a profitability report for clients with more than five policies and having over \$100,000 premiums. Such filters can be defined on multiple selections (e.g. business emanating from California, Nevada etc.) or on “exclude” basis (e.g. all motor business except Jaguar cars).

### 5.7. Banding (risk profiling)

“Banding” is the process of splitting insurance data into dynamically created bands. This can be simple data, such as policy sums insured or insured’s age; or complex data such as loss-frequency. Banding is heavily used in insurance, where reports such as risk profiling, client segmentation etc. are needed on a regular basis.

InsFocus BI allows to dynamically define bands by:

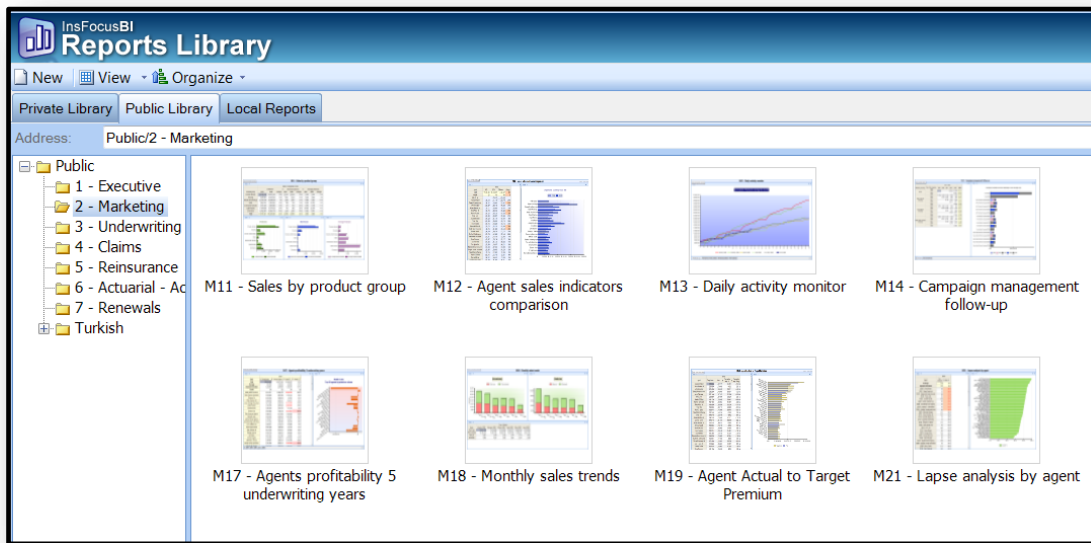
- Dimension attributes (e.g. client year of birth, policy number)
- Risk parameters (e.g. engine size, year of manufacture, floor number)
- Measurement items (e.g. loss-frequency, sum insured, number of policies)

## 6. Summary

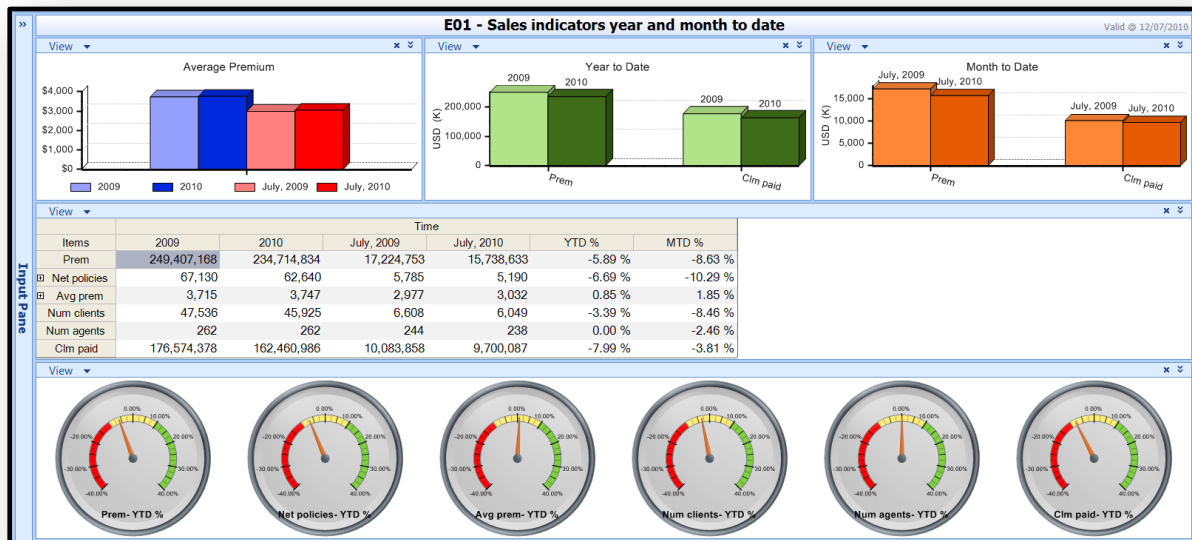
With its combination of insurance business domain expertise and application development skills, InsFocus is the best choice for insurance companies looking to advance to the next level of reporting and analytics.

Visit us: [www.insfocus.com](http://www.insfocus.com)

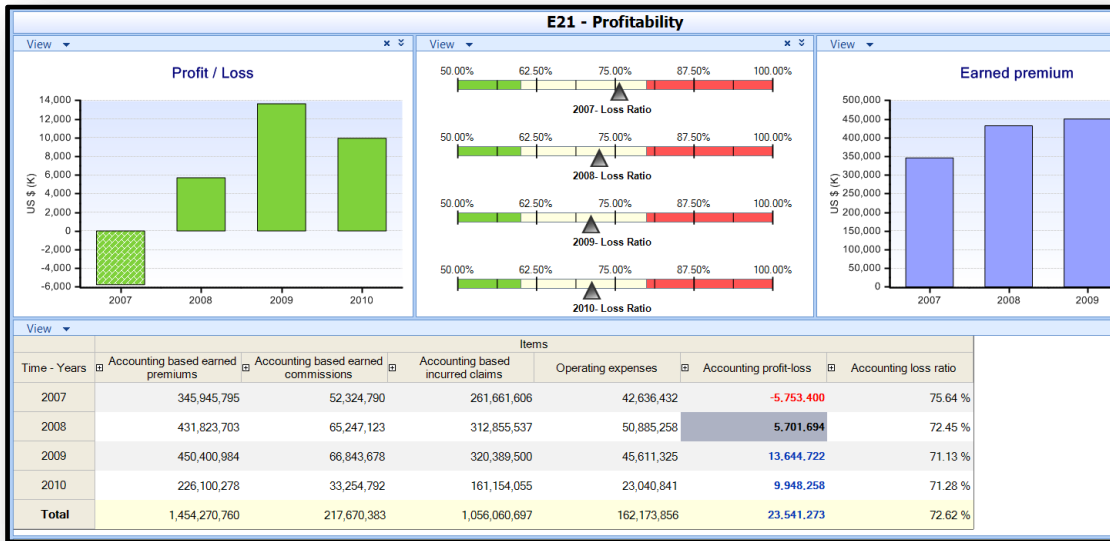
Email: [info@insfocus.com](mailto:info@insfocus.com)



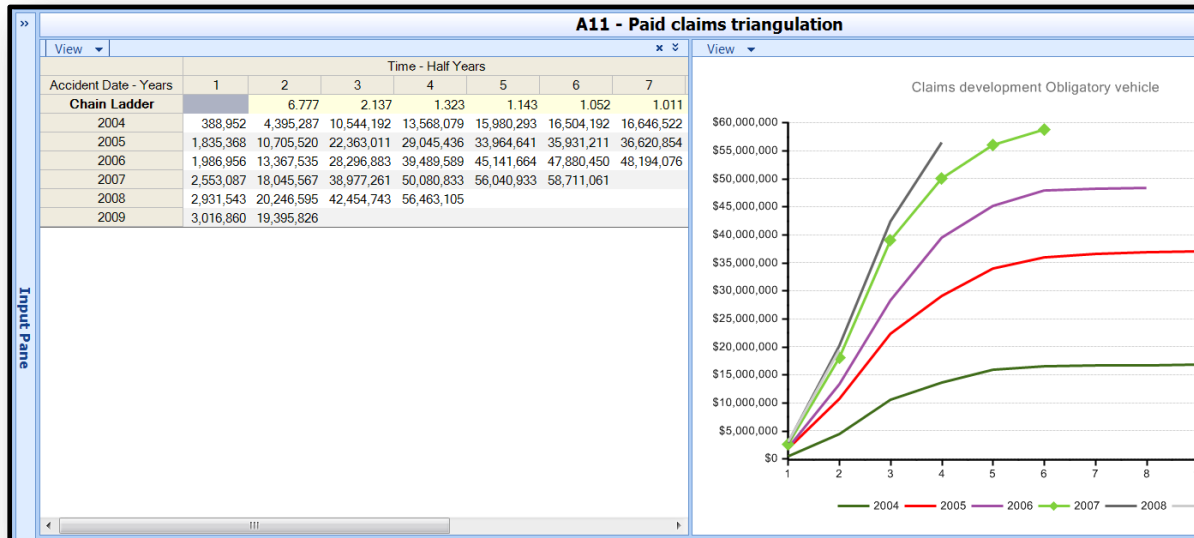
InsFocus Reports Library – conveniently navigate through the variety of out-of-the-box report templates



Graphical dashboard display – presents information in tables, charts and gauges



Daily profitability analysis of insurance portfolio



Pre-built actuarial calculations support claims reserving