



***Enterprise Governance, Risk Management
and Compliance (GRC) Software***

WHY SIRO?

SIRO IS MANAGEMENT SOLUTIONS' TOOL FOR GRC AND BUSINESS CONTINUITY MANAGEMENT IN REGULATORS, FINANCIAL INSTITUTIONS AND LARGE CORPORATIONS



SIRO has all the required **GRC, Business Continuity and Audit** management functionality to meet the Supervisor's expectations, through the following vertical modules:

- ▶ **Core:** supports the administration of shared data (organization, processes, risk categories, business lines, etc.) for full system management.
- ▶ **Risk Management:** integrates all functionality necessary for risk management (advanced self-assessment of risks and controls, indicators and alerts, incident/event management, action plans, specific reporting and dashboards).
- ▶ **Compliance:** allows registration of degree of compliance with rules and regulations, setting of controls, monitoring of risk levels and application of action plans.
- ▶ **Business Continuity:** supports BIA analysis to determine critical processes, testing of IT contingency plans and business recovery plans in contingency situations, registering of problems found and setting of action plans.
- ▶ **Audit:** supports audit plans and management of the work necessary for their implementation, management and monitoring of groups of auditors, and recording of findings, recommendations and action plans necessary to address any shortcomings.
- ▶ **Internal model-based capital and insurance portfolio calculation engine:** supports more advanced calculation than the basic version of SIRO.

Operational Risk self-assessment questionnaire

The screenshot displays a web-based questionnaire titled "Operational Risk self-assessment questionnaire". The interface is organized into several sections:

- Update Risk Assessment:** Includes a "Risk Details" section with fields for Name, Original code, Name, Address, Description, Other Business Unit, Risk Management, Other Business Unit, Other Business Unit, Risk Category, Risk Severity, and Risk Rating. It also includes a "Date of Current Version" and "Date of the next cycle".
- General Data:** Includes a "Category selected" dropdown and a "Risk" dropdown.
- Internal risk assessment:** Includes a "Likelihood" dropdown (Low, Medium, High), a "Frequency" dropdown (Low, Medium, High), and a "Severity" dropdown (Low, Medium, High). It also includes a "Risk Rating" dropdown (Low, Medium, High) and a "Risk Rating" dropdown (Low, Medium, High).
- External risk assessment:** Includes a "Likelihood" dropdown (Low, Medium, High) and a "Frequency" dropdown (Low, Medium, High).
- Impact:** Includes a "Financial impact" dropdown (Low, Medium, High), a "Reputation" dropdown (Low, Medium, High), and a "Compliance" dropdown (Low, Medium, High).
- Assessment justification:** Includes a "Justification" text area and a "Risk Rating" dropdown (Low, Medium, High).

SOLUTIONS BASED ON QUALITATIVE ASSESSMENTS (E.G. 'RED', 'YELLOW' AND 'GREEN') HAVE DIFFICULTIES TRANSLATING THOSE INTO QUANTITATIVE FIGURES THAT CAN THEN BE INTEGRATED WITH THE FINANCIAL IMPACTS ACCOUNTED FOR THE OPERATIONAL RISK EVENTS THAT HAVE OCCURRED

ADVANTAGES

OPERATIONAL RISK ARCHITECTURES BASED ON INTEGRATING SEPARATE SPECIALIST APPLICATIONS ARE PROBLEMATIC (COHERENCE, INTERFACES, EXTRA COSTS, SUBSTANTIAL EFFORT TO RECONCILE INFORMATION). AN INTEGRATED AND FULLY CONFIGURABLE SOLUTION PROVIDES RISK MANAGERS WITH A GLOBAL PICTURE OF RISK

SIRO's scope has evolved from Operational Risk management to include governance, internal control, compliance, modeling and optimization of the insurance portfolio in large industrial corporations as well as specific management of IT, legal, reputational and outsourcing risks.

Main features:

- ▶ **Experience:** available **since 2004**; mature and advanced tool.
- ▶ Proven tool: has passed **supervisory audit** and validation processes.
- ▶ Credentials: implemented in a large number of Financial Institutions. **Large user base.**
- ▶ **Developments:** methodological and functional updates.
- ▶ Adaptable: a common core supports the most advanced Risk and Business Continuity Management methodologies, but is **flexible to adapt** to the individual needs of organizations.
- ▶ **Quantification:** **SIRO-ARE** mathematical-statistical engine incorporates the most advanced techniques on the market, the widest range of distributions for severity modeling, ability to work with scenarios, and maximum flexibility thanks to **R language** interpretation.
- ▶ **Sophisticated reporting:** dashboards, **interactive graphics, data export to Excel**, production of regular reports for management and business areas. Large number of predefined and customized reports. Production of documents (Word, PowerPoint) in the client's format.
- ▶ **Other areas:** specific versions for areas outside GRC such as **Insurable risk** (Insurance policy optimization) and **Business Continuity.**

Event database query

Search incidents

Historical search 12:00:00

Code Name

Description

Owner business area

Risk Root cause types

Deliverables

Risk Coordinator Manager

Financial Reputational Business

Maximum Impact Incident type

Occurrence date from Until

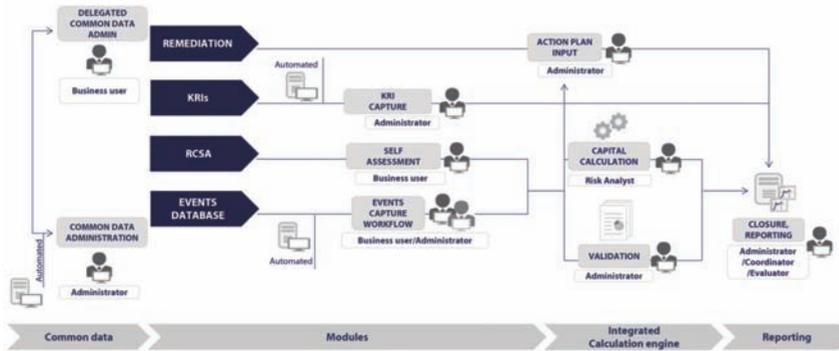
Submission date from Until

0 results found

Code	Name	Submission date	Occurrence date	Reporting user	Root cause types	Root cause description	Owner business area	Business	Reputational	Financial	Quantitative impact	Immediate response to the incident
INCID-00001	Incident 1	Nov 5, 2017	Nov 3, 2017	User 1	• RCT-00001 - Root cause type 1 (Level 1)		BAD01	2 - Low	2 - Low	2 - Low	1,200	Immediate response to the incident

THE TOOL SHOULD ADAPT TO THE MANAGEMENT FRAMEWORK AS OPPOSED TO THE MANAGEMENT FRAMEWORK ADAPTING TO THE TOOL

FUNCTIONALITIES



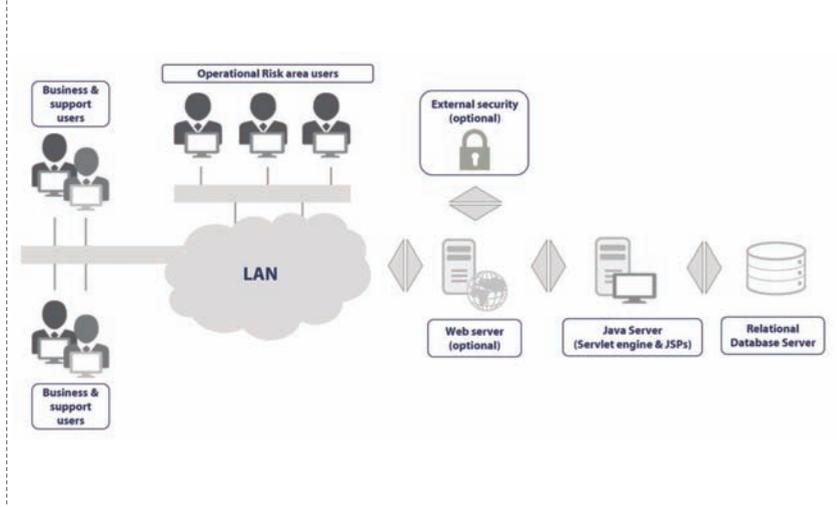
LESS MATURE TOOLS
CAPTURE A SNAPSHOT
PICTURE OF THE RISK MAP,
BUT DO NOT STAND UP
WELL TO ORGANIZATIONAL
AND PROCESS CHANGES
OVER TIME

Common data management	Risk Control Self Assessment (RCSA)	Action Plans
<p>Processes, Risks, Controls, Organizational Structure, Users and Roles, Risk Categories, Business Lines, etc.</p> <p>Features</p> <ul style="list-style-type: none"> - Can be integrated into the corporate intranet. - Allows automatic data capture from enterprise master data sources. - Allows data transfer to external systems. - Focus on risk users. Minimum workload. - Full traceability of changes. - Possibility to attach documents and links. 	<ul style="list-style-type: none"> - Work organization through campaigns. - Customizable assessment workflow. - Continuous assessment. - Assessment methodology quantifiable. - Assessment auditability. - Online VaR calculation through Monte Carlo. - User help. - Specific assessments: <ul style="list-style-type: none"> ▶ Outsourcing risk. ▶ Legal risk. ▶ IT risk. ▶ Reputational risk. - Independent control assessment. 	<ul style="list-style-type: none"> - Direct relationship with risks and controls. Action plans can be linked to incidents/losses and indicators in addition to risks and controls. - Possibility to attach documents and links to plans. - Alert generation. - Action plans as a result of high risk assessment scores, input of significant events, outlier indicators or deficient controls. - Integration of action plans with audit recommendations.
SIRO-ARE (Advanced Risk Engine)	Operational Risk - Loss Database	Indicators
<ul style="list-style-type: none"> - Data analysis and cleansing, hypothesis verification and identification and setup of Operational Risk categories. - Frequency and severity distribution fitting. - Integration of sources: <ul style="list-style-type: none"> ▶ Internal loss database. ▶ Qualitative data (scenarios). ▶ External events. - VaR calculation. - Back testing. - Stress Testing. - Sensitivity and stability analysis. - Regulatory reporting. - Integration with R language. 	<ul style="list-style-type: none"> - Registration of events. - Capture: <ul style="list-style-type: none"> ▶ Individual, screen-based. ▶ Massive, screen-based (Excel). ▶ Automated capture interface. - Capture workflow. - N:1 relationship with risks. - Possibility to attach documents and links to events. - Integration with Action Plans. 	<ul style="list-style-type: none"> - KRI, KCI and KPI support. - Indicator register with rating scale definition. - Capture: <ul style="list-style-type: none"> ▶ Individual, screen-based. ▶ Massive, screen-based (Excel). ▶ Automated capture interface. - N:1 relationship with risks and with risk categories. - Single and composite multivariate indicators providing a detailed/aggregated picture. - Alert generation. - Integration with Action Plans.
Insurable Risk/Insurance Portfolio Optimization	Business continuity/BIA analysis	Cross-functional features
<ul style="list-style-type: none"> - Management and valuation of physical assets. - Insurance portfolio management. - Loss capture. - Frequency and severity distribution modeling. - "What-if" analysis. - Franchise and reinsured risk optimization. - Captive insurer management. 	<ul style="list-style-type: none"> - Process criticality rating (BIA) focused on establishing Continuity Plans. - Discontinuity impact assessment. - Continuity plan management. - Evaluation of continuity plans through continuity testing. 	<ul style="list-style-type: none"> - Integrated statistical calculation engine. - Interactive graphics. - Regular, integrated reports. - Document management on the system's database or on a corporate document manager. - Element comparison backed by database. - Profiling and authentication can be delegated. - Online historical and data query. - Traceability and auditability of changes. - Two-factor authentication (2FA). - Access log. - Chat workflows.

TECHNICAL ARCHITECTURE

SIRO IS OFFERED IN TWO FORMS: SOFTWARE AS A SERVICE (CLOUD), GUARANTEEING MAXIMUM SECURITY AND SERVICE LEVELS, AND ON-PREMISES, WITH A CUSTOMIZABLE ARCHITECTURE DESIGNED TO ADAPT TO THE ORGANIZATION'S SPECIFIC TECHNOLOGY

SIRO architecture



Three-layer architecture

- ▶ A Java server that implements a servlet container and a Java Server Pages (JSP) engine, of which there are versions for almost all current Operating Systems: WebSphere, Tomcat, WebLogic, etc.
- ▶ A Relational Database Management System (RDBMS): Oracle, SQL Server, etc.
- ▶ A web server (optional), usually part of the intranet infrastructure, where user authentication is delegated.
- ▶ Client: user PC with a web browser.

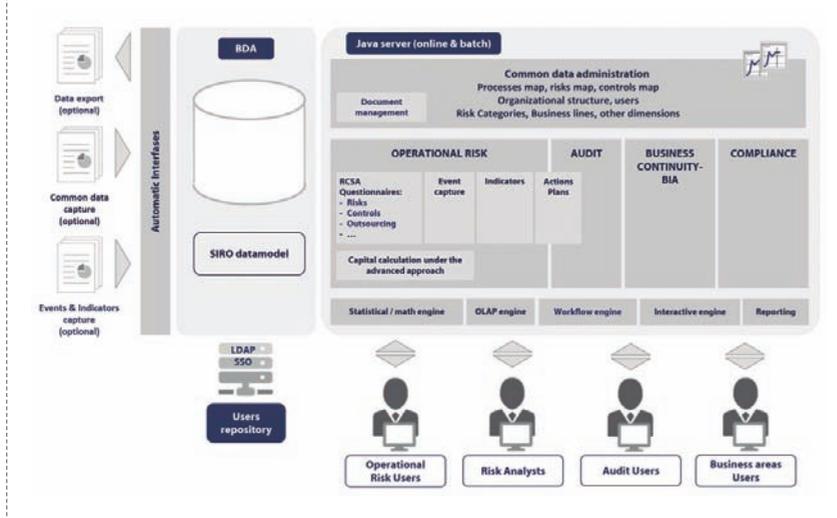
Service modes

- ▶ Software as a Service.
- ▶ On premises.

Technical features

- ▶ Developed independently of the operating system, Java Application Server and Relational Database Management System used.
- ▶ Security can be delegated to the existing corporate Single Sign On/Intranet architecture.
- ▶ Protection of URLs and against malicious access.
- ▶ Corrective maintenance and support with flexible Service Levels tailored to each individual organization.

Technical features



CREDENTIALS

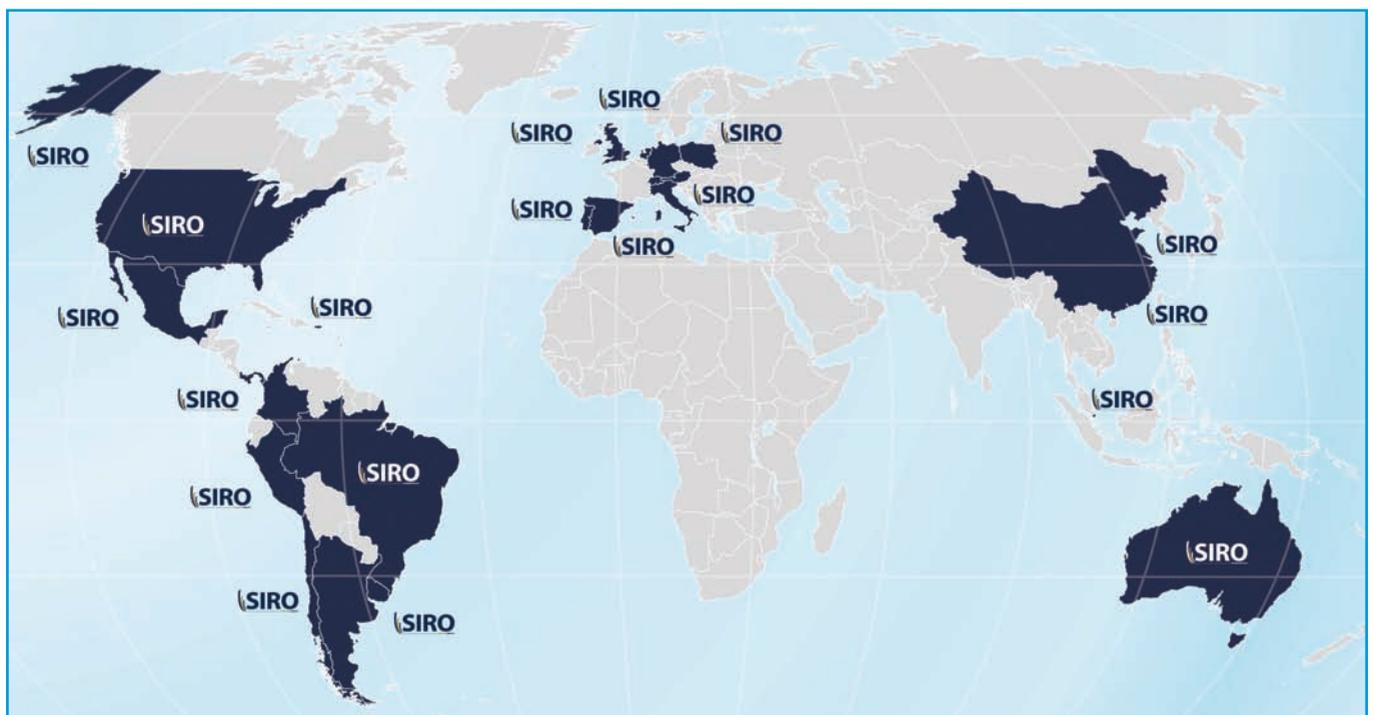


OPERATIONAL RISK UNITS HAVE VERY LIMITED HUMAN RESOURCES THAT CANNOT BECOME SLAVES TO ROUTINE. TOOLS SHOULD BE SUFFICIENTLY MATURE AND OPTIMIZED SO AS TO REDUCE THEIR WORKLOAD AND ALLOW THEM TO FOCUS ON HIGHER VALUE-ADDED TASKS

Main SIRO implementations

The different SIRO modules are widely implemented in organizations of various kinds and endorsed by Regulatory Authorities. Among the types of organizations in which SIRO is implemented are:

- ▶ Central Banks, as well as regulatory and supervisory bodies.
- ▶ Large, highly diversified financial groups with a presence in different geographical regions.
- ▶ Financial institutions with an international presence.
- ▶ Financial institutions with a local presence.
- ▶ Insurance companies.
- ▶ Corporations in industry sectors (Insurable risk module/Insurance portfolio optimization).



MANAGEMENT SOLUTIONS

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Risk Management and Control

Management and Financial Information

New Technologies

For further information you may contact:

Eduardo Pérez-Hickman

Partner at Management Solutions
eduardo.perez-hickman@msspain.com

Jorge Sánchez Rojas

Manager at Management Solutions
antonio.tazon@msspain.com

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