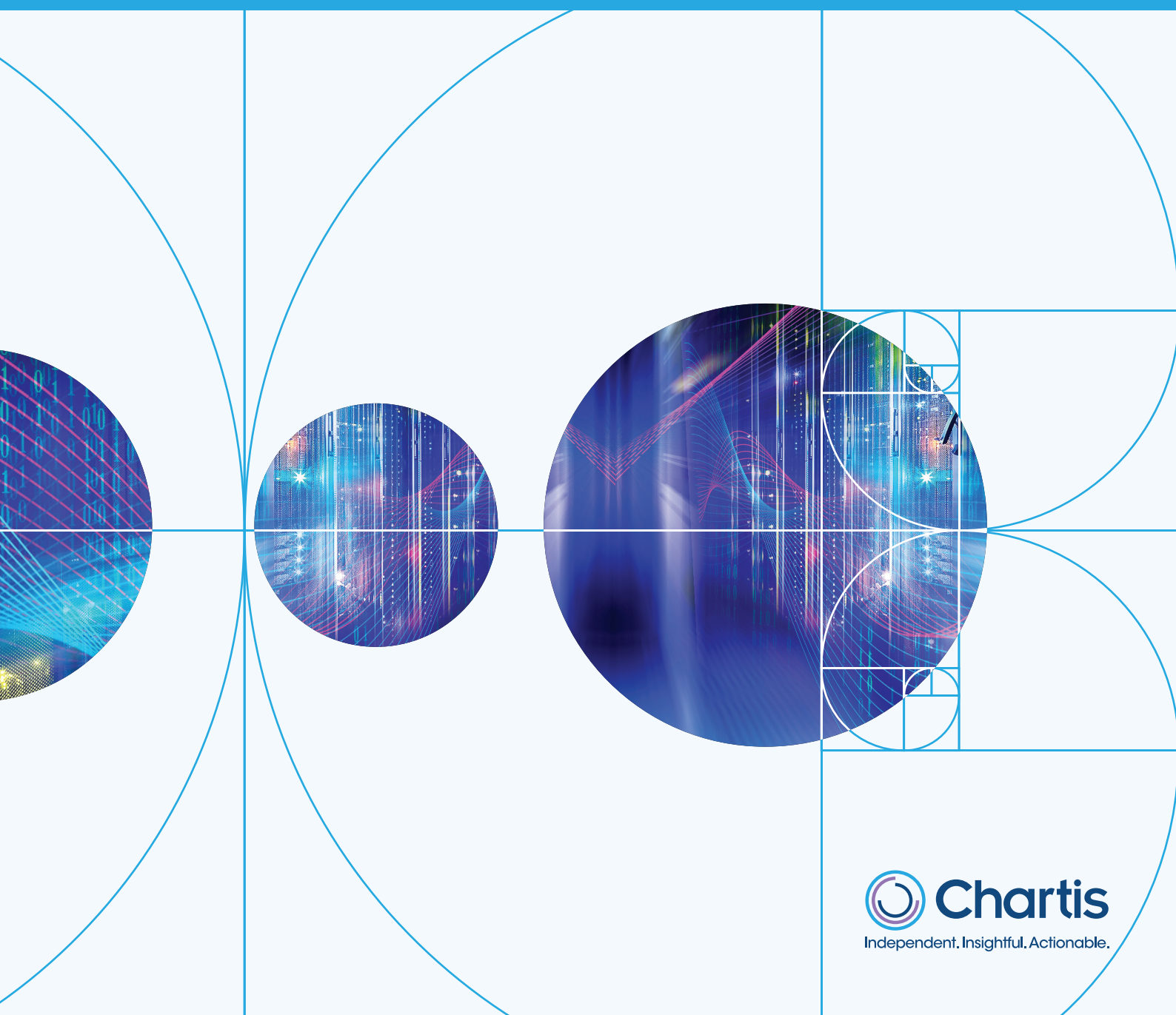


PwC:
RiskTech Quadrant®
Enterprise GRC Solutions, 2021





Chartis Research is the leading provider of research and analysis on the global market for risk technology. It is part of Infopro Digital, which owns market-leading brands such as Risk and WatersTechnology. Chartis' goal is to support enterprises as they drive business performance through improved risk management, corporate governance and compliance, and to help clients make informed technology and business decisions by providing in-depth analysis and actionable advice on virtually all aspects of risk technology. Areas of expertise include:

- Credit risk.
- Operational risk and governance, risk and compliance (GRC).
- Market risk.
- Asset and liability management (ALM) and liquidity risk.
- Energy and commodity trading risk.
- Financial crime including trader surveillance, anti-fraud and anti-money laundering.
- Cyber risk management.
- Insurance risk.
- Regulatory requirements.

Chartis focuses on risk and compliance technology, which gives it a significant advantage over generic market analysts.

The firm has brought together a leading team of analysts and advisors from the risk management and financial services industries. This team has hands-on experience of implementing and developing risk management systems and programs for Fortune 500 companies and leading consulting houses.

Visit www.chartis-research.com for more information.

Join our global online community at www.risktech-forum.com.

© Copyright Infopro Digital Services Limited 2021.
All Rights Reserved.

No part of this publication may be reproduced, adapted, stored in a retrieval system or transmitted in any form by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior permission of Infopro Digital Services Limited trading as Chartis Research ('Chartis').

*The facts of this document are believed to be correct at the time of publication but cannot be guaranteed. Please note that the findings, conclusions and recommendations that Chartis delivers will be based on information gathered in good faith, whose accuracy we cannot guarantee. Chartis accepts no liability whatever for actions taken based on any information that may subsequently prove to be incorrect or errors in our analysis. See **'Terms and conditions'**.*

RiskTech100®, RiskTech Quadrant® and FinTech Quadrant™ are Registered Trade Marks of Infopro Digital Services Limited.

Unauthorized use of Chartis' name and trademarks is strictly prohibited and subject to legal penalties.

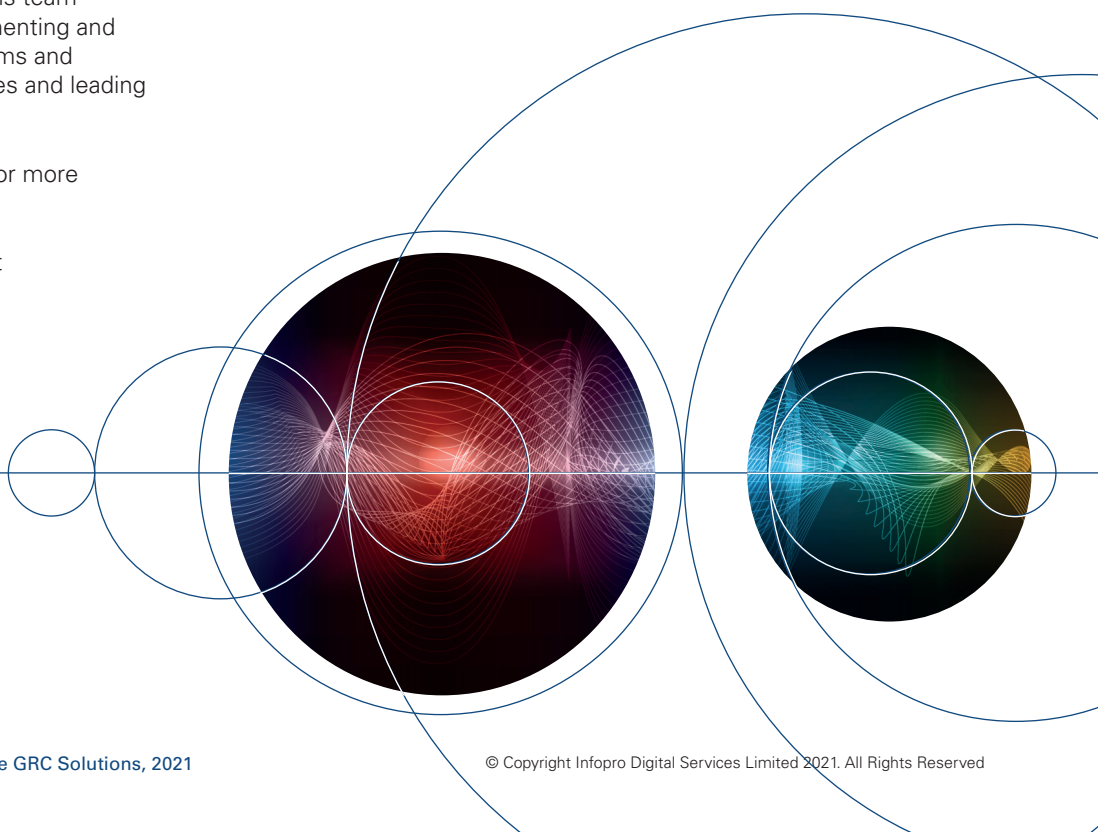


Table of contents

1. In this research paper	5
2. RiskTech Quadrant® for enterprise GRC solutions	6
3. PwC: enterprise GRC market position and capabilities	8
4. Appendix A: RiskTech Quadrant® methodology	9
5. Further reading	13

List of figures and tables

Figure 1: RiskTech Quadrant® for EGRC solutions, 2021	7
Figure 2: RiskTech Quadrant® research process	9
Figure 3: RiskTech Quadrant®	10

1. In this research paper

This research paper is based on material originally published in the Chartis Research report *GRC Solutions, 2021: Market Update and Vendor Landscape*. It includes the following:

- RiskTech Quadrant® for enterprise governance, risk and compliance (GRC) solutions.
- PwC: enterprise GRC market position and capabilities.
- RiskTech Quadrant® methodology.

2. RiskTech Quadrant® for enterprise GRC solutions

Figure 1 illustrates Chartis' view of the vendor landscape for enterprise GRC (EGRC) solutions.

The RiskTech Quadrant® is a proprietary methodology developed specifically for the risk technology marketplace. It takes into account the product, technology and organizational capabilities of vendors.

Appendix A describes the research methodology used for the RiskTech Quadrant®. Specifically, we considered the following criteria for this report:

Completeness of offering:

- Workflow and case management.
- Content integration.
- Visualization and reporting.
- Flexibility of content.
- Control framework integration.
- Data management.

Market potential factors:

- Customer satisfaction.
- Market penetration.
- Growth strategy.
- Financials.
- Business model.

Figure 1: RiskTech Quadrant® for EGRC solutions, 2021



* WK = Wolters Kluwer
Source: Chartis Research

3. PwC: enterprise GRC market position and capabilities

PwC: company profile

PwC is a professional services firm headquartered in London, with offices in 157 countries and more than 276,000 staff. Its business caters to clients in many industries and sectors, and it aims to help organizations and individuals in its core areas of assurance, consulting, deals and tax. PwC's gross revenues for the year ending 30 June 2019 were \$42.4 billion.

Quadrant commentary

The EGRC quadrant reflects the technology vendor market that supplies 'core' GRC functionality. As the broad category of GRC continues to expand and its constituent parts diverge and deepen, EGRC's place as a distinct category is being reinforced. Current EGRC solutions are modern iterations of GRC's historical audit-focused and workflow foundations.

Vendors' strategies in this marketplace vary by the level of technology framework employed: highly specific versus more generic open architectures. Over time, vendors have developed competitive solutions and invested in integrating automation, workflow and case management capabilities, as well as the flexible mapping of content to different business units.

The functionality assessed in our EGRC quadrant includes case management, dashboarding and the management of key risk indicators. Significant differentiating capabilities for solutions in this space include content and control-framework integration.

PwC's EGRC offerings

PwC's position in the EGRC landscape is centered on core parts of its solution set – Risk Command and Enterprise Insights – and a cross-section of other GRC PwC products that focus on asset discovery, model management, internal controls testing, data management, compliance management, workflow, case management, automation and dashboarding (including Model Edge, Risk Proof, True Comply, Application Controls Monitoring, Risk Atlas, Terrain Insights, and the Detection and Monitoring Hub). Within a cluster

of mature vendors in this space, PwC placed as a category leader, and most of its capabilities (notably content integration, visualization and reporting and data management) were scored as 'advanced'.

From a workflow and case management perspective, in particular, PwC scored well. Its solutions' workflow management capabilities are based on stratified systems that enable authorized users to control risk assessments and other workflows. Different users are able to interact and customize and upload documents to automated systems that assist in the enterprise audit process. The stratification of systems enables users to separate different processes into distinct levels, supporting ongoing data integrity and quality control.

PwC's strong score for its control framework integration was based on its Enterprise Insights application programming interfaces (APIs), and its connection to a prebuilt leading practice library that maps to risk libraries. The ability to integrate into a control framework is a feature that demarcates PwC's EGRC offering from a more traditional process and control recorder. Similarly, the solutions' centralized interfaces for risk frameworks highlight how PwC's EGRC offering reflects the expansion of the risk function within organizations, and its increased interaction with other GRC elements.

4. Appendix A: RiskTech Quadrant® methodology

Chartis is a research and advisory firm that provides technology and business advice to the global risk management industry. Chartis provides independent market intelligence regarding market dynamics, regulatory trends, technology trends, best practices, competitive landscapes, market sizes, expenditure priorities, and mergers and acquisitions. Chartis' RiskTech Quadrant® reports are written by experienced analysts with hands-on experience of selecting, developing, and implementing risk management systems for a variety of international companies in a range of industries including banking, insurance, capital markets, energy, and the public sector.

Chartis' research clients include leading financial services firms and Fortune 500 companies, leading consulting firms, and risk technology vendors. The risk technology vendors that are evaluated in the RiskTech Quadrant® reports can be Chartis clients or firms with whom Chartis has no relationship. Chartis evaluates all risk technology vendors using consistent and objective criteria, regardless of whether or not they are a Chartis client.

Where possible, risk technology vendors are given the opportunity to correct factual errors prior to publication, but cannot influence Chartis' opinion. Risk technology vendors cannot purchase or influence positive exposure. Chartis adheres to the highest standards of governance, independence, and ethics.

Inclusion in the RiskTech Quadrant®

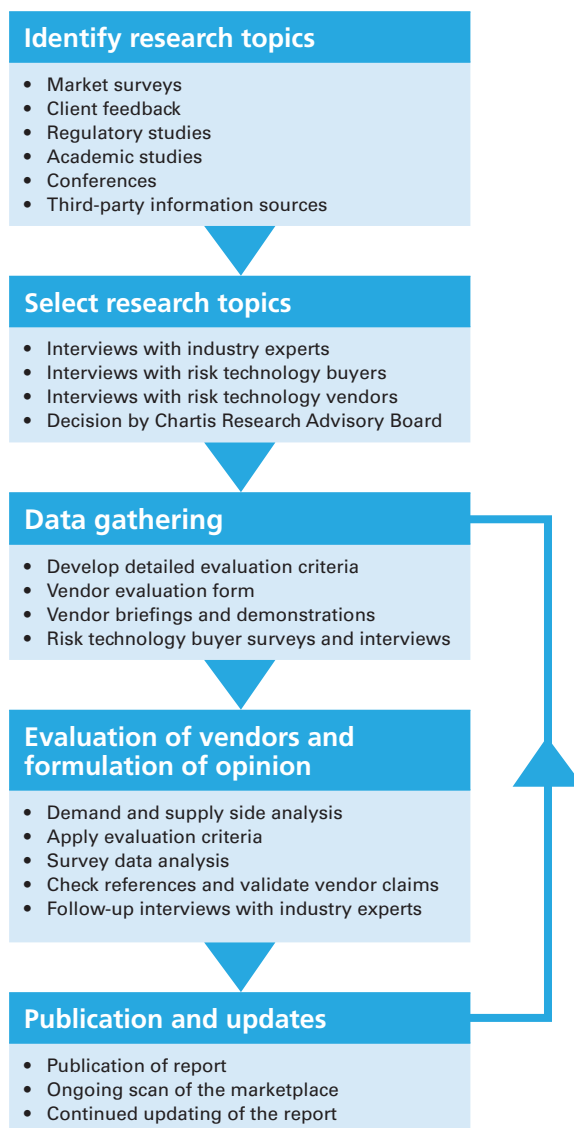
Chartis seeks to include risk technology vendors that have a significant presence in a given target market. The significance may be due to market penetration (e.g. large client-base) or innovative solutions. Chartis does not give preference to its own clients and does not request compensation for inclusion in a RiskTech Quadrant® report. Chartis utilizes detailed and domain-specific 'vendor evaluation forms' and briefing sessions to collect information about each vendor. If a vendor chooses not to respond to a Chartis vendor evaluation form, Chartis may still include the vendor in the report. Should this happen, Chartis will base its opinion on direct data collated from risk technology buyers and users, and from publicly available sources.

Research process

The findings and analyses in the RiskTech Quadrant® reports reflect our analysts' considered opinions, along with research into market trends, participants, expenditure patterns, and best

practices. The research lifecycle usually takes several months, and the analysis is validated through several phases of independent verification. Figure 2 below describes the research process.

Figure 2: RiskTech Quadrant® research process



Source: Chartis Research

Chartis typically uses a combination of sources to gather market intelligence. These include (but are not limited to):

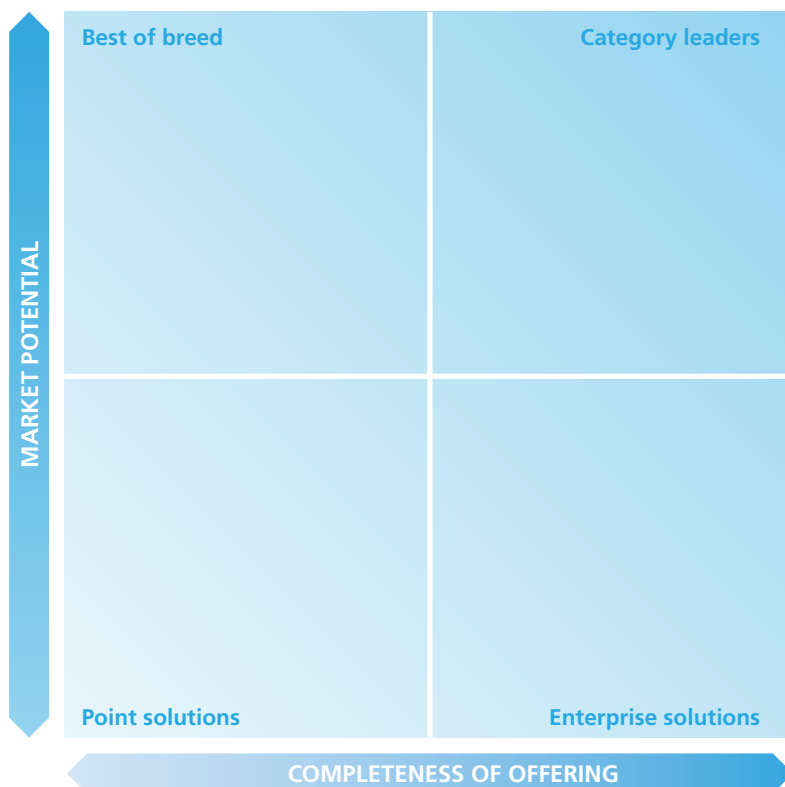
- **Chartis vendor evaluation forms.** A detailed set of questions covering functional and non-functional aspects of vendor solutions, as well as organizational and market factors. Chartis' vendor evaluation forms are based on practitioner level expertise and input from real-life risk technology projects, implementations, and requirements analysis.
- **Risk technology user surveys.** As part of its ongoing research cycle, Chartis systematically surveys risk technology users and buyers, eliciting feedback on various risk technology vendors, satisfaction levels, and preferences.
- **Interviews with subject matter experts.** Once a research domain has been selected, Chartis undertakes comprehensive interviews and briefing sessions with leading industry experts, academics, and consultants on the specific domain to provide deep insight into market trends, vendor solutions, and evaluation criteria.
- **Customer reference checks.** These are telephone and/or email checks with named customers of selected vendors to validate strengths and weaknesses, and to assess post-sales satisfaction levels.
- **Vendor briefing sessions.** These are face-to-face and/or web-based briefings and product demonstrations by risk technology vendors. During these sessions, Chartis experts ask in-depth, challenging questions to establish the real strengths and weaknesses of each vendor.
- **Other third-party sources.** In addition to the above, Chartis uses other third-party sources of information such as conferences, academic and regulatory studies, and collaboration with leading consulting firms and industry associations.

Evaluation criteria

The RiskTech Quadrant® (see Figure 3) evaluates vendors on two key dimensions:

1. Completeness of offering
2. Market potential

Figure 3: RiskTech Quadrant®



Source: Chartis Research

We develop specific evaluation criteria for each piece of quadrant research from a broad range of overarching criteria, outlined below. By using domain-specific criteria relevant to each individual risk, we can ensure transparency in our methodology, and allow readers to fully appreciate the rationale for our analysis.

Completeness of offering

- **Depth of functionality.** The level of sophistication and amount of detailed features in the software product (e.g. advanced risk models, detailed and flexible workflow, domain-specific content). Aspects assessed include: innovative functionality, practical relevance of features, user-friendliness, flexibility, and embedded intellectual property. High scores are given to those firms that achieve an appropriate balance between sophistication and user-friendliness. In addition, functionality linking risk to performance is given a positive score.
- **Breadth of functionality.** The spectrum of requirements covered as part of an enterprise risk management system. This will vary for

each subject area, but special attention will be given to functionality covering regulatory requirements, multiple risk classes, multiple asset classes, multiple business lines, and multiple user types (e.g. risk analyst, business manager, CRO, CFO, Compliance Officer). Functionality within risk management systems and integration between front-office (customer-facing) and middle/back office (compliance, supervisory, and governance) risk management systems are also considered.

- **Data management and technology infrastructure.** The ability of risk management systems to interact with other systems and handle large volumes of data is considered to be very important. Data quality is often cited as a critical success factor and ease of data access, data integration, data storage, and data movement capabilities are all important factors. Particular attention is given to the use of modern data management technologies, architectures, and delivery methods relevant to risk management (e.g. in-memory databases, complex event processing, component-based architectures, cloud technology, software-as-a-service). Performance, scalability, security, and data governance are also important factors.
- **Risk analytics.** The computational power of the core system, the ability to analyze large amounts of complex data in a timely manner (where relevant in real time), and the ability to improve analytical performance are all important factors. Particular attention is given to the difference between 'risk' analytics and standard 'business' analytics. Risk analysis requires such capabilities as non-linear calculations, predictive modeling, simulations, scenario analysis, etc.
- **Reporting and presentation layer.** The ability to present information in a timely manner, the quality and flexibility of reporting tools, and ease of use are important for all risk management systems. Particular attention is given to the ability to do ad-hoc 'on-the-fly' queries (e.g. what-if-analysis), as well as the range of 'out-of-the-box' risk reports and dashboards.

Market potential

- **Business model.** Includes implementation and support and innovation (product, business model and organizational). Important factors include size and quality of implementation team, approach to software implementation, and post-sales support and training. Particular attention is given to 'rapid' implementation methodologies and 'packaged' services offerings. Also evaluated are new ideas, functionality and technologies to solve specific risk management problems. Speed to market, positioning, and translation into incremental revenues are also important success factors in launching new products.
- **Market penetration.** Volume (i.e. number of customers) and value (i.e. average deal size) are considered important. Rates of growth relative to sector growth rates are also evaluated. Also covers brand awareness, reputation, and the ability to leverage current market position to expand horizontally (with new offerings) or vertically (into new sectors).
- **Financials.** Revenue growth, profitability, sustainability, and financial backing (e.g. the ratio of license to consulting revenues) are considered key to scalability of the business model for risk technology vendors.
- **Customer satisfaction.** Feedback from customers is evaluated, regarding after-sales support and service (e.g. training and ease of implementation), value for money (e.g. price to functionality ratio) and product updates (e.g. speed and process for keeping up to date with regulatory changes).
- **Growth strategy.** Recent performance is evaluated, including financial performance, new product releases, quantity and quality of contract wins, and market expansion moves. Also considered are the size and quality of the sales force, sales distribution channels, global presence, focus on risk management, messaging, and positioning. Finally, business insight and understanding, new thinking, formulation and execution of best practices, and intellectual rigor are considered important.

Quadrant descriptions

Point solutions

- Point solutions providers focus on a small number of component technology capabilities, meeting a critical need in the risk technology market by solving specific risk management problems with domain-specific software applications and technologies.
- They are often strong engines for innovation, as their deep focus on a relatively narrow area generates thought leadership and intellectual capital.
- By growing their enterprise functionality and utilizing integrated data management, analytics and BI capabilities, vendors in the point solutions category can expand their completeness of offering, market potential and market share.

Best-of-breed

- Best-of-breed providers have best-in-class point solutions and the ability to capture significant market share in their chosen markets.
- They are often distinguished by a growing client base, superior sales and marketing execution, and a clear strategy for sustainable, profitable growth. High performers also have a demonstrable track record of R&D investment, together with specific product or 'go-to-market' capabilities needed to deliver a competitive advantage.
- Focused functionality will often see best-of-breed providers packaged together as part of a comprehensive enterprise risk technology architecture, co-existing with other solutions.

Enterprise solutions

- Enterprise solutions providers typically offer risk management technology platforms, combining functionally-rich risk applications with comprehensive data management, analytics and BI.
- A key differentiator in this category is the openness and flexibility of the technology architecture and a 'toolkit' approach to risk analytics and reporting, which attracts larger clients.
- Enterprise solutions are typically supported with comprehensive infrastructure and service

capabilities, and best-in-class technology delivery. They also combine risk management content, data and software to provide an integrated 'one-stop-shop' for buyers.

Category leaders

- Category leaders combine depth and breadth of functionality, technology and content with the required organizational characteristics to capture significant share in their market.
- Category leaders demonstrate a clear strategy for sustainable, profitable growth, matched with best-in-class solutions and the range and diversity of offerings, sector coverage and financial strength to absorb demand volatility in specific industry sectors or geographic regions.
- Category leaders will typically benefit from strong brand awareness, global reach and strong alliance strategies with leading consulting firms and systems integrators.

5. Further reading



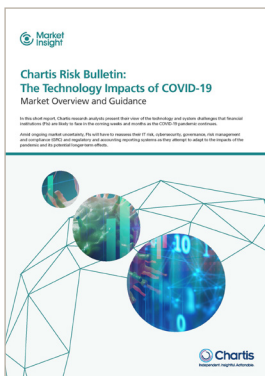
**Enterprise GRC Solutions,
2019: Market Update and
Vendor Landscape**



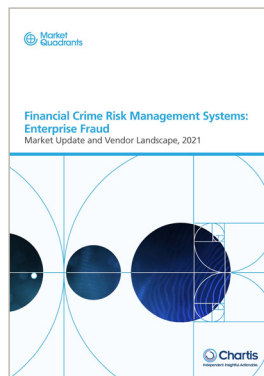
Big Bets 2021



RiskTech100® 2021



**Chartis Risk Bulletin: The
Technology Impacts of COVID-19**



**Financial Crime Risk
Management Systems:
Enterprise Fraud;
Market Update and Vendor
Landscape, 2021**



**ALM Technology Systems,
2021: Market and
Vendor Landscape**

For all these reports, see www.chartis-research.com