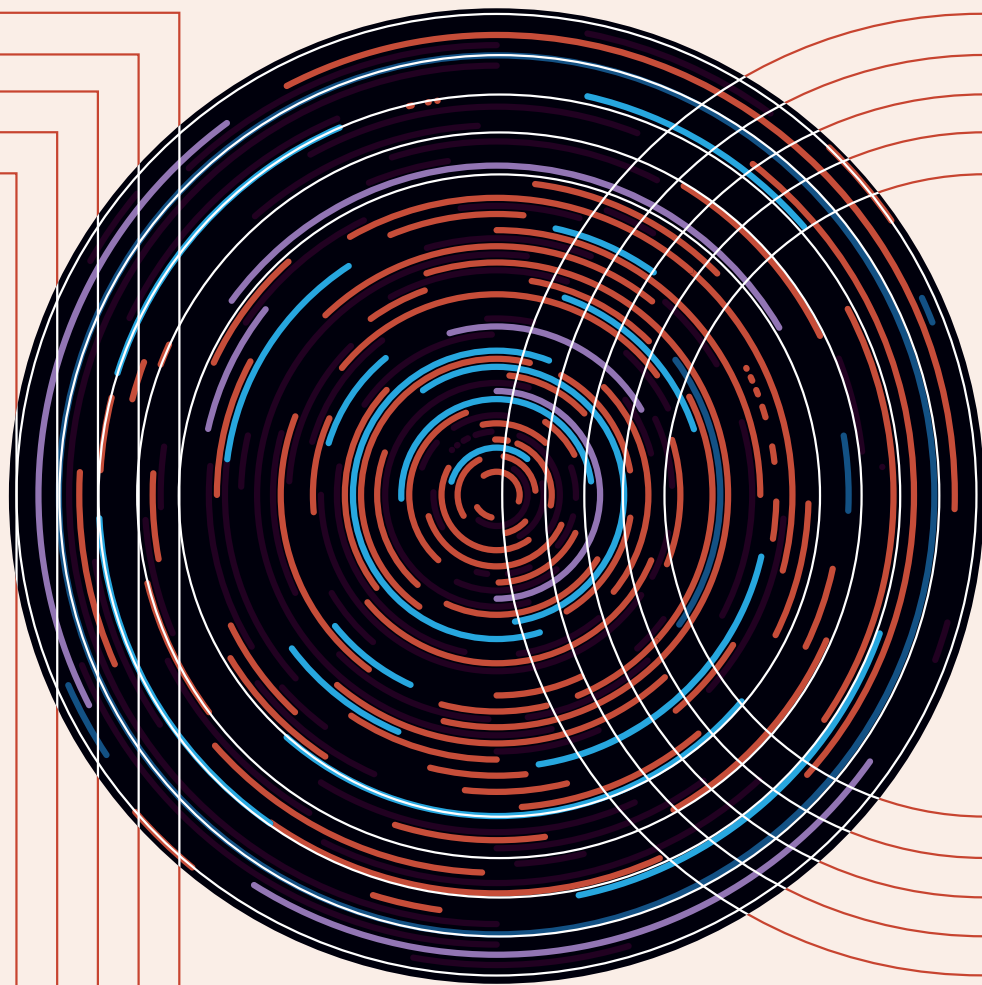




RiskTech 100 2022





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.
- Wealth advisory.
- Asset management.

Chartis focuses on risk and compliance technology, giving 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 firms.

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

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

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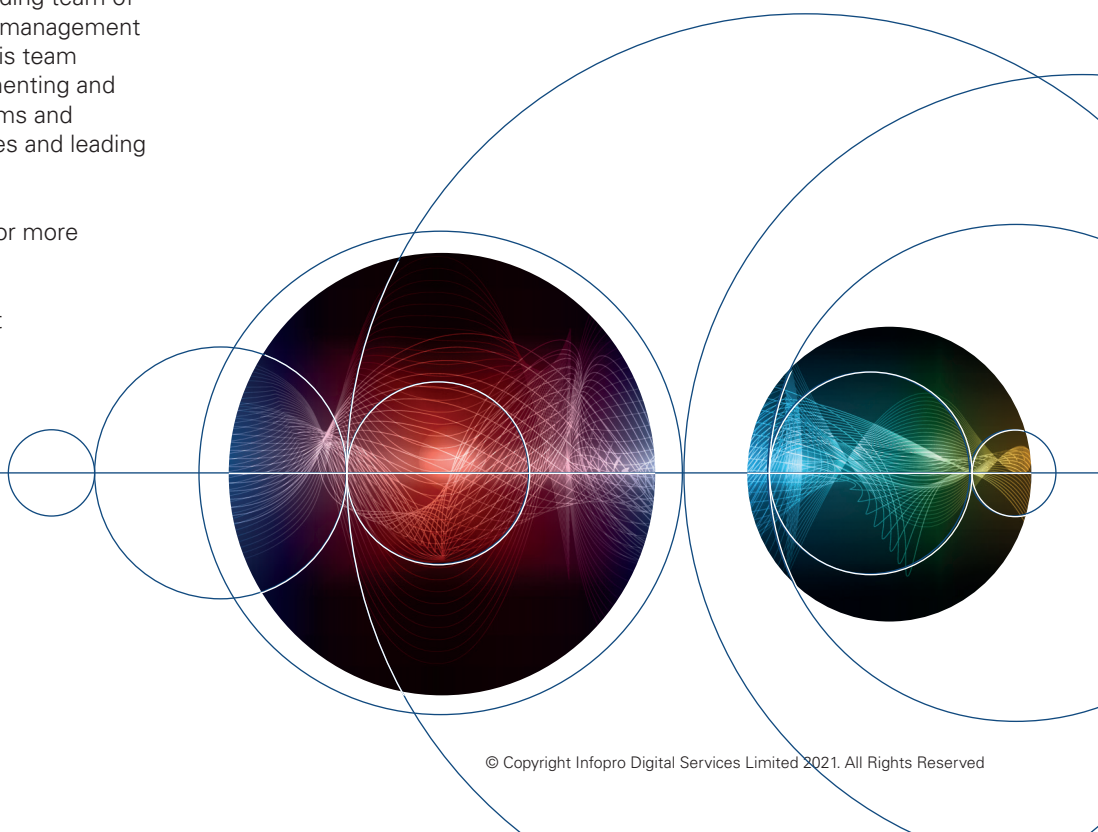


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1. Foreword



I'm delighted to welcome you to RiskTech100® 2022. Still the most comprehensive independent study of the world's major players in risk and compliance technology, RiskTech100® is globally acknowledged as the go-to place for clear, accurate analysis of the risk technology marketplace. Together

with its accompanying awards, the RiskTech100® ranking provides a valuable assessment and benchmarking tool for all participants in risk technology markets.

This year, change in the wider market is very much the dominant theme. As you'll see in our overview of the rankings, there has been a huge amount of adjustment and movement, with 25 vendors rising notably (often by many places), and no fewer than 19 new entrants (some of which were Rising Stars in our last ranking). This reflects themes we have identified throughout our research in the past year, and which we summarize in the report. These include acquisition, consolidation and huge technology shifts that have driven the growing industrialization and integration of key operational processes, particularly in the areas of governance, risk management and compliance (GRC) and anti-financial crime. In fact, changes in these last two areas have been so marked recently that – as we outline in our featured article – they will have a strong influence on the context in which our RiskTech research, and the RiskTech100®, continue to evolve.

Of course, it would be impossible to talk about context without mentioning COVID-19. The pandemic highlighted many of the endemic issues in financial processes and systems, and as we warily emerge from its shadow it's too early to tell whether key market players and stakeholders have learned any of the lessons it underlined. Nevertheless, in light of the pandemic – and a rise in cybercrime – technology users (and vendors) are perhaps focusing more strongly on operational and control issues in their organizations, with knock-on effects for the market.

At Chartis itself, change is definitely the watchword. In the past year we have expanded considerably, hiring several new analysts, at all

levels, and opening a new US office in Nashville, with plans to expand further in the coming months. This is all part of our strategy to become the singular voice in defining, researching and understanding the ever-changing RiskTech market in all its complexity – and RiskTech100® will remain essential to this. This year we have also moved to an online delivery hub for much of our content: an area where our analysts, and the vendors and users they work with, can engage in a vital dialogue about the themes in the market that are important to them. This hub will become a central pillar in our expansion strategy as we, and the market, continue to change and evolve.

That said, it only remains for me to congratulate the vendors that feature in RiskTech100® 2022. On behalf of the whole Chartis team, we look forward to working with these and other industry players in what promises to be another crucial year in RiskTech.

Enjoy the report!

Mark Feeley, Global Brand Director

2. Overview

The companies in RiskTech100® are drawn from a range of risk technology specialisms, and meet the needs of financial and non-financial organizations. They share a number of qualities that rank them among the top 100 RiskTech providers in the world.

We determine the RiskTech100® rankings based on the classifications shown in Figure 1, and focus on solutions, industry segments and success factors.¹

Note that the RiskTech100® report only includes companies that sell their own risk management software products and solutions.

Figure 1: RiskTech100® 2022 taxonomy



Source: Chartis Research

¹ Note that some categories in energy and quantitative methods are now covered in our Energy50 and STORM50 rankings and analysis.

RiskTech100® 2022: Highlights

FIS, Moody's Analytics, Oracle, SAS and MSCI remained in the top five spots. IHS Markit rose 2 places to enter the top 10.

There were 19 new entrants to the rankings this year:

- Dun & Bradstreet (ranked 26)
- Experian (30)
- Empyrean Solutions (64)
- Surya (71)
- Camms (73)
- TransUnion (74)
- Supply Wisdom (76)
- Feedzai (78)
- ServiceNow (81)
- SureCloud (82)
- Aravo (83)
- Integro (84)
- ReadNow (86)
- Ripjar (87)
- Equifax (88)
- BCT Digital, Bahwan CyberTek Group (94)
- Algorithmica (95)
- Diligent (96)
- CubeLogic (98)

25 companies rose in the rankings by 5 places or more:

- Eastnets moved up 15 places, from 76 to 61
- Appian moved up 12 places, from 70 to 58
- RiskSpan moved up 12 places, from 80 to 68
- Loxon moved up 11 places, from 64 to 53
- SAI Global moved up 11 places, from 74 to 63

Highlights of RiskTech100® 2022

 **20** new entrants

 **25** Rising Stars

 **25** notable rises

- Vichara moved up 11 places, from 77 to 66
- SAP moved up 10 places, from 69 to 59
- Mitrastech moved up 8 places, from 68 to 60
- MORS Software moved up 8 places, from 85 to 77
- Broadridge moved up 6 places, from 60 to 54
- Clari5 moved up 6 places, from 78 to 72
- ComplyAdvantage moved up 6 places, from 99 to 93
- LexisNexis Risk Solutions moved up 6 places, from 17 to 11
- Manipal Technologies moved up 6 places, from 96 to 90
- Quantexa moved up 6 places, from 46 to 40
- Quantifi moved up 6 places, from 49 to 43
- Regnology (BearingPoint) moved up 6 places, from 44 to 38
- Trepp moved up 6 places, from 48 to 42
- Abrigo moved up 5 places, from 54 to 49
- ACI Worldwide moved up 5 places, from 53 to 48
- Adenza (AxiomSL) moved up 5 places, from 19 to 14
- Conning moved up 5 places, from 52 to 47
- Kamakura moved up 5 places, from 62 to 57
- Nasdaq moved up 5 places, from 30 to 25
- Pegasystems moved up 5 places, from 75 to 70

3. New perspectives, new research: how the context of RiskTech100® research is changing

Introduction

In the 2021 **RiskTech100®** – the 15th iteration of Chartis' flagship ranking and report – we identified how our research themes and findings have evolved and how they continue to resonate with the market and beyond.

In the decade and a half since we started researching and ranking RiskTech markets and vendors, change has been a constant and consistent theme. Regulation is still a potent force in shaping these markets, but in more recent years the twin phenomena of *data* and *digitalization* have played an ever more important role in how RiskTech tools, approaches and players have evolved and developed.

In this article, we outline our approach for this and future RiskTech100® reports/rankings, as well as some of our key research themes going forward. In it we consider our evolving view of risk technology, and how the context of our research is changing. Within this, we have three main areas of focus:

- The transformation of **governance, risk management and compliance (GRC)** into 'GRC+', a technologically and conceptually complex environment in which compliance and control are evolving to become central aspects of organizational processes. This is steering our research toward more granular analysis of specific sub-sections, such as model risk management (MRM), third-party risk management (3PRM) and IT risk management (ITRM).
- The move toward more 'horizontal' approaches among vendors in the **financial crime** space, away from specific capabilities to a broader cross-functional approach. This is introducing the need for new categories of structural research and analysis.
- The ever expanding universe of **data**, and how it is influencing our categorization and assessment of vendors.



GRC: a dominant discipline

Context

The processes and approaches around GRC (control and compliance systems and processes in organizations) were once largely self-contained. If there was any overlap with other business processes it was with the audit function in organizations. Over the past decade, however, and particularly in the past three to four years, the growth of GRC as its own discipline has accelerated. In part this has been driven (and certainly highlighted by) the impact of the COVID-19 pandemic on organizational processes, as well as the rise in cyber crime and growing need for effective cyber security.

The expansion of GRC has been driven largely by two main forces – changes in regulation and a technology transformation. Increasingly, GRC is intersecting with IT issues within organizations, while the digitalization of enterprise architecture, whether in banking or other industries, has supercharged firms' requirement for a more sophisticated and controlled view of this architecture.

A more complex regulatory landscape

An important driver of the change in GRC is the evolving view that regulators are taking of GRC and controls. Instead of regarding GRC as something that happens deep in the back office, regulators have been pushing for more involvement from the business frontline. But for many organizations, many compliance requirements can be piecemeal. While there are national regulations covering cybersecurity, individual regulators in specific geographical jurisdictions now require operational resilience and business continuity from firms in sectors such as finance and energy, and individual regulations have emerged in these and other industries (such as healthcare).

Because many of these regulations are relatively new, they can often be contradictory. Data privacy regulations in different geographies, for example, may clash with data retention policies elsewhere in the world – or even within the same region. Regulators in some industries are also looking for new ways to reshape existing regulations, particularly in the IT space. No training is required for someone to connect another laptop to a network at their workplace, for example, highlighting the emergence of brand new issues around security, privacy and the appropriate context for data.

Just because you can...

Adding to the emerging complexity around compliance and control issues is the simple fact that just because something is possible doesn't mean it should be done. So while organizations can now do a lot more thanks to advances in technology, the big question is what they actually *should* do when faced with a wide choice of possibilities. Some of what they choose to do will be regulated, with often contradictory results, as regulators, governments and society in general determine the right balance between how much you can control and how much you should control.

Privacy is an interesting example. In the US, while there is an absolute right to privacy in corporate registration and design in some states, there is almost no right to privacy in the way that data brokers operate, requiring a fine and often complex balance. And whether that particular balance is one that other countries (or even the US) will find suitable over the longer term is unclear.

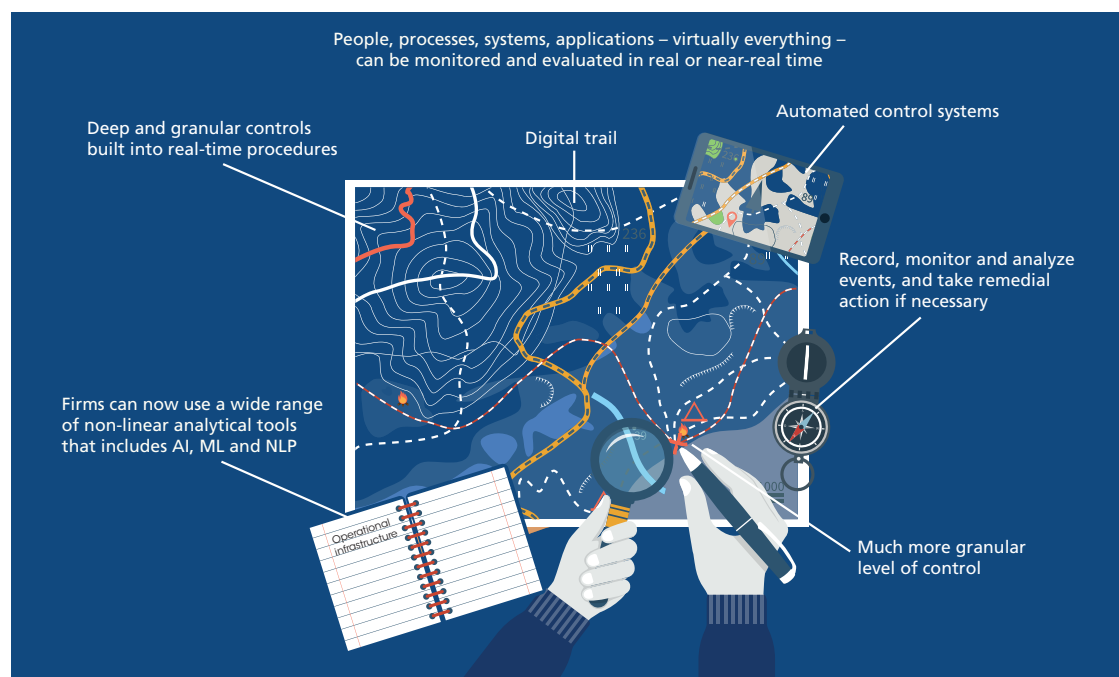
What is clear is that firms and regulators must maintain a balance between privacy, the willingness of firms to implement controls, the data an organization can have on its employees and how it can share that data. This extends not only to employees, but also to employees' counterparties, value chains, suppliers and all third-party institutions, creating ever more complex linkages and relationships.

Technology transformation

Digitalization and technology have transformed the GRC landscape. Digitalization has enabled a wide range of control and compliance features and capabilities that would have been unimaginable before – capabilities that have expanded massively in recent years.

In broader terms, technology has transformed the nature of GRC in three important ways:

- **It has introduced a new immediacy of control and monitoring** that was impossible in a non-digital world. Historically, most control processes were designed via a process that was largely one of self-assessment, involving manually intensive compliance checks on individuals and documents. Today, people, processes, systems, applications – virtually everything – can be monitored and evaluated in real or near-real time, by scanning text and ensuring it fits within a particular template. Of course, as we've already considered, just because something can be



done does not mean it should be – and these developments raise important questions around whether monitoring everybody and everything in real time is an acceptable course of action. This should be appraised both ethically and in terms of the actual analytics and data involved, as monitoring vast amounts of data can produce irrelevant and meaningless results.

- **It has enabled firms to develop sophisticated, automated workflows.** Most organizations and their business units still employ workflow that is mostly second- or third-generation in its technical maturity, based on the ongoing assumption that the business environment is more ‘physical’ than digital. Nowadays, high levels of automation mean that even entire and complex workflows can be triggered automatically by using statistical tools.
- **It has enabled a profusion of more granular data,** from which the new form of GRC has emerged. In a digital world, an organization’s operational infrastructure can be monitored in its entirety, as can every step of a workflow. As a result, firms can now use a wide range of non-linear analytical tools that includes AI, machine learning (ML) and natural language processing (NLP), enabling them to integrate this granular data in a much more sophisticated way than they ever could before.

While this new technological change has enabled a more futuristic, enhanced GRC, issues persist

around whether firms should embrace this new future, and how it should be done. What kind of compliance and control is useful for an organization, and what is useless? Effective control does not damage employee and employee-counterparty relationships, nor clash with other compliance rules. These are difficult questions that GRC practitioners must address as the discipline evolves and advances – at their root, we believe, they are issues of design and analysis.

New perspectives

GRC is transforming from what was largely a legal/compliance-focused activity into a much broader controls and management framework embedded within organizations. As such, GRC as an endeavor and a discipline will become – and is already becoming – far more complex. In this context, we are starting to break down our GRC research to provide deeper, more granular analysis of key sub-categories (notably MRM, 3PRM and ITRM).

To reflect our new approach, we have developed a new way of thinking about GRC: ‘GRC+’. We believe that GRC is now about more than an embedded control function in banks and other financial institutions, and that it now features much more real-time control and understanding of the digitalization of tools and processes. Indeed, the ‘+’ in GRC+ encapsulates all the new elements that digitalization has brought to the discipline.

Because of the size of the GRC+ universe, we've decided to streamline our analysis into something more tractable, and have divided it into several sub-segments. Key among these are:

- **IT risk management.** This now encapsulates more than just the management of risks and controls for IT, but also the quantification of IT risks across the infrastructure, as well as network analysis, facility management, the asset and inventory management of IT systems – and their associated risks.
- **Supply chain and third-party risk management.** Taking a closer look at areas we tended to view more generically in the past, we will consider this area of GRC across different industries. As well as examining the third-party risks for sub-sectors such as energy, finance and insurance, we will analyze the value chain of software supplies, assessing the potential third-party risk in open source and cloud systems.
- **Model validation and model risk management.** Because almost everyone is now subject to model risk in some form, we plan to take a much broader view of it. We will examine some of the emerging trends in model validation and risk management in areas such as MLOps, an area where model development and risk have already become industrialized, offering some important lessons. We will also consider different asset classes and business lines for model validation, exploring and comparing the specific issues in industries that are highly regulated and those less subject to the regulators' touch. Our future research will continue this approach, across a variety of forthcoming reports.

Financial crime: changing demand and new approaches

Context

Change is also the dominant theme in tackling financial crime. In the past, FinCrime vendors offered very specific solutions for key areas such as AML, KYC and client onboarding, and the general trend was one of consolidation. But more recently there has been a transformation in how we think about applications in this space. The big trend we are seeing in FinCrime and compliance is a move among vendors to a more 'horizontal' approach.

Today, many financial institutions – perhaps numbering in the hundreds and including many smaller banks – want broad data management, analytics, workflow and automation tools, but with specific datasets and workflow for different FinCrime and compliance activities. Consequently, vendors are now focusing less on specific functions and capabilities. Rather than being focused on KYC processes, for example, several firms focus instead on the data management that goes into the KYC activity, in an attempt to automate, industrialize and simplify the data-related activity inside the bank.

Increasingly, then, vendors and users are considering the horizontal aspects of technology stacks and focusing on the componentization of tools in the financial crime space. This is the result of several developments:

- The growth of non-standard datasets, ML and data management.
- Newer analytical tools (whether directly in the transaction monitoring process or indirectly in supporting processes).
- The growing sophistication of automation and low code/no code development.

New perspectives

Looking ahead, within this context we will develop new, more structurally focused categories in our financial crime research and closely examine advances and growth in these areas. These include:

- Financial crime and compliance data management.
- Financial crime and compliance (including intelligent workflow, which will introduce low code/no code development, rapid application development and various styles of automatic and intelligent workflow management).
- Financial crime and compliance analytics. This will examine the various tools that firms are using, whether they are based on ML tools or different statistical frameworks, or whether they employ data analysis using different frameworks.

Data: an exploding universe

Context

Ten years ago, the pool of data vendors consisted of a few key players, including Reuters, Bloomberg and Dow Jones. The main data dynamic was one of supply and demand. In financial markets, we tended to pay most attention to firms that provided market data, or at least trading market data, because that was what was most easily available, and easiest to aggregate and distribute. Consequently, the data industry was a relatively narrow business.

Since then the data universe has grown, and the data available has exploded in terms of its size, variety and context. Because the data available from third parties has broadened in scope, the nature and variety of data providers has widened, the quality of the available data has become enriched, and the pool of data vendors has expanded dramatically. Today, there are more data vendors than ever before, and some of the bigger players no longer dominate the space. Why has this happened?

Helping to drive the change is the collection of far more granular data, the development of different ways to aggregate this granular data, and improvements in technology that enable firms to conduct much more sophisticated enrichment and aggregation activities. This growth has been most dramatic in the US. The number of effective data businesses has grown rapidly, as has the distribution of analytical techniques: most data is now fed into analytical machines and distributed through application programming interfaces (APIs), creating a much larger pool of enriched data. Data is now truly a large, sophisticated and complex industry.

New perspectives

Distinguishing between pure data and analytics firms is becoming more difficult. Much of the data that is currently being distributed is enriched and analyzed data rather than data in its raw form. As a result, we are seeing broader, more granular and more enriched datasets, and it is becoming increasingly difficult to distinguish between pure data and analytics firms.

In our RiskTech100® analysis, we make some subjective qualifications about which data firms we focus on. We consider firms' focus on enriched data – the more enriched data a firm has, the more likely it is that we will include it – and give greater weight to its data business in our analysis.

That said, we are also seeing dramatic growth in financial data, data for tackling financial crime and compliance data, all areas in which raw data firms have been growing rapidly. Also notable is considerable growth in credit data, again with a profusion of enriched datasets. In both areas we have given considerable credit to vendors that provide both data and analytics.

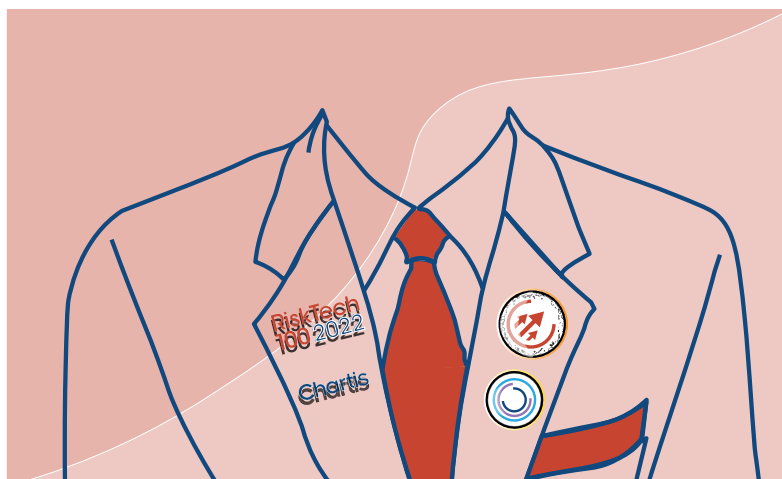
Conclusion

Naturally, in terms of the RiskTech100®, the themes outlined here will influence and guide the direction of our research, and how we award category wins in the future. Historically, RiskTech100® has tended to focus on software, and in particular suppliers of software to banks. But as the context in which we operate changes, our research will evolve.

In the wider RiskTech context, we believe that several dominant themes are occurring simultaneously. Banks are losing their monopoly on the functions they provide. At the same time, these functions – from payment services to lending activities – are becoming far more distributed across the universe of financial institutions, largely because of the work and influence of FinTechs.

Notably, many of the core financial services we used to see, from payments or lending to credit capabilities, are increasingly distributed across the financial universe rather than just in the core financial system. We will pay close attention to this dynamic as it develops, studying the broader universe of risk.

For more information, contact us at info@chartis-research.com.



All change at Chartis

The past 18 months or so signaled much change for Chartis. We not only expanded our research coverage, we also boosted our analyst ranks with several new hires, and expanded our geographical presence with the opening of a new office in Nashville.

We also added asset management and environmental, social and governance (ESG) to our research areas and expanded core topics – including GRC and FinCrime – to cover new areas in more granular detail.

We hired five senior research analysts, one research specialist and eight research analysts, across a range of topic areas, as well as a data analyst, an operations analyst, an editor and three sales and business development representatives. The new office in Nashville, already buzzing with activity, promises to be an engine of creativity going forward.

Finally, we are redesigning and reconfiguring the RiskTech Forum to become the go-to place for RiskTech news, comment and thought leadership from across the marketplace. We will provide regular updates on how this exciting new project will underpin much of our ranking and reporting activity going forward.

For more information on all of these new developments, contact us at info@chartis-research.com and/or visit our [website](#).

4. Chartis Research: key highlights

This section summarizes the key research Chartis has published since the last iteration of RiskTech100®.

Chartis Big Bets 2021

The major themes defined by Chartis for 2021 highlight several important market dynamics:

- The evolution of regulations and accounting standards.
- The advanced analytics that are catalyzing new ways of working.
- More subtle and progressive cultural shifts, such as the rise of ESG concerns, the transition to renewable energy and wealth management outsourcing.

Inevitably, of course, the COVID-19 pandemic, which dominated social, economic and political activity in 2020, continues to shape much of our analysis. In April 2020 Chartis published a **short risk bulletin** that outlined the likely technology impacts of the COVID-19 pandemic. As context for this report, we revisit that analysis, casting a look past the first-order effects of the pandemic to identify the trends and dynamics that promise to shape the risk technology landscape in the longer term.

GRC solutions

Market shifts have driven rapid growth in GRC practices. An already extensive and expanding discipline, GRC now covers a diverse range of sub-segments that have become fixtures of financial institutions' risk management frameworks.

The rapid growth in GRC has occurred because of increasing integration, a heightened focus on technology and operational issues, and the growing involvement of the front office in recent years, all accelerated by the COVID-19 pandemic.

Financial crime risk management systems: enterprise fraud

The key market trends and dynamics that have emerged and evolved since we last analyzed

this sector include a shift to specificity in fraud solutions and the development of new ways in which financial institutions and vendors can adapt to the post-COVID-19 'new normal'.

Insurance: the death of *Insurasaurus*?

Like other corporate dinosaurs, many insurers face the threat of extinction if they don't become less reliant on old ways of doing things and the competitive advantage of robust barriers to entry. But by upgrading their tech and learning from other industries, they can avoid a disastrous fate.

Against this background, the insurance sector faces a rapidly evolving ecosystem. Traditional companies now have to worry not just about what their direct rivals are doing, but about any business that has:

- Online access to customers.
- Huge levels of consumer trust.
- Been able to exploit a shift in the technology environment that has removed barriers to entry.

Insurance companies have traditionally been strong on the first, not so strong on the second, and inattentive to the third. Until recently, this may not have mattered too much. But as customers become more demanding and knowledgeable, they are increasingly willing to put their trust in something different and new, and technology is ready to enable them. This combination of developments could spell trouble for insurers.

ALM technology systems

This research discusses the growing importance and prevalence of an integrated approach to ALM, as well as the diversity that exists within ALM requirements. In addition to focusing on the often sophisticated analytics that ALM processes entail, we also consider how regulatory forces converge with one another and interlock with shifting industry standards. While we concentrate on the banking sector, we also contextualize our analysis within wider insurance and capital-market trends, and consider the numerous vendors that populate the established ALM market.

Energy risk: ETRM systems

Chartis' energy risk research, which now includes the **Energy50 ranking**, reflects several important shifts in energy markets. In recent years, energy trading and risk management (ETRM) systems have become more diverse. While the landscape of offerings that could fairly be described as 'ETRM systems' is wide, what these systems actually look like can differ considerably. Since our last ETRM report, we have observed two main demand-side factors in the ETRM space: demand for more focused software and geographic variations and linkages in ETRM systems.

On the vendor side, several trends are becoming increasingly prominent, as firms address issues around system modernization, the move from generic to distinct offerings and the effective integration of modular solutions. Chartis believes that, against this background, several strategies will prove successful, offering opportunities for vendors prepared to be flexible.

STORM

Chartis' STORM analysis, including the **STORM50 ranking**, focuses on the computational infrastructure and algorithmic efficiency of the vast array of technology tools used across the financial services industry. Structural transformations in the past few years have produced novel statistical modeling approaches (such as machine/deep learning and a range of heuristics) that are now foundational elements of the computing and modeling landscape. The intersection of process, technology, new regulations and new modeling methodologies has driven a structural shift toward a more systemic, industrialized modeling sector. In essence, a new discipline is emerging, which Chartis calls 'algorithmic engineering in finance'. In that context, Chartis focuses on the following key areas for this new research area:

- **S**tatistical **T**echniques.
- **O**ptimization frameworks.
- **R**isk **M**odels (of all types).

We call it STORM for ease of reference. The term 'revolution' is often overused in the context of technological change; nevertheless, we believe that the ongoing process we have identified is indeed revolutionary. This report, its updates and a series of planned reports will explore specific aspects and dynamics of the STORM landscape,

and document the ongoing revolution, identifying the vendors that are at its leading edge.

Equity capital market structure

As competitive pressures on fees intensify, buy-side firms continue to cut operating costs. In light of this trend, Chartis believes a few key trends will shape the future for equity market structure technology, infrastructure and solutions. These include buy-side cost-cutting and the impact it is having on the marketplace, greater modularity in investment technology solutions, and ongoing vendor conglomeration. We also look at algorithm performance elasticity of demand and infrastructure investment, as well as the need for more actionable transaction cost attribution analysis (TCAA).

Outsourced trading solutions

This research examines the key trends driving 'buy-side' demand for outsourced trading solutions, and the ways in which vendors have evolved their solutions over time. It forms the basis of ongoing research analyzing the evolving dynamics of the outsourced trading solutions stack. In subsequent research, we will consider governance, risk and strategies for managing conflicts of interest in the outsourced trading solutions space. We will also consider how shifting fixed, management-level trading costs to variable, fund-level commissions impacts demand for outsourced trading services.

Execution management systems

This research examines the key trends driving buy-side and sell-side demand for execution management systems (EMSs), and ways in which the vendor landscape is evolving to keep up with client needs. The EMS client base is consolidating on both the buy-side and the sell-side. As the number of consolidation deals grows, so does the need for firms to shed monolithic legacy systems in favor of a more dynamic and agile technology stack. Chartis believes that the way forward is with a virtualized trading technology stack within a cloud-native infrastructure, where interoperable microservice containers can be swapped in and out to create customized solutions that best suit the needs of increasingly disparate regional and remote trading teams.

Buy-side review

Chartis believes that the following key trends will shape the future for buy-side technology, infrastructure and solutions:

- Upgrading the front office.
- Operational and decision-making impacts in wealth management.
- Outsourcing of wealth and asset management.
- Demand from buy-side firms for more actionable, multi-asset transaction cost analysis (TCA).
- ESG driving investment management.
- A new business model emerging for asset management.
- ‘Sleeper’ trend: non-fungible tokens (NFTs), fungible tokenization and distributed ledgers extend liquidity.

Portfolio management platforms

Portfolio construction and management are at the core of asset management. The success of a fund depends on the extent to which portfolios are created in line with investment mandates and styles, how decisions are rebalanced and how thoroughly investments are monitored. This research examines portfolio management platforms (PMPs) that asset managers use to manage their client portfolios and investments. The PMP is a core component of the investment management lifecycle; other types of asset management functionality (such as trading, portfolio construction/modeling, performance and risk analytics) are layered on top of the platform, across multiple asset classes that asset managers use to drive their businesses and investment styles.

Standalone financial planning systems

This research examines key trends in the wealth market that are impacting standalone financial planning systems. The financial planning solution is a collaborative tool for advisors and clients, and in the right hands it can be used to build client trust. Vendor solutions typically support the planning-process spectrum, from highly detailed reviews to addressing simple analyses.

RiskTech vendors

Mergers, acquisitions and partnerships continue apace among vendors in the risk and compliance technology market. This list (selected by Chartis) highlights some of the deals announced in the past year:

- Moody's Analytics acquired:
 - RMS, a climate and natural disaster risk modeling and analytics firm.
 - Cortera, a provider of North American credit data and workflow solutions.
 - MioTech, a Hong-Kong based FinTech startup that uses AI to generate data for asset managers and investors in the greater China region.
 - Catylist, a provider of commercial real estate (CRE) solutions for brokers.
- MSCI acquired Real Capital Analytics, a property research and data firm.
- Wolters Kluwer acquired:
 - eOriginal, a provider of cloud-based digital lending software.
 - Vanguard Software Corporation, a global provider of cloud-based integrated business planning solutions.
 - LicenseLogix, a provider of comprehensive business licencing services.
- LexisNexis Risk Solutions merged its operations with Accuity – both are owned by RELX. LNRS also acquired TruNarrative, a cloud-based orchestration platform that detects and prevents financial crime.
- Bloomberg acquired Second Measure, a customer data analytics company that analyzes billions of anonymized purchases to help investors and businesses gain insight into company performance and customer behavior.
- AxiomSL and Calypso merged to form Adenza.
- IBM acquired:
 - Turbonomic, an application resource management and network performance management software provider.
 - myInvenio, a business automation software provider that specializes in process mining as part of hyperautomation.
 - Nordcloud, which provides cloud consulting, migration and transformation capabilities.
 - IBM-owned Red Hat acquired StackRox, a provider of container and Kubernetes-native security software.
- LSEG acquired Refinitiv, a financial markets data and infrastructure provider.
- Diligent acquired Galvanize, a software as a service (SaaS) GRC software provider, and Steele Compliance Solutions, which provides ethics and compliance management.
- Mitratach acquired:
 - Alyne, a digital GRC software provider.
 - ContractRoom, a contract lifecycle management platform.
 - AdvanceLaw, a corporate general counsel marketplace.
- OneTrust acquired:
 - Convercent, a GRC software solutions provider.
 - Redacted AI, a data redacting solution.
 - Shared Assessments, a global membership organization dedicated to developing the best practices, education and tools to drive third-party risk assurance.
 - Tugboat Logic, a technology platform that simplifies and automates information security assurance and audit readiness.
 - Integris Software, an AI data discovery and classification solution.
- Refinitiv acquired GIACT Systems, which provides digital identity, payments verification and fraud prevention solutions.
- Relativity acquired Text IQ, which manages and mitigates risk in enterprise data using AI tools.

5. RiskTech100® 2022 rankings

2022 Rank	2021 Rank	Company	HQ	Overall score	Functionality	Core technology	Strategy	Customer satisfaction	Market presence	Innovation
1	1	FIS	US	78.10%	94.20%	80.90%	74.00%	63.50%	87.00%	69.00%
2	2	Moody's Analytics	US	76.17%	92.00%	70.00%	80.00%	64.50%	79.00%	71.50%
3	3	Oracle	US	72.88%	85.80%	87.00%	66.00%	58.50%	71.00%	69.00%
4	5	SAS	US	72.50%	86.00%	80.00%	66.00%	60.00%	76.00%	67.00%
5	4	MSCI	US	71.75%	80.00%	69.00%	76.00%	64.00%	74.50%	67.00%
6	6	FICO	US	70.58%	82.00%	65.01%	66.00%	66.00%	68.00%	76.50%
7	7	Wolters Kluwer	Netherlands	69.47%	84.50%	68.50%	61.00%	66.80%	74.00%	62.00%
8	8	Murex	France	68.50%	77.50%	72.00%	66.50%	61.50%	68.00%	65.50%
9	11	IHS Markit	UK	68.08%	78.00%	69.00%	71.00%	62.00%	63.00%	65.50%
10	9	Numerix	US	67.67%	68.00%	62.00%	73.00%	69.00%	68.00%	66.00%
11	17	LexisNexis Risk Solutions	US	67.29%	75.25%	66.00%	65.00%	61.00%	70.50%	66.00%
12	13	Bloomberg	US	67.25%	76.00%	68.00%	66.00%	61.00%	67.00%	65.50%
13	14	ION Trading	Ireland	67.17%	81.00%	72.00%	66.00%	49.00%	73.00%	62.00%
14	19	Adenza ¹	US	66.58%	76.50%	64.00%	68.00%	67.00%	65.00%	59.00%
15	16	MetricStream	US	66.54%	70.25%	61.00%	70.50%	68.00%	71.00%	58.50%
16	10	NICE Actimize	US	66.50%	71.00%	64.00%	68.00%	58.00%	72.00%	66.00%
17	15	IBM	US	65.83%	69.00%	82.00%	66.00%	52.00%	61.00%	65.00%
18	12	Finastra	UK	65.50%	78.00%	69.00%	62.00%	50.00%	76.00%	58.00%
19	21	LSEG ²	UK	63.75%	79.50%	64.00%	55.00%	54.00%	74.00%	56.00%
20	20	SS&C	US	63.72%	72.80%	58.00%	69.50%	58.00%	67.00%	57.00%
21	18	Qontigo	US	63.58%	70.50%	63.00%	65.00%	62.00%	57.00%	64.00%
22	23	FactSet	US	63.17%	72.00%	59.00%	65.00%	51.50%	63.50%	68.00%
23	22	Numerical Technologies	Japan	63.13%	77.00%	69.50%	52.50%	66.30%	51.50%	62.01%
24	27	Prometeia	Italy	63.08%	69.00%	61.00%	61.00%	71.50%	52.00%	64.00%
25	30	Nasdaq	US	62.88%	59.00%	64.00%	67.00%	58.50%	63.00%	65.75%
26	–	Dun & Bradstreet	US	62.83%	74.00%	65.00%	68.00%	52.50%	62.00%	55.50%

2022 Rank	2021 Rank	Company	HQ	Overall score	Functionality	Core technology	Strategy	Customer satisfaction	Market presence	Innovation
27	25	GBG	UK	62.00%	65.00%	61.00%	68.01%	56.00%	57.50%	64.50%
28	28	Confluence	US	61.71%	64.25%	55.50%	65.00%	63.50%	57.50%	64.50%
29	33	Fenergo	Ireland	61.67%	65.00%	62.00%	62.00%	57.00%	63.50%	60.50%
30	–	Experian	Ireland	61.58%	65.00%	61.00%	62.00%	59.00%	58.50%	64.00%
31	26	BlackRock Solutions	US	61.50%	74.50%	50.50%	68.00%	51.00%	64.00%	61.00%
32	31	Fiserv	US	61.42%	72.53%	63.00%	53.00%	62.00%	67.00%	51.00%
33	29	Dow Jones	US	61.33%	67.00%	67.00%	54.00%	60.00%	60.00%	60.00%
34	38	Beacon Platform	US	61.25%	63.50%	65.50%	54.00%	63.00%	56.50%	65.00%
35	35	Intellect Design	India	60.96%	70.03%	62.50%	60.00%	60.50%	53.75%	59.00%
36	39	ICE	France	60.88%	69.75%	57.00%	66.00%	55.50%	56.00%	61.00%
37	37	Cboe	US	60.33%	58.00%	64.00%	63.00%	61.00%	56.00%	60.00%
38	44	Regnology ³	Germany	60.29%	66.25%	58.00%	59.00%	69.50%	53.00%	56.00%
39	32	BAE Systems Applied Intelligence	UK	60.25%	69.00%	63.00%	53.00%	54.50%	59.00%	63.00%
40	46	Quantexa	UK	59.83%	59.00%	67.00%	59.00%	59.00%	47.00%	68.00%
41	36	Raise Partner	France	59.54%	68.00%	64.00%	59.25%	60.00%	43.00%	63.00%
42	48	Trepp	UK	59.50%	60.00%	54.00%	65.00%	62.00%	55.00%	61.00%
43	49	Quantifi	US	59.25%	68.50%	65.00%	48.00%	59.50%	52.50%	62.00%
44	40	Workiva	US	59.17%	53.00%	50.00%	59.00%	72.00%	60.00%	61.00%
45	47	OneTrust	US	59.02%	70.00%	50.00%	60.50%	57.60%	68.00%	48.01%
46	45	TS Imagine ⁴	US	58.92%	65.00%	60.00%	51.00%	63.50%	57.00%	57.00%
47	52	Conning	US	58.58%	67.00%	58.00%	59.00%	53.00%	55.00%	59.50%
48	53	ACI Worldwide	US	58.26%	59.05%	61.00%	57.00%	49.50%	68.00%	55.00%
49	54	Abrigo	US	58.17%	62.03%	56.00%	56.00%	60.00%	61.50%	53.50%
50	50	QRM	US	57.92%	65.50%	50.00%	55.00%	53.00%	66.00%	58.00%
51	55	Symphony AyasdiAI	US/India	57.83%	59.00%	61.00%	65.00%	51.00%	46.00%	65.00%
52	51	Pelican	US/India	57.42%	58.00%	62.00%	57.00%	55.50%	46.00%	66.00%
53	64	Loxon	Hungary	57.33%	66.00%	67.00%	47.00%	72.50%	48.00%	43.50%

2022 Rank	2021 Rank	Company	HQ	Overall score	Functionality	Core technology	Strategy	Customer satisfaction	Market presence	Innovation
54	60	Broadridge	US	57.25%	64.50%	56.50%	61.00%	58.50%	58.50%	44.50%
55	59	FINCAD	Canada	57.21%	69.00%	62.00%	35.75%	61.50%	49.00%	66.00%
56	56	RSA	US	57.17%	61.50%	54.50%	52.50%	54.00%	63.50%	57.00%
57	62	Kamakura	US	57.00%	68.50%	56.00%	57.00%	62.00%	42.00%	56.50%
58	70	Appian	US	56.67%	50.03%	63.00%	63.00%	55.00%	47.00%	62.00%
59	69	SAP	Germany	56.58%	71.00%	69.00%	53.50%	49.00%	45.00%	52.00%
60	68	Mitratech	US	56.35%	69.00%	50.00%	56.50%	50.60%	69.00%	43.01%
61	76	Eastnets	UAE	56.33%	64.00%	52.00%	54.00%	60.00%	56.00%	52.00%
62	65	PwC	UK	56.25%	72.00%	66.00%	53.00%	50.00%	45.00%	51.50%
63	74	SAI Global	Australia	56.02%	67.00%	51.00%	54.50%	49.60%	70.00%	44.00%
64	–	Empyrean Solutions	US	55.96%	67.25%	57.25%	58.50%	58.25%	35.25%	59.25%
65	66	Azentio ⁵	US	55.84%	61.03%	52.00%	52.00%	60.00%	65.50%	44.50%
66	77	Vichara	India	55.58%	61.00%	61.00%	53.00%	62.00%	45.50%	51.00%
67	57	InfrasoftTech	US	55.50%	59.00%	54.00%	49.00%	60.00%	64.00%	47.00%
68	80	RiskSpan	India	55.29%	55.75%	59.50%	54.50%	63.00%	46.00%	53.00%
69	71	BlackSwan Technologies	US	55.21%	56.25%	60.00%	57.00%	55.00%	40.00%	63.00%
70	75	Pegasystems	US	55.17%	52.00%	66.00%	58.00%	48.00%	50.00%	57.00%
71	–	Surya	US	55.04%	60.00%	60.00%	53.25%	59.00%	38.00%	60.00%
72	78	Clari5	US	54.92%	63.00%	60.00%	48.00%	56.50%	48.00%	54.00%
73	–	Camms	Switzerland	54.77%	62.50%	53.00%	55.50%	50.60%	62.00%	45.00%
74	–	TransUnion	US	54.75%	53.00%	54.00%	59.00%	55.00%	45.50%	62.00%
75	72	AML Partners	US	54.71%	56.25%	58.00%	60.00%	55.00%	40.00%	59.00%
76	–	Supply Wisdom	US	54.68%	63.00%	52.00%	55.50%	50.60%	62.00%	45.00%
77	85	MORS Software	US	54.67%	69.00%	66.00%	44.00%	67.00%	31.00%	51.00%
78	–	Feedzai	US	54.58%	61.00%	57.00%	53.00%	62.50%	47.00%	47.00%
79	83	MathWorks	US	54.50%	50.00%	59.00%	51.00%	58.00%	53.00%	56.00%
80	73	Appway	Switzerland	54.38%	52.25%	54.00%	57.00%	56.00%	50.00%	57.00%

2022 Rank	2021 Rank	Company	HQ	Overall score	Functionality	Core technology	Strategy	Customer satisfaction	Market presence	Innovation
81	–	ServiceNow	US	54.17%	46.00%	67.00%	60.00%	49.00%	44.00%	59.00%
82	–	SureCloud	US	54.10%	61.50%	50.00%	54.50%	51.60%	62.00%	45.00%
83	–	Aravo	US	54.02%	61.00%	49.00%	56.50%	50.60%	62.00%	45.00%
84	–	Integro	US	53.75%	47.00%	57.00%	56.00%	59.00%	50.50%	53.00%
85	86	CARE Risk Solutions	India	53.58%	55.00%	57.00%	53.50%	61.50%	43.00%	51.50%
86	–	ReadiNow	Australia	53.35%	59.00%	53.00%	53.50%	51.60%	58.00%	45.00%
87	–	Ripjar	UK	53.13%	42.25%	51.00%	54.50%	68.00%	38.00%	65.00%
88	–	Equifax	US	52.58%	69.00%	55.00%	56.00%	42.50%	52.00%	41.00%
89	93	NetGuardians	US	52.50%	59.25%	55.75%	53.00%	65.50%	36.25%	45.25%
90	96	Manipal Technologies	India	52.25%	52.50%	54.50%	47.50%	55.00%	49.50%	54.50%
91	94	zeb	US	52.21%	72.50%	63.25%	42.25%	52.75%	33.25%	49.25%
92	95	Aptitude Software	UK	52.17%	74.00%	58.50%	46.00%	52.50%	34.00%	48.00%
93	99	ComplyAdvantage	Switzerland	52.00%	52.00%	44.00%	56.00%	61.00%	37.00%	62.00%
94	–	BCT Digital, Bahwan CyberTek Group	India	51.96%	53.25%	53.50%	46.00%	57.00%	47.50%	54.50%
95	–	Algorithmica	UK	51.88%	53.50%	50.25%	48.75%	57.75%	45.25%	55.75%
96	–	Diligent	India	51.83%	61.00%	55.50%	50.00%	53.00%	45.00%	46.50%
97	92	Featurespace	Spain	51.75%	44.00%	49.00%	54.50%	60.00%	38.00%	65.00%
98	–	CubeLogic	UK	51.71%	59.25%	55.50%	46.00%	59.00%	42.00%	48.50%
99	100	RiskScreen ⁶	UK	51.67%	47.00%	46.00%	55.00%	50.00%	58.00%	54.00%
100	89	ActiveViam	US	51.50%	54.00%	59.50%	46.00%	59.00%	42.00%	48.50%

¹ Adenza was formed from the merger of AxiomSL and Calypso Technology.

² LSEG acquired Refinitiv.

³ BearingPoint was renamed Regnology.

⁴ TS Imagine was formed from the merger of Imagine Software and TradingScreen.

⁵ Azentio acquired 3i Infotech.

⁶ RiskScreen is part of KYC Global Technologies.

6. Category winners

Category award	2022 winner
Overall Winner	FIS
Chartis categories	
Functionality	FIS
Core Technology	Oracle
Strategy	Moody's Analytics
Customer Satisfaction	Loxon
Market Presence	FIS
Innovation	FICO
Industry categories	
Banking	Moody's Analytics
Buy-side	MSCI
Corporations	MetricStream
Insurance	FIS
Trading and Capital Markets	FIS
Solution categories	
Artificial Intelligence Applications	FICO
Asset and Inventory Management	SAP
Asset and Liability Management (ALM)	QRM
Audit	MetricStream
Balance Sheet Risk Management	Prometeia
Buy-side Fund Administration	SS&C
Capital Optimization	Prometeia
Client Lifecycle Management (CLM)	Fenergo
Climate Risk	Moody's Analytics
Commercial Real Estate Data	Trepp
Commodity Trading Risk Management (CTRM)	ION Trading

Category award	2022 winner
Communications Monitoring	NICE Actimize
Conduct and Controls	Acin
Credit Risk for the Banking Book	Moody's Analytics
Current Expected Credit Losses (CECL)	Moody's Analytics
Cyber Risk Management	IBM
Cyber Risk Quantification	ISS
Data Integrity and Control	Oracle
Data Privacy	OneTrust
Enterprise Stress Testing	Moody's Analytics
Environmental, Social and Governance (ESG)	Moody's Analytics
Evaluated Pricing and Data – Credit	Trepp
Evaluated Pricing and Data – Fixed Income	Bloomberg
Evaluated Pricing and Data – Multi-asset	ICE
Evaluated Pricing and Data – OTC Derivatives	LSEG
Facility Management and Control	SAP
Financial Crime – Anti-Money Laundering (AML)	Oracle
Financial Crime – Data	LexisNexis Risk Solutions
Financial Crime – Enterprise Fraud	FICO
Financial Crime – Insurance Fraud	Shift
Financial Crime – Entity Risk Management	Quantexa
Financial Crime – Trade-based AML	SAS
Front Office Risk Management	FIS
FX Risk and Trading	ICE
Enterprise Governance, Risk Management and Compliance (GRC)	MetricStream
GRC Analytics	TCS
International Financial Reporting Standard (IFRS) 9	SAS
IFRS 17 – Accounting Systems	Aptitude Software
IFRS 17 – Data Management and Reporting	Oracle

Category award	2022 winner
Integrated Trading and Risk Management	Murex
IT Risk	IBM
KnowYour Customer (KYC)	Fenergo
Liquidity Risk	Wolters Kluwer
Market Risk – Buy-side	IHS Markit
Market Risk – Sell-side	Murex
Model Risk Management	MathWorks
Model Validation	IHS Markit
Operational Risk and Process Control	IBM
Operational Risk Regulatory Analytics	RiskLogix
OpsTech – Buy-side Reconciliation	SS&C
OpsTech – Credit Operations	Finastra
OpsTech – Fees and Commissions	Broadridge
OpsTech – Fixed-Income Support Services	Broadridge
OpsTech – Legal Operations	Mitratach
OpsTech – Onboarding	Fenergo
OpsTech – Securitization Services	Moody's Analytics
OpsTech – Sell-side Reconciliation	Gresham
OpsTech – Tax Processing	Wolters Kluwer
OpsTech – Wealth Management Lifecycle Operations	Appway
Real-time Risk	Cboe
Regulatory Intelligence	Wolters Kluwer
Regulatory Reporting – Banking	Wolters Kluwer
Regulatory Reporting – Insurance	Oracle
Regulatory Reporting – Markets and Securities	Adenza
Retail Credit Analytics	FICO
Risk and Finance Integration	SAS
Risk as a Service (RaaS)	RiskSpan

Category award	2022 winner
Risk Data Aggregation and Reporting	Oracle
Risk Technology Infrastructure	NVIDIA
Small Business Credit Data	Dun & Bradstreet
Supervisory Tech (SupTech)	Regnology
Third-Party Risk Management	SAP
Trade Surveillance	Nasdaq
Transaction Cost Analysis (TCA)	VIRTU Financial
Treasury Platforms	ION Trading
Wholesale Credit Data	Moody's Analytics
xVA	Numerix

7. 2022 Rising Stars

This category recognizes a selection of vendors that, in the opinion of our analysts, are companies to watch.

★ Acin

Acin's innovative, data-driven approach to operational risk control gives financial institutions risk control diagnostics across a connected data network. Several leading global financial institutions now rely on Acin's network to improve their decision-making and enhance their operational resilience.

★ Arctic Intelligence

Founded in 2015, Arctic Intelligence bases its business on the belief that risk assessments are the cornerstone of any financial crime compliance program. Its enterprise-wide risk assessment solution enables firms to assess their vulnerabilities, in line with global regulations.

★ Cognext

Cognext offers a cloud-native cognitive platform that automates risk management and regulatory compliance for banks, financial institutions and FinTechs. Solution capabilities include IFRS 9, Basel computation, model risk management, advanced balance sheet analytics, automated ML-based model development and portfolio analytics GRC.

★ CUBE

CUBE offers a comprehensive source of classified, meaningful regulatory intelligence. Using leading techniques in AI, including ML and NLP, CUBE captures and classifies regulatory content across 180 countries in 60 languages and maps it to customers' compliance frameworks, from financial crime to cyber, privacy, tech risk and more.

★ Interos

Interos' SaaS platform uses AI to protect extended supply chains and business relationships by automating the discovery, detection and response to financial, operations, governance, geographic and cyber risk. The company's customers include major brands in the manufacturing, financial services, aerospace and defense sectors.

★ KYC Portal

KYC Portal offers a CLM platform that manages the end-to-end process of due diligence and KYC. Its system's risk scoring engine allows clients to define their regulatory process at a product or service level, and includes an embedded document management system and inbuilt workflows.

★ Kyckr

Kyckr provides a single, automated platform for KYC and AML data, with real-time access to more than 180 company registries containing information on 170 million+ businesses across 120 countries. Kyckr does not store company data, but rather connects customers directly to registries, ensuring an accurate and efficient process for real-time client verification.

★ Legerity

Legerity helps all sizes of general, life and reinsurance firms manage digital finance transformation and complex accounting change. Its enterprise-grade, SaaS-delivered solution covers all the finance aspects of IFRS 17, from receipt of cashflows to calculating the contractual service margin (CSM), to the posting of journals and the production of IFRS 17 reports and disclosures.

★ Maveric Systems

Maveric Systems is a niche specialist that partners with global banks to solve their business challenges with emerging technology. The company accelerates digital transformation in retail, corporate and wealth management lines of business, through banking domain and tech strength and specialized competencies across data, core banking and quality engineering.

★ Muinmos

Muinmos provides an AI-based client onboarding platform that delivers automated onboarding of any client type in under three minutes and ensures regulatory compliance throughout the client's lifecycle with the financial institution. Muinmos' regulatory compliance engine, together with its KYC/AML solution and risk management tool, provide clients with a complete client onboarding platform.

★ **Napier**

Napier provides an AI-enhanced platform that integrates multiple compliance solutions into one master dashboard for intelligent AML and trade compliance. Highly scalable and deployable on-premise or in the cloud, Napier's platform enables non-technical business users to define and test rules, and uses AI and ML to reduce false positives, identify more false negatives, enhance insights and automate reporting.

★ **Neterium**

Focused exclusively on screening technology, Neterium's SaaS solutions combine the benefits of parallel computing and ML with in-depth financial crime compliance knowledge. The company partners with other vendors, including data providers, KYC platforms and identity solutions companies, to build customized solutions for customers, then provides watchlist screening through embedded standardized APIs.

★ **Owlin**

Owlin provides AI-powered text and news analytics solutions for financial institutions, leveraging ML and NLP to cluster, extract, score and visualize unstructured data in real time from millions of news and web sources, and across multiple languages. It generates early-warning signals to identify risks, detect new entities in the risk domain, uncover unknowns and capture potential investment opportunities.

★ **Prevalent**

Prevalent's SaaS solution automates the tasks required to onboard, assess, manage, continuously monitor and remediate third-party security, privacy, compliance and procurement-related risks. The latest release of its platform eliminates gaps in siloed approaches to risk management and delivers a comprehensive ESG vendor risk assessment.

★ **Protecht**

Protecht's enterprise risk management software delivers centralized divisional and group risk assessments, as well as control testing to support effectiveness ratings. The company's enterprise risk management (ERM) advisory services include policy framework and development, risk appetite and metric determination, strategic risk identification, risk workshops, risk and control taxonomy reviews, and risk analytics.

★ **RiskLogix**

RiskLogix is a GRC solution provider whose platform has more than 500,000 financial services users across 80 countries. In addition, the company's consultancy and risk training programs have helped financial institutions worldwide develop and improve their ERM strategies.

★ **Sayari**

Sayari's data intelligence platform is a multi-tenant cloud application that enables users to navigate complex, cross-border corporate structures with network visualizations powered by custom graph-based matching and entity resolution models. By providing a complete picture of customers, vendors and counterparties, Sayari helps financial institutions and multinationals comply with KYC, AML, sanctions, beneficial ownership, and anti-bribery and corruption regulations.

★ **Shift**

Shift Technology delivers fraud detection and claims automation solutions built specifically for the global insurance industry. Addressing several critical processes across the insurance policy lifecycle, the company's innovative use of artificial intelligence helps insurance professionals make faster, more accurate underwriting and claims decisions.

★ **Sigma**

Sigma is an AI-driven risk intelligence platform used by global organizations to fight financial crime and make more informed, automated counterparty risk decisions. Sigma uses point-in-time risk analysis and ongoing monitoring technology to screen thousands of global data sources and return a unified stream of compliance intelligence on companies and people.

★ **Silent Eight**

Silent Eight helps financial institutions manage their compliance and risk obligations. The company, whose solutions are deployed in more than 150 global markets, leverages AI and ML to improve the name screening process, weed out money laundering and terrorist financing, reduce manpower and compliance risks, and enable better decision making.

★ **smartKYC**

smartKYC supports financial services firms in their KYC due diligence by using AI to extract precise open-source intelligence from the internet and deep web, news archives, watchlists and corporate databases across 35 languages. The solution can be hosted on-premise or in the cloud, is scalable, supports a multi-tenant architecture and can be integrated into proprietary systems or third-party tools.

★ **Sword GRC**

Sword GRC provides project and enterprise risk management for customers in the infrastructure, energy, aerospace and defense, construction and government sectors. Its risk management platform is available via cloud or on-premise deployment and offers risk normalization and aggregation, formula-based scoring, preemptive insights into maximum foreseeable loss and identification of weaknesses in a control framework.

★ **Tookitaki**

Tookitaki provides enterprise software solutions that create sustainable compliance programs for financial services companies. Its analytics platform and suite of ML-enabled applications are built on a distributed computing framework. They provide recommendations and insights for reconciliation and AML process workflows, as well as detailed model management and audit capabilities.

★ **Torstone Technology**

Torstone Technology delivers a cloud-based platform for post-trade securities and derivatives processing that simplifies the complexities of post-trade. Torstone's open APIs deliver a suite of real-time functionality, from middle-office initial trade capture and confirmations through to back-office settlement, risk management, reconciliation, accounting, cash and collateral management.

★ **Unit21**

Unit21 offers a secure, integrated, no-code platform that gives risk, compliance and fraud teams complete control over thresholds and parameters used to detect suspicious activity. The company's flexible, customizable and intelligent cloud-based system enables transaction monitoring, identity verification, case management, operations management, and analytics and reporting.

8. Appendix A: Research methodology

Chartis' RiskTech100® report is the most comprehensive study of its kind, and is a core element of our annual research cycle. The rankings in the report reflect our analysts' expert opinions, along with research into market trends, participants, expenditure patterns and best practices. We also validate the analysis through several phases of independent verification (see Table 1).

So that we can continue to assess the market and its key players accurately, we are developing and refining our methodology as the risk technology market evolves. Any changes will be reflected in subsequent reports.

Table 1: RiskTech100® research methodology

<ul style="list-style-type: none"> Performed a comprehensive market sweep of leading market participants in 40 risk categories.
<ul style="list-style-type: none"> Completed 1,500 surveys and interviews with risk technology buyers and end users.
<ul style="list-style-type: none"> Collected data on organizations' expenditure priorities and vendor preferences.
<ul style="list-style-type: none"> Collated 400 completed questionnaires, briefing documents and product specifications from risk technology vendors.
<ul style="list-style-type: none"> Conducted and attended 200 interviews, product demonstrations and strategy briefings with risk technology vendors.
<ul style="list-style-type: none"> Conducted 150 interviews with risk technology buyers to validate our survey findings.
<ul style="list-style-type: none"> Conducted more than 50 interviews with independent consultants and system integrators specializing in risk technology.
<ul style="list-style-type: none"> Applied RiskTech100® assessment criteria to filter the top 150 vendors.
<ul style="list-style-type: none"> Reviewed data with 30 independent consultants and 110 risk technology buyers.
<ul style="list-style-type: none"> Interviewed 60 ex-employees of the top 50 risk technology vendors to validate our findings.
<ul style="list-style-type: none"> Undertook final data validation with 100 vendors, receiving 80 completed questionnaires and carrying out more than 100 vendor briefings.
<ul style="list-style-type: none"> Completed 100+ independent reference checks to validate vendor claims and client satisfaction levels.
<ul style="list-style-type: none"> Developed the final top 100 rankings, identified the category winners and finalized the report.

Source: Chartis Research

9. Appendix B: How to read the RiskTech100® rankings

The RiskTech100® assessment criteria comprise six categories:

- Functionality.
- Core technology.
- Strategy.
- Customer satisfaction.
- Market presence.
- Innovation.

Within each category, we have included a number of sub-categories to encompass the range and scope of current risk technology solutions (see Table 2).

Table 2: RiskTech100® assessment criteria

Functionality	<ul style="list-style-type: none"> • Depth of functionality. The level of sophistication and detailed features in the software product. Aspects assessed include: innovative functionality, practical relevance of features, user-friendliness, flexibility and embedded intellectual property. High scores are given to firms that achieved an appropriate balance between sophistication and user-friendliness. In addition, functionality that links risk to performance is given a positive score. • Breadth of functionality. The spectrum of risks covered as part of an enterprise risk management solution. The risk spectrum under consideration includes treasury risk management, trading risk, market risk, credit risk, operational risk, energy risk, business/strategic risk, actuarial risk, asset-liability risk, financial crime and compliance. Functionality within and integration between front-office (customer-facing) and middle-/back-office (compliance, supervisory and governance) risk management systems are also considered. High scores are given to firms achieving (or approaching) integrated risk management – breaking the silos between different risk management functions.
Core technology	<p>Chartis evaluates a vendor's overall technology stack by benchmarking it against latest best practice. Key considerations this year have been the use of cloud and Big Data technologies, as well as the agility and openness of the overall technology architecture.</p> <ul style="list-style-type: none"> • Data management. The ability of enterprise risk management systems to interact with other systems and handle large volumes of data. 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. • Risk analytics. The computational power of the core system, the ability to analyze large amounts of data in a timely manner (e.g., real-time analytics) and the ability to improve analytical performance are all important factors. • Reporting and visualization. The ability to surface risk information in a timely manner. The quality and flexibility of visualization tools, and their ease of use, are important for all risk and compliance management systems.

Source: Chartis Research

Table 2: RiskTech100® assessment criteria (continued)

Strategy	<ul style="list-style-type: none"> • Vision and leadership. Market understanding, a scalable business model, product strategy, technology strategy and go-to-market strategy are critical success factors. Both organic and inorganic growth strategies are considered, as well as strategic alliances and partnerships. • Ability to execute. The size and quality of the sales force, the sales distribution channels, the global footprint, partnerships, differentiated messaging and positioning are all important factors. Specific consideration is given to the quality of implementation and support functions, post-sales support and training. • Financial performance. Revenue growth, profitability, sustainability, financial backing and the percentage of recurring revenues. The ratio of license to consulting revenues is key to business scalability.
Customer satisfaction	<ul style="list-style-type: none"> • Value for money. The price to functionality ratio, and the total cost of ownership versus license price. • After-sales service and support. Important factors include the ease of software implementation, the level of support and the quality of training. • Product updates. Important considerations for end users include how often vendors issue updates and how well they keep pace with best practice and regulatory changes.
Market presence	<ul style="list-style-type: none"> • Market penetration. The number of customers in chosen markets and the rate of growth relative to sector growth rate. • Market potential. Brand awareness, reputation, thought leadership and the vendor's ability to use its current market position to expand horizontally (with new offerings) or vertically (into new sectors). • Momentum. Performance in the past 12 months, including financial performance, new product releases, quantity and quality of contract wins and market expansion moves.
Innovation	<ul style="list-style-type: none"> • New product development. New ideas, functionality and technologies to improve risk management for target customers. Chartis assesses new product development not in absolute terms, but in relation to a vendor's closest competitors. • Exploitation. Developing new products is only the first step in generating success. Speed to market, positioning of new products and translation to incremental revenues are critical success factors. • New business models. Innovation is not limited to the product dimension. Some risk technology vendors are also actively working toward new business models for generating profitable growth.

Source: Chartis Research

10. How to use research and services from Chartis

In addition to our industry reports, Chartis offers customized information and consulting services. Our in-depth knowledge of the risk technology market and best practice allows us to provide high-quality and cost-effective advice to our clients. If you found this report informative and useful, you may be interested in the following services from Chartis.

Advisory services

Advisory services and tailored research provide a powerful way for Chartis clients to leverage our independent thinking to create and enhance their market positioning in critical areas.

Our offering is grounded in our market-leading research, which focuses on the industry and regulatory issues and drivers, critical risk technologies, and leading market practices impacting our sector. We use our deep insight and expertise to provide our clients with targeted market and industry analysis, tailoring content to assess the impact and potential of relevant regulatory and business issues, and highlighting potential solutions and approaches.

Chartis' advisory services include:

Market dynamics

The markets that our clients – vendors, institutions and consultants – address are changing at an ever-increasing pace. Understanding the market dynamics is a critical component of success, and Chartis uses its deep industry and technical knowledge to provide customized analysis of the specific issues and concerns our clients are facing.

Market positioning

In today's highly competitive market, it is no longer enough simply to have a leading product or solution. Buyers must be able to appreciate the differentiating capabilities of your brand and solutions, and understand your ability to help them solve their issues.

Working with our clients, we generate compelling, independent co-branded research, targeting critical business issues. This helps our clients to position their solutions effectively, 'own' key issues and stand out from the crowd.

Collaborating closely with our clients, we develop pragmatic, resonant thought-leadership papers with immediate industry relevance and impact.

Our offering includes:

- **Co-branded research** on key market topics to provide a unique and compelling point of view that addresses a key industry driver and highlights the relevant issues. Reports can be tailored to varying levels of depth and can be powered by quantitative survey fieldwork, qualitative industry interviews, our deep domain expertise or a blend of all three.
- **Chairing roundtables and/or facilitating events and workshops** to support clients in hosting compelling events that put them at the heart of the discussion.
- **Targeted marketing through our sister brands**, leveraging the power of our parent group – Infopro Digital – to reach across leading brands such as Risk.net, WatersTechnology, FX Week and Central Banking.

Competitor analysis

Our unique focus on risk technology gives us unrivalled knowledge of the institutions and vendors in the sector, as well as those looking to enter it. Through our industry experts, Chartis clients can tap our insights to gain a much deeper understanding of their competitors and the strategies they should pursue to better position themselves for success.

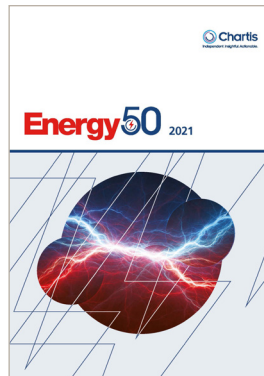
Regulatory impact analysis

The analysis and assessment of regulatory change and implementation is one of Chartis' core strengths. We can apply our insights to assess the impact of change on the market – either as it applies to vendors and the institutions they serve, or on a client's specific product and customer base. We can also provide insights to guide product strategy and associated go-to-market activities, which we can execute for internal use to drive our clients' strategy or as a co-branded positioning paper to raise market awareness and 'noise' around a particular issue.

11. Further reading



Big Bets 2021



Energy50 2021



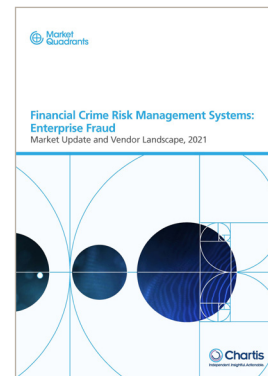
STORM50 2021



Key Trends 2021: Buy-Side Q3/Q4 Review



GRC Solutions, 2021: Market Update and Vendor Landscape



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

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

Contact us

Email: info@chartis-research.com

Phone: +1 646-490-3965

www.chartis-research.com

 @ChartisRsch

