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CLOUD-ENABLED GOVERNANCE, RISK, AND COMPLIANCE SOLUTIONS

TAKING GRC TO THE NEXT LEVEL

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PROLOGUE: CLOUD IN FINANCIAL SERVICES

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The cloud has come of age for financial institutions. Commercial banks, payment processors, investment banks, asset managers, and insurers continue to feel pressure to become more nimble and cost efficient. This pressure has driven demand for cloud-based infrastructure on a much grander scale, even compared to a few years ago. The appetite for cloud-based services has reached a critical point, and cloud is now the main delivery model for certain key functions.

The acceleration in cloud adoption is being driven by four key factors in the financial services industry: cost pressures, flexibility in creating new and rapid solutions, demand for flexible infrastructure, and managing and leveraging data in the most effective fashion possible. The cloud has emerged to solve these challenges, offering firms a more agile infrastructure that enables them to address ever evolving regulatory requirements.

At the same time, cloud has to a large extent enabled the rapid development of fintech. Many if not most fintech startups develop and deploy their innovative services in cloud environments, which offer scalable, flexible access to high-performance computing, data storage, and a wide range of analytic tools.

Moving to a new architecture is much more than the movement from analog to digital. Emerging technologies like machine learning can not only drive efficiency, but also offer advanced analytics and insights leading to superior compliance practices, improved customer engagement, and additional revenue opportunities.

Cloud services provide scalable, agile, and secure infrastructure as well as analytic and development tools to enable financial institutions to build capabilities that are more cost efficient and more agile. The cloud is also a catalyst for regtech by providing access to high-powered CPU capacity and data storage to support the development of new, smarter solutions based on advanced analytics and artificial intelligence (AI).

The speed and impact of the public cloud have significantly remapped the way CIOs and CTOs look at their internal clouds, virtualization models, and infrastructure spending. The most innovative firms are enabling their financial institution clients to shed internal costs.

The end game of the cloud, however, is not doing things more cheaply; it is the creation of a data-centric financial institution that has its data in an easily usable form for advanced predictive analytics, AI, and machine learning.

As firms map their present and future cloud strategies they increasingly focus on flexibility related to their overall cloud model (public, private, or hybrid), costing models, architecture, and connectivity. Banks, payment processors, insurers, and capital markets

participants are looking for clear solutions from providers that can solve their data concerns and regulatory demands. With growing adoption of cloud in the financial services industry, the community of software and service providers is adapting its existing solutions and new players are emerging.

Vendors need flexibility in offering on-premise and cloud solutions of a variety of stripes. Vendors that can offer in-house, private, managed, and public cloud solutions are gaining market share relative to solely on-premise solutions. In some cases they are being forced to expedite their cloud programs, driven by demand from their largest clients. This evolution has allowed the development and proliferation of the software as a service (SaaS) model.

Some providers are offering lighter versions of their existing solutions to downstream segments. For example, financial crime software traditionally offered to large institutions on an on-premise basis is being offered as streamlined solutions available on the cloud to mid-tier or smaller institutions.

The cloud sits at the center of all major trends today in financial services: cost reduction, focus on core business, automation, operational efficiency, data primacy, analytics, and machine learning. Cloud-based models have transformed the financial industry across lines of business and operational areas. Solution providers are accordingly utilizing the cloud to create new models for risk and operations.

GRC IN THE CLOUD

Governance, risk, and compliance (GRC) in financial services is reaching an inflection point. Legacy systems and processes, organizational siloes, culture, and other ingrained issues are hindering commercial banks, payment processors, investment banks, asset managers, and insurers from performing more holistic and efficient operational risk management.

These barriers are limiting financial institutions' ability to maximize accuracy, optimize efficiencies, and reduce costs in their GRC operations. Firms are facing pain points across the entire governance, risk, and compliance value chain:

- **Collecting and managing information**: Information collection for many GRC functions remains largely manual, and capabilities for analyzing unstructured data are underdeveloped.
- **Data complexity:** Accessing data from disparate systems is operationally challenging. Cleaning and completing all data and information require manual intervention.
- **Analytics:** Data residing on siloed systems limit analytic capabilities. Traditional rules-based analytics and models are inadequate for modern day requirements. Enterprise-wide analysis of risk factors is an elusive goal at many firms.
- **External data** is increasingly available for areas ranging from asset valuation to customer due diligence, but firms are challenged to develop the advanced analytic capabilities that will enable them to exploit these big data sets.
- **Reporting and audit:** There is room for further automation of workflows, dynamic visualization, and internal and regulatory reporting capabilities.

Key Research Question 1

What pressures are financial institutions facing in their GRC operations?

Barriers to holistic and efficient risk management include legacy systems and processes, organizational siloes, heavily manual information collection, challenges with managing and leveraging internal and external data for advanced analytics, and inefficient reporting and audit workflows.

The following are elements of GRC that are required to ensure successful outcomes. Modern cloud platforms provide a scalable, extensible, and efficient infrastructure to support the realization of each of these objectives.

A FIRMWIDE APPROACH TO MANAGING GRC

Financial institutions need to evolve the focus of operational risk, compliance, and control functions from being an isolated, back-office corporate function to mobilizing personnel towards direct oversight in the execution of controls nearer to the front line, and by having their activities embedded "in, but not of" the business. Firms also need to remove and re-engineer different yet overlapping frameworks that they have created for various controls specifically mandated by various regulatory jurisdictions to remove drag and increase

efficiencies. The universal accessibility of a cloud-based GRC solution can enable financial institutions to mitigate traditional silo-based approaches.

FOCUS ON USABILITY AND EFFECTIVE DELIVERY OF INFORMATION

Because operational risk and compliance management activities are pervasive by nature, there is a renewed emphasis on the "universal adoption appeal" of GRC solutions introduced in relation to securing buy-in of end users within business units. End users constitute not just risk and finance stakeholders but also representatives from all business units and divisions who are accountable for the identification, monitoring, and mitigation of operating risks.

More than ever, the focus has shifted from *"How do we assess risk?"* to *"How do we use the information and make it actionable?"* As financial institutions shift their momentum from centralized group operational risk activities to implementation at the various business units, issues related to effective operational risk information delivery (quality of KRI sets, visualization, score-carding, operational dashboards, etc.) are becoming a major focus. Softer elements related to customization features of user interface and usability of reporting applications are coming to the forefront for business users. Cloud deployment supports a more seamless, less effortful deployment of configurable, agile solutions to realize these objectives.

EXPLOITING EFFECTIVE USE OF DATA AND ANALYTICS FOR STRATEGIC ADVANTAGE

In relation to non-financial risk, Celent believes that the ongoing advancements in how financial firms deploy data and analytics (progressively, in the context of "Big Data," employing cloud-based configurations) are relevant for operational risk, conduct, and compliance management. Risk management as a practice is no stranger to the utilization of risk analytics and data, but with the explosion of data, financial firms must start asking two key questions:

- *First, if we instill Big Data thinking, how can we potentially execute risk and compliance management practices differently?*
- *Second, if we adopt Big Data and Analytics paradigms, how can the Risk function further add value and deliver intelligence to the business (e.g., pertaining to macro risks, reputational risks, and counterparties)?*

We believe that there are interesting possibilities here to extend and infuse new ideas as part of ongoing advances in risk technology, data, and analytics. This is above and beyond the current trajectory in most firms of delivering risk information faster and more accurately, and integrating these into business workflows. By incorporating a broader data universe and from non-conventional sources of risk information, firms can gain "soft clues" into emerging risks, threats, and opportunities. For example:

- For fraud analysis: electronic messaging sessions, recordings of trader/ client conversations on trading desks, trading application "click-streams," electronic security access logs, HR employee records, and news flow.
- For counterparty monitoring and risk measurement: to be able to use unstructured information from social media "conversations"/ trader forums and news flows, combined with fundamental earnings information, public filings, economic data, broker research, swaps repository data, pre-trade and post-trade transparency reporting, regular Fed stress test results, high frequency trading data, formal credit ratings, and firmwide customer transactional data.

In short, applying large-scale data analysis methods (typically using high-performance cloud environments) can add more science and increase speed in translating “gut instincts” and “expert intuition” about risk into better insights and action.

DYNAMIC, FORWARD-LOOKING PARADIGMS OF SURVEILLANCE

Driven both by competitive and regulatory drivers, the “operationalization” of risk practice requires not just static/ historical risk assessments, analytics, and measurements, but also embedding of information about risk in a joined-up, event-driven, and “live” manner as part of day-to-day front-line decisions and actions taken.

For example, cybersecurity surveillance can be strengthened by coordinating data on internal anomalies with external threat intelligence in real time to provide actionable alerts to front line cybersecurity responders.

The cloud supports lower-cost operational application deployments, faster time-to-market, and higher elasticity in terms of computing horsepower. Cloud infrastructure provides the means for financial firms to shift away from more static, rules-based monitoring to more agile, proactive, model-based surveillance.

ORGANIZING DATA QUALITY PROCESSES, TOOLS, AND MEASURES CONSISTENTLY ACROSS VARIOUS DATA STAKEHOLDERS

A financial institution’s focus and orientation towards data quality is a critical component that both contributes to, as well as benefits from, cultural change. Senior management needs to emphasize the strategic value (also the potential detriment otherwise) of GRC data as part of the organization’s larger data quality initiatives. A commitment to apply discipline to the management of data assets on a sustained basis will ensure that governance and oversight activities are based on sound information. Consistent application of data quality processes and tools on centrally located data and information (typically owned by various data owners) within a centrally accessible, cloud-based environment will help facilitate these objectives.

Whichever specific approaches they adopt, financial institutions need to consider a coherent approach and design towards closing the loop for information and workflows for these areas. Overall, firms must establish clear boundaries and get specific about functional capabilities and data exchanges associated with GRC investments in order to facilitate a cohesive upstream/ downstream integration with other core processing systems, as well as prioritize what is core and noncore from a cost - benefit perspective.

Deploying GRC activities and solutions in the cloud helps enable these objectives by better enabling enterprise-wide, real-time data analysis; effective use of unstructured as well as structured data; efficient and on-demand delivery of GRC solutions and interfaces; and cost-effective, high-performance computing infrastructure to drive strategic advantage.

Key Research Question

2

What benefits can cloud provide to GRC operations?

Deploying GRC solutions in the cloud provides scalable, flexible, and secure infrastructure and tools to support enterprise-wide, real-time data analysis and efficient, on-demand delivery to help drive strategic advantage.

GRC SOLUTIONS TAXONOMY AND VENDOR SPECTRUM

The GRC ecosystem in the financial services industry can be grouped into four operational areas and their corresponding technology solutions and applications:

- **Business units and product systems**. Solutions that support business units include vertical applications such as customer management systems, commercial banking systems, insurance systems, sell-side and buy-side trading systems, and clearing and settlement networks. Horizontal applications include general ledger and accounting systems.
- **Operations control and mitigation**. This area is dominated by two concerns affecting most financial institutions. *Collateral management* is an essential means of controlling counterparty risk for investment banks, asset managers, bank treasury operations, and the asset management operations of insurers. Firms are addressing the serious regulatory and reputational risk challenges posed by *financial crime* with solutions to support anti-money laundering (AML), know your customer (KYC), sanctions/ watchlist screening, and anti-fraud operations.
- **Risk assessment and measurement** involves complex, data-heavy calculations for non-financial risk assessment and measurement as well as for financial risk. Enterprise-wide capabilities are becoming vital in this area.
- **Risk monitoring, governance, and reporting**. These functions institute and audit the risk and compliance procedures and controls put in place across the organization. Risks and outcomes are communicated to internal and external stakeholders via static reports and, increasingly, dynamic risk and compliance dashboards.

Figure 1: Governance, Risk, and Compliance Ecosystem

Source: Celent

Representative technology vendors providing solutions in each of these functions are shown in the table below. Vendors offering cloud-based applications are shown in bold font. Additionally, many vendors are in the process of developing cloud-based solutions.

Table 1: GRC Ecosystem: Illustrative Vendors

Operations Control and Mitigation	**Financial Crime**		**KYC Utilities**	**Collateral Management**	
	Accuity	Oracle	**IHS Markit**	Blackrock Aladdin	**IVP**
	BAE Systems	**Palantir**	**SWIFT**	Broadridge	**Lombard Risk**
	FICO	**Pindrop**	**Thomson Reuters**	**Calypso**	**Misys**
	Fiserv	**SAS**		**CloudMargin**	**Murex**
	Logica	**TCS**		FIS	Omgeo
	NICE Actimize	WKFS		**IBM Algo**	Rockall
				IntegriDATA	
Risk Assessment and Measurement	**Non-Financial Risk**		**Financial Risk**		**Analytics Platforms**
	Bwise		**Axioma**	Moody's Analytics	**Domino**
	IBM		AxiomSL	**Numerix**	
	Metricstream		**IBM Algo**	QRM	
	SAS		Blackrock Aladdin	**Quantifi**	
	Thomson Reuters		**Fiserv**	**SAS**	
	WKFS		**FINCAD**	MSCI	
			FIS	**Misys**	
			Kamakura	UBS Delta	
			IHS Markit		
Risk Monitoring, Governance, and Reporting	**GRC Monitoring**		**Outsourced Reporting**	
	Accenture	Oracle GRC	**AxiomSL**	
	AxiomSL	Protiviti	**GFT**	
	Bwise	**RSA Archer**		
	CTP	**SAS**		
	Cura	Thomson Reuters		
	IBM	**WKFS**		
	Mega	Wynyard		
	Metricstream			

Source: Celent

At this point, vendors and their solutions are still rapidly evolving. The market is far from a complete end-to-end GRC solution. This means that, in many instances, classifications, metadata, and data need to be consistently defined and captured across these applications. Arguably, as much as possible the various areas should share the same platform to further facilitate ease of data integration. This is another area where cloud platforms can contribute.

If financial institutions take a compliance-wide view of their technology requirements, cloud-based solutions can support increased efficiency in GRC operations and so allow staff to focus on high-risk activities and the continued improvement of pre-emptive risk management.

THE PATH FORWARD

Overwhelmed by the burden of compliance, firms tend to focus on the immediate crisis rather than taking time out to industrialize the process. The pressure from government, regulators, reputational concerns, and the catch-up of compliance management has forced financial institutions to take a breath and begin serious discussions on how to operationalize and automate their governance, risk, and compliance programs.

Financial institutions looking to leverage the cloud for governance, risk, and compliance purposes to help alleviate these pressures should examine the potential use cases as well as consider a number of practical issues in rolling out cloud-based solutions.

AML/ KYC

Anti-money laundering compliance is perhaps the most challenging function in GRC today. AML regulation and the resultant operations and technology costs have increased relentlessly for more than a decade. AML compliance costs may reach into the billions of dollars and compliance teams may exceed 1,000 employees at the largest multinational institutions. For smaller firms, the proportional cost of AML compliance is sometimes even higher. Clearly, financial institutions need relief.

Cloud-based solutions can help financial institutions achieve greater efficiencies in AML compliance by mitigating the operational burden. AML solutions require significant inputs from firms, including upgrading software to comply with regulatory changes, maintaining external data such as sanctions watchlists, and adjusting parameters and thresholds to optimize scenario performance. For multinational firms, meeting the regulatory requirements of the multiple jurisdictions in which they operate adds even greater complexity. A cloud-based, managed solution provider can undertake much of this work.

Moreover, standardization of compliance policies and workflows are desirable to regulators. Although cloud solutions for AML are fairly new, SaaS-based solutions promote the standardization of AML compliance by offering common protocols to all the financial institutions using the product.

FRAUD

Financial institutions, card processors, and the industries they serve such as retail have to defend themselves from every shape and form of external and internal fraud. Fraud losses are a direct hit to a firm's bottom line and to its reputation. Furthermore, the increase in online financial and e-commerce services is increasing the vulnerability of these industries to bad actors.

To stem the rising tide of fraud, firms are now relying on new technology solutions such as advanced analytics and artificial intelligence platforms. Anti-fraud solutions increasingly need to monitor activity across multiple delivery channels, including physical outlets, online and mobile channels, and call centers. This may also necessitate the analysis of unstructured data such as voice and electronic communications (e-mail). Depending on the use case, monitoring, analysis, and response to activity ranging from customer calls to financial transactions must be executed in real time in order to block the fraud from occurring.

In short, modern anti-fraud efforts require intense, real-time analysis of multiple data sources, at scale. Moreover, many use cases such as retail are susceptible to demand peaks. Cloud deployment of advanced anti-fraud solutions provides a scalable, on-

demand infrastructure to accommodate the high-performance requirements of modern fraud solutions. Accordingly, many regtech startups offer their advanced anti-fraud solutions through the cloud.

Risk Management

Risk management has grown over the past decade into an extremely complex, data-intensive, and costly group of functions at financial institutions. Risk management accounts for ten to upwards of twenty-five per cent of operations budgets at financial firms today. Moreover, best practice in risk management requires enterprise-wide approaches to data sourcing and data management, modeling, analysis, and controls. Dependencies between the downstream and upstream functions of risk management call for integrated approaches to data and workflows.

Financial Risk

Financial risk management is largely a data and analytics business that relies on massive computing power and storage capacity. Much of the activity focuses on calculating value at risk (VAR), credit valuation adjustment and other valuation adjustments (CVA, XVA), performing stress testing and systemic risk simulations, and other requirements mandated by Basel, central bank, and capital markets regulation.

Large financial firms have invested tens of millions of dollars to build the computing infrastructure to run these calculations. On-premise systems inevitably run up against batch window and other issues, requiring further investment in capacity. Building out the technology requirements for a new regulation may require considerable advance planning.

Modern cloud platforms can address these pain points in financial risk management, typically at a fraction of the cost of on-premise solutions. Cloud platforms give financial institutions access to on-demand capacity that autoscales to meet the peak processing requirements typical of batch-run risk calculations. Cloud-based computing can power faster processing routines to give firms more time for exception handling or to deal with run failures. Finally, the essentially limitless capacity of commercial cloud platforms enables financial institutions to leverage new technologies such as robotics and artificial intelligence in their risk management operations.

Operational Risk

For financial institutions, operational risk has been largely a matter of implementing controls, auditing procedures, and monitoring outcomes in order to limit the potential for suboptimal practices to generate losses or lead to more serious incidents.

Today, the lines between financial and operational risk management are blurring. For example, the data sources and data architectures behind the generation of valuations in financial risk are subject to controls and audit. With the growing importance of data as a source of strategic advantage, needs are emerging for data governance frameworks, data monitoring for audit purposes, and data management reporting to fulfill regulations such as MiFID. In asset management, product control and price verification are subject to scrutiny and audit as part of an operational risk framework.

Cloud-based GRC platforms facilitate best practice in these and other areas of operational risk by supporting automated data collection, monitoring of systems, business intelligence dashboards, orchestrated workflows, and audit and reporting capabilities on an enterprise-wide basis.

Roadmap to the Cloud

There are a number of issues that financial institutions should examine as they plan how to incorporate cloud-based technology into their overall GRC technology strategy. Firms should consider the following issues:

- **Business case**. GRC applications involving big data, advanced analytics, and artificial intelligence require intense computing power, making the cost benefits of cloud platforms for these solutions clear. The business case for operational risk solutions focused on control, monitoring, audit, and reporting functions may be more around cloud's suitability for facilitating enterprise-wide data management and workflow.
- **Deployment model and data security**. GRC operations at financial institutions are inherently subject to regulatory risk and therefore highly sensitive. Financial institutions should communicate openly with their regulators as they migrate their GRC technology and data to the public cloud or explore hybrid configurations for handling peak loads.
- **Data storage and hosting**. While data hosting decisions are subject to the security concerns discussed above, other considerations may be equally relevant. A good example for multi-national firms is the prohibition in a number of markets against offshore hosting of financial services data. For financial institutions, commercial cloud providers with data centers in multiple jurisdictions can simplify the in-country deployment of financial services applications such as AML and fraud solutions.
- **Need for an enterprise foundation**. The flexible, extensible capabilities of cloud-based solutions are most compelling when deployed at scale. Migrating point solutions to the cloud may not generate the potential benefits but remain a mere technology porting exercise. Cloud-based solutions will deliver the greatest efficiencies and ROI when implemented on an enterprise-wide level. This makes cloud-based solutions particularly apt for supporting best-practice governance, risk, and compliance functions that require an enterprise foundation.

Key Research Question 3

What issues should financial institutions consider in creating a roadmap for cloud-based GRC technology?

Firms should develop a business case appropriate to each solution, choose deployment models in line with security needs, prioritize solutions that support the enterprise, and communicate with regulators as they migrate GRC technology to the cloud.

Security Concerns

It goes without saying that financial institutions need to ensure they follow best practice in security methods, technologies, and protocols. This is especially the case for sensitive operations such as governance, risk, and compliance. As noted above, financial institutions need to be judicious and deliberate in migrating their GRC technology to the cloud. Firms that have done so, particularly larger firms, are still likely to insist on deploying GRC solutions in private cloud environments.

At the same time, public cloud platforms provide the greatest benefits in terms of scale, flexibility, and cost. This is leading more financial institutions, including large firms, to get more comfortable working in a public cloud infrastructure as long as the security and liability checklists are fulfilled.

The good news is that commercial public clouds not only offer power, scale, and agility, but also world-leading security capabilities. These comprise not only highly secure infrastructure that is arguably stronger than that of most financial institutions, but also active monitoring services to further ensure the integrity of the deployment and data.

As access to computing power becomes more flexible, firms will demand more extensibility in their bandwidth, architecture, and connectivity. Cost, ease, and competitive advantage will continue to trump regulatory, data privacy, and compliance concerns.

CODA: REGTECH AND THE CLOUD

Financial institutions of all sizes continue to struggle with new regulations driving increased complexity and reporting volumes. Cumulatively, firms have spent billions annually on regulatory technology and operations for nearly a decade, which is clearly not sustainable. Tired of continued layering of solutions and addition of compliance staff, executives are now pushing for operational efficiency.

Regtech applies advanced technologies to solve the costly inefficiencies in GRC operations. Regtech better disseminates regulations across organizations, reduces manual rote work, and improves the accuracy of reporting and audits. Regtech solutions and services are aimed at dramatically increasing automation, efficiency, and efficacy in GRC operations by leveraging emerging technologies like robotics and intelligent automation. Regtech has the potential to intelligently streamline the compliance process from beginning to end.

The cloud has emerged to solve many of the current challenges in GRC, such as cost pressure, lack of scalability, flexibility, and innovation. The cloud offers financial institutions a more agile infrastructure that enables them to address ever-evolving regulatory requirements.

Cloud is proving to be a great enabler in creating an automated, data-centric, AI future. Commercial cloud environments provide highly scalable, high-performance computing platforms, virtually unlimited data storage, and open source tools that enable the development and deployment of emerging technologies such as big data analytics and AI, without the need to build massive computing capabilities in-house. These are the tools that are powering the fintech revolution and they are also the secret sauce behind many regtech solutions.

An ecosystem of cloud-focused financial services vendors is evolving. Innovative service providers are creating business models that allow firms to focus on their core activities while cloud providers and cloud-based solutions take care of infrastructure, developing better regulatory solutions or faster compliance tools, and offering easy scalability and agility.

Incumbent GRC technology providers have developed their solutions over many years and are tried and trusted not just by financial institutions, but also by the regulators. Incumbents are now building or partnering to add advanced technical capabilities to their products such as AI and cloud deployment and as trusted providers are in a good position to pass regulatory muster quickly. The financial industry and regulators are also exploring the capabilities of the regtech start-ups. Regulators will become comfortable with startup regtech as it matures, and it will become essential technology in the GRC departments of the future.

Just as cloud is the preferred model for fintech, models for cloud delivery of regulatory solutions in regtech are creating better access to global regulatory rules and data, and effective means of complying, measuring, benchmarking, and reporting. Cloud models will only become more prevalent. Cloud provides an efficient, scalable, and elastic foundation upon which to build innovative models using AI, other emerging technologies, and open APIs to take GRC to the next level.

Was this report useful to you? Please send any comments, questions, or suggestions for upcoming research topics to info@celent.com.

BACKGROUND

This report was commissioned by Amazon Web Services (AWS); however, the analysis and conclusions are Celent's alone, and AWS had no editorial control over report contents.

For 11 years, Amazon Web Services has been the world's most comprehensive and broadly adopted cloud platform. AWS offers over 90 fully featured services for compute, storage, networking, database, analytics, application services, deployment, management, developer, mobile, Internet of Things (IoT), Artificial Intelligence (AI), security, hybrid, and enterprise applications, from 44 Availability Zones (AZs) across 16 geographic regions in the U.S., Australia, Brazil, Canada, China, Germany, India, Ireland, Japan, Korea, Singapore, and the UK. AWS services are trusted by millions of active customers around the world — including the fastest growing startups, largest enterprises, and leading government agencies — to power their infrastructure, make them more agile, and lower costs.

AWS works with all types of financial institutions — from established global investment banks to pioneering fintech startups — to help reinvent and optimize their relationship with technology to quicken go-to-market speeds, automate and strengthen security, increase stakeholder value, improve customer experiences, and lower costs. Because the Financial Services industry is so highly regulated, AWS also works closely with financial institutions to strengthen their governance, risk, and compliance (GRC) programs without sacrificing their ability to innovate. With the surge in data and new business models, managing GRC has become increasingly complex, driving a need for enhanced security mechanisms, complex financial calculations, and advanced analytics to simulate evolving market conditions. These capabilities require virtually unlimited storage and computing power as well as powerful but user-friendly tools to facilitate artificial intelligence and machine learning. As a result, the cloud has become central to risk management, and leading GRC solution providers, including emerging regtech solutions, are choosing to run their applications on the cloud. To help our customers take advantage of enhanced GRC technology, AWS has established partnerships with a number of these providers, including Accenture (risk grid); IHS Markit (risk analytics); NICE Actimize (anti-money laundering & anti-bribery); FICO (prescriptive analytics); Domino Data (model risk validation); Cloud Technology Partners (continuous compliance and controls); Pindrop (multi-factor anti-fraud and authentication); and GFT (regulatory reporting).

For more information, please see https://aws.amazon.com.

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Typical projects we support related to governance, risk, and compliance include:

Vendor short listing and selection. We perform discovery specific to you and your business to better understand your unique needs. We then create and administer a custom RFI to selected vendors to assist you in making rapid and accurate vendor choices.

Business practice evaluations. We spend time evaluating your business processes. Based on our knowledge of the market, we identify potential process or technology constraints and provide clear insights that will help you implement industry best practices.

IT and business strategy creation. We collect perspectives from your executive team, your front line business and IT staff, and your customers. We then analyze your current position, institutional capabilities, and technology against your goals. If necessary, we help you reformulate your technology and business plans to address short-term and long-term needs.

SUPPORT FOR VENDORS

We provide services that help you refine your product and service offerings. Examples include:

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Market messaging and collateral review. Based on our extensive experience with your potential clients, we assess your marketing and sales materials — including your website and any collateral.

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