Financial Crime and Compliance

SPARK Matrix™: Anti-Money Laundering (AML), 2023

Market Insights, Competitive Evaluation, and Vendor Rankings

April 2023



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Executive Overview

This research methodology includes a detailed analysis of global anti-money laundering (AML) solution market dynamics, major trends, vendor landscape, and competitive positioning analysis. The study provides competition analysis and ranking of the leading AML vendors in the form of the SPARK Matrix™. This research provides strategic information for technology vendors to better understand the market supporting their growth strategies and for users to evaluate different vendors' capabilities, competitive differentiation, and market position.

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Market Dynamics and Overview

Quadrant Knowledge Solutions defines Anti-Money Laundering (AML) as:

"Anti-Money Laundering (AML) solution helps financial institutions and government organizations to monitor and analyze customer data and transactions to detect, prevent, and report suspicious money laundering activities and improve AML compliance. Modern AML solution uses advanced analytics, artificial intelligence, and machine learning to predict potentially fraudulent activities to further strengthen the organization's AML compliance readiness."

The global increase in instances of money laundering is due to the optimistic growth of the potential market. The growing use of virtual currencies and the accessibility of the internet are two major factors contributing to the increase in money laundering instances around the world. However, a shortage of highly skilled AML professionals, a lack of knowledge of legal requirements, a lack of stringent information security rules, and a lack of interest in AML solutions are anticipated to impede market expansion.

Financial services and banks are grappling with adhering to regulations such as BSA, FinCEN, Fourth AMLD, Fifth AMLD, Hong Kong Monetary Authority (HKMA), Monetary Authority of Singapore (MAS), and more with their legacy systems, thereby adversely impacting meeting deadlines and slowing the overall process. To further add to the woes driven by digital transformation and emerging technologies, financial crimes are increasing in frequency and complexity, fuelling a rapid rise in money laundering activities.

Even with the use of AML solutions, it is getting more challenging to identify frauds earlier due to the rise in cyberattacks including phishing, card fraud, crypto scams, skimming, identity fraud, money laundering, investment fund fraud, terrorist funding, sanctions violation. Banks employ a variety of procedures and technological solutions to comply with AML regulations, which combine KYC data and systems into a single repository

Financial crimes are becoming more frequent and complex, which is aggravating the problems brought on by digital transformation and emerging technologies and fuelling a sharp increase in money laundering activities. As more complex compliance emerges, financial organizations face the problem of safeguarding

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their assets. The absence of robust compliance within financial institutions is one of the main challenges in the AML sector.

To combat these challenges organizations are turning to Fintech vendors and embracing anti-money laundering solutions to detect and mitigate conventional and digital money laundering activities. Leading vendors are adopting cloud-based and web-based AML solutions, Behaviour Analytics models, identity resolution in KYC, risk management, smart authentication, real-time payment, and transaction screening. AML solution filters previous customer transaction data, finds anomalies, aids financial services in monitoring and flagging or reporting suspicious activity (SAR) as needed, and assures compliance. The AML solutions can ingest large data sets from numerous sources, assist FIs with due diligence procedures, and guarantee compliance with laws and regulations. Leading vendors are offering AI & ML-powered, backed up by sophisticated technologies such as AI, ML and RPA to boost the effectiveness and legitimacy of AML solutions. The utilization of technology advances starts with customer onboarding and continues through fraud detection, monitoring, investigation, alert triggering, case reporting, and flagging questionable transactions. In the area of AML, automation, and AI are significantly reducing human error, increasing operational effectiveness, and speeding up the entire process. Additionally, Organizations are considerably more comfortable than before utilizing hybrid (rules and AI/ML-based) risk assessment systems to enhance the customer experience and decrease false positives. Thus, Advanced AML solutions, which can cover the entire customer cycle and optimize the orchestration of work by merging cutting-edge technology with the organization's processes, can curtail and prevent the persistent recurrence of cyber threats, frauds, and dangers.

Following are the key capabilities of AML solutions:

- **Data Integration-** AML solution offers comprehensive data integration capability. It utilizes customer data such as date of birth, education details, address, email address, SNNS, Credit card information, or ID information stored under the GDPR guideline. The AML solution monitors each customer's financial transactions on a continuous basis and should integrate historical transaction data and contextual information across all interaction channels. The solution also helps to enrich customer data with external feeds, including public records, digital identity verification, consortium, and others. Robust data integration capability helps

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to minimize false positives. AML solution vendors offer intelligent data-aggregation powered by machine learning, sophisticated modeling, and automation for improved model performance. AML solution offers comprehensive data integration capability. It utilizes customer data such as date of birth, education details, address, email address, SNNS, Credit card information, or ID information stored under the GDPR guideline. The AML solution monitors each customer's financial transactions on a continuous basis and should integrate historical transaction data and contextual information across all interaction channels. The solution also helps to enrich customer data with external feeds, including public records, digital identity verification, consortium, and others. Robust data integration capability helps to minimize false positives. AML solution vendors offer intelligent data-aggregation powered by machine learning, sophisticated modeling, and automation for improved model performance.

- **Transaction Monitoring-** Transaction Monitoring is an integral component of an effective AML solution. The AML solution effectively monitors every customer's financial transaction constantly from the integrated data, detects anomalies, frauds and raises alerts for any suspicious activities. Such alerts or cases are assigned to the investigation team, who analyze and scrutinize further, stating if they are suspicious or not and then these suspicious activities report (SAR) is filed or flagged. Transaction monitoring mitigates fraud risk and safeguards banks from any illicit transactions dealing in money laundering and terrorist financing activities. The transaction monitoring system creates a risk-scoring model for transactions using rules, machine learning, and statistical algorithm. Thus, the transaction monitoring capability provides a complete analysis of customer's profile, risk levels, predict future activity, and generates alerts and reports for suspicious activity.

- **Watch List Filtering/ Watch List Monitoring-** The watch list filtering (WLF) capability in the AML solution screens individuals, entities, and organizations against global watchlists and alerts if an applicant is on any of the sanctions lists. The global watchlist comprises of government sanctions list, politically exposed

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persons (PEP) list, Office of Foreign Asset Control (OFAC) list, monitored lists, and adverse media lists. WLF runs identity checks during customers' onboarding and transactions to understand if the user's identity or name is on a sanctions list, PEP list, OFAC list, or is adversely covered by media. It also runs identity checks against suspected frauds or terrorism. Thereby complies with regulations through screening organizations with the appropriate sanction lists. The goal of any watchlist, sanctions, and PEP screening program is to mitigate risk and efficiently manage the compliance process aimed at fighting money laundering activities. The watchlist filtering feature helps organizations minimize their exposure to the risk of financial crime and enables them to comply with increasingly complex domestic and international legislation and regulation.

- **KYC and CDD-** Know your customer (KYC) are the heart of AML; it is a process of acquiring customer information in structured or nonstructured data from identity proof, residential or office address, photo, and other such details to know who the customers are. In the KYC process, the customer's identity is verified against the identity proofs and documents submitted. Banks and financial institutions conduct KYC processes during the customer onboarding to have proper knowledge and understanding about the customers they are dealing with. Customer Due Diligence (CDD) is a subset of KYC which verifies customer's identity by performing background checks and assesses risks before opening customers' accounts which helps in preventing identity fraud and money laundering activities. Enhance Due Diligence (EDD) – is a progressive and advanced KYC process for customers with high-risk probability. Most customers who are categorized under the high-risk segment after KYC/CDD are liable to suffer from money laundering and financial terrorism activities. Such customers are regularly monitored by AML solutions. EDD may also include electronic verification and biometric identification of the customers.

- **Alert & Case Management-** Alert & case management is an automated capability in the AML platform which integrates monitoring and alerts, allowing the investigator to function more efficiently and helps mitigate financial fraud risks. AML solution

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offers routing, analyzing, investigating, and following up on suspicious activities in a structured manner. The AML solution detects suspicious activities and generates alerts which are assessed by the investigator. Then the AML platform performs scanning through the customers' transactions, KYC /CDD, and related details to conclude if there are any anomalies that requires reporting. Lastly, the investigator scrutinizes the data and decides along with the investigation team if further action is required or not.

- **Analytics and Visualization-** As criminals are continually finding new ways to launder money, financial institutions must continually modify their data analytics techniques to stay relevant. Analytics is one of the core pillars of an AML solution. It may include techniques like data mining, rule-based approach, customer segmentation, neural networks, cognitive analytics, risk-based approach, and more. AML platform scrutinizes customer data on various parameters like client type, ownership, profession, enterprises, demographics, etc., to assign a risk score. Analytics in AML detects anomalous transactions, politically exposed persons (PEP), sanctions screening, and optimizes EDD process. It also performs check on tracking customers' behavioral patterns and monitoring transactions. AML solutions use various data visualization techniques like graph visualization or link analysis to monitor and analyze huge data sets. Visualization techniques can collect data from various channels and presenting them into a unified pictorial view. Visualization makes collecting customer data through KYC, analyzing, and exploring much quicker, easier, and more impactful.

- **Auditing and Reporting-** For effective AML compliance, an anti-money laundering platform offers robust auditing and reporting capability. AML solutions are able to record all actions performed by creating an audit trail and generate suspicious activity reports (SARs) if needed. Audits are performed by independent third-party organizations or internal audit teams to track cases that violate AML rules and regulations and check the enterprise's policies, procedures, and processes for discrepancies related to monitoring money laundering activities. The fraudulent activities

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are tracked, logged, and reported to the respective department for further actions. Auditing and reporting capability also measure the AML solution's compliance with applicable AML and BSA laws and regulations.

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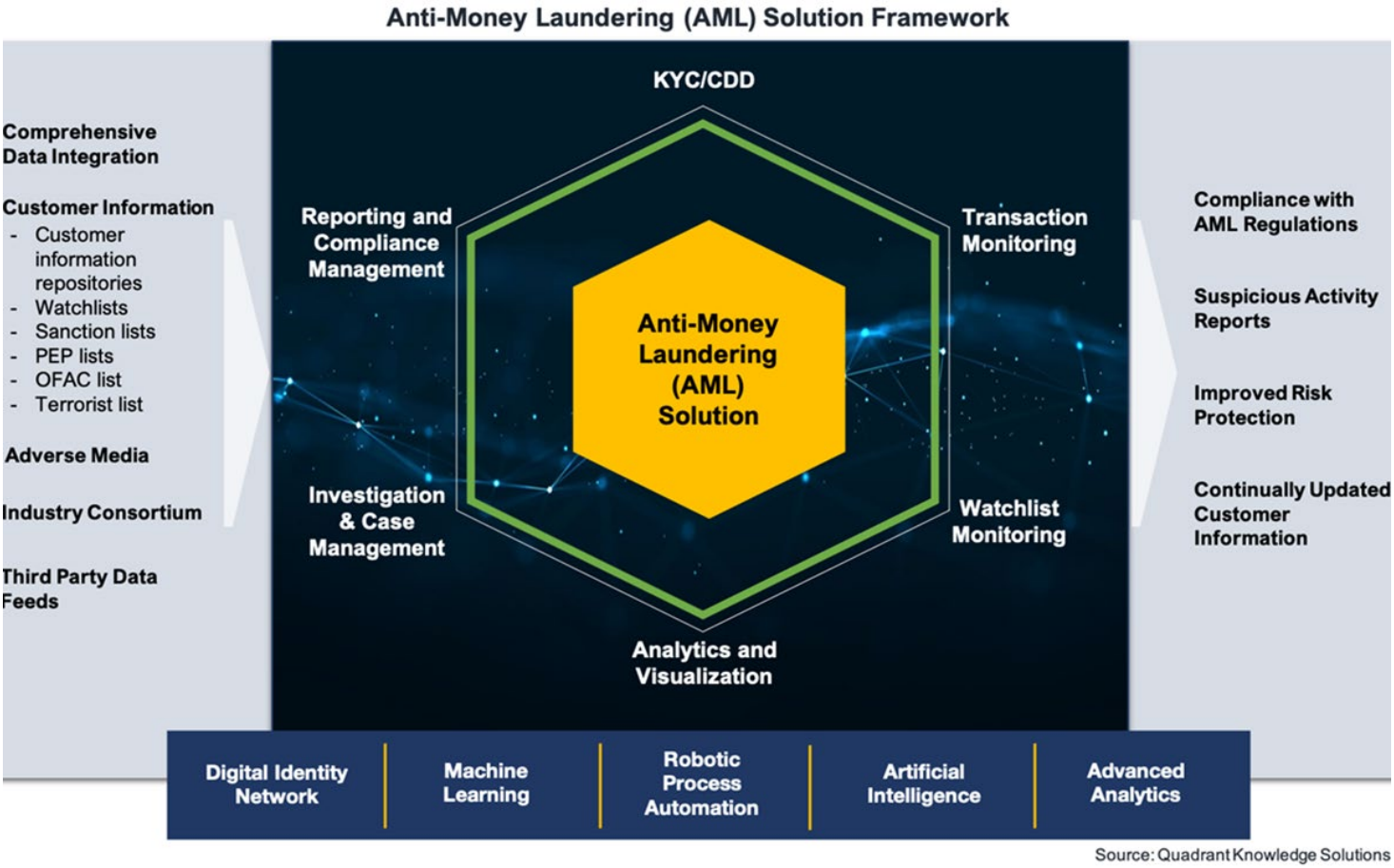
Figure: Anti-Money Laundering (AML) Framework



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Competitive Landscape and Analysis

Quadrant Knowledge Solutions conducted an in-depth analysis of the major Anti-Money Laundering vendors by evaluating their products, market presence, and value proposition. The evaluation is based on primary research with expert interviews, analysis of use cases, and Quadrant's internal analysis of the overall AML market. This study includes an analysis of key vendors, including Acuant (GBG Plc), ACI Worldwide, AML Partners, Azentio Software, ComplyAdvantage, Clari5, Dow Jones, Eastnets, Featurespace, Feedzai, FICO (IMTF), Fiserv, Fourthline, Kiya.ai, LexisNexis Risk Solutions (Accuity), NICE Actimize, Oracle, Quantexa, SAS, NetReveal, ThetaRay, Verafin. The AML landscape is highly competitive and fragmented, with vendors of varied sizes and market focus. Most of the vendors are solely focused on providing anti-money laundering solutions, while a few of the larger companies offer the solution as part of a larger FCC portfolio.

A majority of these companies are based out of the US and UK. NICE Actimize, Oracle, NetRevea Featurespace, Feedzai, ACI Worldwide, Eastnets, Quantexa, and ComplyAdvantage are the leaders who offer the highest value proposition in terms of technology and have a good customer base with a considerable number of deployments. These vendors provide all the required capabilities of an AML solution and target large and medium size enterprises as customers.

A few of the key features offered by most leaders that differentiate themselves from the competition include Open Framework and Bring Your Own Model (BYOM) Support, Machine Learning Model Performance, Automated Machine Learning (AutoML), effectiveness of case management, advanced analytics, comprehensive data integration capability, built-in reporting, and compliance management. Today's unrecognized and underestimated threats have a higher potential than they did a decade ago. There have been a few notable concentric acquisitions in the AML space in the past two years. The most recent acquisition is of Quantexa that has acquired Aylien to leverage its expertise to extract intelligence for crucial decision-making that will change the company's landscape in the global data and analytics software market. NetReveal by SymphonyAI. NetReveal, which is now NetReveal, brings SymphonyAI its extensive experience and portfolio to fight financial crime across a large customer base. NetReveal is being added to SymphonyAI's finance vertical, joining SymphonyAI Sensa to accelerate innovation for transformative, next-generation AI-based capabilities

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for financial crime detection. ACI Worldwide, a recognized player in the AML space launched Fraud Scoring Services to provide a fraud scoring platform that leverages machine learning capabilities to deliver real-time fraud detection and prevention.

The demand for standalone solutions is going down as companies have started to prefer vendors with combined solutions in order to maintain relationships with fewer vendors instead. The large enterprise AML market is turning into a saturated one, leaving an opportunity for vendors to target medium-sized and small-sized businesses, who have started investing in Know Your Customer as well. Hyper digitization, rise of fintech disruptors, sophisticated ways used by the criminal to launder money, large volumes of data, and complying with changing regulations are the major challenges faced by companies currently in the AML space. With the adoption of artificial intelligence, machine learning and advanced analytics will soon become factors that will differentiate vendors from each other.

Ultimately, the AML leaders must stand up and take on the critical task of juggling financial crime mitigation with customer-centricity in the new digital era. Utilizing technology and data will harness the success of AML in the financial crime and compliance arena.

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Key Competitive Factors and Technology Differentiators

The following are the key competitive factors and differentiators for the evaluation of anti-money laundering Solutions and vendors. While the majority of anti-money laundering solutions may provide all the core functionalities, the breadth and depth of functionalities may differ by different vendors' offerings. Driven by increasing competition, vendors are increasingly looking at improving their technology capabilities and overall value proposition to remain competitive. Some of the key differentiators include:

- **The sophistication of Technology Capabilities:** Cybercriminals are taking full advantage of the availability of cutting-edge technology to carry out increasingly sophisticated crimes. Therefore, FIs are putting emphasis on robust and effective AML solution which can ensure compliance and prevent frauds & risks while combating money laundering activities. An enhanced AML solution can provide superior customer experiences and detect suspicious fraud in real-time. The confluence of sophisticated technologies with intelligent applications enables automation of the entire process. Leading AML vendors provide intelligent data-integration and sophisticated transaction monitoring powered by sophisticated ML models and offer advanced analytics algorithms for enhanced model performance. Few vendors may also support a shared intelligence approach with data ingestion from an industry consortium. Leading AML vendors use a 360-degree risk-based AML model, which provides a holistic 360-degree view of all customers' accounts and manages the accounts that are suspected to be used for money laundering or terrorist financing activities. The case management capability in AML can be enhanced with automation offering better visual entity insights, improving overall operational efficiency and effective investigation.

  Users must scrutinize AML solution offering robust features such as data ingestion from multiple sources, effective transaction monitoring, which detects anomalies and reports suspicious activities if required, watchlist filtering (WLF), robust KYC and CDD, alert and case management, analytics and visualizations, and effective auditing and reporting, and more. Additionally, the vendor's customer value proposition may differ in terms of ease of deployment, ease of use,

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price/performance ratio, support for a broad range of fraud and AML use cases, global support service, and such others. Most of the vendors are offering these functionalities and continue to invest heavily in further enhancing their platform with automation, behavioral analytics, and NLP technologies.

- **Comprehensive Data Integration Capability:** Vendor's capability in providing comprehensive data integration is essential in improving the performance of AML and transaction monitoring models. Few vendors may support data ingestion just from out-of-the-box transactional data, account information, and basic customer profiles. In such instances, organizations are required to make significant efforts in acquiring data from additional sources. AMLplatform should support comprehensive capability to integrate a large volume of data, in multiple formats, and from contextual data sources across all payment types, channels, and product types. Few vendors may also support shared intelligence approach with data ingestion from an industry consortium. AML vendors should offer comprehensive API-based data integration capability to support easy integration from third-party sources.

- **Machine Learning Model Performance:** The machine learning model performance is amongst the key differentiator as the presently available multiple AML, transaction management, and fraud management solutions in the market can have a significant difference in their performance. The traditional rule-based system is no longer effective in responding quickly to new attack vectors or fraud patterns and preventing frauds. Additionally, traditional machine learning models which are mostly refreshed every year are not sufficient in fighting fraudsters using sophisticated techniques. Continuous monitoring and updating of machine learning models are essential to adapt to emerging fraud patterns and evolving threat landscape. Organizations should evaluate model performance in terms of speed and accuracy of fraud detection with low false positives

- **Automated Machine Learning (AutoML):** Financial institutions should evaluate vendors ability to offer AutoML capability to accelerate the process of building production-ready machine learning models with ease. Traditional ML development project, requiring a team of robust

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data scientists and developers with the necessary domain knowledge, is often time consuming and is associated with accuracy issues. A robust AutoML helps boost organizational efficiency in building a robust, scalable, and accurate machine-learning model. AutoML along with a robust AI engine can also assist analysts in selecting the most appropriate ML models based on the specific use cases. This can significantly boost the productivity of case investigation and resolution processes. AutoML may also help in reducing false positives by minimizing the cases to be allocated for manual review.

- **Advanced Analytics:** Advanced analytics is emerging in the AML space along with intelligent automation and ML. Advanced analytics detects anomalous transactions, politically exposed persons (PEP), sanctions screening, and optimizes the EDD process. Powered by AI, ML, and RPA, advanced analytics offers improved analysis of both structured and unstructured data. It enhances AML solution efficiency in reducing false positives and boosts risk-detection, CDD, and transaction monitoring capabilities. Vendors are increasingly using advanced analytics techniques like predictive analytics, big data analytics, social network analytics, user behavior analytics, natural language processing, graph analytics, and such others to overcome the challenges in the anti-money laundering domain and helps to maximize overall efficiency and effectiveness.

- **Effectiveness of Case Management:** An effective case management functionality is essential in visualizing 360 perspectives of the customer activities across the omnichannel environment enabling the analyst to determine whether the financial activity is legitimate or fraudulent. Organizations are facing challenges in handling an increasing number of fraud and AML cases on time by their limited investigation resources. An effective case management tool helps in improving operational efficiency and maximizing resource utilization of the investigation team for a faster case resolution. While the majority of the AML vendor provides case management functionalities, the effectiveness in augmenting the operational efficiencies of the investigation team working on multiple complicated and lengthy financial crime cases is essential. Several case management tools often provide limited capabilities and focus mainly on automating workflows in solving usual business and operational issues. These tools may lack necessary

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functionalities to support analysts in conducting detailed investigation and support regulatory compliance through audit trail, regulatory filing, and reporting. Leading AML vendors are providing advanced case management with process automation and machine learning capabilities that helps in automating repetitive and manual operations of the investigation processes. The case management should also offer an intuitive dashboard, alert management, management reporting, fraud loss analysis, and regulatory compliance features.

- **Built-in Reporting and Compliance Management:** Regulatory reporting and compliance management is one of the most important requirements for AML solutions. AML solution should offer built in reporting and compliance tools, ensuring integration with major compliance lists. Few vendors may offer third-party reporting tools and compliance management functions. However, a built-in capability along with a robust workflow helps organizations in optimizing compliance costs and improve operational efficiencies. Additionally, it should enable users to customize various compliance reports without coding knowhow.

- **Open Framework and Bring Your Own Model (BYOM) Support:** Typically, global financial institutions have internal data science teams and often prefer to utilize their in-house machine learning models. However, few vendors may compel organizations' internal data scientist teams to work with the vendor's proprietary machine learning models, language, tools, and libraries. Additionally, organizations may be required to use the vendors' professional services for the implementation and customization of models to suit specific use cases. Organizations often incur additional costs and delay in overall implementation. AML platform should support an open system framework and facilitate easy imports of third-party models built using any language, platform, and library. The platform may also support Predictive Model Mark-up Language (PMML) for easy imports without requiring custom coding. Leading AML vendors also support custom model development, testing, and deployment capability for a variety of fraud and AML use cases.

- **Technology Vision & Roadmap:** The advancements in the technology landscape with growing digitalization is causing a significant surge in fraud attacks and money laundering activities. Hence, it is imperative

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for users to choose the appropriate technology partner as per specific use cases, evolving fraud trends, and their digital transformation roadmap. AML vendors are constantly enhancing. their technology value proposition in terms of offering holistic AML solutions with robust data integration, transaction monitoring, compliance, watch list filtering, case management, KYC, and other solutions powered by AI & ML along with RPA. As part of the technology vision and roadmap, vendors are planning to invest in enriching their analytics and visualization capabilities further for ensuring advanced detection of money laundering activities as well as enabling a quick resolution of alerts. Leading vendors are also looking forward to leveraging the synergy between anti-fraud and AML solutions and offering an end-to-end integrated solution. Organizations should carefully evaluate the vendor's existing technology capabilities along with their technology vision and roadmap to improve overall satisfaction and customer ownership experience for long-term success.

- **Vendor's Expertise and Domain Knowledge:** FIs and enterprises must conduct a complete evaluation of various AML solutions and vendors prior to making a decision. Organizations should evaluate vendors' expertise and domain knowledge in understanding their unique business problems, use cases, and industry-specific requirements. Users should look for ease of use, comprehensiveness of offering, software's flexibility to adapt to constant market changes and regulatory requirements, minimizing total cost of ownership, and transparency. Users should also look for a solution with a history of successful large-scale deployments and carefully analyze the existing case studies of those deployments. This should form the basis to prepare best-practice for anti-money laundering platform deployments.

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SPARK Matrix™: Strategic Performance Assessment and Ranking

Quadrant Knowledge Solutions' SPARK Matrix™ provides a snapshot of the market positioning of the key market participants. SPARK Matrix provides a visual representation of market participants and provides strategic insights on how each supplier ranks related to their competitors, concerning various performance parameters based on the category of technology excellence and customer impact. Quadrant's Competitive Landscape Analysis is a useful planning guide for strategic decision makings, such as finding M&A prospects, partnerships, geographical expansion, portfolio expansion, and similar others.

Each market participant is analyzed against several parameters of Technology Excellence and Customer Impact. In each of the parameters (see charts), an index is assigned to each supplier from 1 (lowest) to 10 (highest). These ratings are designated to each market participant based on the research findings. Based on the individual participant ratings, X and Y coordinate values are calculated. These coordinates are finally used to make SPARK Matrix.

Technology Excellence	Weightage
Sophistication of Technology	20%
Competitive Differentiation Strategy	20%
Application Diversity	15%
Scalability	15%
Integration & Interoperability	15%
Vision & Roadmap	15%

Customer Impact	Weightage
Product Strategy & Performance	20%
Market Presence	20%
Proven Record	15%
Ease of Deployment & Use	15%
Customer Service Excellence	15%
Unique Value Proposition	15%

Evaluation Criteria: Technology Excellence

- **The sophistication of Technology:** The ability to provide comprehensive functional capabilities and product features, technology innovations, product/platform architecture, and such others.

- **Competitive Differentiation Strategy:** The ability to differentiate from competitors through functional capabilities and/or innovations and/or GTM strategy, customer value proposition, and such others.

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- **Application Diversity:** The ability to demonstrate product deployment for a range of industry verticals and/or multiple use cases.

- **Scalability:** The ability to demonstrate that the solution supports enterprise-grade scalability along with customer case examples.

- **Integration & Interoperability:** The ability to offer product and technology platform that supports integration with multiple best-of-breed technologies, provides prebuilt out-of-the-box integrations, and open API support and services.

- **Vision & Roadmap:** Evaluation of the vendor's product strategy and roadmap with the analysis of key planned enhancements to offer superior products/technology and improve the customer ownership experience.

Evaluation Criteria: Customer Impact

- **Product Strategy & Performance:** Evaluation of multiple aspects of product strategy and performance in terms of product availability, price to performance ratio, excellence in GTM strategy, and other product-specific parameters.

- **Market Presence:** The ability to demonstrate revenue, client base, and market growth along with a presence in various geographical regions and industry verticals.

- **Proven Record:** Evaluation of the existing client base from SMB, mid-market and large enterprise segment, growth rate, and analysis of the customer case studies.

- **Ease of Deployment & Use:** The ability to provide superior deployment experience to clients supporting flexible deployment or demonstrate superior purchase, implementation and usage experience. Additionally, vendors' products are analyzed to offer user-friendly UI and ownership experience.

- **Customer Service Excellence:** The ability to demonstrate vendors capability to provide a range of professional services from consulting,

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training, and support. Additionally, the company's service partner strategy or system integration capability across geographical regions is also considered.

- **Unique Value Proposition:** The ability to demonstrate unique differentiators driven by ongoing industry trends, industry convergence, technology innovation, and such others.

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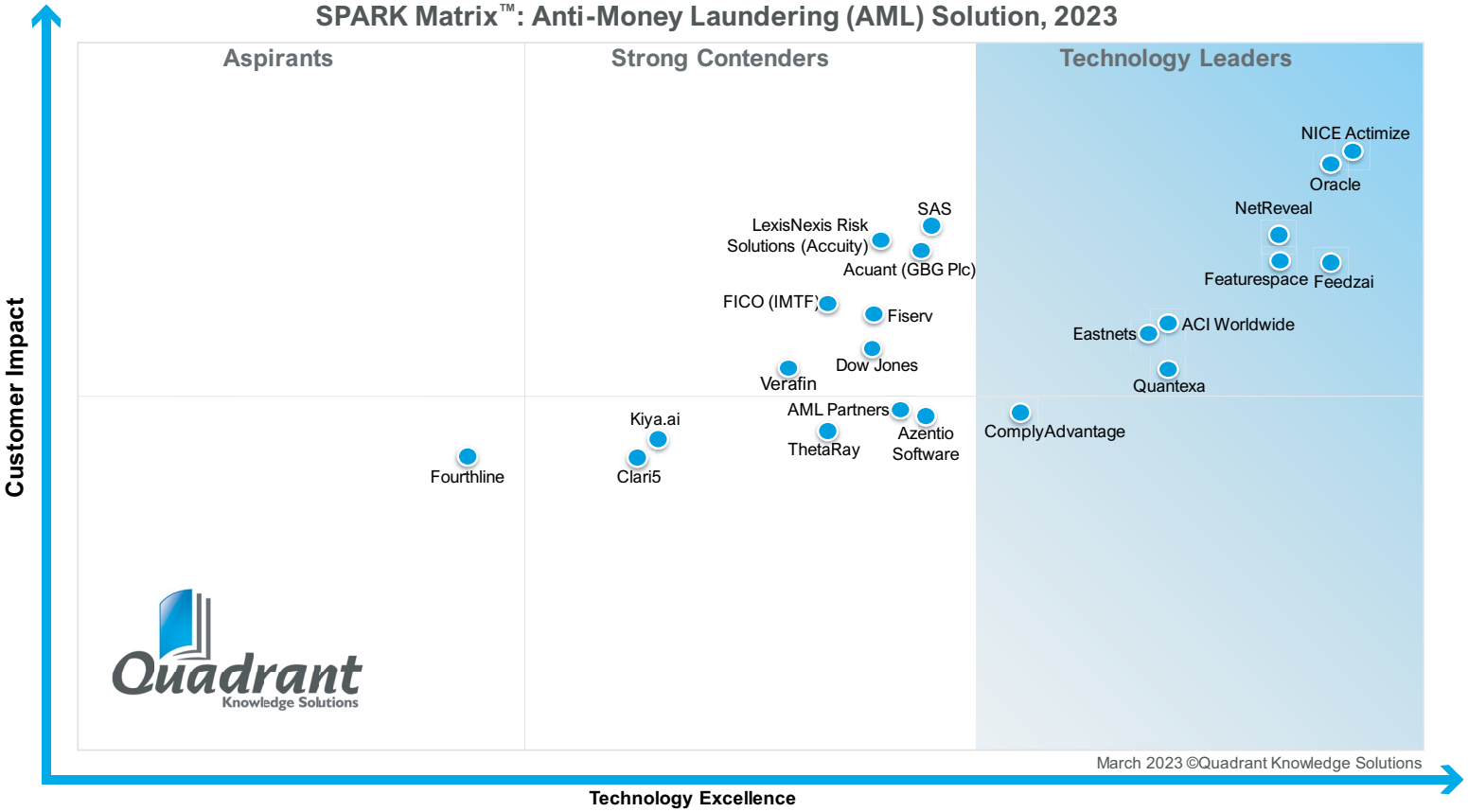
SPARK Matrix™:
Anti-Money Laundering (AML), Q2, 2023

Strategic Performance Assessment and Ranking

Figure: 2023 SPARK Matrix™
(Strategic Performance Assessment and Ranking)
Anti-Money Laundering (AML) Platforms Market



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Vendor Profiles

Following are the profiles of the leading anti-money laundering (AML) vendors with a global impact. The following vendor profiles are written based on the information provided by the vendor's executives as part of the research process. The Quadrant research team has also referred to the company's website, whitepapers, blogs, and other sources for writing the profile. A detailed vendor profile and analysis of all the vendors, along with various competitive scenarios, are available as a custom research deliverable to our clients. Users are advised to directly speak to respective vendors for a more comprehensive understanding of their technology capabilities. Users are advised to consult Quadrant Knowledge Solutions before making any purchase decisions regarding AML solution and vendor selection based on research findings included in this research service.

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NICE Actimize

URL: www.niceactimize.com

Founded in 1999 and headquartered in Hoboken, New Jersey, USA, NICE Actimize is a provider of financial crime, risk & compliance solutions for financial institutions. NICE Actimize offers a complete suite of Anti-Money Laundering (AML) solutions that provide various solutions and capabilities, such as watchlist screening (WL-X), suspicious activity monitoring, customer due diligence/KYC, Suspicious Transaction Activity Reporting (STAR), Currency Transaction Reporting (CTR), X-Sight ActimizeWatch, as well as real-time risk scoring, advanced analytics and visualization, auditing and reporting, and case management,

NICE Actimize's Anti-Money Laundering solution offers flexible deployment options, including deployment on their dedicated cloud platform, X-Sight. This is a next-generation, AI-powered Financial Crime Risk Management platform, which offers a multitude of solutions and services, including data intelligence, collective intelligence, and advanced analytics, as well as SaaS deployment for all of NICE Actimize's suite of Financial Crime and Compliance solutions. NICE Actimize caters to all regulated sectors of all sizes. Their Enterprise solutions and the X-Sight platform cater to mid and large-tier organizations providing end-to-end coverage for both AML and Fraud compliance. The solutions comprise of comprehensive industrialized and scalable offerings, with self-service tools for customer and partner development. NICE Actimize Xceed and Essentials solutions cater to smaller organizations by offering out-of-the-box, cost-effective capabilities and tools providing quick time to value. All NICE Actimize solutions leverage AI, machine learning, and automation to provide the right data, end-to-end coverage for detecting, scoring and alerting on suspicious activity, and extensive investigation management tools to quickly and accurately investigate and report suspicious activity. As a result, AML programs can more effectively monitor suspicious activities and be confident they're focusing on the right issues and risks. The solutions can also process large transactions and account volumes to provide effective transaction monitoring.

Moreover, NICE Actimize's platform provides the ability to execute ML models hosted within the NICE Actimize solution suite and outside it. By embedding an abstract API layer within its platform, NICE Actimize receives different data streams and returns a model result, together with its explanation logic (i.e., why the model decided to flag a certain event as high-risk) and propagates it within the NICE Actimize's leading case management system, ActOne.

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Analyst Perspective

Following is an analysis of Nice Actimize's offerings in the global anti-money laundering (AML) market:

- NICE Actimize's AML solution helps FIs mitigate money laundering risk across the customer life cycle. The company follows an entity-centric approach to financial crime risk management, allowing organizations to get a holistic picture of each customer and their risks to mitigate money laundering activity.

- NICE Actimize offers a transaction monitoring solution called Suspicious Activity Monitoring (SAM). SAM delivers a multi layered approach, layering rules with next generation analytics and network analytics to enhance the monitoring and detection of suspicious activity. Using multiple detection layers, SAM provides extensive financial crime capabilities to ensure organizations are fully protected against known red flag typologies. Using next generation analytics, SAM drives intelligent entity segmentation, detection optimization, and identifies anomalous behavior and suspicious network risk, with machine-learning-driven predictive assessment of alerts.

- NICE Actimize offers real-time entity risk scoring capability, in its X-Sight Entity Risk solution, helping financial institutions have an always accurate profile of their customers and a single trust score to understand how trustworthy their customer is. X-Sight Entity Risk ingests risk signal data from a multitude of sources including AML, Fraud, and external third-party data sources to consolidate the entity risk profile and derive a single entity trust score. The real-time risk scoring capability also monitors investigation disposition decisions and reporting information helping FIs to have an always accurate risk understanding of their customers.

- NICE Actimize offers its watchlist screening and sanctions monitoring solution (WL-X), as a part of the AML suite. The solution provides complete end-to-end coverage for screening customers and transactions against a variety of watch lists, such as sanction lists, high-risk entity lists, including PEPs, and adverse media and internal lists. For payment screening, WL-X delivers the latest advances in

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technology to ensure all relevant elements of a payment message are extracted and screened. The solution integrates advanced payment parsing, which gives users the flexibility and control to select the sections of a message to be extracted and screened ensuring all elements of a payment message are extracted and screened accurately. WL-X also includes the latest advances in fuzzy matching technology, for accurate 'exact' and 'inexact' name matching, even where names have been misspelled or contain alternative or unexpected characters, or where data is missing. Financial institutions can increase true positive hits, while reducing false positives, fully complying with screening regulatory requirements.

- NICE Actimize's WL-X solution employs an intelligent scoring algorithm with flexible filtering rules to identify list matches of interest and provides effective hit disposition and workflow management for investigating and resolving matches. This includes predictive analytics to prioritize high risk hits and continually optimize accurate hit scoring. NICE Actimize also offers reporting capability through its solution titled Suspicious Transaction Activity Reporting (STAR), which allows users to auto populate and submit suspicious activity to regulators in the form of Suspicious Transaction Reports (SAR/STR/SMR) providing a fully audited reporting process which minimizes human error.

- NICE Actimize also provides case management capability that allows both Actimize and non-Actimize alerts and data to be ingested into the solution to provide a single view of customers, their risks, and their activity. Utilizing RPA, data intelligence and advanced features, such as dynamic workflow management, network exploration and visual management information tools, ActOne is a comprehensive and fully customizable case management solution. With easy-to-use custom dynamic workflows, fully audited alert and case investigations, and extensive visualization tools ActOne improves case management effectiveness and efficiency. With the extensive capabilities of ActOne, investigators have all the tools they need at their fingertips to investigate suspicious activity and make fast and accurate decisions.

- NICE Actimize's primary differentiator includes X-Sight Entity Risk that consolidates and analyses entity risk signal information from multiple internal and external sources, providing an enterprise wide view of

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an entity, using advanced analytics, including identity resolution and network analytics to determine a holistic entity trust score, X-Sight marketplace and X-Sight Connect that enables customers to quickly accelerate innovation within their AML programs by integrating partner applications and data services directly into their Actimize solutions and transaction monitoring that has integrated advanced segmentation, machine learning driven rule optimization, network and predictive analytics and case management that allows both Actimize and non-Actimize alerts and data to be ingested into the solution to provide a single view of customers, their risks and their activities.

- Regarding geographical presence, the company has a strong presence across North America, Western Europe, Southern Africa, and APAC. Regarding industry verticals, while the company serves all the major industries, most of its revenue comes from retail, corporate and correspondent banking, investment and capital market, trade finance, gaming, digital banks, insurance, MSBs, payment processors, fintech, and crypto. The company's solution supports various use cases, including transaction monitoring, payment message screening, customer name screening, customer onboarding, beneficial ownership, CDD, continuous entity monitoring, periodic reviews, threshold, alert optimization, triggered-based KYC, and management information reporting and visualization.

- As technologies continue to evolve, NICE Actimize has continued to utilize the latest advances in AI/ML to meet the compliance and security needs of the industry and its customers. The company has invested in switching to a more complex but effective multi-layered strategy that implements joint rules and an AI/ML system to address evolving and emerging financial crime threats and ensure organizations remain fully compliant.

- Regarding product strategy and roadmap, the company continues to invest in improving its network analytics to understand connections between parties and assess and alert suspicious connections. NICE Actimize is also planning to introduce feature-based detection for effective model development and improved detection effectiveness. Also, the company is planning to expand existing OOTB robotics and other automation technologies with unsupervised Machine Learning to find automation opportunities within alert triage, investigation,

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and case management processes. The company is also advancing its information-sharing abilities through the new capability titled 'Federated Learning' for the safe utilization of shared insights between financial institutions, using this intelligence to help connected organizations optimize monitoring and detection of money laundering threats. Lastly, NICE Actimize plans to provide users with a smart self-service capability that will provide them with the tools to develop their own analytical capabilities

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Oracle

URL: www.oracle.com

Founded in 1977 and headquartered in Austin, Texas, Oracle is a global provider of enterprise software products, database software and technology, as well as cloud applications and infrastructure. Oracle offers a comprehensive Financial Crime and Compliance Management (FCCM) solution suite that offers key functionalities, including onboarding, KYC and CDD, customer screening and watchlist management, transaction filtering and monitoring, real-time risk scoring, case management, compliance studio, analytics and investigation, common reporting standards (CRS), currency transaction reporting (CTR), auditing and reporting, across the entire anti-money laundering (AML) and financial crime management value chain.

The compliance studio offers a comprehensive analytics toolkit along with secure access to the institution's financial crime data which can be rapidly operationalized to pass the necessary context to investigators and managers to make more accurate decisions. With seamless access to production data in a secure and isolated discovery sandbox, a pre-defined Financial Crime Graph Model, and pre-defined scenarios and topologies, institutions gain an accelerated path to interactively explore financial crime data and stop crime in its tracks.

Analyst Perspective

Following is an analysis of Oracle's offerings in the global Anti-Money Laundering (AML) market:

- Oracle Financial Crime Compliance Management (FCCM) product suite provides comprehensive AML capabilities that enable FIs to monitor, detect, investigate, and report complex suspicious transactions across products and channels. The Oracle FCCM portfolio is backed by advanced analytics technologies such as artificial intelligence, machine learning, and graph analytics to address the growing complexities of financial crime. The FCCM suite offers seamless customer onboarding, effective monitoring and detection, efficient case management and accurate investigations, and compliant regulatory reporting and insights, augmented by comprehensive data

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management and advanced analytics capabilities, to manage the new generation of threats.

- Oracle's extensive capabilities in Machine Learning for AML bring together supervised, unsupervised, and Graph-machine learning to address specific use cases, such as typology detection models, anomaly detection, customer segmentation, customer risk scoring, and event scoring. Oracle's ML for AML not only helps reduce the number of false positives but also the cost of AML compliance audits significantly.

- Oracle FCCM suite's watchlist screening capabilities, powered by advanced analytics, enable financial institutions to optimize customer data prior to screening to reduce false positives and achieve global compliance across the customer lifecycle. The solution is built on top of the Enterprise Data Quality platform, which is a highly configurable, customizable, and scalable application for automation, and list management that also standardizes and normalizes watchlist data in preparation for screening.

- Oracle FCCM suite offers case management for Financial Crime that is designed to help financial institutions manage investigations and cases related to financial crime. The application provides a centralized platform for case management, enabling investigators to collaborate, analyze data, and track the progress of investigations. With Oracle Enterprise Case Management for Financial Crime, financial institutions can improve their investigative efficiency and reduce the risk of regulatory penalties and reputational damage.

- Oracle FCCM suite's Financial Services Compliance Regulatory Reporting provides a single, global regulatory reporting approach to address suspicious activity reporting requirements across different countries and jurisdictions. Oracle Financial Services Compliance Regulatory Reporting is integrated with Oracle Financial Services Behavior Detection Platform and Case Management solutions, allowing information gathered during the detection and investigation steps to be available when preparing suspicious activity reports.

- Oracle Anti Money Laundering's primary differentiator includes advanced analytics, investigation hub, analytics, visualization,

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advanced technology infusion, and productized integration to the banking, customer experience, accounting, and finance streams within the larger Oracle portfolio.

- Oracle FCCM suite's Investigation Hub is an extension of the enterprise case management application and is an intuitive investigation platform that turbocharges financial crime investigations using graph technology. It links customers, accounts, external entities, transactions, and external data, to provide a holistic graph representation of data that aids in uncovering any hidden suspicious patterns.

- Oracle FCCM suite provides analytics that offers business intelligence and analytical reporting, providing clear operational visibility into a financial institution's compliance program performance. Preconfigured reports and dashboards assist in the researching of issues and understanding how well a financial crimes program is operating.

- In terms of geographical presence, Oracle has a global presence. Oracle supports use cases for effective transaction monitoring through its OOTB scenario library, seamless KYC experience and automated scenario calibration for reducing efforts in tuning and deepening their FCCM cloud service capabilities that cover a wide variety of AML topologies relevant to multiple industries, including banking, investment & insurance, and other banking-related businesses such as retail, private, wealth, cards, commercial, and investments.

- Regarding product strategy and roadmap, Oracle continues to invest in advanced analytics to increase coverage and optimize alert volumes and false positive ratios, cloud deployment to enhance self-sufficiency, infrastructure updates, improved user experience focusing on multiple user persona needs, automation, and ease of use to drive increased efficiency and productivity.

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NetReveal

URL: www.netreveal.ai

NetReveal is a part of SymphonyAI a leading enterprise AI SaaS company for digital transformation across the most critical and resilient growth industries, including retail, consumer packaged goods, finance, manufacturing, media, IT/enterprise service management, and the public sector. NetReveal provides financial crime, risk management, and fraud detection and prevention across banking, financial markets, and insurance via a single platform. The platform is adaptable to the evolving and heterogeneous nature of the financial services sector; to deliver power and flexibility in analytics, investigation, integration, security, and total cost of ownership reduction.

The company offers compliance and fraud solutions through its platform NetReveal which manages all aspects of transaction filtering, sanctions, and PEP screening. The solution provides robust, validated name screening capabilities against any watchlist, PEP, adverse media screening, and custom internal good/bad people lists. NetReveal combines machine learning, automation, and analytics with a 360-degree customer view to provide investigators with a powerful tool to assess and judge customer behavior and risk in real-time. The unified customer view consolidates related alerts, evidence, and financial metrics and presents investigators with a single combined alert related to a customer or entity, facilitating faster profiling and detection.

The company's platform comprises several comprehensive Anti-Money Laundering features and functionalities, such as detection dashboards, entity-focused Investigations, model ops, dynamic visuals, link analysis, spark-enabled detection engine, analytics and visualization, alerts and case management, white box detection, and out-of-box detection scenarios.

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Analyst Perspective

Following is the analysis of NetReveal's offerings in the global Anti-Money Laundering (AML) market:

- NetReveal's AML solution offers users a global view of financial crime and offers flexibility to monitor and quickly update an organization's AML detection strategies to cope with the changing criminal typologies change by employing a "white box" detection engine that can be easily explained to regulators. The platform employs advanced detection techniques and an entity-centric interface to help financial institutions spot signs of suspicious activity faster, minimize reputational and regulatory exposure, and effectively streamline investigations.

- NetReveal's entity-focused investigation capability uses a single combined alert system for every triggered activity. NetReveal adds intelligence to financial data to help organizations accurately identify and prevent financial crime. Additionally, the NetReveal AML Transaction Monitoring platform is equipped with a Spark-enabled detection engine that reduces batch processing times against transactional data. The solution significantly reduces profiling and detection times. NetReveal offers analytics and visualization capabilities through its UI-based, advanced analytics platform (AAP), which enables users to generate workflows that are customized as per the use cases, such as low false positives and an increase in true positives.

- NetReveal provides alerts and case management capabilities with their Enterprise Investigation Management (EIM) offering. It covers the entire risk landscape and compliance functions. It efficiently organizes internal & external data inputs, prioritizes, and centralizes alerts and incidents into one enterprise-wide investigation platform. The capabilities of EIM include Advanced automation, visualization technology to aggregate risk indicators, built-in audit control, role-based permissions, interactive data grids, and an integrated NetReveal Data Privacy Agent that enables institutions to comply with local data privacy regulations.

- NetReveal offers dynamic visualization of multi-dimensional customer data and AI functionality that provides comprehension of complex data and explanations for machine-generated alert predictions. The

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feature helps the users to view transactional data within a centralized single-user interface to easily visualize a customer's flow of funds by channels, currencies, accounts, and countries.

- NetReveal offers additional features such as packaged and proven compliance, scenario self-service, interactive lists, supervisor-controlled queuing and routing, single enterprise-wide deployment supporting multiple lines of business and regulatory disclosure, and e-filing support.

- NetReveal's primary differentiators include its automated alert prioritization, detection dashboard, intelligent investigation, and visualization,

- NetReveal's automated alert prioritization feature uses Intelligent Event Triage to auto escalates alerts for making rapid investigation decisions, beyond name match, the advanced post-processing of alert prioritization examines the context, history for better profiling of customers regarding watchlist management.

- The platform's key differentiators also include tailored risk scoring solutions as per the organization's risk appetite, deep domain expertise in regulatory compliance management, interactive network analysis solution which provides visualized relationships and risks for providing intuitive, explainable support to investigators, Intelligent Event Triage solution for AML & transaction monitoring to automatically enrich & prioritize alerts by using existing information and machine learning.

- The company provides dashboards for alert types, alerts by scenario, and alert determination. Supervisors and analysts can quickly review current detections and alerts to understand how detections are performing to take tactical decisions.

- In terms of geographical presence, the company has a major presence in Europe, followed by the Asia Pacific and North America. The company majorly serves across BFSI and Health management sectors. Some of the use cases that NetReveal supports include holistic financial crime compliance & detection, KYC real-time onboarding & ongoing due

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diligence, watch list management, customer & payment screening, transaction monitoring for retail, commercial & correspondent banking, holistic case management investigations, and STR/SAR filing for FinCEN, NCA, GoAML and other regional reports.

- For the product strategy and roadmap, the company continues to invest in improving the capability to run rules and update alerts to the investigators in a more efficient and quick manner to provide a holistic approach to financial crime compliance (AML, Fraud). The company is also investing in simplifying complex rules for overly convoluted logic. Additionally, it is also improving its customer interface for better customer investigation and experience.

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Featurespace

URL: www.featurespace.com

Founded in 2008 and headquartered in Cambridge, UK, Featurespace provides enterprise financial crime prevention solutions. Built on ARICTM Risk Hub platform, the company offers a unified platform for securing organizations against card fraud, payment fraud, anti-money laundering (AML), application fraud, merchant acquiring fraud, and gaming fraud.

The company's AML solution offers capabilities for alert management, case management, rules editor, open modeling environment, network visualization, machine learning models, multi-tenancy features, configurable UI, and data ingestion.

Analyst Perspective

Following is the analysis of Featurespace's offerings in the global Anti-Money Laundering market:

- Featurespace's AML solution provides a consolidated view of the customer's portfolio, which is backed by adaptive behavioral analytics, offering dynamic risk scoring and alert prioritization, and minimizing false positive rates. The solution also allows users to enhance the transaction monitoring performance with self-learning and offers explainable machine-learning models with no manual intervention.

- Featurespace's data ingestion feature supports all types of monetary or non-monetary data which can be passed into the system and actioned using rules and models. This allows the ARIC Risk Hub to combine multiple data feeds into a single view, thereby safeguarding against money laundering that spans multiple channels and is a single point of reference for investigations. ARIC Risk Hub also offers a rules engine, allowing the creation of simple and more complex scenarios based on entity and peer profiling. The rules are written in a proprietary AMDL language and uses code to create rules. The rules editor can be utilized by the users to build and maintain rules without the need

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of coding knowledge. It also allows users to build a comprehensive, effective, and efficient rule set, including individual profiling and peer profiling with dynamic segmentation.

- The UI allows users to configure a user or role-specific dashboard view to display reports and key metrics that are relevant/useful to that individual. The UI is also customizable by the end user and designation wise and facilitates the onboarding of new tenants with minimal intervention by Featurespace's team. AML solution's multi-tenant functionality allows users to manage their system and analytics at a global, landlord level, while maintaining their customers or internal business units as segregated tenants within the system, each with a bespoke analytical and UI configuration. It also facilitates the segregation of internal business units or white labeling of the product to enable the users to resell their solution.

- The alert management capability enables end-users to review incidents, configure system parameters and AML controls, and visualize the system, analytics, and analyst's performance. The case management capability allows users to compile alerts from multiple sources into a single case record and upload supporting documentation to these cases. ARIC Risk Hub offers standard reports and dashboards that offer analytics, investigator, and system-level management information as per the requirements.

- ARIC Risk Hub offers a supplementary network discovery tool designed to aid the investigation process and visualizing the most important connections. A set of entities and links, updates to individuals, addresses, phone numbers & devices etc. would be tailored to the customer's risk. Within the visualization, users can view details of linked entities and navigate to their entity profiles, as well as expand the network to further the investigation if desired. The display can be reordered to be user friendly when displaying complex networks, entities can be selected or deselected for ease of navigation and nodes can be collapsed as well.

- Featurespace's primary differentiator includes its behavior analytics model that leverages machine learning models, rules, profiling rules or a combination of those to offer a holistic transaction monitoring solution, zero model degradation & automatic model retrains that

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enables systems to prioritize worth mentioning alerts resulting in reduced false positives, core delivery of ARIC Risk Hub that enables client to use ARIC without any historical data and can be delivered very quickly with improved supportability.

- In terms of geographical presence, Featurespace has a major presence in Europe, followed by the USA and APAC. The company's focus on verticals is primarily on the banking and financial services industry. Featurespace's primary use cases include transaction monitoring, analytics (AI/ML), investigation & case management, and customer risk rating. The company also released a customized solution titled "Core" with out-of-the-box configurations for rules-based transaction monitoring and investigation & case management for retail/consumer payments.

- Featurespace's primary challenges include its data quality challenges when it comes to the ingestion of data into the Featurespace data models.

- The company continues to make an investment heavily in its machine learning models. Moreover, it focuses on enhancing the model explainability and further integrating the monitoring of rule & model performance, fairness, and introspection. The company is also planning to create a cloud native, flexible, and operable feature store, building a general processing engine that integrates with the machine learning model development workflow. Additionally, the company is planning to enhance the existing market-leading analytics suite by improving the performance of the analytics sandbox and enhancing the open modeling environment to increase the ease and speed of deploying customer-built models.

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Feedzai

URL: www.feedzai.com

Founded in 2011 and headquartered in San Mateo, CA, Feedzai is a leading provider of digital trust, fraud and financial crime prevention solutions. The company offers an advanced risk management platform that allows FIs and related organizations to manage financial crime. The company provides an Anti-Money Laundering suite through its RiskOps platform that enables organizations to prevent, detect, and remediate across the entire customer lifecycle from device and behavioral biometrics to complying with various global regulations.

As a part of its AML Solution Suite, the company offers comprehensive capabilities for Anti Money Laundering (AML) including Know Your Customer/Customer Due Diligence, Watchlist Management and Customer Screening, Watchlist Management Payment Screening, and AML Transaction Monitoring. It enables organizations to minimize reputational and regulatory damage across different tools and adhere to multiple governance requirements to detect suspicious activities and financial crimes. Built on the RiskOps platform, the company's AML solution offers capabilities for Behavior and quality alerting, automated workflows, integrated SAR, alert prioritization, and white box explanations.

Analyst Perspective

Following is the analysis of Feedzai's offering in the global Anti Money Laundering (AML) Solution market:

- Feedzai offers AML solutions to identify suspicious activities using machine learning models for behavioral profiling and alert prioritization. It enables FI's to enhance productivity through the visual link, analysis tools, Whitebox Explanation, and integrated reporting.

- Feedzai's Behavior and quality alerts combine signals from various data sources to create a holistic view of risk and better detection of financial crimes. The solution segments different profiles of customers to identify unusual behavior patterns and generate alerts on those changes in accordance with the customer's risk-based approach.

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- Feedzai offers an intuitive omnichannel case manager for alert prioritization and SAR workflow management. It enables the compliance team to review and act on generated alerts and drill down from customer-level alerts to underlying transactions. Feedzai Insights delivers rich and strong capabilities for dashboards, reports, and alerts and provides customers with a clear view of the key actionable metrics for decision-making.

- Primary differentiators of Feedzai include Granular profiling, visual link analysis, alert optimization, customization, behavior alerting and ML learning models.

- Feedzai offers a machine learning model that scores a potential alert based on known suspicious activity attributes and actions to alert or suppress, reducing false positives while maintaining suspicious activity confidence levels. Feedzai is also continuously innovating in ML for the AML industry.

- In terms of geographical presence, Feedzai has a strong presence in Europe, followed by North America, LATAM and APAC. Feedzai serves across various verticals, including FIs and Fintechs, merchants and eCommerce, followed by processors and acquirers. The company supports various use cases including payment screening, customer screening and sanctions (PEP), customer onboarding, collaboration across the customer lifecycle whilst increasing productivity and enabling financial services companies to deliver better outcomes for their customers.

- As per Quadrant's analysis, Feedzai is addressing challenges dealing with changing global regulations and the introduction of new payment types such as crypto and its deployment in various countries.

- For the product strategy and roadmap Feedzai focuses on enhancing its single financial crime platform, Notification Hub Plan, creating API connectivity from case manager to customer systems. Along with it, the solution is enhancing support and document model risk management capability, The company focuses on developing OOTB Demographic / Operations Rulesets CM UI Pre-configured for Cust Screening & Scoring, More Sanctions, PEP, RCA, Adverse Media, and other watchlist partnerships.

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ACI Worldwide

URL: www.aciworldwide.com

Founded in 1975 and headquartered in Coral Gables, Florida, ACI Worldwide provides software solutions for processing & managing digital payments, enabling omni-commerce payments, managing fraud & risk, and presenting & processing bill payments. The company provides an anti-money laundering solution through its Proactive Risk Manager (PRM) software. PRM's API framework is flexible for supporting all regulatory reporting throughout all regions. The software offers complete alert, queue, and case management with dashboards and reports. It also offers an open database for extensive AML analytics and visualization. Another differentiator in PRM software is the availability of fully managed AML scoring in a public cloud.

PRM software enables financial institutions to manage risk across all business lines and customer accounts that combines expertly defined rules with a variety of scoring methods for fast and accurate responses to the evolving nature of fraud and money laundering. The company's AML solution offers capabilities for KYC & CDD, watchlist management, transaction monitoring, real-time risk scoring, alert & case management, analytics & visualization, suspicious activity monitoring, auditing & reporting.

In 2022, ACI Worldwide launched Fraud Scoring Services to provide a fraud scoring platform that leverages machine learning capabilities to deliver real-time fraud detection and prevention.

Analyst Perspective

Following is the analysis of ACI Worldwide's offerings in the global Anti-Money Laundering market:

- ACI Worldwide's AML solution known as Fraud Management for Banking (PRM) offers a comprehensive, real-time approach to AML management by using a combination of machine learning, financial crime and payments data, and advanced analytics to prevent financial crime and ease the burden of compliance. ACI's Proactive Risk Manager ("PRM") solution for Financial Crime & Fraud offers banks and

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intermediaries a comprehensive platform that resolves key regulatory and compliance requirements within a Financial Crime Intelligence Unit (FICU) for their AMLATF framework by using a combination of advanced machine learning, a traditional rules-engine, enhanced behavioral profiling, deep analytics, and simplified data orchestration for key payments and financial crime data.

- ACI's PRM solution for watchlists and sanctions monitoring is built to make the entire list management process simpler to orchestrate. The solution ensures the FCIUs remain compliant with Service Level Agreements (SLAs) and rapidly changing monitoring requirements. Leveraging both rules and machine learning the solution ensure the strengthening of triggered actions that enable FI's to reduce false positives and to ensure efficient operations. Through this process, FCIUs can report and manage Watch List Management ("WLM") appropriately for all levels of regulations, whether local or global. With PRM, users can report and manage suspected financial crimes in-line with regulations and global sanctions, including watch list management (WLM).

- The PRM solution's KYC & CDD offers risk levels that can be monitored by third-party providers. CDD is performed for every customer and based on the requirements EDD is performed as well. The PRM platform offers the framework to ingest the key data and make real-time or near-real-time decisions as needed. This data can be used in both rules and models to improve alerts and reduce false positives.

- ACI's AML risk scoring capability provides Scoring-as-a-Service, which is a fully managed service for model risk management. The service uses the company's patented incremental learning technology that is available in the public cloud. Furthermore, ACI Model Generator, which is available on-prem, or in the private or public cloud supports machine learning models allowing for risk scoring and alerting, reducing the cost to the customer, and improving customer experience. The users can configure alert thresholds for transactions by writing rules, running what-if scenarios, and managing supervised machine learning decisioning in AMG.

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- The PRM solution's alert & case management allows users to queue the cases based on the risk levels, UI that is designed to minimize the clicks and display the relevant information to reduce the time on alerts and improve the operational efficiency. Powered by RPA into the platform through built-in technology and alerts are automated through actions, auto-blocking accounts of suspicious users, and their related actions to combat money laundering situations. Additionally, alert and queuing functionality has the ability to take in documents and attach them to cases.

- Investigation files, pictures of suspects, law enforcement production orders, etc..). PRM's analytics & visualization capability offers a complete solution of real-time, user-designed dashboards and reports. Most users prefer to move their PRM key data to the enterprise data warehouse and connect with advanced visualization tools for customization.

- PRM's suspicious activity monitoring provides the flexibility of either custom batch reports or using a custom API framework for reporting to government agencies directly. The automation includes the ability to bring in key transaction data fields and automate the process through a click on-screen for investigators, reducing overall AML investigation times and improving operational efficiency.

- ACI Worldwide's Anti Money Laundering's primary differentiator includes AMLATF technical functionality that allows customers to properly conduct enhanced customer due diligence (ECDD), identity verification against the source, high-risk profiles, and entity resolution through easy and flexible data orchestration, extensive detection and monitoring capability combining both rules and machine learning engine with enhanced behavioral profiling that allows rules flexibility both in real-time and near real-time, using a combination of supervised machine and Flexible API framework that provides comprehensive alerts, queue, and case management with extensive reports and dashboards.

- Concerning geographical presence, the company has a significant customer base in the Middle East & Africa, and North America. The company serves various industry verticals, including financial and

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non-financial services, fintech, insurance, payment aggregators and payment gateways, bitcoin exchanges, gaming, and securities. From a customer point of view, the company primarily targets tier 2 and tier 3 banking, non-banking finance, and insurance companies. However, with aggressive pricing strategies, the company also enjoys adoptions from SMB organizations. The company's solution supports various use cases, including watchlist and sanctions monitoring, KYC, transaction monitoring, model risk management, list management, and case management.

- Regarding product strategy and roadmap, the company continues to invest in PRM that will be updated to provide new functionality for better support AML related cases, including providing user checklists for alert review, more advanced options for queue routing, and additional data fields that can be leveraged to either within PRM or to integrate with Enterprise Case Management systems. Data Integration and Management is also an area of focus, to include additional options to incorporate custom data and improved training for our current Data Extensibility feature. This will also include improvements to the existing REST API's to update the company's existing payment system integrations and expanding configuration options for greater flexibility when connecting to 3rd party systems.

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Eastnets

URL: www.eastnets.com

Founded in 1984 and headquartered in Dubai, Eastnets is a provider of compliance and payment solutions catering to the financial services sector. The company offers a watchlist and financial crime screening solution titled SafeWatch that helps organizations instantly update the watchlists and continuously. Organizations' safety and compliance requirements are met. Offered as a part of the company's counterterrorism and Anti Money Laundering suite, the solution detects potential criminal behavior in real time which helps the enterprises track it. Current and historical data in both: online and offline modes. Eastnets SafeWatch screening solution comprises two components: SafeWatch Screening ChainFeed and SafeWatch Screening Analytics.

Eastnets SafeWatch Screening ChainFeed helps user organizations update, sanction lists automatically, securely, and in real-time to eliminate delays, errors, and the potential for internal fraud. Eastnets SafeWatch Screening Analytics offers pre-built analytics dashboards that include various recommendations to reduce false positives and allow users to create custom reports. The company's Anti Money Laundering solution comprises several comprehensive features and functionalities, such as a comprehensive risk-based approach, Ready-made and customizable rules, an interactive dashboard, and integrated reporting.

Analyst Perspective

Following is the analysis of Eastnets's offerings in the global Anti-Money Laundering market:

- Eastnets SafeWatch Screening solution utilizes AML detection tools, AI, blockchain, link analysis, and holistic dashboards to automate the watchlist and sanction monitoring and screening process as well as turn the solution into one-web based solution providing a single detection point and one interface to manage alerts.

- Eastnet's SafeWatch Screening helps financial institutions to deploy, configure, and scale to meet the enterprise's AML detection needs. All

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the services that the company offers are based on language-agnostic RESTful APIs , ensuring better connectivity across products and seamless integration between the financial institution's core solutions and SafeWatch Screening

- The company uses a comprehensive risk-based approach to analyze and track online and offline transactions using data analytics that are linked to individual customers, accounts, and transactions. The solutions also offer ready-made and customizable rules to monitor unusual behavior and suspicious transactions adhering to evolving risks and regulations.

- The Eastnets SafeWatch Screening for Anti-Money Laundering solution's key differentiators include intuitive dashboards, actionable insights, customization, detection management and approval module, real-time updates, repeat wire stripping, an enhanced user interface, as well as advanced microservices architecture that leverages business intelligence and analytics capabilities to draw insights and immediately put them to use to ensure the effectiveness and efficiency of compliance efforts across the organization.

- Eastnets SafeWatch Screening Analytics provides intuitive, customizable dashboards with easy-to-understand visuals and interactive charts to communicate the realistic nature of potential money laundering concerns to allow financial institutions to identify their strengths and potential areas for improvement for money laundering.

- Regarding geographical presence, Eastnets has a major presence in Europe, followed by the MEA. The company is also expanding its presence in regions like APAC, and North America, particularly the US and Canada, as well as Latin America. The company supports use cases such as transaction monitoring, holistic case management investigations, reducing false positives, Improved screening performance, Greater flexibility & responsiveness, Increased visibility, as well as continuous monitoring of all inbound and outbound customer information

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Quantexa

URL: www.quantexa.com

Founded in 2016 and headquartered in London, UK, Quantexa is a provider of data and analytics software. The company offers a Contextual Decision Intelligence (CDI) platform to solve the challenges across data management, KYC, customer intelligence, financial crime, risk, fraud, and security, throughout the customer lifecycle. The AI and big data-backed CDI platform help uncover the hidden risks, threats, and opportunities by offering a connected view of the internal and external data from a centralized location, Quantexa calls this approach "Contextual Monitoring". The platform is built on an open architecture, which allows experts to craft decision models using techniques that make them nonbiased and fully explainable. The solution can be aligned with the existing governance model and security policies with more granular security levels for dynamic control.

Quantexa has a schema-free data model, which allows the platform to integrate with any data source from any system to conform to the client's data landscape internally and integrate with any external data sets. This ability enables customers to fix the data once and reuse it for AML, KYC, and financial crime, as well as power use cases in customer insight, risk, etc. Quantexa's platform is modular and there are many cases where the solution provides single customer and counterparty views as well as data, entity, and network features to other decision engines in the organization.

Quantexa CDI Platform's capabilities include entity resolution, network generation, analytics, and visualization, embedded system and process interoperability and agnostic case management integration, flexible task management and workflow integration, scoring and detection options, and white box decision intelligence.

Analyst Perspective

Following is the analysis of Quantexa's offerings in the global Anti-Money Laundering Solution market:

- Quantexa's Decision Intelligence Platform reveals the hidden relationship between people, places, and organizations and provides a connected view accordingly. The platform also tracks emerging

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market trends and can seamlessly integrate with the user organization's existing IT ecosystem. Moreover, the platform provides a regulatory compliance feature that is backed by advanced AI, decision models, and data linking.

- Quantexa offers entity resolution capability, which links people, organizations, addresses, telephone numbers, internet devices and their transactions and behavior to provide a single unified view of the entities. The capability can also process bad quality and manipulated data and extract the relevant data from the same. The network generation capability finds sets of resolved entities and relationships that are important to a given choice while filtering out low-value entities. This, in turn, helps organizations gain relevant context to make efficient and effective automated judgments, inquiries, and analyses. The capability also utilizes advanced analytics to locate hidden links throughout networks.

- Quantexa continues to build reusable configurations for case management with several vendors to support the client's requirements. The company offers out-of-the-box real-time reports for SLA monitoring and breach monitoring with an automated screening of alerts to investigate groups based on risk scores.

- Quantexa offers full task management and workflow integration to support clients' monitoring, detection, and investigation processes. In addition to system-generated tasks, it allows investigators to manually create tasks based on their Quantexa investigations. These tasks can be updated and shared and provide a full audit trail.

- Quantexa provides access to scoring catalogs and detection packs that are focused on the identification of various risks and typologies depending on client needs. Furthermore, Quantexa can also automatically look for and detect suspicious keywords an exact match or "contains" match, as a standalone alerting risk attribute and/or as contributory risk factors. This approach can generate many relevant hits. Quantexa also provides additional services, analytics, and context from entities and networks to better manage alert volumes and surface true risk.

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- Part of the Quantexa scoring catalogs is mitigating factors that help to reduce false positives using explainable logic derived from enriched contextual data that replicates the decision-making of investigators.

- In addition to the systemic detection of keywords, Quantexa also allows clients to manually interrogate their data, such as payments, to search for keywords, alone or in combination with other attributes as part of an investigation process such as a thematic campaign on child exploitation, and human trafficking.

- Quantexa's key differentiators include contextual monitoring capability that enables entities and networks to better understand the relationship between people, places, and organizations. Contextual monitoring takes all the data collated manually post-alert generation by investigators and applies this at scale to all customers and parties for detection. Quantexa combines internal and external data sources to ensure that entity resolution, network generation, and risk scoring are fueled by the single most important factor in decision-making. The platform also provides integration with existing organizational IT ecosystems along with its machine learning-driven entity resolution and network that utilizes deep learning for improved accuracy. Furthermore, the company offers dual architecture designed to resolve all entities and networks, producing a single entity view across all data.

- Regarding geographical presence, Quantexa has a strong presence in EMEA, followed by the Americas, and the APAC. From the industry vertical perspective, the company caters to banking, insurance, government, telecommunications and casino and gaming segments.

- Regarding Product strategy and roadmap, the company continues to improve the existing capabilities of its product to ensure that it meets the requirements of their customers. Also, Quantexa is planning to introduce Entity Resolution Accelerate capability for no-code data ingestion, faster deployment, and entity quality reporting. The company is also working to improve the user experience across all suites for better data exploration and streamlining deployment for better efficiency across the platform.

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ComplyAdvantage

URL: complyadvantage.com

Founded in 2014 and headquartered in London, England, ComplyAdvantage is a provider of AI-driven fraud and anti-money laundering (AML) risk detection technology that helps financial institutions perform real-time monitoring of customer transactions and identify suspicious behavior and transactions. The company provides Anti-Money Laundering solutions through its CSOM transaction screening and monitoring suites that enable organizations to identify risks and reduce false positives by using a calibrated risk-based approach. The AML Solution Suite provides comprehensive capabilities for customer sanctions screening, PEP screening, adverse media screening, transaction monitoring and screening, management information and anomaly detection for predicate crimes. It provides standard libraries for detection as well as the ability to use machine learning techniques to detect new typologies, which enables organizations to manage multiple areas of financial crime risk and to prioritize alerts effectively. ComplyAdvantage also offers a new tool ComplyTry that enables financial institutions to verify customers using free live sanctions, politically exposed people (PEPs), and adverse media data.

Analyst Perspective

Following is the analysis of ComplyAdvantage's offering in the global Anti Money Laundering (AML) Solution market:

- ComplyAdvantage provides AI-driven financial crime risk data and detection technology. The company provides configurable cloud-native services that integrate seamlessly with the solution to help automate and reduce the hassle of complying with Sanctions, AML, and CTF regulations.

- ComplyAdvantage offers transaction monitoring and screening capabilities that screen all elements of a transaction, including name, address, bank details, BIC, and reference notes, to monitor trends of customer transactions over time in order to identify suspicious activities and behavior.

- ComplyAdvantage offers a customizable regulatory reporting (SAR) process that varies by jurisdiction, as well as operational insights to

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assess performance and maintain a history of comments and audits that adhere to ISO27001 level security. The company employs a risk-based scenario strategy and allows users to access a no-code rules builder and select typologies from a standard library to identify frauds and threats in their transaction platforms.

- Primary differentiators of the ComplyAdvantage'a AML solution (CSOM) include a comprehensive, holistic approach that provides data, technology, and services enabling the customers to holistically manage financial crime risk. The solutions are applicable across the lifecycle of managing financial crime risk, from initial due diligence, through ongoing monitoring, to investigation and reporting, rapid deployment in the cloud environment, supporting speed to market and real-time onboarding/In-Life use cases.

- In terms of geographical presence, ComplyAdvantage has a strong presence in Europe, followed by North America and Asia. ComplyAdvantage serves across various verticals, including banking, gaming, lending, insurance, blockchain & cryptocurrencies, and corporate service providers. The company supports various use cases, including sanctions and watchlists, PEPs and adverse media, transaction monitoring, and configurable risk scenarios enabling financial services companies to deliver better detection of financial crimes.

- As per Quadrant's analysis, one of the biggest challenges that the company is facing is the switch from legacy technology to advanced systems and approaches to combat financial crimes. Many FIs are still constrained by legacy technology, and the company is focusing on replacing this legacy technology using an advanced approach to solve financial crimes. The solution leverages the latest technologies to derive actionable insights from the voluminous data.

- Regarding product strategy and roadmap, CompyAdvantage focuses on continuing to develop standard libraries of detection rules and refine machine learning capabilities to analyze adverse media data and detect financial crime. The company is further developing its risk-scoring for entities capability. It is also enhancing its ComplyExplore capability, which is a graph-based machine-learning solution that uncovers and visualizes suspicious relationships.

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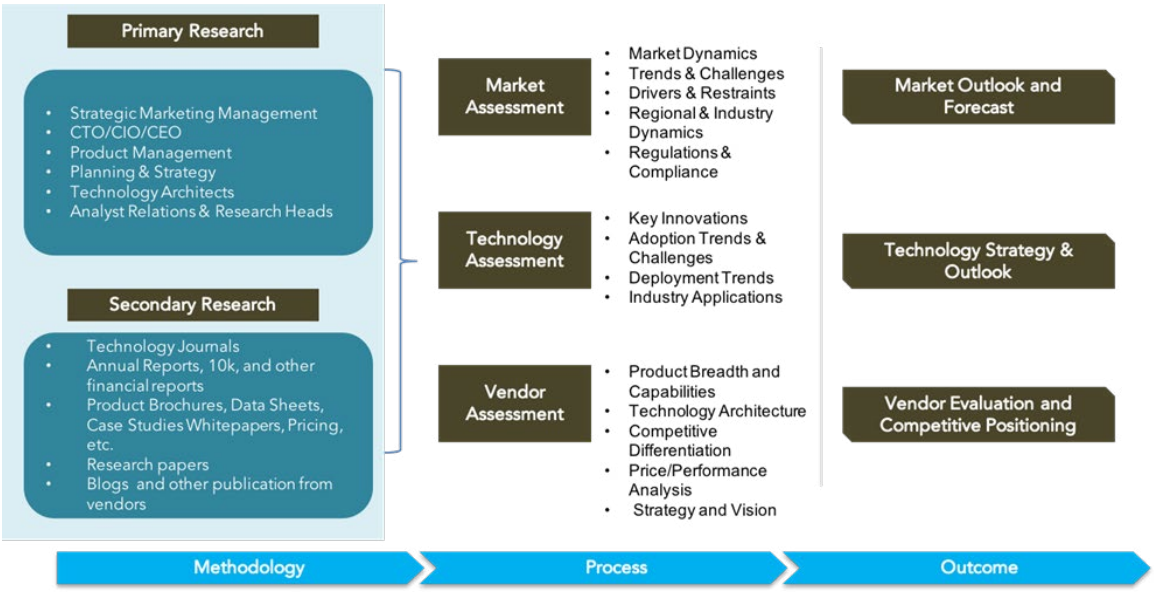
Research Methodologies

Quadrant Knowledge Solutions uses a comprehensive approach to conduct global market outlook research for various technologies. Quadrant's research approach provides our analysts with the most effective framework to identify market and technology trends and helps in formulating meaningful growth strategies for our clients. All the sections of our research report are prepared with a considerable amount of time and thought process before moving on to the next step. Following is the brief description of the major sections of our research methodologies.



Secondary Research

Following are the major sources of information for conducting secondary research:

Quadrant's Internal Database

Quadrant Knowledge Solutions maintains a proprietary database in several technology marketplaces. This database provides our analyst with an adequate foundation to kick-start the research project. This database includes information from the following sources:

- Annual reports and other financial reports
- Industry participant lists
- Published secondary data on companies and their products

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- Database of market sizes and forecast data for different market segments
- Major market and technology trends

Literature Research

Quadrant Knowledge Solutions leverages on several magazine subscriptions and other publications that cover a wide range of subjects related to technology research. We also use the extensive library of directories and Journals on various technology domains. Our analysts use blog posts, whitepapers, case studies, and other literature published by major technology vendors, online experts, and industry news publications.

Inputs from Industry Participants

Quadrant analysts collect relevant documents such as whitepaper, brochures, case studies, price lists, datasheet, and other reports from all major industry participants.

Primary Research

Quadrant analysts use a two-step process for conducting primary research that helps us in capturing meaningful and most accurate market information. Below is the two-step process of our primary research:

Market Estimation: Based on the top-down and bottom-up approach, our analyst analyses all industry participants to estimate their business in the technology market for various market segments. We also seek information and verification of client business performance as part of our primary research interviews or through a detailed market questionnaire. The Quadrant research team conducts a detailed analysis of the comments and inputs provided by the industry participants.

Client Interview: Quadrant analyst team conducts a detailed telephonic interview of all major industry participants to get their perspectives of the current and future market dynamics. Our analyst also gets their first-hand experience with the vendor's product demo to understand their technology capabilities, user experience, product features, and other aspects. Based on the requirements, Quadrant analysts interview with more than one person from each of the market participants to verify the accuracy of the information provided. We typically engage

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with client personnel in one of the following functions:

- Strategic Marketing Management
- Product Management
- Product Planning
- Planning & Strategy

Feedback from Channel Partners and End Users

Quadrant research team researches with various sales channel partners, including distributors, system integrators, and consultants to understand the detailed perspective of the market. Our analysts also get feedback from end-users from multiple industries and geographical regions to understand key issues, technology trends, and supplier capabilities in the technology market.

Data Analysis:
Market Forecast & Competition Analysis

Quadrant's analysts' team gathers all the necessary information from secondary research and primary research to a computer database. These databases are then analyzed, verified, and cross-tabulated in numerous ways to get the right picture of the overall market and its segments. After analyzing all the market data, industry trends, market trends, technology trends, and key issues, we prepare preliminary market forecasts. This preliminary market forecast is tested against several market scenarios, economic scenario, industry trends, and economic dynamics. Finally, the analyst team arrives at the most accurate forecast scenario for the overall market and its segments.

In addition to market forecasts, our team conducts a detailed review of industry participants to prepare competitive landscape and market positioning analysis for the overall market as well as for various market segments.

SPARK Matrix:
Strategic Performance Assessment and Ranking

Quadrant Knowledge Solutions' SPARK Matrix provides a snapshot of the market positioning of the key market participants. SPARK Matrix representation provides a visual representation of market participants and provides strategic insights on how each supplier ranks in comparison to their competitors, concerning various performance parameters based on the category of technology excellence and customer impact.

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Final Report Preparation

After finalization of market analysis and forecasts, our analyst prepares necessary graphs, charts, and table to get further insights and preparation of the final research report. Our final research report includes information including market forecast; competitive analysis; major market & technology trends; market drivers; vendor profiles, and such others.

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Client Support

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