

Realizing the benefits of agentic AI-powered financial crime compliance

Overcome FCC-related challenges with innovative technologies
and a seamless, structured approach to data modernization

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The transformation of financial crime compliance technology from basic rules to agentic AI represents a significant shift in the industry. Compliance is now smarter, faster and more proactive, helping financial institutions stay one step ahead of ever-evolving threats.

By implementing strong governance, agentic AI can greatly improve the way banks and other financial institutions defend against financial crime. It combines human insight with machine accuracy to safeguard the financial system and foster enduring customer trust.

To fully capitalize on this opportunity, innovators, regulators and financial crime experts must work together to ensure that AI is used both responsibly and ethically. Those who take the lead will not only achieve better compliance results and operational efficiency but also contribute to a safer and more resilient financial landscape.



Fighting financial crime with AI



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Partner with NTT DATA



Agentic AI: The next compliance breakthrough. While generative AI (GenAI) has transformed the industry by automating content creation, summarizing data and supporting decision-making, agentic AI goes a step further. Unlike GenAI, which relies on human prompts to generate outputs, agentic AI can perceive, reason and autonomously act within defined guardrails. This allows financial institutions (FIs) to proactively monitor, detect and respond to threats in real time — a critical capability for staying ahead of increasingly sophisticated risks.

Banks and other FIs must adopt advanced technologies to modernize their financial crime compliance (FCC) frameworks. It's a necessary step, given the continuing escalation of financial crime tactics such as synthetic identity fraud, insider trading and targeted cybersecurity vulnerabilities. Synthetic identity fraud alone is the fastest-growing financial crime in the US, accounting for up to 20% of credit losses and costing lenders an estimated \$6 billion annually.¹

The financial services industry continues to be a strong target for cyberattacks. As threats intensify, regulators are responding with unprecedented scrutiny. In the past year, regulators imposed over \$19 billion in financial crime-related penalties globally, as compliance failures and AI-enabled cybercrime drove enforcement actions.³

AI is transforming banks into highly efficient, competitive and profitable business leaders, but the increasing adoption of AI goes hand in hand with new and evolving cyberthreats. Globally, regulatory uncertainty is increasing the need to collaborative responsibility. Banks cannot wait for regulatory guidance and must rather implement their own zero trust-based deployment models.⁴

- **88% of banks** say that government regulation on AI is still unclear, which stifles innovation and hinders GenAI progress.
- **86%** say that financial institutions should be more involved with the development of fraud regulation.

Source: Intelligent Banking in the Age of AI (an NTT DATA research report)

Financial crime compliance opportunities

With FIs racing to modernize in the face of evolving fraud and regulatory demands, the FCC business process services market is expected to grow between 18% and 22% annually, reaching \$5.6 billion by 2025.⁶ Financial organizations leveraging AI can see significant gains in operational efficiency: AI helps reduce the time taken to analyze billions of transactions, from weeks to days. It also enables faster detection of financial crime with minimal customer disruption.

Almost 70% of banking leaders believe that GenAI significantly enhances their fraud detection capabilities by analyzing transaction patterns and detecting anomalies that could signal fraud.⁷ For example, HSBC Bank, which has publicly embraced AI in its financial crime program, reported a 60% reduction in false-positive cases after implementing AI solutions.⁸

Organizations that have fully implemented security AI and automation report breach costs that are \$1.88 million lower, on average, than those without such technologies.⁹ At the same time, 83% of consumers say they would immediately stop doing business with a company following a security breach.⁹ Together, these trends highlight the urgent need for robust monitoring, modernization of financial crime compliance and a strong commitment to customer trust.

The complex journey to FCC maturity requires overhauling legacy systems and integrating innovative solutions. As digital banking expands, FIs know that data modernization is the key to remaining viable in competitive markets. The pressure is on to streamline both operations and costs. By using agentic AI, FIs can achieve greater efficiency, agility and resilience in their FCC operations.

4 modernization challenges

Financial institutions face four key challenges when modernizing financial crime compliance-related activities. Each challenge underscores the need for intelligent automation and optimized solutions.



1. Rapid technological changes: Failing to keep up with technological advancements can lead to operational inefficiencies and increased risk of noncompliance. Financial institutions must integrate these advancements into their FCC systems to stay compliant and competitive.



2. Cybersecurity risks and fraudulent activity: Banks face greater vulnerability to sophisticated cyberthreats such as phishing, credential theft and ransomware. To counter these threats, they must implement robust security measures and maintain 24x7 monitoring.



3. Resource and talent gaps: A shortage of talent slows the implementation of effective FCC measures and increases reliance on manual processes, which often results in errors and inefficiencies. Banks need expertise in advanced analytics and data science to design and develop solutions that can interpret complex financial crime patterns.



4. Globalization and cross-border transactions: International regulations and cross-border transactions complicate FCC activities. Financial institutions must navigate these challenges to strengthen governance and management.

With AI, banks can address these challenges while protecting their FCC operations against emerging threats.



AI revolutionizes financial crime compliance



Financial institutions are entering a new era in the fight against financial crime. What began as rule-based monitoring has evolved through machine learning and generative AI.

Now, agentic AI is redefining the landscape. This shift isn't simply technological; it's a strategic transformation in how banks detect, investigate and prevent illicit activity in a complex regulatory environment.

Rule-based systems

Early compliance systems used static rules to flag suspicious transactions. These systems effectively identified known threats, but they lacked flexibility, generated many false positives and forced teams to conduct intensely manual reviews.

AI and machine learning (ML)

ML introduced pattern recognition and anomaly detection, reducing false positives and uncovering emerging risks. However, these models remain reactive, constrained by historical data and predefined indicators.

GenAI

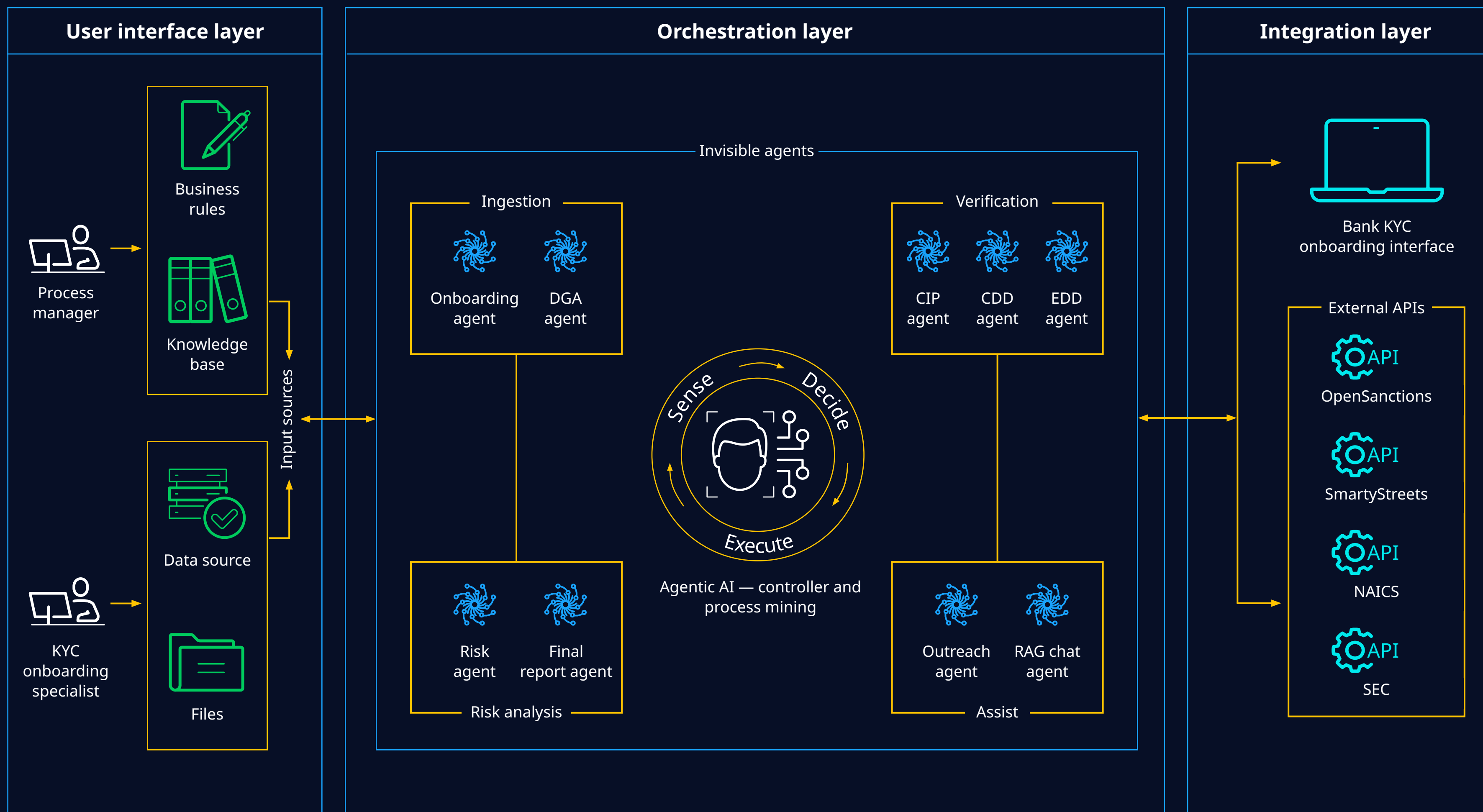
Because it streamlines documentation, client onboarding and risk assessments, GenAI can draft suspicious activity reports (SARs), summarize unstructured data and assist with case triage. However, it still relies on human prompts and comes with explainability, bias and regulatory trust challenges.

Agentic AI

A leap forward from GenAI, agentic AI is capable of perceiving, reasoning and acting with minimal human input. It delivers real-time alerts, recommends actions and can auto-execute tasks within guardrails. Agentic AI integrates internal data, regulatory sources and external intelligence to monitor entire networks, not just isolated transactions. This capability makes it especially powerful for anti-money laundering (AML) and fraud prevention.

As financial crime becomes more sophisticated, agentic AI offers a proactive, adaptive and autonomous approach to compliance. But with greater capability comes greater responsibility. FIs must balance innovation with regulatory rigor.

Example: AI agent architecture for a know your customer (KYC) use case



Agentic output

User interface layer: Provides KYC onboarding analysts with a dashboard for accessing key information and streamlining the completion of onboarding tasks via the agent orchestration layer

Orchestration layer: Serves as the engine of agentic AI, where each agent large language model (LLM) performs specific functions and works together with other agents to retrieve information in an accurate, timely and coordinated manner

Integration layer: Connects to external data sources such as internet news feeds and internal databases to retrieve information for the agents in the orchestration layer in order to process user requests

API: Application Programming Interface

CDD: Customer Due Diligence

CIP: Customer Identification Program

DGA: Document Gap Analysis

EDD: Enhanced Due Diligence

NAICS: North American Industry Classification System

RAG: Retrieval-Augmented Generation

SEC: United States Securities and Exchange Commission



Critical concerns in AI deployments

As banks adopt AI in compliance, they face growing regulatory scrutiny in the areas of fairness, transparency, privacy and accountability. Addressing these concerns is essential to ensure both regulatory alignment and ethical AI use.

Bias and fairness

AI models may unintentionally reinforce historical biases, such as over-flagging certain regions or demographics. Banks can mitigate this risk by using diverse training data and applying fairness-aware techniques to detect and correct bias.

Transparency and explainability

Regulators require FIs to ensure that AI decisions — especially those in high-risk areas like AML — are transparent and explainable. Black-box models are insufficient. Institutions must adopt explainable AI (XAI) frameworks that clearly justify risk scores and compliance actions.

Data privacy and security

AI systems process sensitive financial data, making privacy a top concern. To comply with regulations and legislation such as the General Data Protection Regulation (GDPR) and EU AI Act, FIs must use techniques like data minimization, federated learning and synthetic data to protect customer information.

Accountability and AI governance

Despite automation, banks remain accountable for AI decisions. With a human-in-the-loop (HITL) approach, human analysts oversee critical actions (like suspicious activity report (SAR) filings), maintaining regulatory trust and operational control. HITL means that even though AI systems can process data and make recommendations, a person always reviews and approves important decisions before they are finalized. This ensures that expert judgment and oversight remain part of the compliance process.



A structured approach to AI governance





Although regulatory scrutiny remains high, the benefits of agentic AI far outweigh the challenges — provided AI is deployed responsibly. To achieve the full benefits of agentic AI while complying with regulations, FIs must follow a structured approach to AI governance and deployment.

Use centralized data platforms

High-quality data is essential for creating and operating GenAI models, which serve as the foundation for agentic AI systems. Reliable data also underpins the analytics and insights that drive effective agentic AI frameworks and strong AI governance. By centralizing, synchronizing and scaling their data pipelines, FIs enable their AI agents to perform accurately and efficiently across all operational workflows. Doing so supports both day-to-day activities and long-term compliance.

Adopt a robust AI architecture

Hybrid cloud architectures offer scalability while maintaining control over sensitive data. This helps FIs to comply with data privacy and security policies and regulatory requirements.

Implement strong AI governance frameworks

A dedicated AI risk and compliance committee can oversee AI deployments to ensure alignment with company and industry standards. The committee should conduct or oversee bias audits, explainability testing and ongoing model validation.

Maintain human oversight and ethical AI practices

HITL compliance processes, where AI supports but does not replace human judgment, provide expertise and oversight throughout workflows. FIs should also adopt explainability and interpretability tools to make sure regulators and internal stakeholders understand AI-driven decisions.

Engage with regulators and industry leaders

By participating in regulatory sandboxes, FIs can test AI solutions in collaboration with regulators, stay up to date on the latest regulatory guidance and show they are proactive. AI models must be matched with new rules and frameworks, including the EU AI Act.

The benefits of integrating agentic AI in FCC



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FIs stand to gain significantly as agentic AI becomes more integrated across financial crime compliance. With rising regulatory complexity and increasingly sophisticated threats, AI offers a way to stay ahead. It not only improves accuracy and responsiveness, it also reduces costs.

Benefits across the AI maturity spectrum

Fraud detection and prevention

Agentic AI excels at real-time risk detection and response. Unlike static rule-based systems, it continuously adapts to evolving fraud tactics and enables proactive threat mitigation. GenAI simulates fraud scenarios and generates synthetic data to stress-test detection models. Together, these technologies reduce false positives and increase accurate threat identification, delivering smarter, faster fraud prevention.

Automated compliance workflows

Agentic AI streamlines repetitive tasks like transaction screening, case triage and SAR drafting. GenAI enhances document creation and summarizes regulations, while agentic AI improves workflows and frees teams to focus on higher-value activities.

Improved regulatory reporting

Regulatory reporting is data-heavy and time-consuming. While GenAI helps draft narratives and flag inconsistencies, agentic AI automates data aggregation and formatting — boosting accuracy, speed and compliance.

Proactive risk management

AI/ML continuously monitors regulatory changes and identifies compliance gaps. GenAI complements this by simulating regulatory impacts, enabling institutions to adapt early. This proactive approach reduces risk exposure and improves readiness.

Better investigation capabilities

Traditional systems overwhelm teams with false positives. AI/ML improves detection through pattern recognition and anomaly analysis. Agentic AI adds context and prioritizes alerts, while GenAI pulls relevant data for faster, more focused investigations.

Improved regulatory change management

AI helps to track and interpret changes to evolving global regulations. Agentic AI maps transactions across jurisdictions, supporting global AML compliance with minimal manual effort.



Client success story: Agentic AI cuts onboarding time by 40% and saves a financial institution \$9 million annually

Business need

A financial institution was grappling with the inefficiencies of traditional know your customer (KYC) processes, including:

- **Manual document handling:** Onboarding required extensive manual collection and verification of documents.
- **Complex data analysis:** Analysts were overwhelmed by the volume and complexity of entity-related documents and reports.
- **Suboptimal outcomes:** High costs and long processing times hindered agility and affected customer satisfaction.

The organization sought NTT DATA's assistance in using agentic AI to streamline onboarding, reduce costs and improve the customer experience.

Solution

Our team built an agentic AI plug-in solution that integrates directly with the institution's existing onboarding and contract lifecycle management (CLM) systems. The system improves and accelerates KYC and AML processing, using a multi-agent framework to automate key tasks and support human analysts with intelligent, real-time assistance. Notable features include:

- **Document gap analysis** to identify and fill in missing customer identification program (CIP) and customer due diligence (CDD) documentation.
- **Intelligent insights** that analyze transactions and customer data for faster risk assessment.
- **Automated outreach** to engage customers and collect missing information, with fewer requests for information (RFIs).
- **Screening** to flag sanctions as well as politically exposed persons (PEPs), Office of Foreign Assets Control (OFAC) and negative news hits.
- **Case summaries** to draft risk narratives and summaries for analyst review.
- **Continuous monitoring** to track external data for profile changes and alerts.

Outcomes

- **40%+ reduction** in onboarding time
- **60%+ increase** in document processing speed
- Better customer experience
- Improved risk tracking and management



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NTT DATA is a business and technology service provider uniquely capable of supporting your entire AI journey, from strategy to infrastructure. We help clients identify their highest value use cases, fortify the enabling data foundation, then create, deploy, power and manage the solutions. Through our global scale, full-stack transformation portfolio and strong alliances with hyperscalers like Microsoft Azure, Amazon Web Services and Google Cloud Platform, we can integrate and manage technology solutions seamlessly across business operations.

Our deep banking and financial services industry expertise, spanning cards and payments, lending, wealth management, capital markets, and regulatory and compliance, helps our clients keep pace with market and technology trends and achieve competitive advantage.

Backed by NTT Group's \$3.6 billion annual investment in research and development, we are at the forefront of technology innovation, using our decades of experience in AI and GenAI to build powerful platforms, tools and accelerators that speed the delivery of results — ethically and sustainably.

[Learn more about how we can help you tackle FCC.](#)
[Visit our website.](#)

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List of abbreviations

Abbreviation	Meaning
AI	artificial intelligence
AML	anti-money laundering
BAU	business as usual
CCPA	California Consumer Privacy Act
CDD	customer due diligence
CIP	customer identification program
CLM	contract lifecycle management
FATF	Financial Action Task Force
FCC	financial crime compliance
FI	financial institution

Abbreviation	Meaning
GDPR	General Data Protection Regulation
HITL	human in the loop
KYC	know your customer
ML	machine learning
OFAR	Office of Foreign Assets Controls
PEP	politically exposed person
RFI	request for information
SAR	suspicious activity report
SEC	Securities and Exchange Commission
XAI	explainable AI

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