

# Artificial Intelligence Overview

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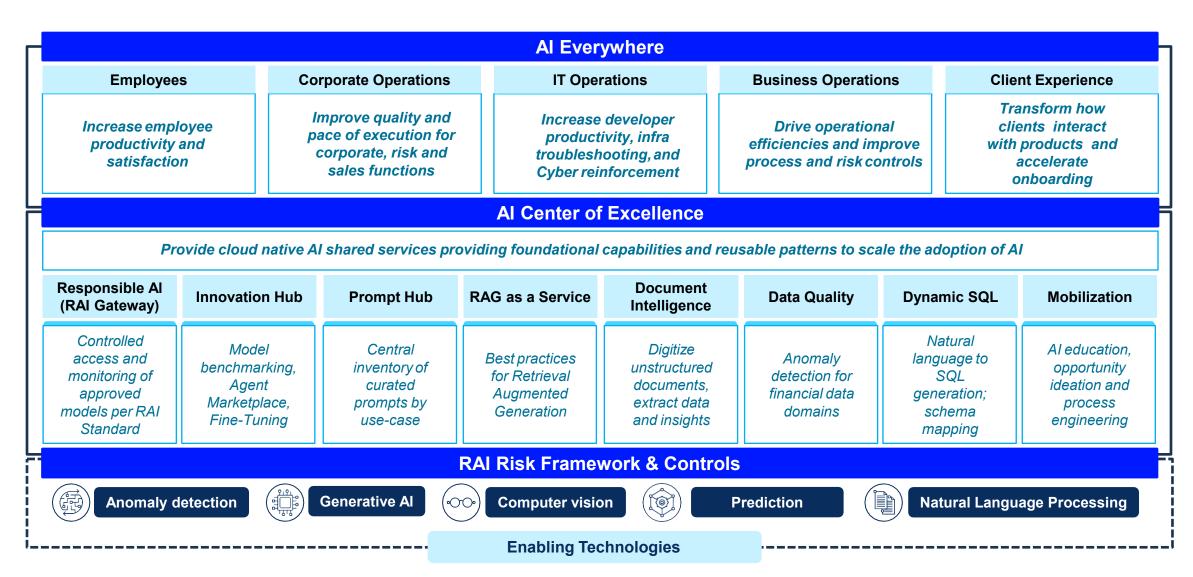
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# Al at Work: From Operations to Enterprise Transformation

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# **State Street AI Strategy**

Al Everywhere is a key tenant of our overall Technology and Operations Strategy



## Al for Operational Efficiency

Machine learning, manual effort reduction, automation



## **Fund Accounting**

**Current**: We use machine learning to create custom synthetic benchmarks for individual funds, by analyzing their historical performance against market indices as well as peer fund group performance. These benchmarks are more accurate and reduce false NAV alerts for many funds.

**Future:** We are developing a GenAl CoPilot for Fund Accountants to assist them with end-of-day NAV alert research and remediation, including NAV impact analysis and explanations.

#### **Transaction Services**

**Current**: We use deep learning-based computer vision to identify signatures on faxed trade instructions. This process also uses optical character recognition and natural language process (NLP)-based machine reading to extract key information and automate data entry for trade instructions.

Future: We are developing a GenAl document intelligence solution to cover a wider variety of trade formats with improved accuracies of fieldsextracted. We will have GenAl Knowledge Management Chatbots for accessing Standard Operating Procedures.

#### Reconciliations

**Current**: To reduce manual effort and improve efficiency, we predict match groups, automate the coding of exceptions, predict the break reason, and autoroute exceptions to speed up accounting to custody cash reconciliations remediation.

**Future**: We are developing a GenAl CoPilot forRecon Operations Teams to assist them with a proposed plan for break research and remediation depending on the break type.

#### **Private Markets**

**Current**: We have implemented a machine learning based ingestion of Investor Services documents to accelerate onboarding and AML processing. We leverage a vendor solution to ingest and digitize general partner documents. We developed at GenAl solution to summarize management fees from Limited Partner Agreements.

**Future**: We are expanding our GenAl document intelligence solution to cover K1, K3 and Financial Statement Auditor Opinions.

#### Bank Loans & Derivatives

**Current:** We have implemented Al-based data ingestion to automate and accelerate the transcription of over-the-counter (OTC) instructions, bank loan agent notices, funding memos, pricing letters and trade settlements. We are using machine learning-based predictions to match incoming wires to issuer names.

**Future**: We are expanding our coverage and accuracies of loan settlement statements with our GenAl document intelligence solution.

#### Alpha & Middle Office

**Current**: To improve the efficiency of data quality control checks, we are leveraging machine learning and deep learning-based anomaly detection across multiple financial data domains, including security master reference data, market data, pricing, FXrates, fees, flows, security analytics and top market valuation.

**Future**: We are expanding the coverage of data domains and onboarding, also expanding into back-office fund accounting data domains and Performance and Analytics (P&A) domains. We are externalizing some of the Al Data Quality services to clients directly through our Alpha Data Platform.

## Al for Fraud and Issue Detection

Object detection and image recognition



#### KYC/AML

Anti-Money Laundering Compliance: We have developed machine learning models for suspicious activity monitoring of our custody securities movements, custody cash movements, and AIS investor population.

#### **Data Loss Prevention**

#### **Inadvertent Data Disclosure (IDD) Prevention:**

We have deployed Al-based checks on email communications to clients, to scan emails and attachments and identify sensitive information (client names, fund IDs, account numbers, etc.). The tool then predicts IDD risk, given the targeted recipients of the email. Al also detects behavioural differences and anomalies in the communication compared to past communications with each client. If an IDD risk is determined, the email can not be sent without supervisory review.

### **Cyber Security**

**Threat Detection**: We use machine learning enabled vendor provided security tools for advanced threat detection.

**Cyber Risk**: We use Al to generate cyber risk summarization and recommended actions. We have developed custom machine learning models for vulnerability prioritization, insider risk evaluation and risk-based alerting.

## **Sanctions Screening**

**Screening Automation:** We leverage a vendor solution that has deployed a machine learning ensemble model to identify sanctions alerts that pose little to no risk to the bank and automate their closure.

## File Delivery Error Detection

**File Watcher**: We are leveraging Al-based checks in the final stages of client file deliveries to detect anomalies in the files based on machine learning of past file deliveries to the client. These anomalies might be abnormal file sizes, dates, structures, or content including statistical deviations of individual fields.

## **Operational Incidents**

ICAMS Incident Classification: To help expedite and accelerate our response and resolution to operational incidents, we are leveraging machine learning and natural language processing to automatically classify new incidents based on learnings from past incidents to accelerate root cause analysis and to recommend and required actions to resolve.

## **GenAI Use Case Patterns**

Information Classification: Limited Access

Reuseable, base Al patterns have been developed for the organization, to be adapted according to business needs

Use Case Pattern	Description	Client Benefit	Products
Document Q&A RAG (Retrieval Augmented Generation) from vector embeddings	Users can generate Q&A results from trusted sources/documentation	Quicker and more accurate search results, enabling teams to find answers to client questions efficiently and enhancing overall client experience	Global Markets Research, SSGEN Al
Unstructured Data Processing (traditional NLP tasks)	Users can analyze inputs using text classification, sentiment analysis of text, entity extraction and/or other key data element/content discovery and extraction from unstructured data	By providing insights from unstructured data, this supports faster decision-making and personalization	Private Markets Fee Insights, Document Intelligence Platform
Summarization	Users can submit content to be summarized for pre-defined topics built into the application (not open-ended)	By offering teams concise summaries of large amounts of information, this makes it easier to support and inform clients	Document Intelligence Platform
Language Translation	Users can submit content to be translated from one language to another	Improve operational efficiency enabling us to better serve our clients around the globe	Microsoft 365 Copilot
Code Generation and Understanding	Converts programming languages, generating documentation for functions, or converting natural language to code (e.g., text to SQL )	Empowers our developers to build faster and more efficiently to better service our clients	GitHub Copilot
Writing Assistance	Users can create new content or rewrite content - only for specific business purposes, does not function as general content creation tool for all topics (e.g. emails, proposals, reports)	Helps teams produce high-quality documents, ensuring effective communication	Microsoft 365 Copilot
Chat and Conversation	Users can interact with a conversational agent that reasons and responds to a pre-defined set of topics from trusted sources, could trigger other patterns, workflows and actions	Leads to clients receiving timely and accurate information, while supporting teams converse and action other patterns quickly	Alpha Copilot

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# Global Technology Services Generative AI Update – 1H2O25

Key use cases that have received governance approval and are in play

Key Use Cases	Description	Client Benefit	Products
GitHub Copilot	Provides code suggestions and advice via chat interface	Quicker development, time to market and product enhancements result in quicker updates and new features, leading to a more responsive and innovative experience	Internal
Microsoft Copilot	Generates content and information by synthesizing data from internal and external sources, bound by user's existing access	Enhances the overall customer experience by providing support teams quick and efficient material, while limiting access to information in alignment with their role, reducing response time while maintaining risk	Internal
Private Markets Transfer Agency	Leverages Document Intelligence solution suite to extract key data attributes from Transfer Agency (TA) Partners subscription documents, enriching extracted data and loading into Invest TA Platform	More accurate and streamlined data processing, leading to better service delivery for clients, as well as quicker data loads into the Invest TA Platform	Invest TA
Reconciliation Smart Research	Provides SOP-based Q&A using Gen-AI functionality, as well as exception research notes/comments	Customers experience fewer delays and more accurate resolutions to queries, through faster issue resolution	Reconciliation
State Street Advanced GenAl Platform	Enables business teams to create customized copilots that align with their unique requirements	Wide-ranging, personalized benefits, due to business teams being enabled to create co-pilots that will help deliver results for their particular needs, allowing for better client service	Internal
Zscaler Risk 360	Quantifies and helps remediate high-risk activities from various entities, configurations and external attack surface data, to provide a comprehensive and actionable risk framework	Comprehensive and actionable risk framework leads to clients benefiting from enhanced security and reduced risk of data breaches or other security issues	Internal

