databricks

Smarter Risk and Compliance Management With Data and AI in Financial Services

In today's interconnected and digital world, the task of managing risk and regulatory compliance is an increasingly tall order — and related complexities and costs are only growing. A modern, cost-effective approach to risk and compliance requires a robust data strategy defined by a holistic view of the risk environment, real-time insights for rapid response, and the power of AI to predict issues in time to prevent them.

Leading financial institutions significantly reduce risk with Databricks

Capital One

Unifying all data to feed ML-powered predictions that mitigate credit card fraud
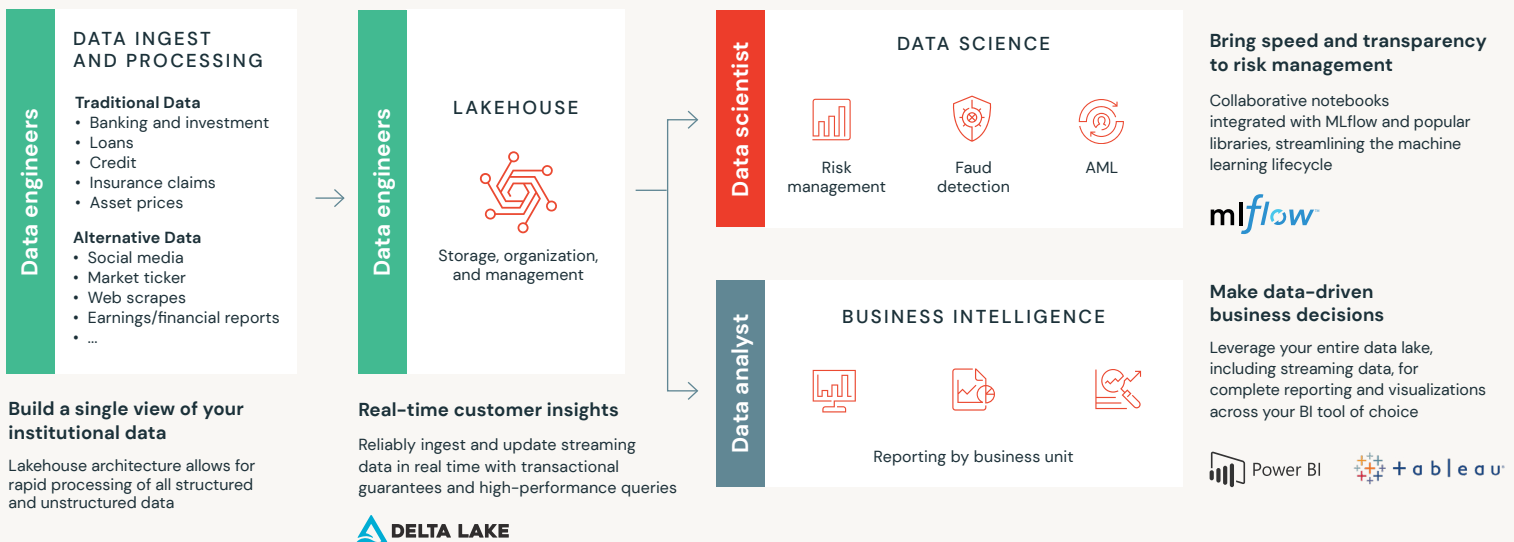
FINra

Analyzing billions of trades per day to prevent fraud in the U.S. securities markets

ABN·AMRO

Boosting analytic productivity to reduce the risk of fraudulent insurance claims

Future-proof against fraud, risk and compliance issues with data and AI

Databricks transforms institutions built on legacy technology by creating a modern AI-driven compliance strategy on the Lakehouse Platform in the cloud. Providing a holistic view of risk environments, real-time risk insight, and AI-driven accuracy, the lakehouse architecture allows organizations to prevent issues *before* they arise.

DATA INGEST AND PROCESSING

Data engineers

Traditional Data
- Banking and investment
- Loans
- Credit
- Insurance claims
- Asset prices

Alternative Data
- Social media
- Market ticker
- Web scrapes
- Earnings/financial reports
- …

Build a single view of your institutional data

Lakehouse architecture allows for rapid processing of all structured and unstructured data

Data engineers

LAKEHOUSE

Storage, organization, and management

Real-time customer insights

Reliably ingest and update streaming data in real time with transactional guarantees and high-performance queries

DELTA LAKE

Data scientist

DATA SCIENCE

Risk management

Faud detection

AML

Data analyst

BUSINESS INTELLIGENCE

Reporting by business unit

Bring speed and transparency to risk management

Collaborative notebooks integrated with MLflow and popular libraries, streamlining the machine learning lifecycle

mlflow

Make data-driven business decisions

Leverage your entire data lake, including streaming data, for complete reporting and visualizations across your BI tool of choice

Power BI

+ableau

Databricks for Risk, Fraud and Compliance

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Challenge	Databricks Solution
Scaling risk, compliance data processing and advanced analytics	Databricks provides financial institutions the elastic scale they need to analyze massive volumes of data for risk and compliance. Powered by Delta Lake, the Databricks Lakehouse Platform can process petabytes of batch and streaming data in near real-time. Risk teams can use these capabilities to scale simulations for millions of scenarios across their portfolios and perform intraday and real-time reporting on controls for CCAR, FRTB and other regulations. Fraud and anti-money laundering (AML) detection is a big component of compliance. With Databricks, financial institutions can leverage advanced analytics and AI-driven monitoring to review billions of transactions to detect anomalies and train alerts to focus on relevant, high-risk fraud, AML, KYC and compliance cases.
Building trust and transparency in risk model management	Databricks gives teams confidence in their data and models with data lineage and model transparency — providing a single source of truth and robust data foundation for compliance. Along with simplified data ingestion, the Databricks Lakehouse Platform consistently delivers high-quality, accurate data on-demand, transparency into data lineage, as well as analytics for auditors and external regulators. MLflow streamlines the ML lifecycle, providing explainable, auditable and ML-ready risk modeling for all your data.
Disconnect between real-time streams and analytics	With the ability to process petabytes of streaming data, Databricks can deliver near real-time analytics and risk insights. This helps you respond in time to the fraud, risk or compliance concerns found in streaming data. Databricks seamlessly and quickly connects data ingestion to advanced analytics — all in one place. Delta Lake, which uses the highest scale data layer that exists — enables immense speed and scale. This allows real-time data ingestion so your team can use the data for rapid analysis.

Databricks financial services customers

CREDIT SUISSE · FIS · Nationwide · reonomy · Nubank · ABN·AMRO · MONETA MONEY BANK · ZURICH · FINRA · M science · BANCO Hipotecario · Facteus

Common use cases in risk and compliance

Fraud and anomaly detection

Databricks cuts through all the data complexities of ingesting and processing millions of data points that are needed to implement anomaly detection at scale. It also enables teams to move from rules to machine learning to respond quickly and reduce operational costs associated with fraud.

Anti-money laundering (AML) / Know Your Customer (KYC)

Databricks provides powerful risk analytics and reporting while supporting the use of advanced machine learning models to reduce false positives and improve downstream investigation efficiency.

Risk management

Leverage voluminous data sets and speed up analytics use cases from days to minutes. Databricks enables financial institutions to focus on high-risk cases and analyze structured and unstructured data from a single view.

Fundamental Review of the Trading Book (FRTB)

Take on the additional computational and historical data storage capacity required by FRTB to process unprecedented volumes of disparate data and accommodate real-time data ingestion and regulatory reporting.

The Databricks Impact

Databricks helps companies automate infrastructure management, increase ETL performance at scale, and accelerate machine learning and analytics initiatives.

12x faster ETL pipelines

Impact: Faster time-to-market of new analytics insights and models

+25% gain in productivity

Impact: More-productive data scientists result in more AI innovation

+47% overall cost savings

Impact: Lower infrastructure costs boost operational margins