Lesson 10: RegTech

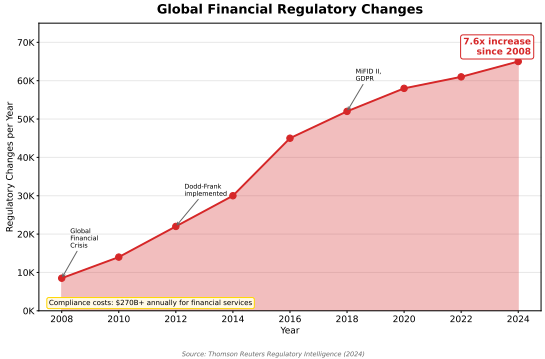
Module 1: FinTech Fundamentals

Digital Finance

Regulatory Complexity Crisis

Compliance Burden

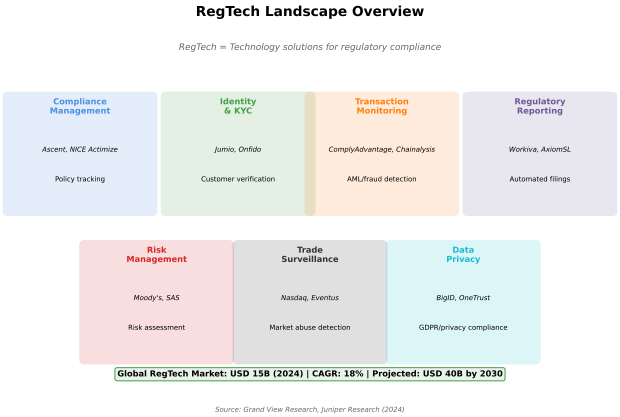
- 300M+ pages of regulation
- $270B annual compliance cost
- 500+ updates per day
- Manual processes fail



Source: Thomson Reuters Regulatory Intelligence (2024)

Financial institutions face 300M+ pages of regulation with 500+ daily updates—manual compliance is impossible.

RegTech Definition

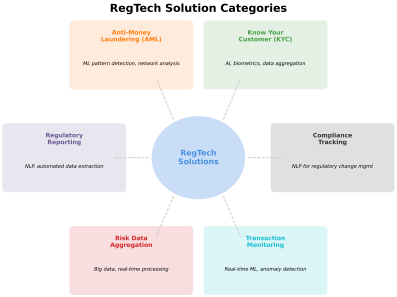


RegTech applies technology to regulatory compliance—automating monitoring, reporting, and risk management.

RegTech Categories

Five Core Areas

- Compliance management
- Transaction monitoring
- Regulatory reporting
- Risk management
- Identity verification



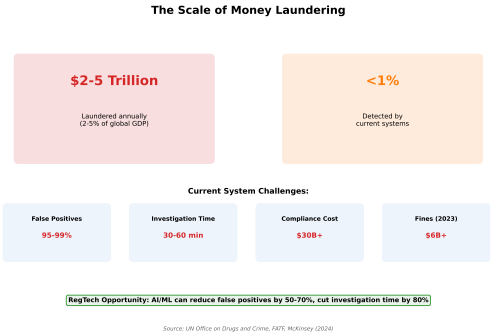
Source: Deloitte RegTech Universe (2024)

Five core RegTech areas: compliance management, transaction monitoring, reporting, risk management, and identity.

Anti-Money Laundering (AML)

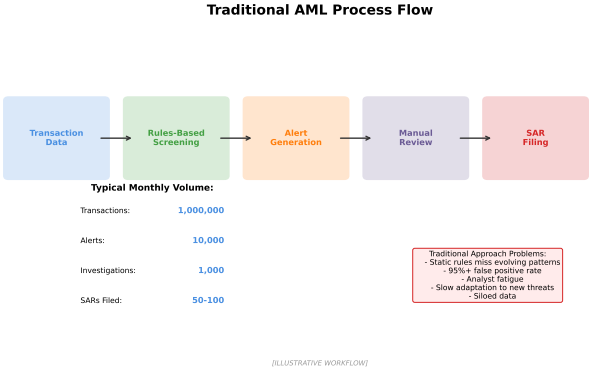
AML Challenge

- $2T laundered annually
- 0.1% detected (UN estimate)
- $26B in fines (2008-2023)
- False positive rate: 95%



$2T laundered annually with only 0.1% detected—$26B in fines since 2008, 95% false positive alerts.

Traditional AML Process

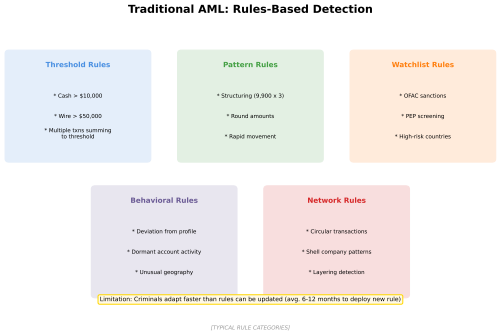


Traditional AML relies on rule-based systems—manual investigation creates bottlenecks and high costs.

Transaction Monitoring

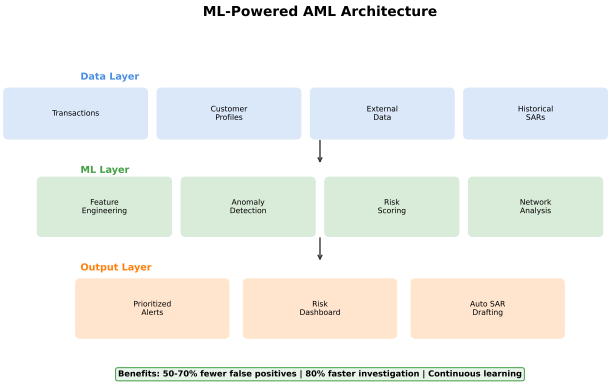
Rule-Based Systems

- Threshold triggers ($10K)
- Velocity checks
- Geographic patterns
- 99% false positives



Rule-based monitoring uses threshold triggers ($10K) and velocity checks—generating 99% false positives.

Machine Learning AML

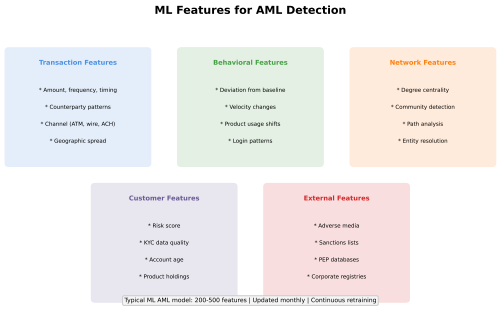


ML-based AML uses neural networks and graph analysis—reducing false positives significantly.

ML Feature Engineering

Behavioral Features

- Network graph analysis
- Time-series patterns
- Entity relationships
- Reduces FP to 70%

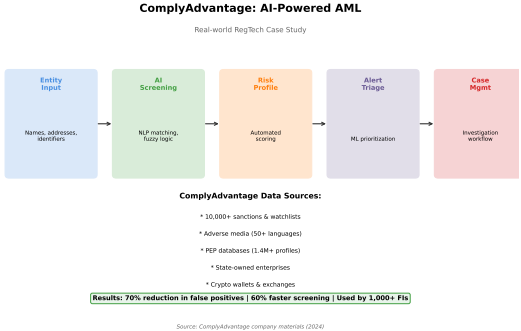


Network graph analysis and time-series patterns reduce false positives from 99% to 70%.

ComplyAdvantage Case Study

AI-Powered Screening

- Real-time sanctions screening
- Natural language processing
- Dynamic risk scoring
- 2,000+ financial institutions

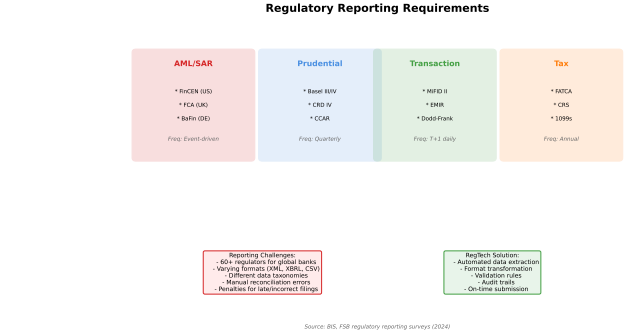


ComplyAdvantage serves 2,000+ financial institutions with AI-powered real-time sanctions screening.

Regulatory Reporting Automation

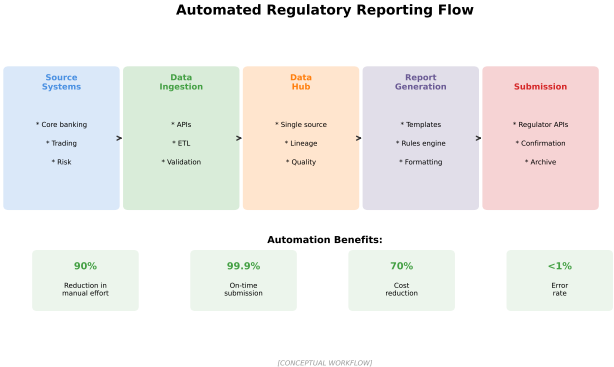
Reporting Requirements

- MiFID II: 65 data fields
- EMIR: Trade reporting
- Basel III: Risk metrics
- Frequency: Daily/real-time



MiFID II requires 65 data fields; EMIR mandates trade reporting—daily/real-time frequency demands automation.

Automated Reporting Flow

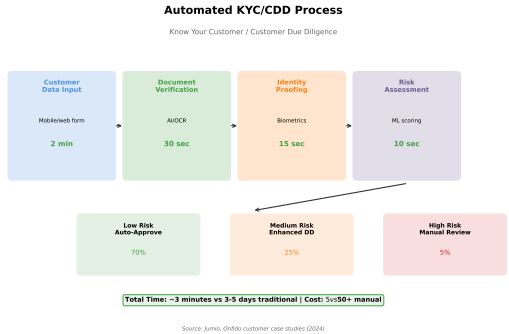


Automated reporting extracts, transforms, validates, and submits data—reducing manual work by 80%.

Know Your Customer (KYC) Technology

Digital KYC

- Document verification (OCR)
- Biometric authentication
- PEP/sanctions screening
- Continuous monitoring

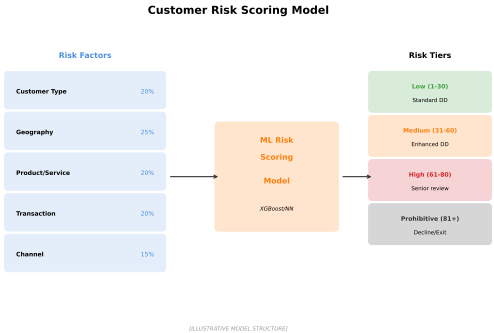


Digital KYC combines OCR document verification, biometrics, and continuous monitoring for real-time compliance.

Risk Assessment Platforms

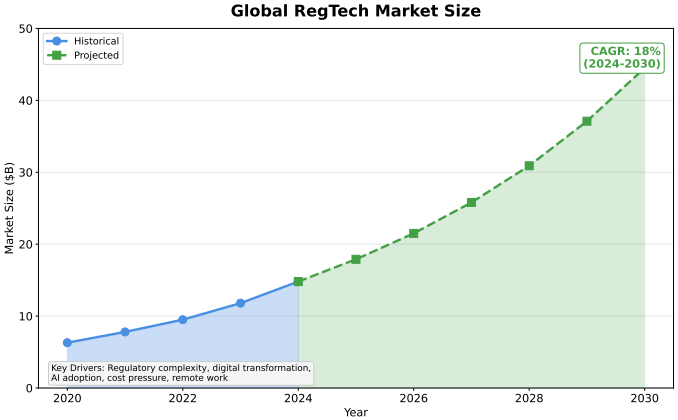
Dynamic Risk Scoring

- Real-time risk calculation
- Multi-dimensional factors
- Regulatory change tracking
- Stress testing automation



Dynamic risk scoring integrates multi-dimensional factors with regulatory tracking and automated stress testing.

RegTech Market Size



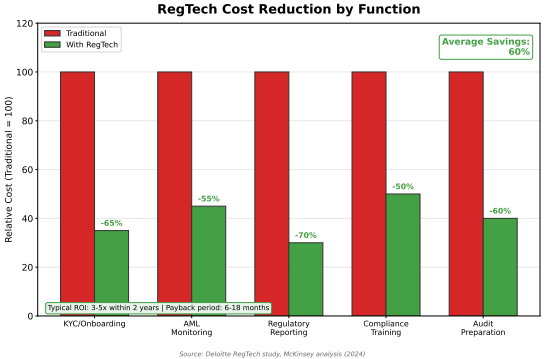
Source: Grand View Research, MarketsandMarkets (2024)

Global RegTech market projected to grow from $12B to $45B by 2028—driven by regulatory complexity.

Cost Reduction Analysis

Efficiency Gains

- AML analysts: 50% reduction
- Reporting costs: 70% lower
- False positive rate: 30% reduction
- Time to compliance: 80% faster



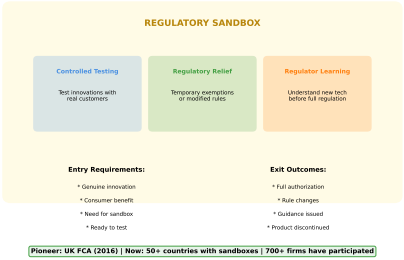
RegTech delivers 50-80% cost reductions—AML analysts down 50%, reporting 70% cheaper, 80% faster compliance.

Regulatory Sandboxes

Innovation Testing

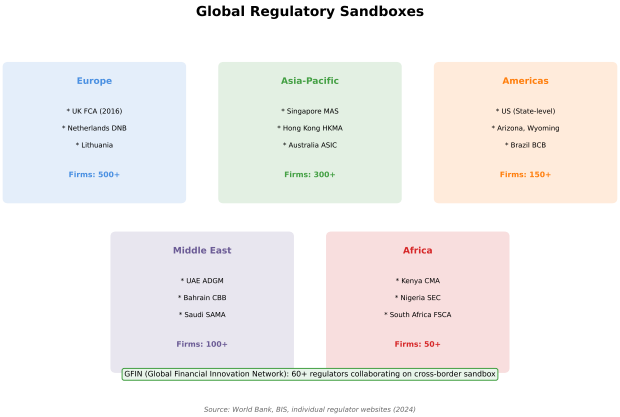
- FCA (UK) pioneer
- Limited-scope testing
- Regulatory guidance
- 80% go to market

Regulatory Sandbox Concept



Regulatory sandboxes allow limited-scope testing with guidance—FCA pioneered this with 80% go-to-market rate.

Global Sandbox Programs

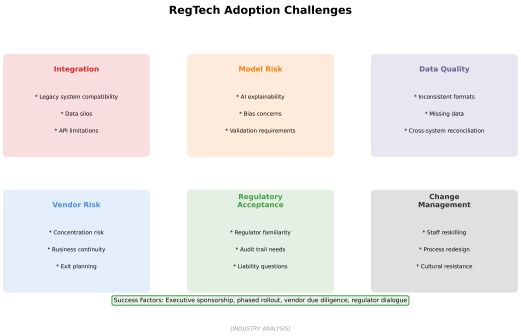


50+ countries have launched regulatory sandboxes—UK, Singapore, Australia, and Hong Kong lead adoption.

Challenges and Limitations

Implementation Barriers

- Legacy system integration
- Data quality issues
- Regulatory acceptance lag
- Explainability requirements

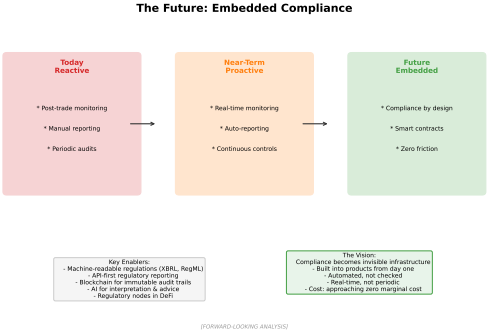


Key barriers: legacy integration, data quality, regulatory acceptance lag, and AI explainability requirements.

Future: Embedded Compliance

Next Generation

- Real-time compliance
- Machine-readable regulation
- Automated policy updates
- Suptech convergence



Future: real-time compliance, machine-readable regulation, automated policy updates, and SupTech convergence.

Key Takeaways

- **Problem**: $270B compliance costs, 95% false positives
- **ML AML**: Reduces false positives from 99% to 70%
- **Automation**: Reporting costs down 70%, time down 80%
- **Sandboxes**: 80% of tested innovations go to market
- **Future**: Real-time embedded compliance automation

RegTech transforms compliance from cost center to competitive advantage—automation is essential.