

# Why can technology automate compliance reports but not compliance judgment?

## What automation can do well:

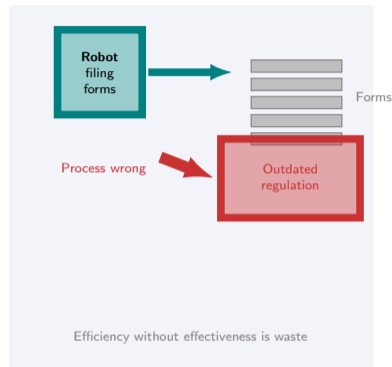
- Extract data from source systems and format reports
- Screen names against sanctions lists at millisecond speed
- Flag transactions matching predefined rule patterns
- Validate regulatory submission formats before filing
- Generate audit trails and documentation automatically

## What automation cannot do:

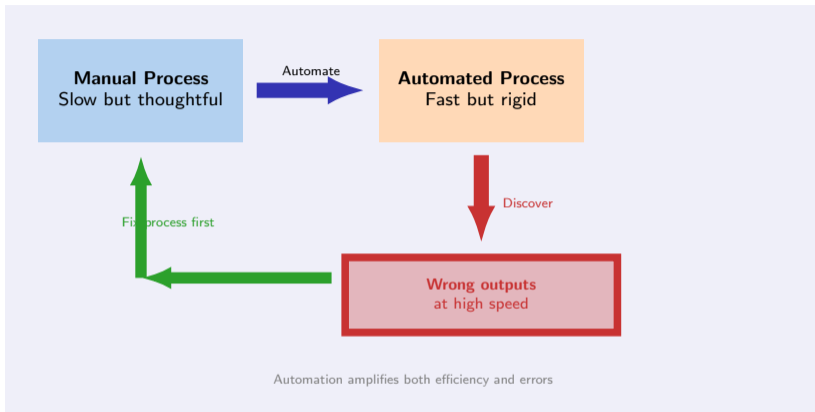
- Distinguish genuine suspicion from coincidental pattern matches
- Understand context and intent behind unusual transactions
- Weigh competing principles when regulations conflict
- Exercise discretion about when to file a suspicious activity report
- Explain nuanced risk decisions to skeptical regulators

## The trap:

- Automating a broken manual process produces broken outputs faster
- Technology can scale efficiency but not wisdom
- Over-automation removes human judgment where it matters most



# Have you ever automated a task and realized the task itself was the wrong approach?



## Why This Matters

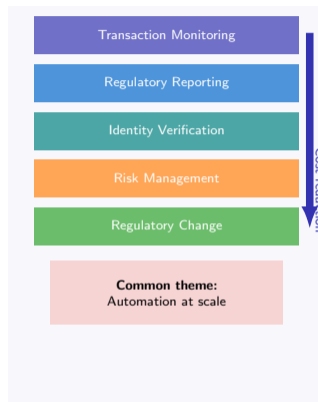
Regulatory technology only adds value if the underlying compliance workflow is sound. Automating a broken process locks in the mistakes.

**Speed without direction is just expensive motion.**

# What are the main categories of RegTech solutions?

## Five functional categories of RegTech:

- 1 Transaction monitoring:** Automated detection of suspicious payment patterns using rules and machine learning
  - Reduces false positive rates from ninety-five percent to thirty percent
  - Real-time scoring and risk-based alert prioritization
- 2 Regulatory reporting:** Automated extraction, validation, and submission of mandated reports
  - XBRL tagging for machine-readable financial statements
  - Continuous compliance monitoring vs quarterly manual filing
- 3 Identity verification:** Digital KYC using document AI and biometric matching
  - Reduces onboarding time from days to minutes
  - Liveness detection prevents deepfake and photo replay attacks
- 4 Risk management:** Real-time dashboards and exposure monitoring
- 5 Regulatory change tracking:** NLP-based analysis of new regulations



### Core Insight

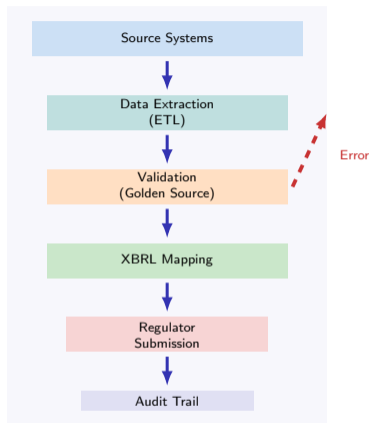
Each RegTech category addresses a different compliance pain point: volume, accuracy, speed, transparency, or change management.

**RegTech is not one technology but a toolkit for different compliance challenges.**

# How does a regulatory reporting automation pipeline work from data to submission?

## Four-stage automated reporting architecture:

- 1 Data extraction:** Pull transaction records, account balances, risk metrics from multiple source systems
  - Challenge: inconsistent formats, missing fields, duplicate records
  - Solution: continuous ETL pipeline with data quality checks
- 2 Data validation:** Check completeness, consistency, business rule compliance
  - Errors loop back to source systems for correction
  - Creates golden source layer with one version of truth
- 3 Taxonomy mapping:** Tag financial facts with XBRL labels for machine readability
  - Maps internal data model to regulatory taxonomy
  - Automated validation against taxonomy schema
- 4 Submission and audit trail:** File reports electronically and log all transformations
  - Maintains lineage from source transaction to submitted figure
  - Enables rapid response to regulatory inquiries



### Core Insight

Automation replaces manual extract-transform-load with continuous validated pipelines, catching errors before they reach regulators.

The pipeline prevents restatements by validating data at every stage.

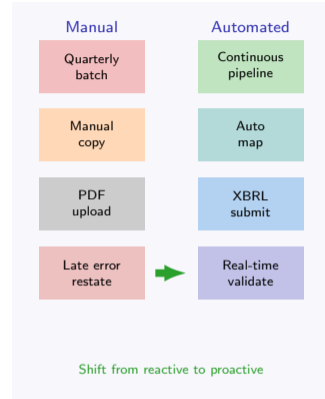
# How do manual and automated compliance workflows compare in structure?

## Manual compliance workflow:

- Quarterly batch process with end-of-period scramble
- Data extracted via SQL queries into spreadsheets
- Analyst manually copies figures into reporting templates
- Compliance officer reviews for reasonableness
- Reports filed as PDF or Excel attachments
- Errors discovered weeks later, requiring restatement
- Staff time: hundreds of hours per reporting cycle

## Automated compliance workflow:

- Continuous data pipeline with daily reconciliation
- Source systems feed validated data lake automatically
- XBRL tagging applied via predefined mapping rules
- Automated validation checks flag errors immediately
- Reports generated and submitted electronically
- Audit trail from source transaction to submitted figure
- Staff time: review exceptions only, not routine cases



## Core Insight

Automation transforms compliance from periodic fire drill to continuous monitoring, catching problems early instead of late.

Manual workflows are batch and reactive; automated workflows are continuous and proactive

# What happens when an automated compliance system misinterprets a regulatory change?

## The automation brittleness problem:

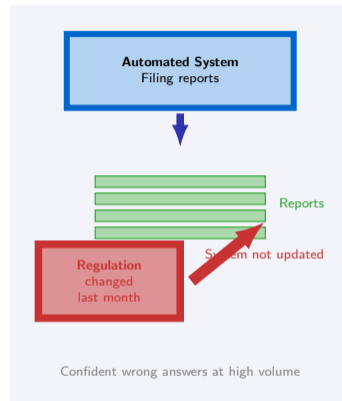
- Regulatory reporting automation relies on mapping rules that encode current regulations
- When regulations change, mapping rules must be updated manually
- If rules are not updated, system continues filing reports based on outdated logic
- Automation masks the problem: reports are filed on time and look correct
- Regulator detects non-compliance weeks or months later
- Institution faces penalties despite having automation in place

## Why this is worse than manual processes:

- Manual analysts notice when forms or requirements change
- Automated systems produce confident wrong answers at scale
- Speed of automation means more bad reports filed before detection
- Trust in automation reduces human oversight that would catch errors

## The lesson:

- Automation without governance is risk amplification
- Regulatory change management must be as automated as reporting itself



## Core Insight

Automation produces wrong outputs confidently and at scale unless regulatory change management is equally automated.

An automated system filing reports based on a regulation that changed last month

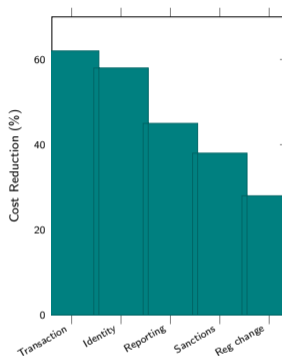
# Where is RegTech reducing compliance costs the most?

## Largest cost reductions by category:

- **Transaction monitoring:** False positive reduction saves analyst time
  - Manual review cost: twenty to fifty per alert
  - Sixty to seventy percent reduction in alert volume via ML
- **Identity verification:** Automated KYC eliminates manual document review
  - Onboarding time: days to minutes
  - Staff cost reduction: fifty to sixty percent
- **Regulatory reporting:** Continuous pipelines replace quarterly fire drills
  - Eliminates restatement penalties
  - Frees analysts for exception handling
- **Sanctions screening:** Real-time automated checks vs manual batch reviews
- **Regulatory change tracking:** NLP reduces legal research time

## Total potential savings:

- Large institutions: thirty to sixty percent reduction in compliance cost
- Payback period: one to two years after implementation



Transaction monitoring and

identity verification deliver highest ROI due to volume and labor intensity.

## Core Insight

Automation delivers highest value where tasks are high-volume, repetitive, and rules-based, not where judgment is required.

**Cost reduction follows labor intensity: automate the bottleneck, not the judgment.**

# Who benefits from compliance automation and who is displaced by it?

## Winners from RegTech adoption:

- **Large institutions:** Economies of scale amplify cost savings
- **Compliance officers:** Freed from routine tasks to focus on complex cases and strategic risk management
- **Customers:** Faster onboarding, fewer false positive account freezes
- **Regulators:** Machine-readable data enables better supervision and faster analysis
- **Technology vendors:** Growing market for RegTech solutions

## Displaced by RegTech:

- **Junior compliance analysts:** Entry-level roles reviewing routine alerts are automated away
- **Document review staff:** Manual KYC verification replaced by biometric systems
- **Regulatory reporting specialists:** XBRL automation reduces need for manual mappers

## The equity problem:

- Automation raises the skill floor: fewer entry-level compliance jobs
- Small institutions cannot afford RegTech, widening competitive gap
- Compliance becomes more technical: legal expertise alone no longer sufficient



## Core Insight

Automation shifts compliance work from high-volume routine tasks to low-volume complex judgment, displacing entry-level roles while increasing demand for technical expertise.

# Three questions to assess whether a RegTech solution adds genuine value

## The RegTech Value Test:

### 1 Does it automate the right process, or just speed up the wrong one?

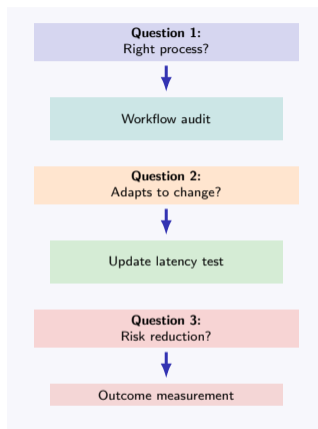
- Red flag: vendor claims efficiency gains without questioning if the current workflow is sound
- Check: does the solution change the compliance approach or just digitize existing forms
- Test: if the manual process produces poor outcomes, automation will produce them faster

### 2 Can it adapt when regulations change?

- Red flag: hard-coded rules that require vendor updates for regulatory changes
- Check: does the solution monitor regulatory feeds and flag required changes automatically
- Test: how long between regulation change and system update in production

### 3 Does it reduce risk or just reduce headcount?

- Red flag: ROI calculation based solely on staff cost savings
- Check: does the solution improve detection rates, reduce false positives, or lower error rates
- Test: measure compliance outcomes before and after, not just cost per transaction



## Core Insight

RegTech adds value when it improves compliance outcomes, not just when it cuts costs. Measure effectiveness before efficiency.

**A good RegTech solution makes compliance better, not just cheaper.**

**Choose a compliance workflow. Map the current manual steps. Identify which steps can be automated and which require human judgment.**

- 1 **Choose a workflow:** KYC onboarding, regulatory reporting, transaction monitoring alert review, or sanctions screening
- 2 **Map manual steps:** document each stage from input to output
- 3 **Classify each step:** rule-based (automate), judgment-based (human), or hybrid (machine suggests, human decides)
- 4 **Estimate impact:** time saved, error reduction, cost per case
- 5 **Identify risks:** what could go wrong if automation fails or is misapplied

### Example starter:

- Workflow: KYC onboarding for retail customers
- Steps: document upload, identity extraction, verification against registry, risk scoring, approval decision
- Automation: extract (OCR), verify (API call), score (ML model)
- Human judgment: final approval for high-risk customers, edge case handling
- Risk: deepfake bypass, false rejection of legitimate customers

### Deliverable

A workflow diagram with automation boundaries marked, plus estimated time and cost savings and failure mode analysis.

**The goal is to understand where automation adds value and where human oversight remains essential.**