

# Reporting Automation Case Study (Anonymized)

Documented workflow mirroring a production ALM reporting pipeline using synthetic data to protect confidentiality.

## Problem

- Manual ALM reporting workflows are slow, error-prone, and hard to reconcile under tight deadlines.
- Stakeholders need repeatable, validated outputs and fast what-if scenario capability.

## Approach

- Data ingestion pattern: SQL extraction to a structured snapshot table keyed by valuation date.
- Automation layer: Excel/VBA controls for refresh, computation, template population, and export.
- Validation: reconciliation checks, anomaly flags, and standardized output formatting to reduce operational risk.
- Confidentiality: uses synthetic datasets and generalized templates; methodology reflects production constraints.

## Representative Impact (from production-inspired workflow)

- Reduced report turnaround from 3-4 hours to 10-15 minutes for replication-portfolio style reporting (including export and distribution).
- Enabled weekly ad-hoc requests plus month/quarter/year-end cycles with consistent template outputs.

## Tech Stack

Excel (advanced), VBA, SQL; optional extensions to Power BI/Power Automate for workflow orchestration.

## Next Improvements

- Add logging and run-history for auditability; formalize configuration for scenario sets.
- Migrate calculations to Python for testability where appropriate while keeping Excel as the front-end.
- Automated packaging of outputs (PDF bundles) and distribution checklists.