Treasury Forecasting with Machine Learning Training Course: Cash, Liquidity and Exposure

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Muscat

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Programme Summary

Treasury forecasting with machine learning, covering cash, liquidity and market exposure, is the subject of this one-week training course for treasurers, finance directors and heads of cash management, ending in a forecast control pack for one treasury. Forecasts drive borrowing, investment and hedging, yet errors are often found only when a funding line is drawn. The programme moves from treasury data to forecast models, liquidity buffers, exposure inputs and model controls, using prepared treasury records. Mars Training Centre UK delivers this programme on treasury forecasting with machine learning to mixed-organisation cohorts.

The Business Case

Corporates, banks and public bodies hold cash across entities, currencies and accounts, and each must decide how much to keep, borrow or hedge. Leaders who can judge a machine learning forecast, see where it fails and keep a person accountable for each decision can cut idle balances and surprises.

- Forecast Error: Falls when models are tested against actual cash and bias is tracked by entity and horizon.
- Liquidity Buffer: Is set with more evidence when forecast ranges feed funding decisions.
- Model Risk: Is contained when sign-off, ownership and limits are agreed before outputs are used.

Principles and Evidence Base

- ISO 20022: The financial services messaging standard, applied in Session 1 to judge whether payment and statement data can feed a forecast.
- ISO 31000: The guidelines on risk management, applied in Sessions 3 and 4 to rate liquidity and exposure risks.
- ISO/IEC 42001: The management system standard for AI, applied in Session 4 to set ownership of treasury models.
- NIST AI Risk Management Framework: A voluntary framework for managing AI risk, applied in Session 4 to test bias and error in model outputs.

Intended Participants

- Treasurers who own cash positions, funding lines and the forecasts behind them.
- Finance directors who approve liquidity buffers and hedging policy.
- Cash management and treasury operations leads who prepare and reconcile forecasts.
- Risk and model governance leads who review analytics used in financial decisions.

Typical settings include corporate treasury, banking, energy and public sector finance.

Learning Outcomes

1. Participants will be able to evaluate treasury data for completeness, timing and fitness for forecasting.
2. Participants will be able to compare machine learning and conventional cash forecasts by error and bias.
3. Participants will be able to construct a liquidity buffer view from forecast ranges.
4. Participants will be able to diagnose weak inputs to exposure and hedging decisions.
5. Participants will be able to prioritise controls over model outputs by risk and ownership.
6. Participants will be able to justify a forecast control pack to a finance committee.

Programme Structure

Day 1: Treasury Forecasting with Machine Learning Foundations

Which treasury decisions can a forecast model support?

- Treasury Decision Inventory
- Cash Data Readiness Check
- ISO 20022 Data Fit Review
- Forecast Horizon Map
- Model Candidate Shortlist

Day 2: Cash Forecast Models and Accuracy

How is a machine learning forecast judged against actual cash?

- Baseline Forecast Comparison
- Error and Bias Table
- Entity and Horizon Accuracy Grid
- Feature Review for Cash Drivers
- Forecast Override Log

Day 3: Liquidity Buffers and Funding Choices

How do forecast ranges set buffers and funding lines?

- Forecast Range Reading
- Liquidity Buffer Calculation
- Funding Line Usage Review
- ISO 31000 Liquidity Risk Rating
- Investment Placement Screen

Day 4: Exposure Inputs, Controls and Oversight

Who is accountable when a model output is wrong?

- Currency Exposure Input Check
- Payment Anomaly Screen
- NIST AI Risk Management Framework Mapping
- ISO/IEC 42001 Ownership Review
- Human Sign-Off Protocol

Day 5: Forecast Control Pack for One Treasury

Do the findings join into a pack a committee can approve?

- Applying the Session 1 Data Readiness Check
- Testing the Session 2 Error and Bias Table
- Checking the Session 3 Buffer Calculation
- Reviewing the Session 4 Sign-Off Protocol
- Completing the Forecast Control Pack

Methodology

The programme is a data workshop built on prepared cash, payment and exposure records for a corporate group and a regional bank. Participants compare forecasts, read error tables, set buffers and test controls, then defend a pack to peers acting as a finance committee.

- Suggested activity: Comparing a baseline and a machine learning forecast for three entities.
- Suggested activity: Setting a liquidity buffer from a forecast range.
- Suggested activity: Reviewing a prepared model output for bias and agreeing who signs it off.

Capstone Output

Each participant completes a forecast control pack for one treasury. It holds the data readiness check, an error and bias table, a buffer calculation, an exposure input review and a sign-off protocol. At work it goes to the finance committee for approval and sets the routine for reviewing later forecast models.

Frequently Asked Questions

Is treasury forecasting with machine learning training suitable for finance leaders who are not data scientists?

Yes. Treasury forecasting with machine learning is taught through prepared treasury records and templates. You need responsibility for cash, funding or financial risk, but no programming or statistics background.

Which standards does treasury forecasting with machine learning rest on in this training?

Treasury forecasting with machine learning here rests on ISO 20022, ISO 31000, ISO/IEC 42001 and the NIST AI Risk Management Framework, each applied to a data, risk or ownership decision.

How is the control pack from treasury forecasting with machine learning training used at work?

You take the forecast control pack to your finance committee, use its buffer calculation to set liquidity limits, and keep its sign-off protocol as the routine for later models.

How does treasury forecasting with machine learning differ from a programme on treasury risk management?

Treasury forecasting with machine learning concentrates on judging and controlling model-based forecasts of cash and exposure, while a programme on treasury risk management concentrates on policy, limits and hedging instruments.