China Construction Bank (Europe): Machine Learning Optimisation Enhances Transaction Monitoring Accuracy

The Opportunity

China Construction Bank (Europe), a Tier 1 global bank, uncovered weaknesses in its transaction monitoring system, including low true matches for suspicious transactions, missed alerts, and high false positives.

Key opportunities included improving accuracy by reducing missed suspicious alerts, lowering false positives to minimise inefficiencies, and optimising system effectiveness by addressing the root causes of incorrect alerts.

The Solution

Reducing False Positives and Improving Accuracy with Data-Driven Transaction Monitoring

Beyond was engaged to address these transaction monitoring issues through a data-driven approach. The solution included:

1. Stress-testing and data analysis: The synthetic data output from the system was stress-tested to hypothesise the causes of incorrect alerts and explore why the system was underperforming.

2. Machine learning and data mining techniques: Beyond built machine learning models and applied data mining techniques to identify the root causes of the system's weaknesses. This included diagnosing issues related to floating-point representation and rounding operations, which were causing the errors.

3. System tuning recommendations: Based on the insights, precise recommendations were made on how to effectively tune the transaction monitoring system to improve accuracy and efficiency.

The Results

The engagement with China Construction Bank (Europe) led to significant improvements in their transaction monitoring system:

1. No incorrect predictions: After implementing the machine learning models and system adjustments, the new models produced zero incorrect predictions.

2. 100% accuracy achieved: The system's accuracy was significantly improved, ensuring that no suspicious transactions were missed, and false positives were minimised.

3. Increased effectiveness and efficiency: The overall effectiveness and efficiency of the transaction monitoring system were enhanced, reducing operational workload and improving compliance standards.