Anti-Money Laundering
Solution Deep Dive
It’s Time to Rethink AML

Financial crime is exploding, but 99% of it goes unchecked. Transactions are ballooning, and 98% of investigations are dead ends. You invest 20% more to fix it, but regulators get tougher every year.

What if you could apply next-gen AI on top of your existing systems, to get rapid and accurate insights that dramatically reduce false positives and investigate only the truly suspicious activity? Ayasdi AML makes your alerts more accurate and false positives rare. It gives your investigators valuable context, so they can focus on what matters most: genuinely suspicious behavior.

Introducing Ayasdi AML

Symphony Ayasdi AI deploys the world’s most sophisticated machine learning technology to supercharge your detection systems and processes. Ayasdi AML gets more out of your existing data, to help you slash false positives, discover new anomalies, and control ballooning costs. Ayasdi AML creates a bridge to next-generation systems—tracking customers’ actual behavior, monitoring changes over time, and spotting emerging patterns that signal potential problems. We deliver every insight with a fully transparent audit trail, to set your mind at ease, and preserve your status with regulators.

The Challenge: Finding the Signal in the Noise

What makes AML such a difficult problem to solve is that it involves complex data, detailed workflows, and significant human involvement. The result is that the cost of compliance is increasing by as much as 50% annually, a drag on earnings for financial institutions. A current AML process generally looks like the following:

![Figure 1: A typical rule-based AML process.](image-url)
Traditional AML solutions are overwhelmed by the sheer amount of incoming data. They fail to accurately identify truly suspicious behavior and lack the capabilities to address the dynamic nature of illegal activities. As a result, as much as 95% of an investigation team’s effort is wasted.

At the heart of the problem is finding the balance between signal and noise. Too much ‘noise,’ i.e., false positives, increases investigation costs. Too little ‘signal,’ i.e., strong filtering of real suspicious activity, means a bank is exposed to regulators because they might fail to detect criminal activity.

Traditional AML methods have not scaled to contend with the current regulatory environment. Most AML processes typically have hand-coded rule patterns, known as typologies, to evaluate each transaction for each geography or type of business. Most AML triage programs use LIFO or transaction amount to prioritize investigation. Such typologies are coarse at best, and non-existent at worst.

In contrast, Ayasdi AML ensures alerts are more accurate and false positives rare. It gives your investigators valuable context so that they can focus on what matters most: genuinely suspicious behavior.

**Auto Feature Engineering**

A typical constraint for AI-based AML solutions is the data science feature generation bottleneck. In contrast, auto feature generation and selection quickly identify attributes within the data that contain signal. The solution then automatically creates new derived attributes that accelerate intelligent segmentation. This removes the reliance on data scientist resources and allows your teams to focus on data and scaling machine learning analysis.

![Image: Diagram of an augmented AML process](image)

**Figure 2:** An augmented AML process applies intelligence at key lever points to produce significantly more accurate alerts.
Intelligent Segmentation

The false-positive problem in AML is primarily a function of poor segmentation of the input data. Even sophisticated financial services institutions using machine learning for detecting AML can suffer from low accuracy and high false negatives. This is because other machine learning techniques analyze data in large groups and cannot get specific enough to segment out true suspicious behavior (segmentation).

Smart segmentation is the crucial first step for a transaction monitoring system (TMS) to accurately detect suspicious patterns, without needlessly flagging expected ones. The process falls short when financial institutions only sort static account information using pre-determined rules.

Ayasdi AML ingests the greatest volume and variety of data available—about customers and transactions—and then applies objective machine learning to create the most refined and up-to-date segments possible. The crucial difference is that Ayasdi AML assigns—and reassigns—customers to segments based on their actual behavior, revealed in their real transactions and true inter-relationships, over time.

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Figure 4: An intelligent segmentation process delivers far more granular and uniform groups, resulting in higher thresholds and fewer false positives. In addition, these granular groups catch false negatives.
Further, the more data sources available, the better the grouping that results from Ayasdi AML segmentation. More importantly, Ayasdi AML technology does not require labeled data to derive an initial segmentation. Removing the requirement for labeled data permits substantial expansion of the number of data sources, including customers of a bank’s customers (KYCC).

The Ayasdi AML approach provides complete transparency into what drives the segmentation. Ayasdi AML produces a complete documentation workflow containing simple decision trees that can be shared with internal model governance boards and with external regulators.

![Decision tree diagram](image)

Figure 5: Decision trees are excellent ways to visualize complexity for regulators and internal model review boards and are a key part of the justification step in AML.

Ayasdi AML analyses all newly arriving data, identifies changing patterns, and suggests updates to segments and rankings based on that new information. As a result, it readily identifies subtle patterns suggesting emergent behavior for consideration by subject matter experts.

**Behavioral Insights**

Because Ayasdi AML analyses customer transactions daily, it automatically generates lists of customers showing changes in behavior over time, such as:

- The customer’s behavior deviation over time, based on specified thresholds
- The changes in a customer’s behavior compared to their peers in their segment
- The movement of a customer to a different segment and the reason for it
- The deviation in customer behavior compared to the information provided during KYC
Figure 6: Behavioral segmentation provides insights to investigators about changing customer behavior

Intelligent Event Triage

Recognizing which events to investigate further and which ones to treat as routine makes all the difference for an effective compliance organization. The price of poor performance can be measured in wasted time, money and effort.

Ayasdi AML surfaces far fewer—and far more valuable—events for your investigators to consider. That’s because Ayasdi AML machine learning algorithms get continuously smarter with inputs from your subject matter experts about which patterns matter most.

Ayasdi AML analyses the output of the transaction monitoring system—a set of events—using topological data analysis (TDA) and accurately ranks them. The ranking of possible alerts is based on suspicion, according to a bank’s parameters. For example, L1 (not suspicious: close), L2 (somewhat suspicious: hibernate), and L3 (suspicious: requires investigation).

This event triage surfaces far fewer—and far more valuable—events to your investigators by removing unimportant events so they can detect problems earlier and resolve them faster. They can also focus on the highest priority alerts, thereby improving efficiency and lowering risk. Astute investigators can bundle alerts into one SAR, thus providing more context for enforcement agencies.
Iron-Clad Investigations

An alert is only as useful as the evidence available to back it up. Without the right information, instigators don’t have the context they require to track down a lead. And when they uncover a real case of money laundering, they lack the validation they require to escalate a case to regulators.

Ayasdi AML delivers this essential clear and understandable context giving investigators the ability to make defensible ‘file/don’t file’ decisions faster. Every flagged event is accompanied by a visual representation of the suspicious pattern detected. Beneath each visual, Ayasdi AML supplies the underlying relevant data of suspicious behavior to give investigators a vital audit trail.

Summary

Ayasdi AML applies sophisticated AI techniques to the mission-critical AML regulatory function, dramatically improving efficiency while simultaneously reducing regulatory exposure. Ayasdi AML provides exceptional transparency to understand how the solution operates and critical details to investigators, regulators, and law enforcement.

Financial institutions use Symphony AyasdiAI’s powerful machine learning applications to keep them as smart, agile, and fast as these times demand. They depend on our machine learning technology to help them stay in front of their next best customer, on top of their liquidity positions, and out ahead of the next fraud or cyber-attack. For the first time, financial institutions can see events as they’re happening within their transactional data—across the business and in every detail.

To find out how to leverage AI for your AML challenges contact us at sales@ayasdi.com to arrange a demonstration.
Symphony AyasdiAI

Symphony AyasdiAI, part of the SymphonyAI Group, is the world’s most advanced artificial intelligence software company. Symphony AyasdiAI helps organizations discover new and valuable insights in enterprise data, with unprecedented accuracy, transparency, and speed. Built upon over a decade of research and experience, Symphony AyasdiAI delivers insights to Fortune 500 companies and public sector organizations to capture growth, avoid risks, and manage inefficiencies. www.ayasdi.com.

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