SymphonyAI
PUBLIC SECTOR

WHITE PAPER

Exposing Financial Crime with Full Transparency

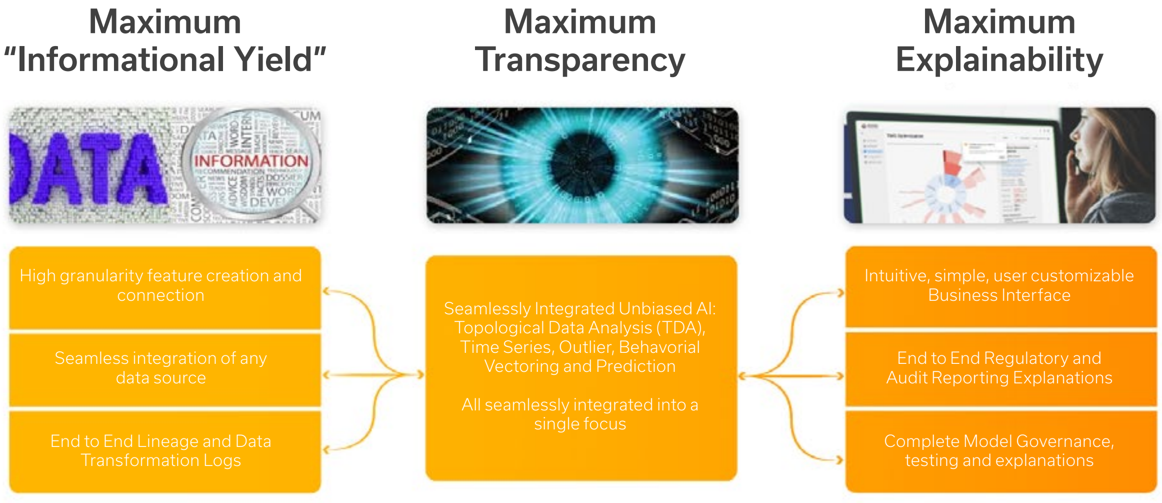
We focus on the root cause, not just the symptoms, to find well-hidden crimes

The cybercrime landscape has shifted thanks to the global impact of the Covid-19 pandemic. With huge numbers of employees forced to work from home, you could almost hear money launderers and other financial criminals rubbing their hands with glee. Not only would even more services be forced to conduct their business online, but this new global home workforce would create extra opportunities to exploit financial and enterprise cybersecurity weaknesses.

The Financial Action Task Force (FATF), a group of more than 200 jurisdictions which sets standards for dealing with money launderers and funders of terrorism, noted by May 2020 how the pandemic dramatically changed how businesses, governments, and other organizations conducted their online financial operations. The FATF said that the economic uncertainty driven by "high unemployment, business insolvency, and disruptions in global trade patterns" drove governments to create enormous emergency financial aid programs.

The combination of governmental financial support and increased online and remote banking has led to a spike in financial fraud. Heightened risks made it harder to comply with requirements to combat financing terrorism (CFT) and deploy anti-money laundering (AML) technology, especially in relation to customer identity verification, due diligence, and tracing assets converted into less transparent and less traceable forms.

With front-line workforces stretched thin, machine learning software like Symphony AyasdiAI's SensaAML™ combine topological data analysis and graph machine learning technologies to focus on the latest and riskiest criminal behaviors targeting financial institutions and their networks.



Maximum "Informational Yield"

High granularity feature creation and connection

Seamless integration of any data source

End to End Lineage and Data Transformation Logs

Maximum Transparency

Seamlessly Integrated Unbiased AI: Topological Data Analysis (TDA), Time Series, Outlier, Behavorial Vectoring and Prediction

All seamlessly integrated into a single focus

Maximum Explainability

Intuitive, simple, user customizable Business Interface

End to End Regulatory and Audit Reporting Explanations

Complete Model Governance, testing and explanations

Figure 1: Complete transparency of process for regulators and internal model review boards, but highly consumable and clear business interface.

Data-Driven Technology to Manage Clinical Variation

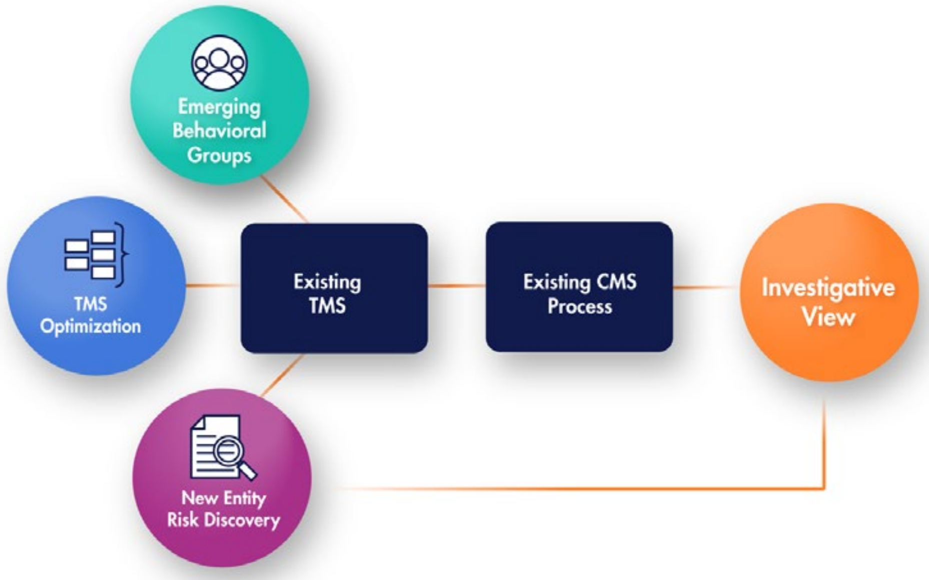


Figure 2: The augment or replace design of SensaAML™.

The high stakes of financial crime mean that an adaptive system which discovers anomalies, navigates networks, and surpasses meeting rule thresholds is crucial.

The risk of low accuracy and high false positives prove that it's not enough for financial institutions to detect AML with machine learning. Open-source machine learning can analyze large groups of data, but lacks the visibility into nuanced, suspicious behavior. For a Transaction Monitoring System (TMS) to detect suspicious patterns without needlessly flagging expected ones, smart segmentation is a must.

SensaAML™ ingests data from customers, counterparties, and transactions and filters it through our proprietary machine learning system to create data segments. Segmentation assignments are based on the behavior of data inputs, and then reassigned based on transactions and their myriad relationships over time. The end result is an agile understanding of data and its relationship to its sources. This technique quickly identifies potentially malicious data attributes, and automatically creates new, derived attributes to accelerate intelligent segmentation.

In a test overlay on a world leading TMS, SensaAML™ uncovered hidden risk at a 93% hit rate of entities that had never been investigated before. SensaAML™ reduced false positives by 60%, increased risk detection by 120%, and increased speed to risk detection by 40% with one customer's banking data. Our users report a 120% risk capture rate with five times the efficiency gain compared to other systems.

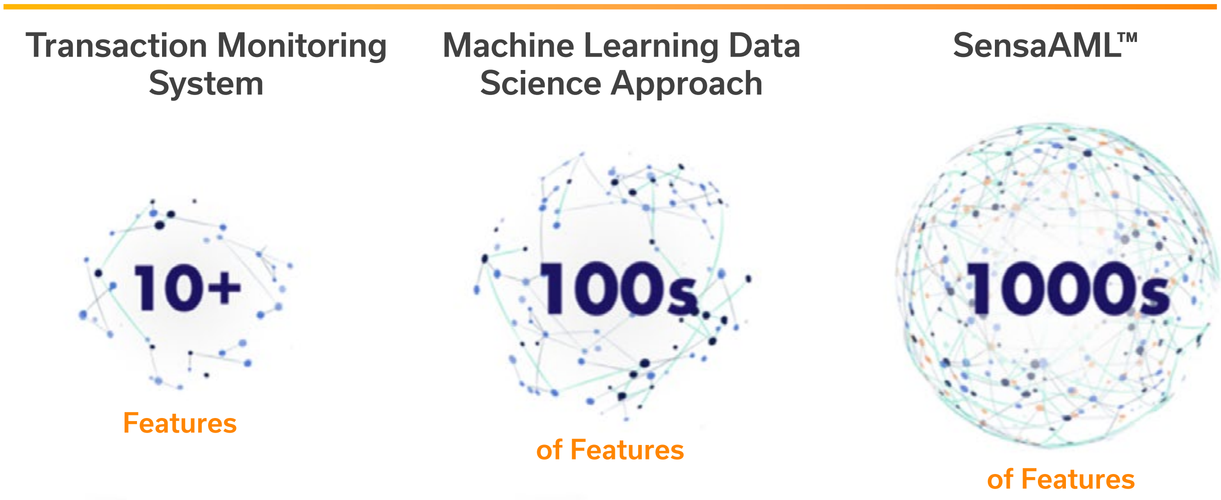

Transaction Monitoring System
10+
Features
Machine Learning Data Science Approach
100s
of Features
SensaAML™
1000s
of Features

Figure 3: 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.

Our software does not require prior data labelling for segmentation. SensaAML™ uses multiple data streams to derive segmentations: the more data sources available, the more accurate the results.

This reduces the preparatory steps clients must take before deploying and makes it easier to introduce new data sources. The segmentation and documentation workflows are transparent and use simple decision trees for internal knowledge-sharing.

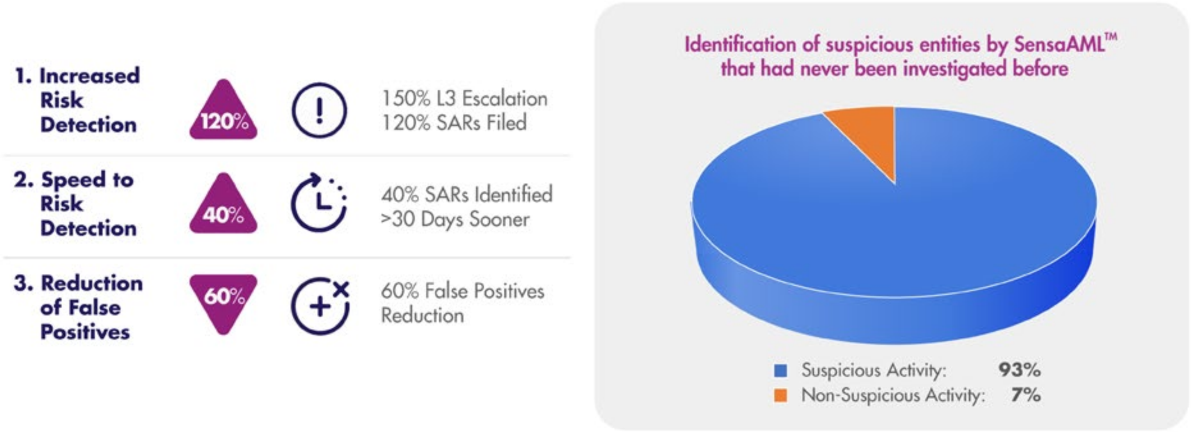


Figure 4: SensaAML™ uncovered hidden risk with a hit rate of 90% or above of entities that had never been investigated before

New entity risk detection summarizes risks in a single view, enabling instant visualization and machine or human prioritization, supported with in-depth, drillable, pre-fetched, pre-aggregated, and enriched party data. Account behaviors, credits, debits, payment histories, and payment flow visualizations are available to paint a clear picture for investigators and analysts.

SensaAML™'s daily analyses automatically capture customer behavior and issues alerts against behavioral changes over time, including:

- The customer's behavior deviation over time, based on specified thresholds.
- The changes in a party's behavior compared to peers in their segment.
- The deviation in customer behavior compared to the information provided during KYC–Deviation to "Nature & Purpose."
- Party migration between and across segments.

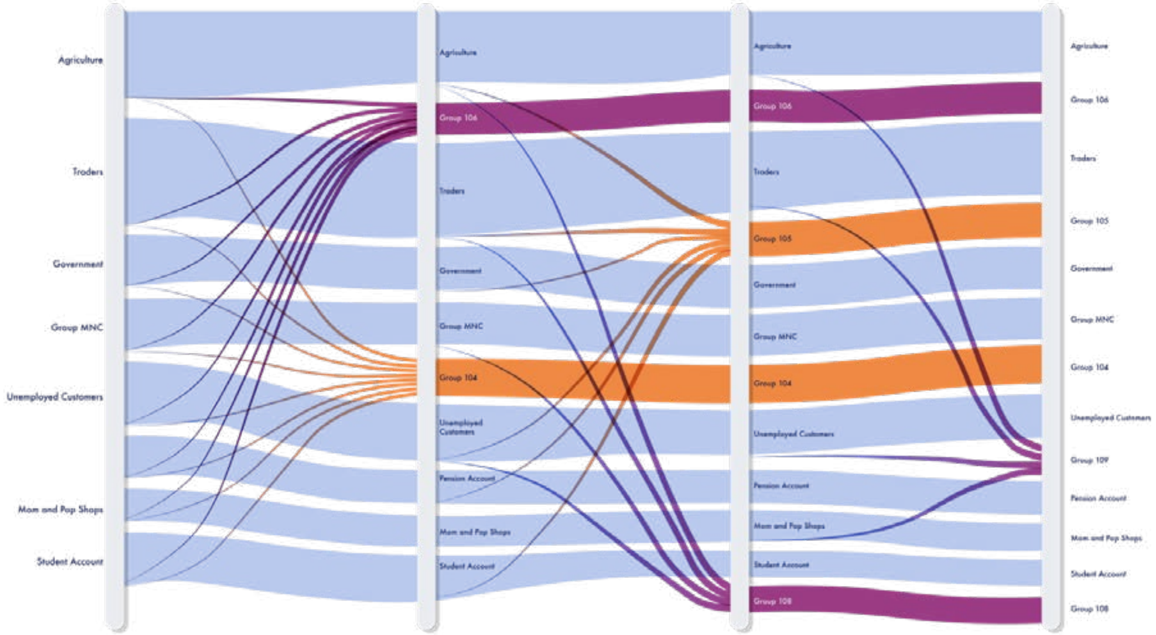
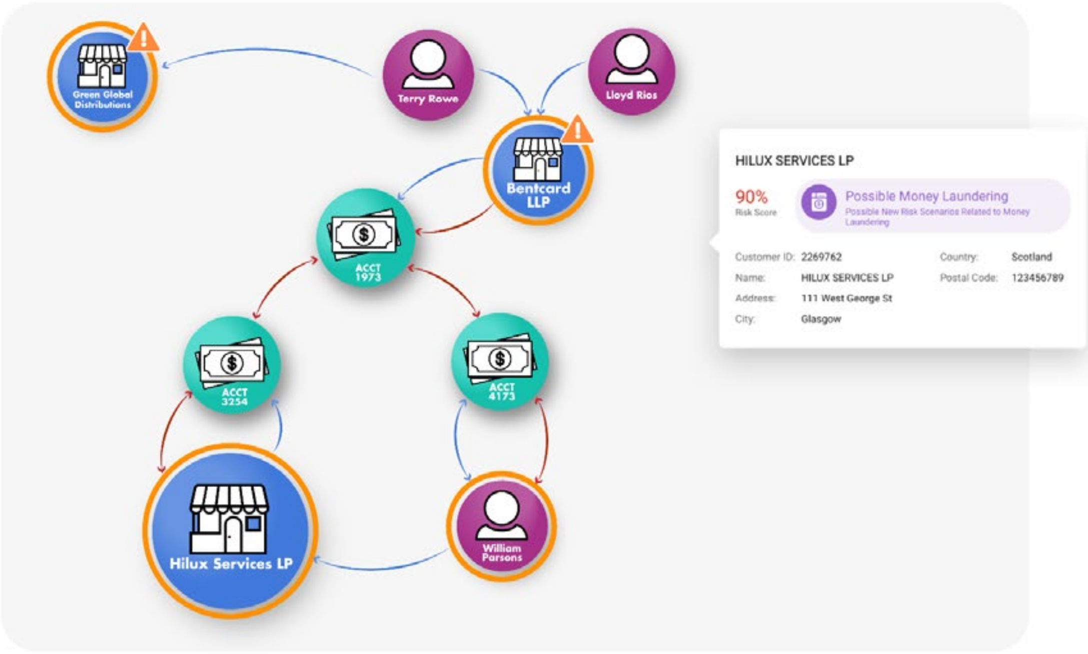


Figure 5: A diagram of dynamic behavioral adaptation and movement over time

Our multiple detection techniques are independently auditable and can be used to analyze data lineage and segmentation for accuracy. Alerts are given context for further investigation or sent to a downstream case management application or process.

The streamlined interface makes alert management easy to understand and act on at a glance. Administrators can observe risk as it flows through their networks and systems all the way down to the individual customer level, regardless of geographical location, and without encoding rules or searching for specific behaviors.

SensaAML™ is flexible and can adapt to several configurations before, after, in parallel, or as a replacement to existing TMS. It can also run all the existing rules and scenarios of existing TMS approaches to aid in the seamless transition from a rules-based approach to a new paradigm and can be deployed in the cloud or on-premises within weeks.



HILUX SERVICES LP

90%
Risk Score

Possible Money Laundering
Possible New Risk Scenarios Related to Money Laundering

Customer ID: 2269762
Name: HILUX SERVICES LP
Address: 111 West George St
City: Glasgow
Country: Scotland
Postal Code: 123456789

Figure 6: Visualization of a network of financial crime specific risk, using internal, external and transaction data

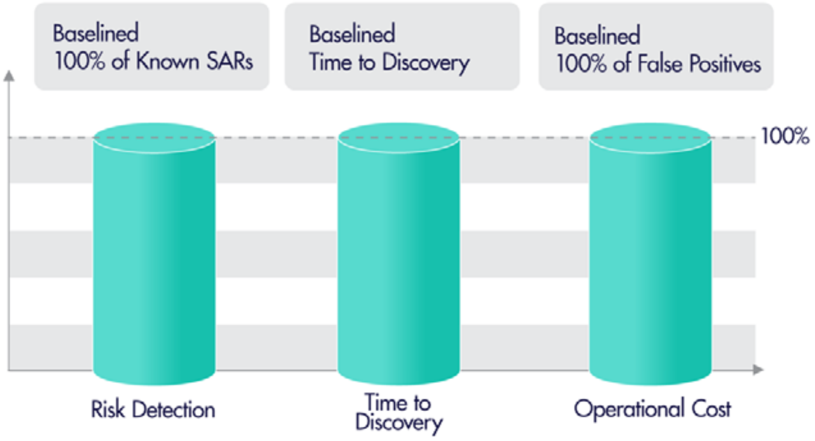
Putting AI in the hands of many

SensaAML™ is a modern software architecture designed to adapt to your enterprise deployment requirements with maximum flexibility and scalability in mind. Our adaptive data model meets your data as it is, rather than forcing it to fit our framework. We are cloud-first and elastic, able to scale up and down as needs arise, and integrate seamlessly into your system.

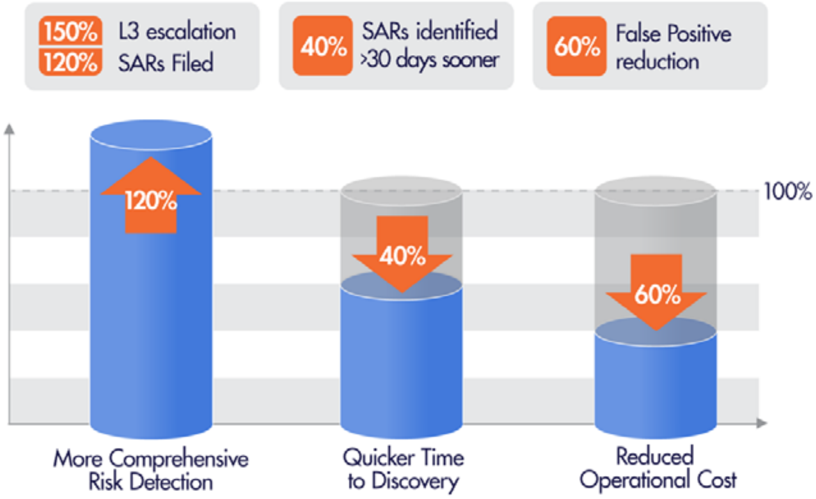
SensaAML™ – Use Case of a Global Bank

Operational efficiency and comprehensive risk coverage have been an elusive goal for financial institutions across the globe. Criminals have been able to exploit this weakness over the years with money laundering exceeding $4 trillion globally. SensaAML™ offers risk coverage not just for average money laundering, but tax evasions and crime financing schemes not covered by standard scenarios and rules. It can accomplish this while offering cost savings and operational efficiency as shown in the use case below.

Transactions of a Global Bank – Baseline



Transactions of a Global Bank – SensaAML™ Results



- **Self learning** and dynamically adaptive
- **Complete risk coverage** with supervised and unsupervised ML
- **Auditable Explain-ability** of behaviors as they emerge and evolve
- Combines **best in class** graph machine learning and TDA
- **State of the art** approach: 44 patents and growing
- **Seamlessly augment** your existing TMS, CMS, and FIU processes or replace. Your choice.
- **Radical increase** in transparency, with a sizably material improvement in efficiency and costs

About SymphonyAI

SymphonyAI is building the leading enterprise AI company for digital transformation across the most important and resilient growth verticals, including life sciences, healthcare, retail, consumer packaged goods, financial services, manufacturing, and media. In each of these verticals, SAI businesses have many of the leading enterprises as clients. SAI is backed by a $1 billion commitment from Dr. Romesh Wadhwani, a successful entrepreneur and philanthropist. Since its founding in 2017, SymphonyAI has grown rapidly to a combined revenue run rate of more than $300 million and over 2,200 talented leaders, data scientists, and other professionals.