Ray – Agentic AI AML Investigation Suite

From Cognitive AI Detection to Agentic Investigation

Automated investigations. Embedded reasoning. Analyst-controlled AI intelligence.

Why is Ray Needed

Over the past decade, financial institutions have invested heavily in improving how they **detect suspicious activity**. Advanced analytics and machine learning have increased the precision and coverage of transaction monitoring systems.

But while detection has evolved, **investigations have not**.

Today's AML teams face rising alert volumes, growing case complexity, and increasing regulatory expectations — without corresponding increases in capacity. Analysts spend most of their time gathering information and manually constructing documentation, rather than evaluating risk.

Regulators demand clearer reasoning, stronger audit trails, and consistent outcomes, leaving institutions with:

- **Mounting operational strain**
- **Growing backlogs**
- **Inconsistent decisions**
- **Rising investigation costs**
- **Increased regulatory risk**

Early AI copilots offered incremental help, but left the core investigative burden unchanged.

To truly scale AML operations, institutions need agentic execution — intelligence that can investigate, reason, and conclude.

Introducing Ray

Ray is ThetaRay's AI agentic AML investigation suite, designed to transform manual and fragmented investigations into automated, consistent decisions with built-in explainability.

Delivered as a single, unified solution- initially focused on Transaction Monitoring investigations - Ray delivers:

- **End-to-end automated L1/L2 investigations with deep, native understanding of alert context, data, and risk drivers**
- **An embedded AI Q&A assistant for analyst exploration, validation, and escalation**

Ray sits directly on top of ThetaRay's Cognitive AI detection engine, extending detection into actionable AML decisions — without disrupting existing workflows or systems.

From Detection to Decision — One Cognitive AI Continuum

ThetaRay's Cognitive AI detection engine identifies suspicious activity by analyzing behavior, patterns, and anomalies across transactions.

Ray takes the next step.

Because Ray is tightly aligned with Transaction Monitoring detection, it has intimate understanding of:

- Why an alert was triggered
- Which transactions, features, and behaviors contributed to the risk
- The customer's profile, counterparties, history, and investigative context

Ray does not treat alerts as static data points.

It treats them as **investigative hypotheses** — and executes the investigation accordingly.

Transaction monitoring identifies the risk. Ray investigates, reasons, and concludes.

What Makes Ray Different

The Only AML Solution That Unifies Automation, Reasoning, and Co-Pilot Intelligence

1. Automated L1/L2 investigation

Ray can autonomously conduct a complete Level 1 AML investigation for Transaction Monitoring alerts.

It performs the investigative work analysts typically execute manually, including:

- **Analyzes transactions, behaviors, counterparties, and geographies**
- **Evaluates KYC alignment and customer profile consistency**
- **Reviews historical alerts, cases, and escalation patterns**
- **Identifies typologies and suspicious behavioral signals**
- **Performs open-source and adverse media analysis**
- **Generates RFIs when information is missing**
- **Validates documentation and identifying inconsistencies**

Critically, Ray does more than collect facts.

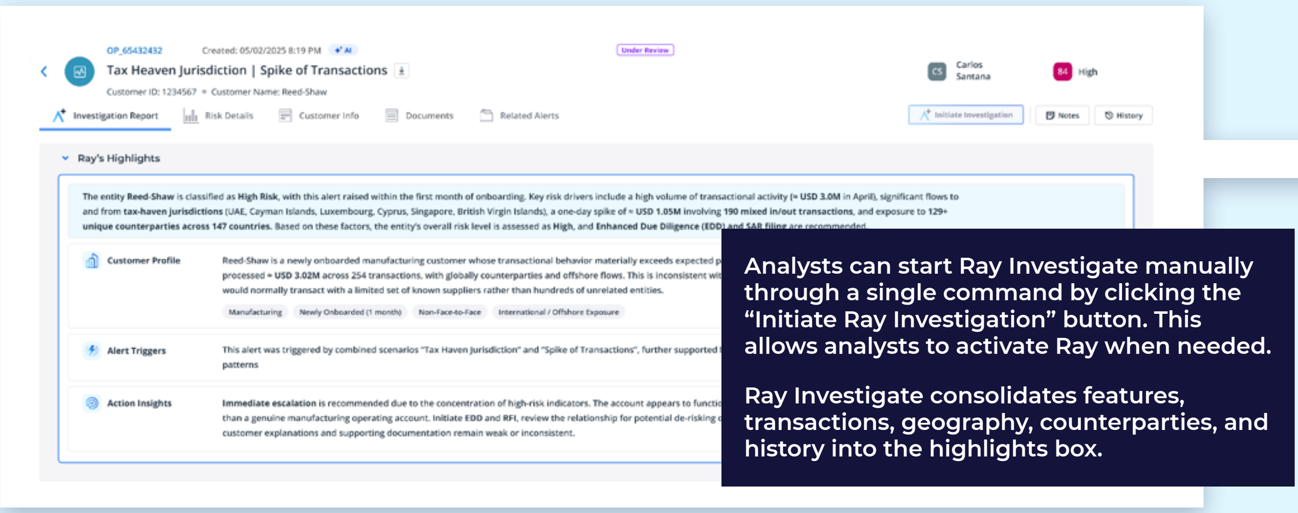
Ray **connects the dots** by:

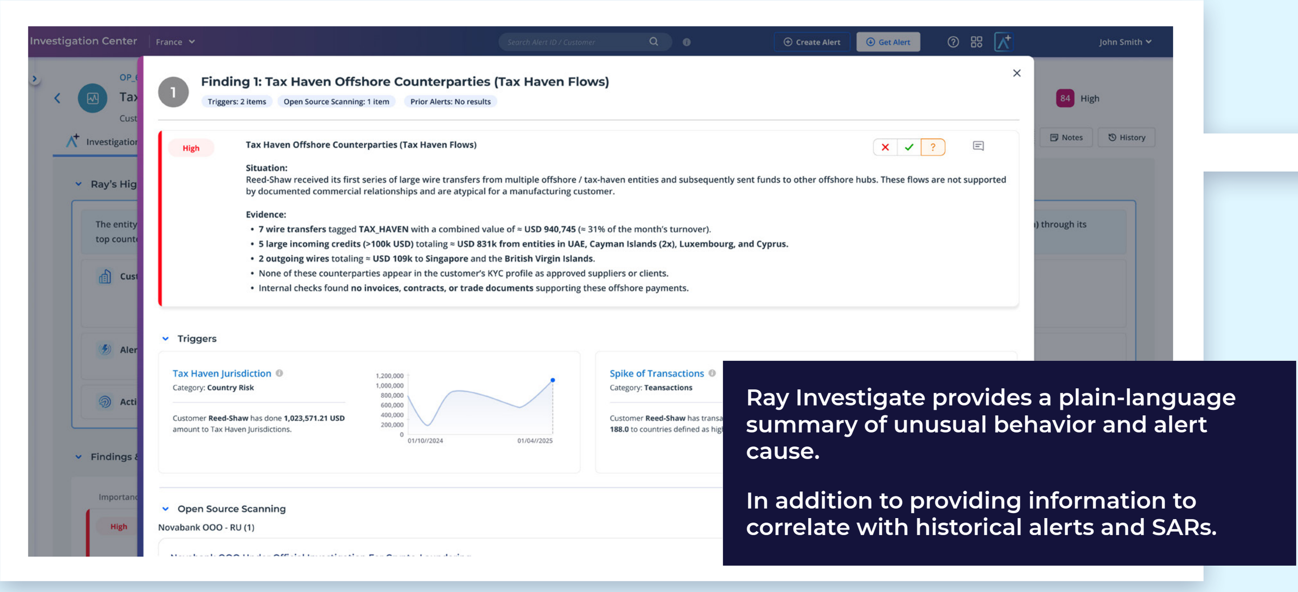
- **Converting raw evidence into structured findings**
- **Applying reasoning to determine whether each finding supports or weakens suspicion**
- **Weighing findings together to form a coherent investigative conclusion**

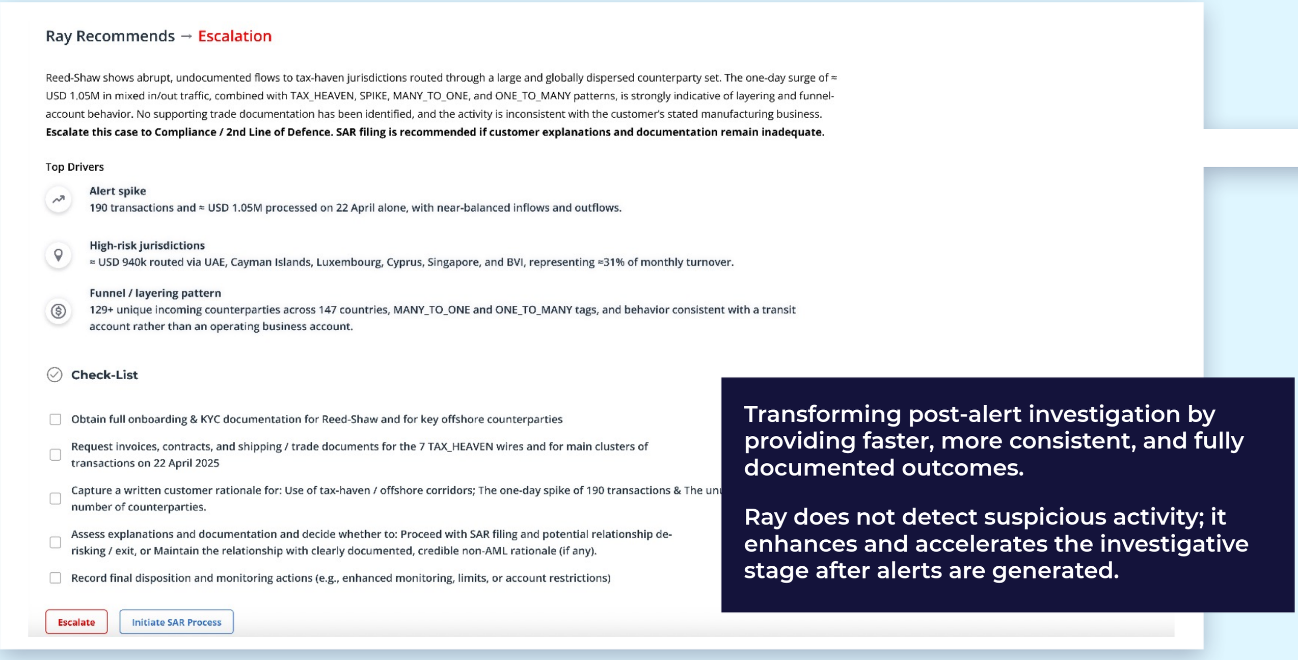
Based on this reasoning, Ray:

- **Recommends the appropriate resolution code**
- **Executes and orchestrates AI-driven investigative next steps prior to resolution (such as additional analysis, targeted data enrichment, or clarification actions)**
- **Generates SARs, including structured narratives, when escalation is required**

All outputs are consistent, explainable, and audit-ready by design.







2. On-demand AI Assistant

Alongside automation, Ray includes a deeply integrated AI Q&A assistant that supports investigators throughout the review and escalation process.

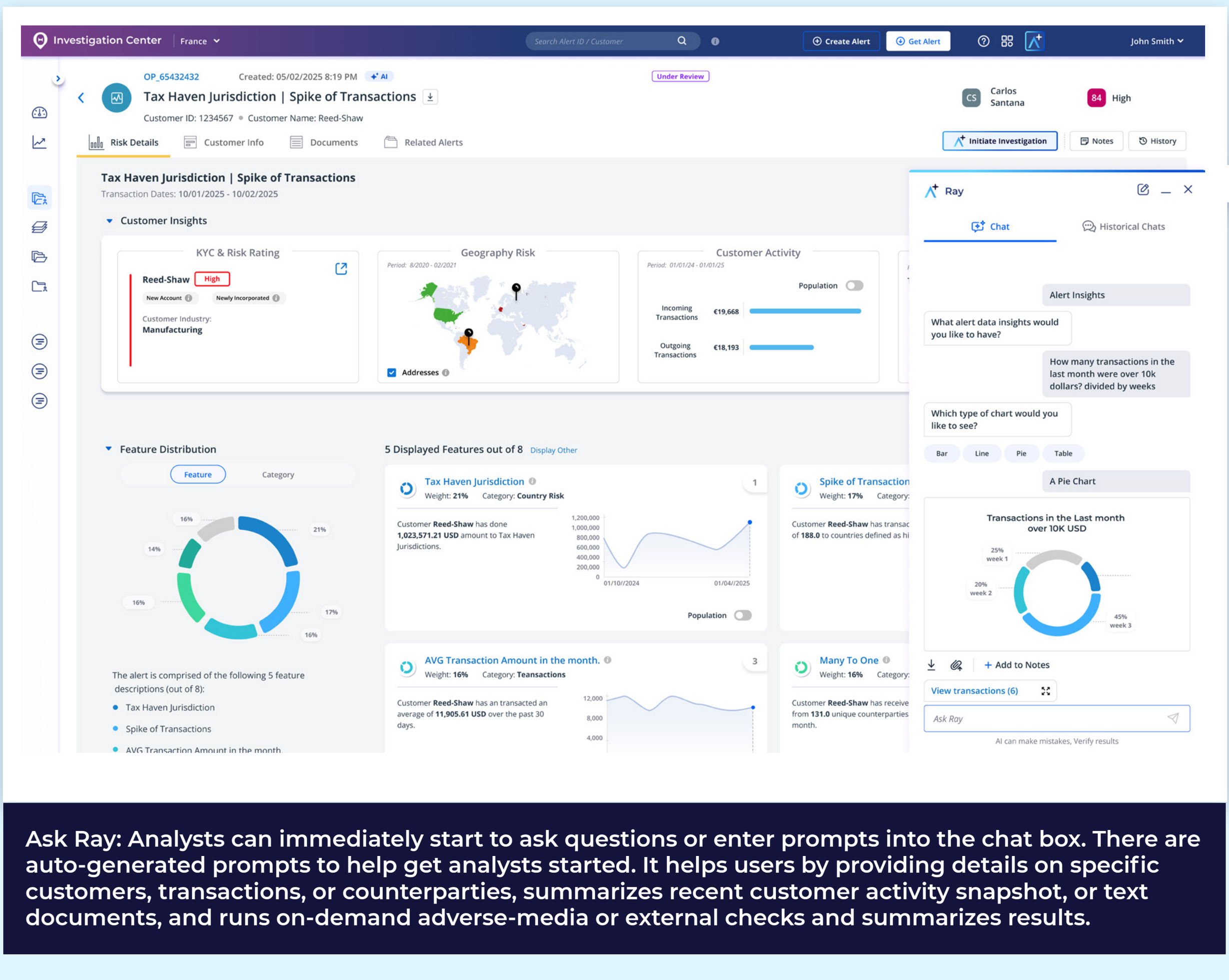
Investigators can:

- **Ask natural-language questions about the alert, findings, or reasoning**
- **Explore evidence and understand why conclusions were reached**
- **Dive deeper into specific customers, transactions, or counterparties**
- **Generate visualizations such as charts and graphs to illustrate behavior, patterns, and anomalies — and attach them directly as evidence supporting findings**
- **Support senior investigators and L2 teams on escalated cases**
- **Document summarization and translation to help investigators quickly understand supporting materials when needed**

This creates a powerful workflow where:

- **Automation handles the heavy lifting**
- **Human judgment remains in control**
- **Analyst insight and AI reasoning reinforce each other**

Ray elevates investigators from data gatherers to confident decision-makers.



Together, these two capabilities produce an equally critical outcome: investigations that are not only thorough, but also easy to understand and defend.

As part of its automated and assistant workflows, Ray can:

- Generate charts, graphs, and trend visualizations showing transaction behavior over time
- Illustrate volumes, frequencies, peer comparisons, and behavioral shifts
- Attach visual outputs directly to investigative findings as supporting evidence

These visual artifacts accelerate analyst understanding, supervisor review, and regulatory defensibility.

Evidence is not just collected — it is structured, visualized, and explained.

Designed to Fit How You Investigate

Ray is designed to adapt to each institution's AML operating model while working natively inside ThetaRay's Investigation Center.

Ray:

- **Aligns with internal investigation methodologies and policies**
- **Adapts to institution-specific data models and alert taxonomies**
- **Supports jurisdictional and regulatory variation**
- **Operates within existing investigator workflows and interfaces**

By working directly inside ThetaRay's Investigation Center, Ray:

- **Extends detection into a complete investigation experience**
- **Preserves analyst familiarity and operational continuity**
- **Enables fast adoption with minimal disruption**

Ray standardizes investigative quality and reasoning — without forcing process change or replacing existing implementations.

Operational and Business Impact

With Ray, financial institutions transform investigations from a bottleneck into a scalable AML capability — delivering:

1. **Faster investigations and reduced alert backlogs**
2. **Higher consistency across analysts and teams**
3. **Increased capacity without increasing headcount**
4. **Stronger documentation and audit readiness**
5. **Greater regulatory confidence and transparency**

Ray

The industry's first true agentic AML suite — designed to transform detection outputs into consistent, explainable, and fully documented AML investigation outcomes.

THETARAY

Request a demo today ›

Visit **ThetaRay.com** or Email **info@thetaray.com** to learn more.