# CAUSAL
# ENGINE *SUITE*

> MISSION-CRITICAL DATA PRODUCTS FOR **GLOBAL ENTERPRISE ATTRIBUTION** AND DECISION INTELLIGENCE.

� 208K EVENTS/SEC      ⚡ SUB-100MS LATENCY      ⊘ 9 PRODUCTION MODULES

## GLOBAL STATUS                                    ● SYNCHRONIZED

| **85**% | **210,381** | **9**/9 |
|---|---|---|
| HEALTH | EVENTS | NODES |

● ATTRIBUTION KERNELS **9/9 ACTIVE**

● ML COMPUTE CLUSTERS **LOCKED**

● GOVERNANCE NODES **CERTIFIED**

**LAUNCH_ALL_DEPLOYS**

## QUICK ACTIONS                                    ⟳

[ ] 　　　　[ ] 　　　　[ >_ ] 　　　　[ ⚙ ]

ⓘ     ENTERPRISE-SCALE DATA PRODUCTS
       **PRODUCTION ATTRIBUTION ENGINES**                          ⌃

■ INTELLIGENCE_SUMMARY

These are the 9 production-grade attribution engines currently deployed across Netflix, Disney+, Uber, Airbnb, and Meta. Each card represents a specialized causal inference system optimized for specific use cases.

■ TACTICAL_APPLICATION

Use this feed to monitor engine status, access performance metrics, and drill down into specific dashboards for detailed analysis of your attribution data.

■ TECHNICAL_SPECIFICATIONS

*All engines are built with shared governance layers, sub-100ms inference latency, and automated MLOps pipelines. Architecture includes real-time streaming, Bayesian modeling, and synthetic control methods.*

● OPERATIONAL

## ARTEMIS STREAMING ENGINE

*HIGH-FIDELITY INCREMENTAL MARKOV-SHAPLEY ATTRIBUTION FOR 200K+ EVENTS/SEC.*

PROJECT_KPI_TELEMETRY

**208K EPS // 87MS LATENCY**

● SECURE

## PROBABILISTIC ID RESOLUTION

*RESOLVING HOUSEHOLD ENTITIES VIA MULTI-FACTOR BEHAVIORAL FINGERPRINTING.*

PROJECT_KPI_TELEMETRY

**98.2% SIGNAL INTEGRITY**

MARKETING CFO

● CALIBRATED

## MEDIA MIX OPTIMIZER

*ADVANCED BAYESIAN HIERARCHY FOR STRATEGIC BUDGET AND CHANNEL OPTIMIZATION.*

PROJECT_KPI_TELEMETRY

**94.2% MODEL CONFIDENCE**

## EVENT ROI COMMAND

*REAL-TIME SYNCHRONIZATION FOR LIVE BROADCAST-TO-MOBILE CONVERSION SPIKES.*

PROJECT_KPI_TELEMETRY

**18.4M LIVE AUDIENCE**

## CALIBRATION TEST SUITE

*SYNTHETIC GROUND-TRUTH STRESS TESTING FOR VALIDATING CAUSAL INFERENCE MODELS.*

PROJECT_KPI_TELEMETRY

**94% INTEGRITY SCORE**

PROJECT_KPI_TELEMETRY

**42% CAUSAL REDUNDANCY**

PROJECT_KPI_TELEMETRY

**124 ACTIVE CITY ZONES**

PROJECT_KPI_TELEMETRY

**32% FASTER ITERATION**

# SYNTHETIC LIFT STUDIO

*AUTOMATED GEO-MATCHING AND COUNTERFACTUAL MODELING FOR TRUE LIFT.*

*PROJECT_KPI_TELEMETRY*

**95% CI COVERAGE**

↗

---

MISSION-CRITICAL ATTRIBUTION INFRASTRUCTURE

ⓘ  ## CAUSAL ENGINE SUITE OVERVIEW  ⌃

■ INTELLIGENCE_SUMMARY

This hub provides unified access to 9 production data products for global enterprise attribution and decision intelligence. Each module represents a specialized inference engine optimized for specific use cases - from real-time streaming to strategic budget optimization.

■ TACTICAL_APPLICATION

Use this hub to monitor all causal engines in production. Each card shows current operational status, key performance indicators, and direct access to detailed dashboards for drill-down analysis.

■ TECHNICAL_SPECIFICATIONS

*All engines share a common governance layer with sub-100ms inference latency. Attribution modules use Markov-Shapley for incremental updates, while strategic modules employ Bayesian hierarchical models.*

---

SPECIALIZED INFERENCE ENGINES

ⓘ  ### CORE ATTRIBUTION ⌃ MODULES

■ INTELLIGENCE_SUMMARY

These modules represent the foundational components of the attribution ecosystem. Each module serves a specific function in the causal inference pipeline.

■ TACTICAL_APPLICATION

Monitor individual module status, track active inference engines, and manage

| | |
|---|---|
| 📊 **BAYESIAN MMM** *ACTIVE* | 👥 **IDENTITY RESOLUTION** *ACTIVE* |
| ⚙ **MARKOV-SHAPLEY** *BASE* | 🔒 **PROBABILISTIC LINKAGE** *READY* |

**deployment configurations for each attribution component.**

■ TECHNICAL_SPECIFICATIONS

*Bayesian MMM uses hierarchical models for strategic budgeting. Identity Resolution employs GMM clustering for cross-device attribution. Markov-Shapley provides incremental credit allocation at scale.*

INCREMENTALITY API
ACTIVE

GLOBAL COMMAND
ONLINE

BAYESIAN MMM
ACTIVE

IDENTITY RESOLUTION
ACTIVE

MARKOV-SHAPLEY
BASE

PROBABILISTIC LINKAGE
READY

INCREMENTALITY API
ACTIVE

GLOBAL COMMAND
ONLINE

## SYSTEM_SYNC

*UNIFIED CROSS-ENGINE ANALYTICS FOR ENTERPRISE-WIDE CAUSAL ATTRIBUTION*

**LAUNCH COMMAND**

● CORE_SYSTEMS_ACTIVE

PROTOCOLS

PRIVACY_ENGINE

MAR_SCI_INTEL_HUIB_V4.2.1

*LAST_HEARTBEAT: 2026-01-31*
CLUSTER::VA-01-MARSCI

API_TERMINAL