



SentientIQ™ Technical Architecture Overview

System Architecture: 6-Layer Autonomous Multi-Agent Intelligence
SentientIQ™ deploys a sophisticated 6-layer architecture with 8 specialized AI agents working in coordinated harmony to transform real-time emotional signals into actionable marketing insights.

Layer 1: Data Collection

Social Data Agent

- Ingests multi-channel data streams from social media, CTV platforms, website interactions, and CRM touch points
- Performs real-time data normalization and enrichment with 81% success rate
- Processes 350+ data signals daily with automated anomaly detection
- Identifies high-intent signals with 78% average confidence

Layer 2: Sentiment Detection

Predictive Sentiment Agent

- Applies advanced NLP to perform real-time sentiment analysis across text, voice, and engagement metrics
- Maintains 88% accuracy in sentiment prediction with 76% average confidence
- Forecasts sentiment spikes/drops with 15-18 predictive events tracked
- Detects subtle emotional shifts 43% earlier than conventional analytics



Layer 3: Decision Intelligence

Budget Allocation Agent

- Optimizes cross-channel budget allocation with 67% success rate
- Dynamically redistributes resources based on real-time performance metrics
- Maintains 76% average confidence across 33+ allocation decisions
- Reduces CAC by 38% compared to traditional allocation methods

Audience Segmentation Agent

- Creates dynamic audience segments using behavioral clustering algorithms
- Performs target opportunity analysis across 12 primary vertical markets
- Identifies high-performing audience cohorts with 85% precision
- Automatically detects segment overlap and cannibalization risk

Micro Audience Agent

- Identifies and segments micro-audiences of 37 users on average
- Maintains 89% targeting efficiency and 93% segment precision
- Recognizes 143 distinct micro-segments across market verticals
- Detects segment differentiation patterns with 12% audience overlap

Layer 4: Activation

Creative Mutation Agent

- Performs A/B testing on creative assets across channels
- Generates optimized creative variations based on performance data
- Achieves 41% engagement lift through technical spec-focused content
- Adapts messaging based on audience segment response patterns



Layer 5: Sentiment-Aware Attribution & Reporting

Attribution Analyzer Agent

- Performs multi-touch attribution with 600+ touchpoint analysis
- Correlates sentiment shifts with attribution pathway effectiveness
- Evaluates fractional attribution across digital and traditional channels
- Generates contribution scoring for lead sources with 82% confidence

Layer 6: Orchestration

Orchestration Agent

- Coordinates cross-system agent intelligence with 93% confidence
- Performs consensus-based decision validation across all agents
- Identifies 92% of critical opportunities through cross-agent consensus
- Generates executive-ready strategic recommendations with transparent reasoning

System Capabilities

- ***Real-time Processing:*** Sub-20ms response time for critical lead signals
- ***Explainable AI:*** Every agent decision includes detailed reasoning and confidence scoring
- ***Human-in-the-Loop Design:*** Consensus Call interface for human approval of critical recommendations
- ***Database Architecture:*** PostgreSQL for structured data with Redis for real-time signal processing
- ***Learning Curve:*** 2-week learning period before agents begin generating recommendations
- ***Micro-Segmentation:*** Dynamic identification of high-value micro-segments with precise targeting parameters
- ***Cross-Channel Intelligence:*** Unified analysis across 15+ marketing channels and touch points



Key Technical Differentiators

1. **Multi-Agent Consensus:** Recommendations require agreement across multiple specialized agents
2. **Transparent Decision Making:** Clear visualization of each agent's reasoning and confidence score
3. **Micro-Audience Intelligence:** Identification of valuable audience segments as small as 37 users
4. **Creative Optimization:** AI-driven creative asset optimization for specific audience segments
5. **Predictive Capabilities:** Forward-looking sentiment analysis to anticipate market shifts
6. **Low Signal Requirements:** Can operate effectively with minimal data through progressive learning
7. **Cross-Layer Transparency:** Full visibility into all layers via the Agent System Architecture Map
8. **Human Oversight:** Designed for augmented intelligence with human decision-makers for critical actions

This multi-agent architecture ensures SentientIQ™ delivers intelligence that is both powerful and explainable, making it an ideal solution for marketing teams demanding both performance and transparency.