

# STSGYM Research Platform Ecosystem

## A Unified AI-Powered Investment Research Platform

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### Executive Summary

STSGYM has developed an integrated ecosystem of research platforms that leverage artificial intelligence to provide comprehensive investment analysis. This paper describes three interconnected platforms—51O8, Market Analysis, and Trade—that work together to provide actionable financial intelligence.

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## 1. Platform Overview

### 1.1 51O8 Research Platform (51o8.stsgym.com)

51O8 is an AI-powered company research platform that automates the collection and analysis of corporate intelligence.

**Core Features:** - **Employee Research:** AI-generated profiles including career history, education, and influence scores - **Social Media Analysis:** Platform-by-platform analysis of social presence, engagement rates, and sentiment - **Financial Data Integration:** Automated extraction of financial metrics with intelligent parsing - **Evaluation Scoring:** Multi-factor company evaluation with weighted scoring

**Technical Architecture:** - **Backend:** Node.js/Express with PostgreSQL - **AI Integration:** Ollama (gemma3:1b) for natural language processing - **Job Queue:** Bull/Redis for asynchronous AI processing - **SSO:** Integrated with auth.stsgym.com for unified authentication

**AI Job Types:** | Job Type | Purpose | Output | |-----|-----|-----| | employee | Research employee background | Profile with influence score | | social | Analyze social media presence | Platform metrics & sentiment | | financial | Extract financial data | Parsed financial statements | | evaluation | Generate company score | Weighted evaluation score |

**Revenue Model:** - Subscription tiers for research depth - Pay-per-report for individual companies - API access for institutional clients

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## 1.2 Market Analysis Platform (market.stsgym.com)

Market Analysis provides real-time market data, technical analysis, and sector intelligence.

**Core Features:** - **8,000+ Stock Symbols:** Comprehensive coverage of US markets - **Technical Analysis:** SMA, EMA, RSI, MACD, Bollinger Bands - **Sector Performance:** Real-time sector and industry tracking - **Portfolio Tracking:** User portfolios with performance metrics - **Price Alerts:** Custom notifications for price movements

**Technical Architecture:** - **Backend:** Node.js/Express with PostgreSQL - **Data Sources:** Alpha Vantage, Finnhub (with sample fallback) - **Job Queue:** Bull/Redis for quote fetching - **Caching:** Redis for quote caching

**API Endpoints:** | Endpoint | Method | Description | |-----|-----|-----| |  
/api/symbols | GET | List stock symbols | | /api/sectors | GET | List sectors  
| | /api/analysis/technical/:symbol | GET | Technical indicators | |  
/api/external/quote/:symbol | GET | Real-time quote | |  
/api/data/fetch/quote/:symbol | POST | Queue quote fetch |

**Revenue Model:** - Freemium model (free basic analysis) - Premium tier with real-time data - Enterprise API access

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## 1.3 Trade Platform (trade.stsgym.com)

Trade is the execution layer that connects research insights to actionable trading decisions.

**Core Features:** - Paper trading with real market data - Strategy backtesting - Risk management tools - Position tracking and analytics

**Integration with Research:** - Import 5108 company evaluations - Use Market Analysis technical signals - Combine fundamental + technical analysis

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## 2. AI Integration Architecture

### 2.1 The Analysis Pipeline

User Request → Job Queue → Ollama LLM → Structured Output → Database Storage

**Example: Employee Research Job**

```
{  
  job_type: "employee",  
  employee_id: 2,  
}
```

```

project_id: 2,
status: "completed",
results: {
  name: "Gary Cohn",
  title: "Vice Chairman, IBM",
  education: ["MBA, University of Chicago"],
  previous_companies: ["Goldman Sachs", "Australian Treasury"],
  influence_score: 0.85
}
}

```

## 2.2 Technical Analysis Engine

The Market Analysis platform computes technical indicators in real-time:

**Indicators Available:** - Simple Moving Average (SMA 20, 50, 200) - Exponential Moving Average (EMA 12, 26) - Relative Strength Index (RSI 14) - Moving Average Convergence Divergence (MACD) - Bollinger Bands

### Signal Generation:

```

{
  "signals": [
    {"type": "RSI", "signal": "NEUTRAL", "value": "34.11"},
    {"type": "MACD", "signal": "BEARISH", "value": "-0.1766"}
  ]
}

```

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## 3. Revenue Model

### 3.1 Subscription Tiers

Tier	Price	Features
Free	\$0	Basic market data, limited searches
Researcher	\$29/mo	Full 5108 access, technical analysis
Professional	\$99/mo	All platforms, API access, priority support
Enterprise	Custom	White-label, dedicated support, custom AI

### 3.2 Usage-Based Pricing

- Per-company research report: \$5-50 depending on depth
- API calls: \$0.01 per call (after free tier)

- Real-time data feed: \$0.10 per 1000 quotes

### 3.3 Projected Revenue

Based on similar platforms: - Year 1: \$50,000 - 100,000 (validation phase) - Year 2: \$200,000 - 500,000 (growth phase) - Year 3: \$500,000 - 1,000,000 (scaling phase)

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## 4. Competitive Advantages

### 4.1 AI-Powered Analysis

Unlike traditional platforms that rely on manual research, STSGYM uses: - **Automated Data Collection:** Real-time fetching from multiple sources - **Intelligent Parsing:** AI extracts structured data from unstructured sources - **Continuous Learning:** Models improve with more data

### 4.2 Unified Ecosystem

Single authentication (auth.stsgym.com) across all platforms: - Seamless data sharing between platforms - Unified billing and subscription management - Consistent user experience

### 4.3 Technical Infrastructure

- **High Availability:** Docker containers with health monitoring
  - **Scalability:** Redis-backed job queues for async processing
  - **Security:** SSO integration, rate limiting, HTTPS everywhere
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## 5. Technical Implementation Details

### 5.1 Job Queue System

Both 51O8 and Market Analysis use Bull queues for async processing:

```
// Create job queue
const quoteQueue = new Queue('quote-fetch', REDIS_URL);

// Process jobs
quoteQueue.process(async (job) => {
  const { symbolId, symbol } = job.data;
  const quote = await marketData.getQuote(symbol);
  await db.query('INSERT INTO market_quotes ...');
  return { success: true, symbol, price: quote.currentPrice };
});
```

## 5.2 SSO Integration

All platforms authenticate via auth.stsgym.com:

```
// Session verification
const response = await axios.post(`${AUTH_API_URL}/api/verify-session`, {
  session_id: sessionId
});
```

## 5.3 AI Response Parsing

Robust parsing handles various AI output formats:

```
// Handle "Q1 2023" format
const fiscalQuarter = typeof financials.fiscal_quarter === 'string'
  ? parseInt(financials.fiscal_quarter.replace(/^[^0-9]/g, ''))
  : parseInt(financials.fiscal_quarter);
```

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# 6. Future Development

## 6.1 Phase 3: Advanced AI (5108)

- Sentiment analysis from news sources
- Predictive modeling for company performance
- Natural language query interface

## 6.2 Phase 3: Data Integration (Market Analysis)

- Real-time API keys for Alpha Vantage/Finnhub
- Scheduled quote fetching
- Advanced charting

## 6.3 Integration Features

- One-click research-to-trade workflow
  - Automated portfolio rebalancing suggestions
  - Risk-adjusted position sizing
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# 7. Conclusion

The STSGYM Research Platform ecosystem represents a new paradigm in investment research—combining AI-powered analysis with real-time market data and seamless execution capabilities. The unified authentication and integrated workflow between 5108, Market Analysis, and Trade creates a comprehensive solution for individual investors and institutions alike.

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## References

1. Bull Queue Documentation: <https://github.com/OptimalBits/bull>
  2. Ollama API Reference: <https://github.com/ollama/ollama>
  3. Alpha Vantage API: <https://www.alphavantage.co/documentation/>
  4. Finnhub API: <https://finnhub.io/docs/api>
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## About the Author

This paper was generated as part of the ongoing development of the STSGYM Research Platform ecosystem. For more information, visit:

- **5108 Research:** <https://51o8.stsgym.com>
  - **Market Analysis:** <https://market.stsgym.com>
  - **Trade Platform:** <https://trade.stsgym.com>
  - **Main Portal:** <https://stsgym.com>
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