

# Psi Arena White Paper

---

## Important Disclaimer Not an Investment Prospectus for a Security

This document does not constitute or imply an investment prospectus for a security of any sort. No wording contained herein should be construed as a solicitation for investment in a security. Accordingly, this white paper does not pertain in any way to an offering of securities in any jurisdiction worldwide whatsoever. The Psi Arena platform is a future software-as-a-service product that will assist users in automating their trading.

The information set forth in this White Paper is subject to change. The information set forth below may not be exhaustive of all information that Psi Labs represents and does not imply any element of a contractual relationship. This White Paper may be updated at any time.

---

## I. Introduction

Psi Labs is on a mission to democratize systematic trading. Psi Arena is a ground-breaking product that we're developing to enable anyone to earn from developing and investing in trading strategies.

We are building a scalable real-time machine learning platform to empower legions of independent investors with effective systematic trading.

**Psi Arena is a cloud-native platform that disrupts the market for desktop trader workstations and other automated trading products.**

The product includes a comprehensive suite of technology infrastructure for running effective systematic trading (more on the technical architecture below). It enables institutional-grade automated trading for anyone, on any market, including FX, crypto (centralized and DeFi), stocks, futures and options.

---

## II. Problems

Worldwide there are more than 100 million individual consumers actively trading currencies (FX), stocks, crypto, futures and options. These people range from [Japanese housewives trading FX](#), to professional gamblers in the US who like to trade high-leverage options, to crypto "degens" and many others from all walks of life. All aspire to be effective investors by actively trading and speculating using the tools available to them.

Unfortunately the tools and data available to these consumers are inferior to those used by hedge funds and professionals. The current systematic trading landscape is fragmented and complex. Effective strategies are often exclusive to top-tier institutional investors. Consumers face significant barriers to entry including lack of knowledge, high costs, and limited access.

The systematic trading hierarchy can be divided into three tiers:

# Context - The Systematic Trading Hierarchy



The Psi Labs team have broad and deep experience building automated LFT & HFT infrastructure for Tier 1 and 2 organizations

## Tier 1 - 10-50\* Leading AMMs\*\*, Funds, Prop Traders

Citadel, Virtu, DRW (Cumberland), Jane St, Flow Traders, Susquehanna, IMC, XTX, Two Sigma, HRT, Quantlab, Optiver, Vivienne Court, Renaissance, DE Shaw, Point72, Bridgewater, KCG, Goldman Sachs, Morgan Stanley, UBS, ...

## Tier 2 - 1,000-10,000\* Systematic, Hybrid & Multi-Strategy Funds

Hedge funds, proprietary trading firms, and other organizations engaged in systematic trading

## Tier 3 - 10M-100M\* Pro, Semi-Pro & Retail Individual Active Traders

Systematic and speculative traders engaged in day-trading, robot trading and other forms of active trading

\* Estimated number of organizations or individuals in each tier, globally \*\* AMMs - Automated Market Makers

The major problem confronting the consumers in Tier 3 is that they do not have access to effective strategies or to the rarefied talent, tools and data needed to develop them. This is the process used by Tier 1 institutions to develop and run systematic trading strategies:

## The Problem

The process used by Tier 1 institutions to develop and run systematic trading strategies is highly artisanal, iterates slowly, is high cost, poorly automated and inaccessible to most investors.

Psi Labs are building an accessible and scalable technology platform to automate and accelerate this loop, enabling anyone to own, evolve and run new trading strategies.

### Idea Generation

Generate hypothesis informed by analysis of market behavior

### Mutation

Refine hypothesis informed by trading performance, P&L

### Documentation

Write or revise a quantitative math paper, peer review with quants

### Production

Run model in live trading system, allocate capital, manage risk

### Implementation

Implement model in code using proprietary frameworks

### Back Testing

Simulate model execution, tune model parameters



"Race horses and trading strategies can be owned, evolved and run." Just not by anyone. To subscribe to a leading hedge fund you most likely need to be an accredited investor, invest a minimum subscription of millions of dollars, and accept a lock-up period of as much as a year.

The gap between the financial elite and consumers is well recognized, and a number of products have sprung up to address it, particularly in crypto. (Psi Labs co-founder Huw Rogers published a roundup of current products in the consumer automated trading space in his newsletter [The Trading Chronicle](#)). But current products suffer from a large number of serious deficiencies:

## Limited to a Single Asset per Strategy

Many products in this space host strategies that trade a single asset based on an "indicator" or "advisor". These strategies are driven by "bars", running every few minutes (or at best, seconds). Indicators rely on technical analysis of price charts. Such products are mostly incapable of market making, and completely incapable of arbitrage, pairs trading or other multi-asset strategies. Platforms that are indicator-driven and single-asset are unfit for effective systematic trading.

## Black Boxes

Many products host a fixed menu of a handful of "black box" trading strategies. These are canned implementations that cannot be inspected or customized. The performance of these strategies is also opaque. "Trading Bots" are often marketed at fixed fees with enticing visual imagery reminiscent of trading card video games. This is not how anyone should responsibly choose a trading strategy.

## Single Asset Class

Most products do not permit re-targeting a strategy from one asset class to another, for example from FX to Crypto. A genuine multi-asset-class framework would facilitate re-purposing strategies across asset classes.

## Opaque Performance

Basic information that a competent investor would require from a prospective trading strategy is usually unavailable. Such key metrics include the Sharpe Ratio, Maximum Drawdown, Assets under Management, ROI over various time periods, etc.

## Slippage

Many current products disregard the risk of [slippage](#) and do not assess depth of market during trading.

## No SLAs & High Latency

[Low latency](#) is key to effective trading performance, yet almost all the products available neglect to provide any visibility or assurance of this. Institutional-grade products will provide SLAs for availability as well as latency, jitter (the volatility of latency) and throughput (the volume of order flow).

## Risk of Over Trading

Many of the strategies offered by existing products trade unnecessarily and frequently without regard for trading costs and slippage. These costs often overwhelm any theoretical profit from trading.

## Copy Trading & Front Running

Many products offer copy trading. This is implemented by having followers copy a leaders' trading. Followers submit orders once leaders' orders have been filled. In this model the leader explicitly "[front-runs](#)" the follower. This poses numerous problems for followers, not the least of which is that the leader may well be using their following to amplify market impact and can easily trade via other accounts to profit from that knowledge. Multiple users running the same strategy would not experience this delay in copying a strategy author - they would originate orders simultaneously, and strategy authors in the Psi arena are not able to front-run their followers.

## Weak Risk Management

Many current products run with reckless disregard for basic position keeping, pre-trade and post-trade risk management.

As an example, "maximum notional value per second" is one of a number of common pre-trade risk filters for institutional trading that protects against a type of potential software bug in trading strategies. These types of protection are frequently missing from current products.

Concentration and liquidity risks are generally completely disregarded.

Needless to say, trading without solid guard rails is inadvisable.

## Weak Command and Control

Running automated strategies requires effective command and control. Investors should be able to configure alerts and actions, with good defaults. A basic action required to protect against market crashes is "stop all trading, close all positions", which should execute swiftly and responsively. Many products do not have such a feature (market-side stop loss orders are insufficient for this purpose).

## Incapable of Portfolio Optimization

Most current products are entirely incapable of automated portfolio optimization and rebalancing.

## Incapable of Order Routing

Most current products are incapable of routing orders or inter-venue arbitrage. Trading power is not monitored or managed.

## Incapable of Treasury Management or Inventory Rebalancing

Few if any current consumer products assist with treasury management or inventory rebalancing, which are key to sustaining systematic trading on multiple markets over long periods.

## Low Frequency

The few "quant"-focused products in the space are limited to a style of investing that is intrinsically low-frequency and latency-insensitive - ingesting large quantities of data, applying AI/ML, developing an investment decision, then executing it. Back-testing is highly compute and data intensive. Trading is infrequent. Holding periods are long. This style of investment is not well-suited to consumers.

Consumers generally prefer to trade more frequently and with a greater risk appetite, with potential for faster returns. They need products with assured low latency that are capable of running latency-sensitive strategies.

## Insufficient Data

Many of the products do not provide access to “tick by tick” market data, and do not include high-performance time-series databases. High-quality reference data and high-resolution real-time data are essential to effective systematic trading.

## Unable to Run Unattended 24x7

Due to deficiencies in risk management, current cloud products cannot be left to run unattended. Meanwhile desktop trader workstations were never originally designed for unattended automated trading, and can only be hosted in the cloud with difficulty. Many automated traders have trouble sleeping.

## Lack of Internationalization

Most of the current products focus on one user language, usually English. There are large markets such as Japan that would benefit from a product built to be internationalized.

---

## III. Psi Arena

Introducing Psi Arena:

### The Psi Trader Unique Value Proposition



- Access investments previously reserved for the financial elite
  - AI/ML platform with real-time cross-sectional time-series analysis
  - Hedge fund style “2 and 20”, but without minimum subscriptions or lockups
  - Visible real-time performance - ROI, Sharpe Ratio, Max Drawdown, Community Reviews
  - Anyone can be a fund manager - author of a strategy
  - Allocate as little as \$100 to any strategy, de-allocate any time
- No need for a trader workstation, no need to stay awake to monitor trading
  - Sleep well with institutional-grade risk management running in the cloud 24x7
  - Command and control your investments on your phone from anywhere
- Institutional-grade automation for all
  - Low latency, tick-by-tick data, market simulation, back-testing, trading cost analysis, ...

# The Psi Labs Thesis



## The market needs a platform to democratize effective automated trading strategies

Building and running institutional-grade automated trading strategies should not require assembling teams of rarified talent - intellectually gifted quants, traders, risk managers and software developers.

No commercial supplier of trading technology covers the whole trading strategy life cycle. Specialist suppliers prioritize consulting revenues over IP licensing and encourage customization, always seeking to become indispensable and locked in. The industry is rife with custom proprietary IP and technology debt. Institutions are compelled to use an expensive mix of software from various suppliers, filling gaps with custom software development. Integrations are typically complex, rushed and poor quality. Key processes remain manual, requiring ongoing efforts by high-cost specialized staff. **Most institutional products are unfit for automatically iterating a strategy life cycle** - particularly risk management, P&L attribution and inventory management.

## The Psi Labs team are uniquely qualified to build it, bring it to market and scale adoption

Psi will be an **institutional-grade accessible platform for rapid evolution of new automated trading strategies**. Tier 1 and 2 institutions deride Tier 3 flow as "uninformed", and parasitize it. Psi will level the playing field.

## Technology Architecture

Psi Arena will include a strategy development kit, a marketplace and a strategy arena:

# The Solution - The Psi Strategy Arena



The strategy arena is a high-performance cloud platform that runs multiple strategies. Strategies are isolated from each other with the same technologies used to isolate HTML5 apps running in web browsers like Chrome. Strategies and user API keys are encrypted at rest and inaccessible to Psi Labs or other users.

Strategies are written in JavaScript, with performance assured by an underlying platform entirely written in high-performance C++. Authors will be able to combine the most popular programming language ecosystem in the world with the maximum run-time performance available short of running on FPGAs and ASICs. (Down the road we may well add [FPGA tick-to-trade](#) to the platform).

The arena provides normalized order/execution, position management, portfolio optimization, risk management, real-time tick-by-tick market data, time-series datastores, signal generators, asset and market reference data, trading cost analysis and real-time profit and loss calculation. These capabilities will be accessible from the strategies written in JavaScript.

The underlying technology infrastructure is in-process microservices with in-memory inter-service messaging. Asynchronous replication is used to ensure high availability. Data stores are columnar for time-series, relational for other structured data. Failover is automated.

## Key Features

# Key Features of Psi Trader



### AI/ML DATA PLATFORM

Leverage AI/ML to generate trading signals from advanced cross-sectional time-series analysis

### NORMALIZED MARKETS

Run any strategy on any market - including FX, centralized crypto and DeFi

### TRANSPARENT FINANCIAL PERFORMANCE & INVESTING MODEL

Observe AUM, ROI and Sharpe Ratio and re-allocate trading power among strategies at will; "2 and 20" revenue model for rewarding strategy authors and the Psi platform

### ARENA OF MULTI-ASSET & MULTI-MARKET STRATEGIES

Pairs Trading, Arbitrage & Triangulation, Market-making, and Hybrid strategies can be built and run

### INSTITUTIONAL-GRADE PERFORMANCE, FUNCTIONALITY & RELIABILITY

Low latency, pre- and post-trade risk, ultra-fast time-series columnar database, custom micro-predictors, continuous real-time portfolio optimization, high availability, observability and alerts, SLAs and SLOs

### CLOUD-NATIVE WITH MOBILE COMMAND & CONTROL

Cloud-native platform, built from the ground up to run fast and lean, with mobile app command and control

# Leaderboard & Capital Allocator

A preview of a key part of the product user experience - the capital allocator:

## Strategy Leaderboard & Capital Allocator

**Total Capital** \$1,000 USD ▾ **Period** Trailing 30 days ▾

Strategy	Author	Mkt	Rating	AUM	ROI	Sharpe	Allocation		
Arbitrageur v3	Bogdan K	USD/EUR/JPY	★★★★★	\$1.1M	30%	2.6	\$100	10%	+ -
Mkt Maker v1.1	Wolfgang M	BTC/USD	★★★★☆	\$220M	21.5%	4.0	\$220	22%	+ -
Pairs Pairs Pairs	Jack C	BTC/ETH	★★★★★	\$31M	28%	4.5	\$300	30%	+ -
...	...	...	☆☆☆☆☆	...	...	...	...	...	+ -
...	...	...	☆☆☆☆☆	...	...	...	...	...	+ -
Sketchy Scalper	Phenom X	LINK/USD	★☆☆☆☆	\$5K	-41%	N/A	\$0	0%	+ -

## V. Roadmap and Milestones

We have set a clear roadmap to guide our progress, focusing on achieving key milestones that align with the development of the Psi Labs platform. This roadmap will ensure transparency, accountability, and efficient allocation of funds from the pre-sale.

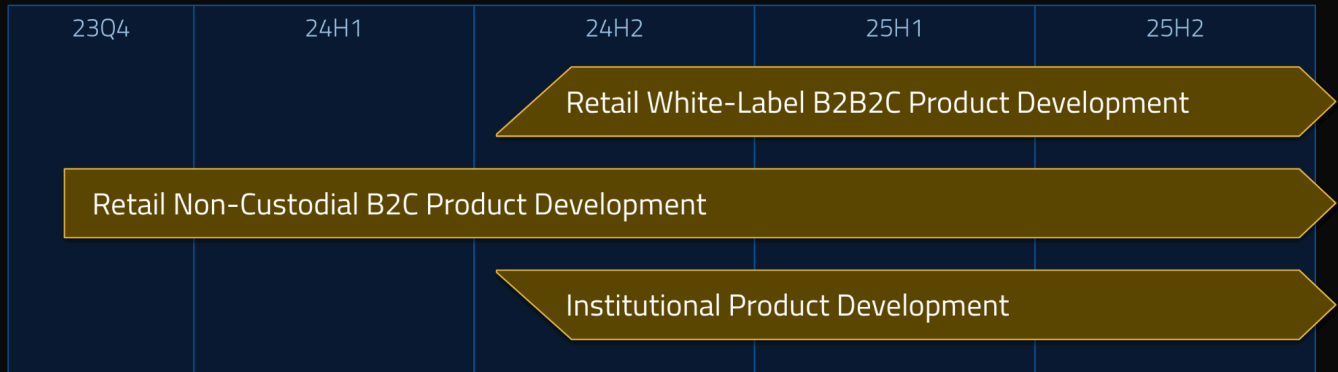
The roadmap has embedded optionality - diversifying from the retail non-custodial product to include a retail white-label product and an institutional product, to de-risk growth:



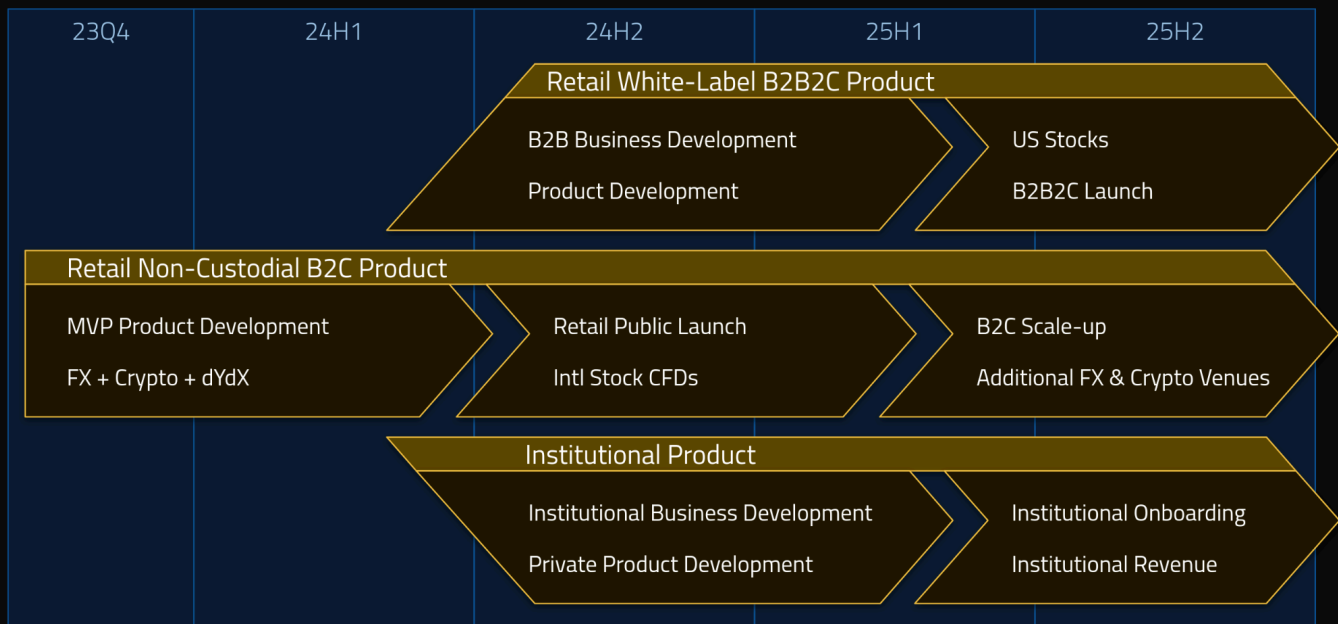
# High-Level Roadmap



- Strategy: De-risk growth by embedding optionality into the roadmap
- Retail B2B2C product can be white-labeled and integrated into broker systems
- Institutional product can be on-premises, co-located or private cloud



# Detailed Roadmap



## VI. Psi Labs Leadership Team

Our team brings together two veteran technologists who are both proven 10x developers as well as leaders who can scale engineering organizations.

Iosif Ziman and Huw Rogers have exceptionally broad and deep experience building advanced trading systems in both traditional finance and digital assets. The Psi Labs team have developed the platforms used by multi-billion \$AUM funds, ultra-low-latency prime brokers and other Tier 1 financial institutions.

## Iosif Ziman

[Iosif Ziman](#) was most recently a founding partner and CTO for multi-strategy fund BFAM since inception in 2012, reaching \$5B AUM in 2020. At BFAM he built the entire multi-asset trading platform with a 2 person team, growing from 0 to \$3B AUM, after which he scaled the engineering organization with the business. Prior to BFAM, Mr. Ziman held key technology leadership roles in Japan at Nomura, Lehman Brothers, and Dresdner Bank - building EMS/OMS and PMS/Risk platforms from the ground up for all 3 organizations.

Mr Ziman holds a BSc, MSc in Computer Science from Technical University in Cluj-Romania, a PhD in cybernetics and Statistics from Bolyai-Babes Univ in Cluj-Romania, as well as an MBA(Finance) from HKUST in Hong Kong.

## Huw Rogers

[Huw Rogers](#) is a veteran capital markets technologist and entrepreneur with an exceptional record of innovating financial technology and building trading and risk systems for Tier 1 financial institutions. Specialist in low-latency and ultra-low-latency trading, risk management and digital assets trading and settlement systems. Built and ran a multi-million \$ARR low-latency equities and derivatives trading software product business in APAC with multiple global FI customers including Goldman Sachs, Citibank, Credit Suisse and Deutsche Bank.

Mr Rogers previously led trading and settlement engineering at Paxos as Director of Engineering, was Managing Partner at Fusion Systems in HK and led R&D Special Projects at Bloomberg in NY. Holds a BSc in Computer Science and Accounting from the University of Manchester, UK.

---

## VII. FAQ

Some common questions that arise in discussions of the Psi Arena project:

**Why would anyone want to share a successful trading strategy?** Most investors are limited in the returns they can obtain from their investments by the amount of capital they can deploy. By permitting other people to invest in their strategy and collecting a 20% performance royalty, they can amplify their leverage and return with other peoples' capital.

**Why would an institution adopt Psi Arena?** Smaller institutions struggle to buy or build institutional-grade trading technology infrastructure suitable for sustained effective 24x7 systematic trading. Adopting the Psi Arena platform will enable Tier 2 hedge funds, particularly new hedge funds, to build strategies and deploy capital faster, with improved risk management and execution.

---

## VIII. Legal and Compliance

**Important: This is not an investment prospectus for a security.**

Compliance with relevant legal regulations is of utmost importance to Psi Labs.

### Eligibility

Residents of the following countries/territories/jurisdictions are ineligible to onboard to the Psi Arena platform:

Afghanistan  
Angola

Central African Republic  
Congo

Congo (Dem. Rep.)  
Cuba

Côte d'Ivoire	Mali	United States
Gaza	Myanmar	Venezuela
Guinea-Bissau	Nicaragua	Virgin Islands of the United States
Iran	Somalia	Yemen
North Korea (DPRK)	Somaliland	Zimbabwe
Lebanon	South Sudan	Crimea region of Ukraine
Liberia	Sudan	Donetsk People's Republic
Libya	Syrian Arab Republic	Luhansk People's Republic

The above list of ineligible countries/territories/jurisdictions may be amended by Psi Labs at any time.