KRYPTON

Strategic Round

Not fundraising - for historical reference only

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The information described in this document as well as referenced documents is preliminary and subject to change at any time. Furthermore, they may contain ”forward-looking statements.” It is not financial advice.

Forward-looking statements generally relate to future events or our future performance. This includes, but is not limited to, Krypton’s projected performance; the expected development of its business and projects; execution of its vision and growth strategy; and completion of projects that are currently underway, in development or otherwise under consideration. Forward-looking statements represent our management’s beliefs and assumptions only as of the date of this presentation. These statements are not guarantees of future performance and undue reliance should not be placed on them. Such forward-looking statements necessarily involve known and unknown risks, which may cause actual performance and results in future periods to differ materially from any projections expressed or implied herein. Krypton undertakes no obligation to update forward-looking statements. Although forward-looking statements are our best prediction at the time they are made, there can be no assurance that they will prove to be accurate, as actual results and future events could differ materially. The reader is cautioned not to place undue reliance on forward-looking statements.

TL;DR

What we Solve	Krypton is a novel exchange that, for the first time in finance, comprehensively eliminates adverse selection and front-running, which create the costs that DeFi users know as MEV and impermanent loss. These issues drag down profits for traders and market makers alike in both TradFi and DeFi.
How it Works	Our order-book style mechanism eliminates the profit opportunities of predatory trading and toxic order flow, rather than patching them or moving the “take” from one stakeholder to another. Without this potential profit, predatory traders don’t use Krypton. That means cheaper trading and more profitable market making for the rest of us 😎
Why Krypton	Because we’re the first DeFi protocol that’s cheaper than TradFi, we offer a unique value proposition to the institutions moving into DeFi, as well as the first real economic argument for tokenizing fungible real world assets. We’re backed by top VCs, including Framework, Hashkey, and SamsungNEXT. Our competitive moats include patented technology, highly scalable custom infrastructure, close connections to TradFi, and a deep bench of talent.

The Problem

Toxic trading creates higher costs for both institutions and individuals in both TradFi and DeFi. One study found that US retail investors lose about $34 billion per year in bad trade execution–even regulation hasn't solved it. The magnitude of the problem is even greater in DeFi. On one leading protocol, about 40% of order flow is toxic.

Hidden Cost of Free Trading? $34 Billion a Year, Study Says

- Trading on their own, academics found execution price differed
- Small discrepancies in buy-and-sell prices add up to billions

By Eva Szalay
August 22, 2022 at 9:00 AM PDT
Updated on August 22, 2022 at 11:36 AM PDT

Source: Bloomberg

INVESTING

High-speed traders cost regular investors almost $5 billion a year, study says

PUBLISHED MON, JAN 27 2020-1:57 PM EST

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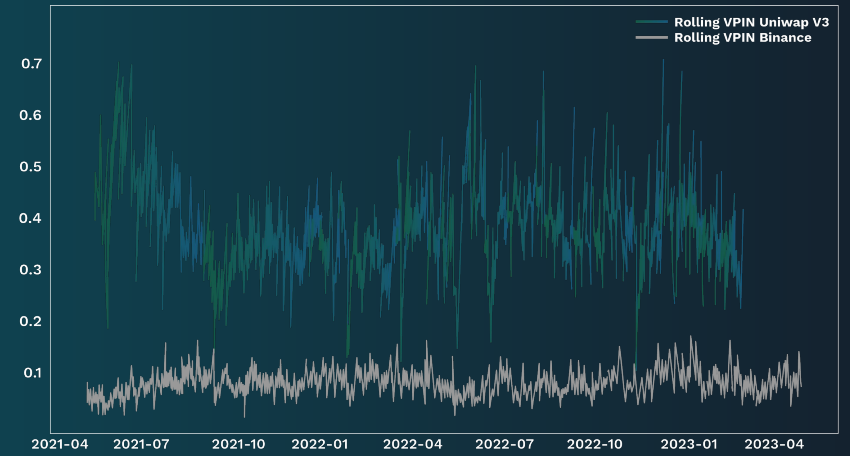
Source: CNBC



VPIN, a measure of toxic order flow (and thus risk of adverse selection) averages around 40% on Uniswap V3; i.e., four out of every 10 trades are toxic, analogous to the 2012 Flash Crash, versus one in 10 on Binance.

Our Solution? Fully Continuous Exchange

Krypton's Fully Continuous Exchange, an idea out of academia, is the first major advancement in exchange technology since the Central Limit Order Book. It offers shockingly low execution costs to traders and better profitability to market makers.

Click here to view demo!

Toxic Traders Can't Win on Krypton

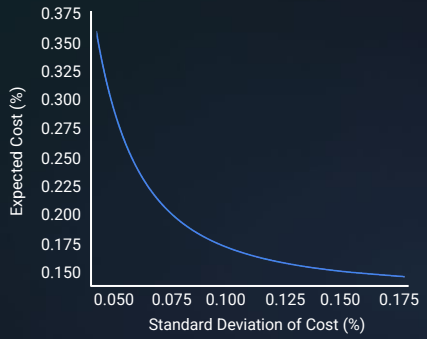
On Krypton, all trades are executed as continuous flows, which forces market participants to publicly telegraph their urgency to close a transaction before placing a trade. Market prices can respond to this information *before* arbitrage or latency advantages can be monetized.

Results

$1M WBTC Trade on Krypton

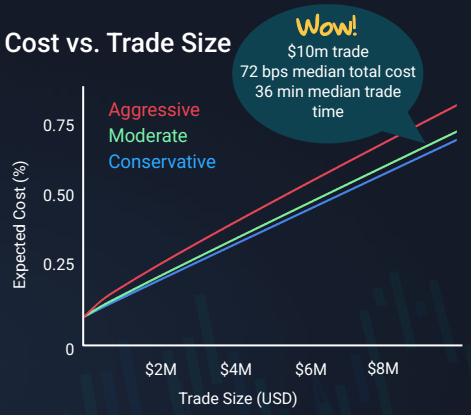
Cost vs. Speed

Expected Cost vs. Risk



Optimal Execution

Cost vs. Trade Size



Market Making
(24 hour results)

WBTC

COST OF INVENTORY

For a single Market Maker:
$1,873,424.60

For all Market Makers:
$9,367,123.00

AVERAGE DAILY PROFIT

For a single Market Maker:
$9,914,42

For all Market Makers:
$49,572.10

DAILY SHARPE RATIO FOR PROFITS

0.83

Definitions & Assumptions

Statistics are from a Monte Carlo simulation over 10,000 paths. Competition between 5 market makers and their strategic interaction with directional traders comes from an equilibrium model. Directional traders optimize expected utility from negative implementation shortfall. Market makers balance trading profits and inventory risk using dynamic stochastic optimal control theory (theta=0.05, gamma=100, n=5).

"Conservative", "Moderate", and "Aggressive" correspond to the presets on the Krypton dashboard and map into low, medium, and high aversion to execution risk. Higher tolerance to execution risk leads to slower trading speed and lower average implementation cost.

Market Making Results: Market makers have a 47 second half-life of deviations from their inventory target and directional traders exhibit moderate risk aversion.

Core Architecture

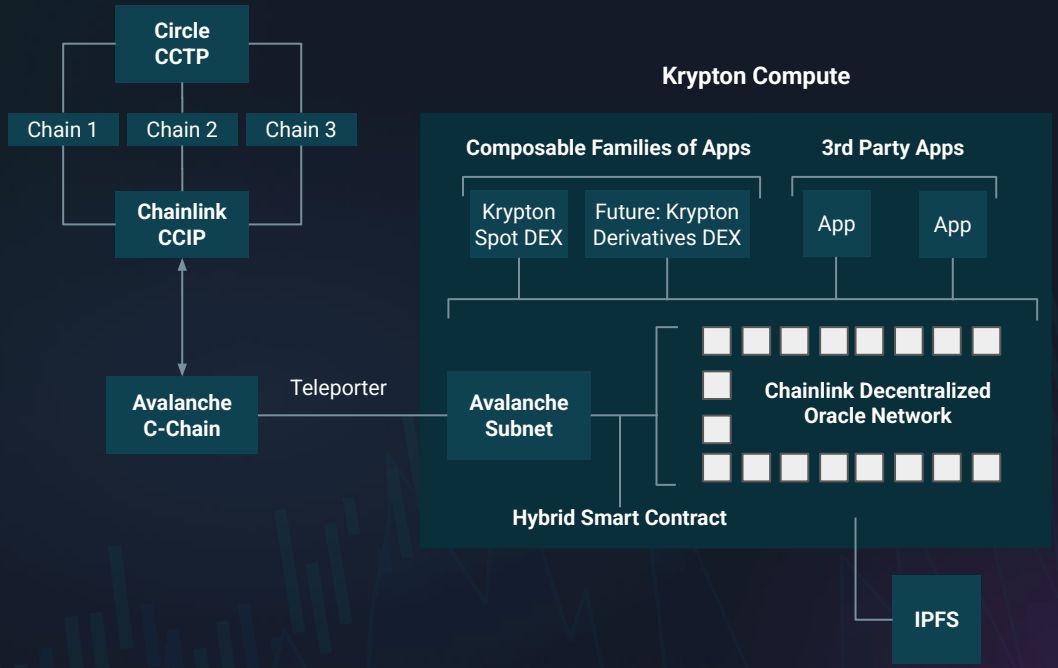
🛠️ App-specific L1

⚡ Patented, high-performance computing technology on decentralized consensus network

📈 Fully-continuous matching engine

🤝 Cross-chain functionality for the best UX in DeFi (planned for Version 2.0 in the future)

👌 Easy-to-use UI:
- Algorithmic decision support via presets
- Illuminates the consequences of trade parameter choices via predictive Monte Carlo simulation on the user's GPU



Integrated Asset Management

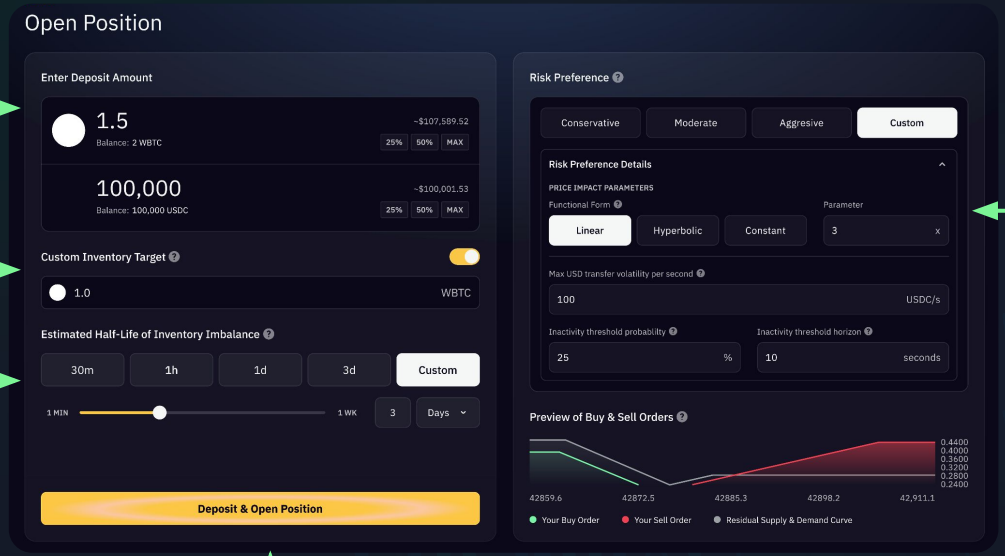
Get paid to build and manage portfolios–a first in finance history.

By combining market making activities with portfolio management, Krypton makes it possible to *get paid* to build and maintain a portfolio rather than paying transaction costs. IAM can only be found on Krypton because the mechanism is so protective of market makers.

Step 1: Go to Krypton's Liquidity page and select deposited quantities

Step 2: Select your preferred inventory target

Step 3: Select your tolerance for being away from your target (more deviation means more potential fees from market making)



Step 4: Customize the rebalancing parameters

Step 5: Enable Krypton's IAM and get paid to build and rebalance your portfolio

Total Addressable Market

Krypton is the first DeFi trading venue that offers a meaningful improvement to the economics of TradFi.
This is the critical first step in getting institutions to tokenize and trade fungible real world assets on chain, meaning our potential market is just about as big as it gets.

Asset Class and Trading Venue	Estimated Daily Spot Trading Volume
DeFi Crypto	$5 bn
CeFi Crypto	$71 bn
Foreign Exchange	$2.1 tn
Equities	$520 bn
Treasury and Corporate Bonds	$300 bn
Commodities	$50 bn
Total Addressable Market: $3 tn ~ 500x DeFi spot volume today	

Go to Market

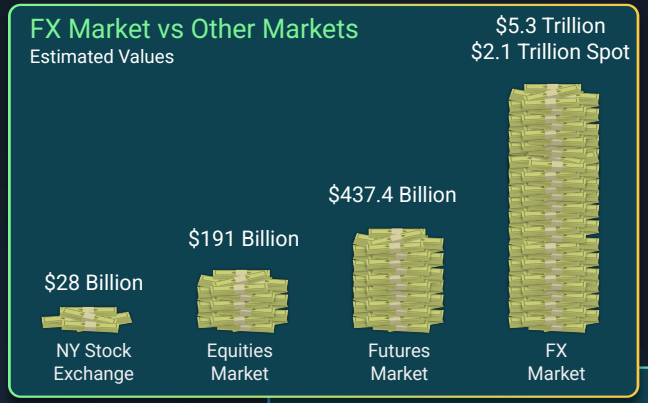
Memecoin traders have plenty of platforms to choose from.
Whales, institutions, and blue chip crypto investors should have one, too.

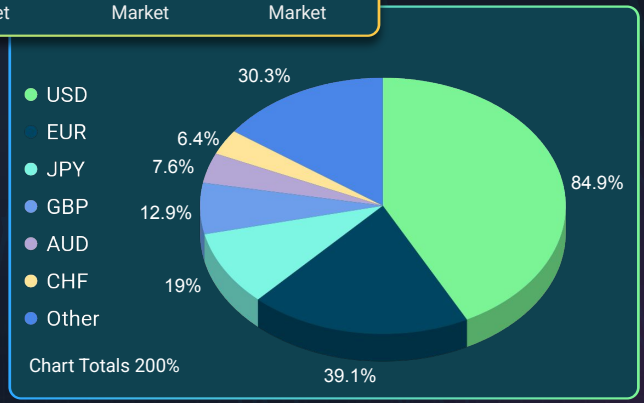
With the cheapest large volume execution and best market making profitability in DeFi, Krypton is that platform.

- Foreign Exchange of Fiat Currencies
- Liquidation of Fee Tokens for Web3 Validators/Node Ops
- Treasury Management for Web3 Protocol Entities
- Swap Functionality and Passive Yield Generation for Wallets
- On-Chain ETFs: Systematic Cryptographically Verifiable Non-Toxic Investment Strategies

Use Case 1: Foreign Exchange of Fiat Currencies

- FX is the largest markets by trading volume in all of TradFi at $5.3 trillion daily with $2.1 in spot trading.
- Stablecoins denominated in the world's fiat currencies already tokenize a wide variety on-chain (USD, EUR, GBP, JPY, CAD, …).
- Companies in the US have begun to adopt blockchains for international payments and have an FX problem (SpaceX/Starlink).
- Market participants are institutional, understand trading cost, and are highly cost sensitive.
- Institutions are comfortable receiving and exchanging stablecoins vis-a-vis regulation (in the current regulatory environment).
- Krypton is the only way to trade tokenized assets directly on chain which makes sense from a business perspective.
  -> FX on Krypton could be the industry catalyst for tokenization of other classes of real-world assets.

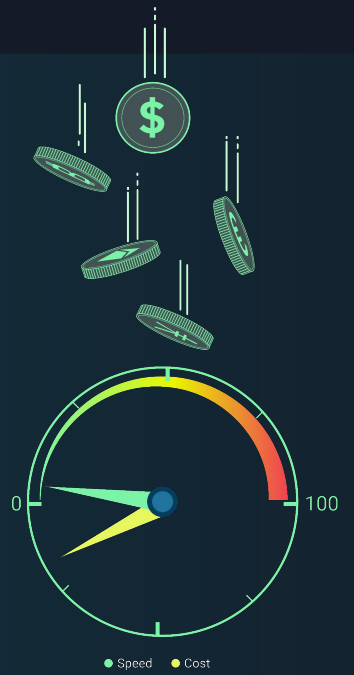




https://finance.yahoo.com/news/spacex-uses-stablecoins-collect-payments-170027463.html

Use Case 2: Liquidation of Fee Tokens/Mining Rewards

- Special case of a Forex problem involving fee tokens such as ETH or BTC.
- Miners/Validators/Node operators receive a fee token.
- Their expenses are
    - In fiat such as USD or EUR or
    - In a different cryptocurrency such as ETH or other gas tokens, e.g. for operating a Chainlink data oracle but their payment is in LINK.
- Their selling is not related to adverse information about the token
  -> Krypton allows them to credibly signal that they aren't attempting to monetize short-lived alpha by selling at a low trading speed.
- Currently, even mid-sized node operators are losing tens of thousands to hundreds of thousands in bad trade execution on CEXes.



Use Case 3: Treasury Management for Web3 Entities

- The operating entities behind Web3 projects, i.e. US corporations, foundations, or DAOs need to liquidate their endowment of native tokens to finance their operations.
- On Krypton, they can trade slowly and continuously over time
  - Signalling the absence of short-lived alpha.
  - Reducing price impact and maximizing the value of their treasury.
- Krypton's integrated asset manager (IAM)
  - Allows foundations to make markets (provide liquidity) while managing their portfolio.
  - Permits setting an inventory target that is below their current inventory with a high time-budget for Krypton to reach that target.
  - Will on average get them closer to the target but will take good deals that increase their inventory temporarily if the price is right.
  - Trade at negative cost on average by waiting for the other side to cross the spread.
  - Does not require sophisticated execution algorithms. It is all provided by Krypton.

Use Case 4: Swap Functionality and Passive Yield Generation for Web3 Wallets

- Wallets can monetize their position in the value chain by offering services such as staking, yield farming, and swapping directly in their wallet and charging a markup.
- This absolves users from finding dapps they can trust. They already trust the wallet provider.
- Swaps are typically routed to DEX aggregators such as 1inch, passing the trading cost on to the user and charging a markup.
- Integrating Krypton would dramatically lower the cost allowing wallet providers to increase the markup on each trade while still lowering the cost to their users.
- They could furthermore allow their users to opt into liquidity provision on Krypton and keep a small fraction of the profit if there is one.

Use Case 5: On-Chain ETFs - Systematic Cryptographically Verifiable Non-Toxic Investment Strategies (1/2)

- In TradFi, systematic investment strategies are offered to retail as ETFs.
- They have no alpha.
- They choose portfolio weights using signals from publicly available data and (simple) publicly known weighting schemes.
- Examples:
  - Strategies based on factor models: Value, Size, Momentum, other factor strategies.
  - Asset allocation strategies based on: Mean-variance optimization or risk parity.
- Target weights are not a discretionary choice of a portfolio manager. They are dictated by the program.
- The trading decision does not involve any private signal and is therefore non-toxic.

Use Case 5: On-Chain ETFs - Systematic Cryptographically Verifiable Non-Toxic Investment Strategies (2/2)

- In classical trading systems such as CLOBs, a market maker has no way of telling whether a particular trade is toxic or not and has to “charge” the same spread and price impact to recoup losses from toxic flow.
- Krypton allows non-toxic traders to trade at low speed thus sending a public signal that they are not trading on short-lived alpha.
- Krypton’s trading strategy framework goes one step further:
  - It can leverage the Chainlink oracle network used for computation as a data oracle for all corporate financials needed or other inputs to calculate the target weights of the portfolio without increasing cost or trust assumptions.
  - Because the exchange “knows” that demand or supply is coming from
    - A trustless, open source program.
    - Using publicly available data.
  - It can conclude that the trade flow cannot possibly be toxic and allow trading at lower cost.
  - We refer to this as **“Cryptographically Verifiable Non-Toxicity”**.

Launch Roadmap

First Order of Business: Launching a secondary market in DeFi that's better than anything you've seen before.

2022

Raised $7 mm and initiated build.

Q4 2024

Public testnet:

Exchange

Market making algo

Trade execution support

End of Q2 2025

Complete MVP

Distribution

Community building

B2B partnerships

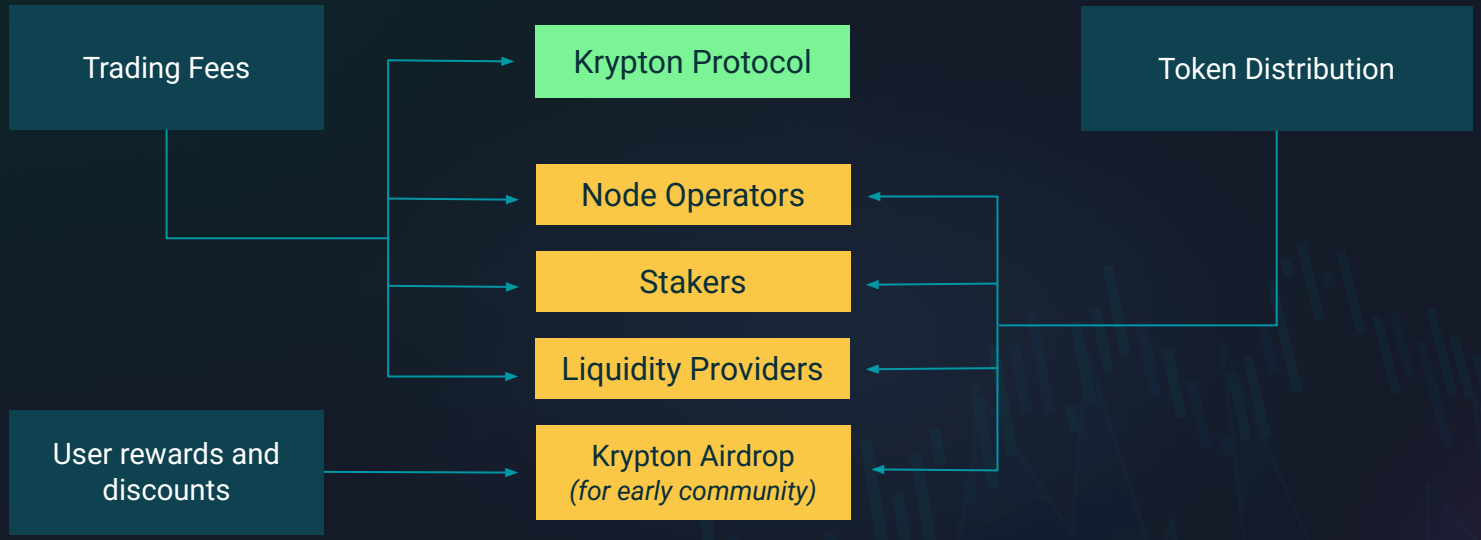
EOY 2025

Launch regulated mainnet

Prep for future TGE

Beyond the launch of our spot exchange, we have our sights set on rapidly expanding into new listings, democratizing market making, revolutionizing portfolio management, and launching a derivatives exchange 💥

Incentives // Rewards



Krypton Token

Utility

The Krypton token will be used to directly secure our off-chain oracle network (powered by Chainlink).

Rewards

Trading fees accrue to:

Krypton token stakers

Node operators

Liquidity providers during ramp-up phase

Lock-Ups

Krypton insiders subject to vesting and lock-up schedules to ensure long-term alignment.

Founders

Michael Nowotny
CO-FOUNDER AND CEO

Michael is a former professor of Mathematical Finance at Boston University, where he focused on macro-asset pricing, dynamic portfolio optimization, and stochastic processes. Prior to co-founding Krypton, he worked in quantitative asset management, where he realized that the persistent inefficiencies in markets could be solved with better solutions in DeFi. Michael earned his PhD in finance at the UCLA Anderson School of Management.

Nathan Moore
CO-FOUNDER AND CIO

Nathan has over 25 years in leading software and infrastructure teams in VC-backed startups. He has grown and exited several successful startups, including one which was acquired by MySpace. Nathan brings experienced management and skill for building teams and fostering growth. He holds an MBA from the UCLA Anderson School of Management.

Advisors

Pierre-Olivier Weill, PhD

ACADEMIC ADVISOR

Pierre advises Krypton on market microstructure and market making.

He is a Professor of Economics at UCLA. His work lies at the intersection of macroeconomics and finance. His recent research includes the analysis and regulation of Over-the-Counter (OTC) markets, the measurement of the financial soundness of U.S. firms, and the design of monetary policy in incomplete markets.

David McAllister

MARKETS ADVISOR

Dave advises Krypton on trade execution, trading experience, and research.

He is a former portfolio manager at Millennium Management with a focus on global macro credit strategies. Prior to Millennium, he was a portfolio manager at First New York Securities in credit opportunities and special situations and a managing director at Cohen & Company, focusing on corporate credit relative value. He began his career as a high yield and credit derivatives trader at Barclays and UBS, respectively.

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Research

Optimal Trade Execution on Krypton

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VPIN: The Coolest Market Metric You've Never Heard Of

DeFi Trading Mechanisms: Past, Present, and Future

Medium

More Resources

Thank you!

Please contact Michael Nowotny for more information.

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Telegram @MichaelNowotny