

# WHITEPAPER



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**PredictRAM** 

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#### WHITEPAPER

# <u>Disclaimer</u>

This document is designed solely to provide information about the PredictRAM project based on the understanding and vision of the PredictRAM team.

This document is not a contract, an agreement, an offer (including a public offer), an assurance, a guarantee, advice, recommendation, offer, or invitation to invest.

#### **ABSTRACT**

Traditional asset classes have yet to enter the transparent, censorship-resistant, and globally accessible universe of public blockchains. Geographical barriers, high transaction costs, and liquidity constraints make it hard for the average person to invest a small amount in assets like stocks and real estate. Asset tokenization has the potential to break down many of those barriers via blockchain reflections of traditional assets that are globally accessible, infinitely divisible, and cheap to transact in. We present PredictRAM, a protocol that allows anyone to issue and trade synthetic assets that track the price of arbitrary real-world assets without physical backing. PredictRAM DeFi has the potential to democratize finance by making assets of all shapes and forms accessible to anyone, anywhere in the world





## Introduction

#### **Asset Tokenization**

Tokenization is basically the process involving the conversion of physical as well as non-physical assets into the blockchain. The concept of blockchain tokenization has gained considerable popularity in recent times. Gradually, tokenization is finding blockchain applications in traditional industries such as real estate, stocks, and artwork. So, why did we need tokenization in the first place?

Basically, blockchain tokens provide a digital representation of complete or shared ownership for any entity having specific value. The common applications of blockchain tokens are evident in payments and the settlement of transactions among participants. Tokens also provide representation for multi-party ownership for indivisible assets such as artwork or a music video. In addition, tokens also provide an easier exchange of ownership of indivisible assets through a blockchain network.

#### Synthetic assets:

The term "synthetic asset" refers to a mix of assets that have the same value as another asset. Traditionally, synthetics combine various derivative products — options, futures, or swaps — that simulate an underlying asset — stocks, bonds, commodities, indexes, currencies, or interest rates. Synthetic assets are essentially tokenized derivatives

By using blockchain, the underlying technology that publicly records transactions on an immutable ledger and allows bitcoin to remain secure and traceable, these digitized assets are proven legitimate and issued to investors. The asset is cataloged on the blockchain through the process of tokenization, in which a token or digital certificate representing the real-world asset is issued to the investor to signify ownership. By creating digital fractional ownership of real-world assets such as stocks, precious metals, real estate, and difficult-to-access commodities, a new world of investment potential can be unlocked for both retail and institutional investors alike.

#### DeFi

DeFi (or "decentralized finance") is an umbrella term for financial services on public blockchains, primarily Ethereum. With DeFi, you can do most of the things that banks support — earn interest, borrow, lend, buy insurance, trade derivatives, trade assets, and more — but it's faster and doesn't require paperwork or a third party. As with crypto generally, DeFi is global, peer-to-peer (meaning directly between two people, not routed through a centralized system), pseudonymous, and open to all.





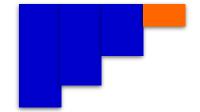
#### Derivatives:

A derivative is a contract between two parties that derives its value/price from an underlying asset. The most common types of derivatives are futures, options, forwards, and swaps. Essentially a financial contract between two or more parties, the value of the derivative is derived mainly from fluctuations that occur in the price or value of the underlying assets. These assets are usually investment instruments that are commonly traded in the market, such as currencies, commodities, bonds, stocks, and the market indices.

# Derivatives and DeFi: A Mutually Beneficial Pair

The ethos of digital assets and decentralized finance (DeFi) lies in openness and transparency. Unlike traditional finance, DeFi does not rely on centralized authorities like banks or brokerages functioning as the intermediaries between transacting parties. Instead, a public ledger records and verifies transactions directly on a digital blockchain for all to reference, eliminating opacity and cumbersome bureaucracy. Since a centralized authority does not exist, investors are empowered with the autonomy to instantly access, trade, and transfer assets with ease.

DeFi works through smart contracts, which are automated, self-executed programs that cannot be altered. Once a certain set of requirements is met, the smart contract is automatically activated without the need for institutional intermediaries, thus removing any ambiguity in its terms. For example, a smart contract can be programmed to release salary funds for a bi-weekly payday or automatically issue payments to the winning party of a bet once the terms are met. By removing third parties, there is less room for missteps since issues of subjectivity and dishonesty are eliminated. The objective nature of smart contracts ensures that transactions are reliably fulfilled. By transitioning the concept of derivatives to DeFi in the form of synthetic assets, the possibility of global, borderless transactions becomes a reality, allowing anyone from anywhere to participate.





## **Market Overview**

A range of financial institutions has begun offering funds, ETFs, and structured products to allow either long or short exposure. There have been a range of diversified crypto venture capital funds (investing in crypto businesses) and cryptocurrency funds (that hold tokens). Greyscale launched the Bitcoin Investment Trust; XBT Provider AB Sweden launched Bitcoin and Ethereum trackers in July 2017; and Swiss structured product providers Vontobel and Leonteq have both released Bitcoin tracker certificates, including Bitcoin shorting products.

Derivatives markets provide for price discovery and risk transfer for securities, commodities, and currencies. Derivatives include both standardized; exchange-traded instruments and bespoke contracts negotiated between broker/dealers and customers that have unique needs not easily satisfied by standard products.

Tokenizable Assets. While almost anything is "tokenizable" in theory, we expect the main tokenization demand drivers to be the following categories of assets:

- Physical Assets This would include types of goods such as real estate, commodities, precious metals, famous paintings, and a long tail of illiquid assets.
- Dematerialized Assets This would include most investment asset classes such as stocks, bonds, investment funds, etc.

#### Advantages of Asset Tokenization.

- (1) Reduced Geographical Barriers As all the relevant information and records of previous transactions are stored on a permissionless blockchain, individuals can transact from anywhere in the world.
- (2) Reduced Reliance on Middlemen The traditional need for a middleman trusted by involved parties to validate and facilitate transactions is eliminated thanks to the blockchain's immutability and transparency.
- (3) Enhanced Accessibility through Fractional Ownership Tokenization allows assets to be divided into as many units (tokens) as desired, thereby enabling wider investment participation for high-value assets such as real estate and expensive stocks. While fractional ownership for stocks is becoming increasingly popular in brokerages, it comes with operational overhead that does not exist with tokenized stocks.
- (4) Improved Asset Liquidity Assets that are hard to transfer/trade tend to suffer in terms of liquidity. The use of blockchain to track and transfer ownership substantially reduces friction and therefore permits higher liquidity.
- (5) Increased Transaction Efficiency Blockchain transactions can dramatically improve the efficiency of traditional settlements by reducing time and cost. Complex transactions can be





automated via smart contracts, thereby reducing legal and operational costs and minimizing the risk of disputes.

(6) Expanded Investor Base - Flexible fractional ownership improves access to investment opportunities by allowing investors to partake in transactions that were previously inaccessible to them due to capital or liquidity constraints.

The above is undoubtedly only a subset of the vast advantages of asset tokenization.

#### Implementations of Asset Tokenization.

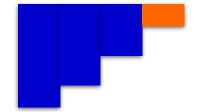
We present the two primary implementations of asset tokenization and discuss the advantages of each:

- (1) Asset-backed tokens are tokens that are backed one-to-one by the physical or abstract good that they represent. For instance, an asset-backed gold token representing 1 ounce of gold would need to be backed by 1 ounce of physical gold stored in a vault.
- (2) Synthetic tokens are tokens that provide "synthetic" exposure to the physical or abstract good that they represent without requiring one-to-one backing.

For instance, a synthetic gold token representing 1 ounce of gold would be exchangeable for the price of 1 ounce of physical gold. Synthetic tokens can be issued either by a centralized party, e.g., a bank whose credit "backs" the token, or a decentralized network whose incentives guarantee that the synthetic token is always exchangeable for the price of the asset it represents.

The primary advantage of asset-backed tokens is simplicity: the design is easy for anyone to understand, and risk is limited to the custodian - if they are trustworthy then the token should be safe to hold. Synthetic tokens can be more complicated to implement. We see several important advantages of synthetic vs asset-backed tokens. First, the accessibility afforded by tokenization is typically wider for synthetic tokens: while anybody with an internet connection can access synthetic tokens on a public blockchain, asset-backed tokens may face restrictions imposed by the custodians backing them. Second, synthetic tokens tend to be more affordable to hold as they typically charge no holding fee. Custodians for asset-backed tokens will typically charge custody fees which can be high, particularly for physical assets such as gold or oil. Third, synthetic tokens provide complete censorship resistance which asset-backed tokens often cannot be due to restrictions faced by custodians.

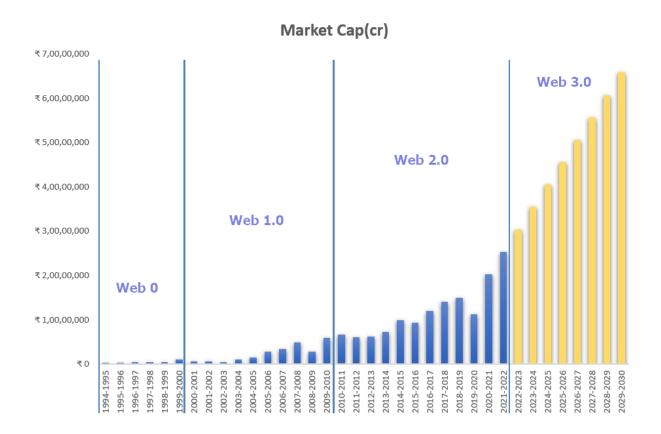
We see a market developing for both asset-backed tokens and synthetic tokens. Asset-backed tokens will certainly increase the transparency and liquidity of assets held by custodians, and we believe will become increasingly common. In the following section, we introduce a protocol for synthetic asset tokenization, as we believe it has greater potential to democratize access to financial assets for a global audience.





## **Market Growth**

CDSL, which allows investors to deposit securities by opening an account in electronic form (dematerialized), gets its revenues from transaction charges, account maintenance charges, and settlement charges paid by depository participants. It also earns through annual fees, corporate action, and e-voting charges paid by companies whose securities are admitted in the depository's system.



New technologies shifting paradigm for stock markets & their participants

Blockchain offers huge potential for tracing securities lending, repo, and margin financing and monitoring systemic risk.

#### The PredictRAM DeFi Protocol

PredictRAM has developed the first decentralized finance (DeFi) Risk Management Network using an asset-backed synthetic protocol that allows for creating, settling, and trading of decentralized tokenized assets based on deep research





Tokenized assets are tokens representing prices for underlying assets like securities, commodities or bonds. In terms of the economic result for investors — profits or losses — they are analogous to equities, bonds, commodities, derivatives, futures, and other financial instruments

Basic Operations. A tokenized asset issued on PredictRAM is said to be an pAsset(p). For instance, a synthetic version of real-world asset X would be called pX. The following are the main operations enabled by the PredictRAM Protocol:

- Mint: registered professionals can mint an pAsset(p) by locking up collateral, either in the form of a stable coin (CBDC) or a different pAsset(p).
- Trade: pAsset(p) are tradable on automated market makers (AMMs) on public blockchains like NEAR and Ethereum, making it easy for issuers as well as investors to buy and sell them.
- Burn: To burn an pAsset(p), the issuer must burn the amount initially issued to receive the locked stable coin (CBDC) collateral.

# Importance for the Market

Blockchain-based solutions can improve the financial viability of impact investments in multiple ways. First, they can eliminate or mitigate significant project-related risks, which would otherwise need to be priced in by investors. These risks include counterparty risk, data risk, liquidity risk, and some forms of political risk. The mitigation of these risks will result in a lower cost of financing, improving the overall bankability of projects. Second, blockchain-based solutions can decrease transaction-related costs significantly. This is particularly a problem in the case of projects based in emerging or developing countries. Blockchain enables the frictionless transfer of value, eliminating most, and in some cases all, of the intermediaries needed to facilitate transactions.

#### **Business Strategy:**

Like many other financial exchanges, our revenue will be derived from transaction fees and service charges. We are completely transparent about what investors pay.

Trading without leverage fee: we levy an exchange fee of 25 basis points (bps), which is equivalent to 0.25 percent of the value of the exchange.





# Business model: synthetic assets

Synthetic digital assets are revolutionizing decentralized finance by offering access and liquidity to investors. Through tokenization, individuals can access investment opportunities that might otherwise be impractical for their situations, democratizing finance and providing increased access to the promising investments of the future. Since transactions are handled entirely on the digital blockchain and facilitated through self-executed smart contracts, entering and exiting from investments with near-instantaneous liquidity has never been easier.

Fee depends on the type of tokenized assets:

• Bonds – 0.05%

• Cryptos maker fee: -0.0125% Both Side

• Tokenised assets (Shares, ETFs, Indices, Commodities): 0.125% Buy Side only

We have a 1.5 percent withdrawal fee on tokenized assets on the platform because we incur hedging costs.

PredictRAM Protocol includes a fee mechanism that charges the profit-making trader a small fee per traded derivative contract. 80% of the fee is distributed to the creator of the tokenized asset. The remaining 20% of all fees generated on PredictRAM stays with the PredictRAM Protocol.

# **Technology**

Underpinning the PredictRAM platform is best-in-class technology created by a team with deep experience in trading applications. Many of the new breeds of crypto exchanges have issues with their infrastructure. This is because they have been developed in haste by teams with technological proficiency but little or no background in financial services. PredictRAM not only boasts cutting-edge technology; it has also been conceived to suit the demanding markets in which it will operate. Advanced technology is at the heart of every part of the platform, from blockchain and smart contracts to the management of the trading servers themselves. Our experience is critical to what we are planning to build. Our leading-edge Cloud technology has elastic scalability to cope with increases in users and trade volumes with minimum upfront investment. Rather than the fixed blockchain applications that many of our competitors use, our engine is designed to cope with increasing volumes of trade, minimizing risk, and maintaining speed. Vital to traders is the ability to enter and exit a market reliably, obtaining the price they see to trade markets with enough liquidity. On many crypto exchanges, this can





be a problem, with lots of artificial liquidity that isn't always available when you attempt to trade. With the expertise and integrity behind the PredictRAM platform, we will solve this problem.

# **Ecosystem**

The PredictRAM project will be implemented using the Ethereum public blockchain and NEAR Protocol

Synthetic assets are meant for many types of participants in the Decentralized Finance (DeFi) ecosystem for the following reasons:

#### • Extended assets:

The biggest challenge in DeFi is how to coordinate the real-world assets in a trustable way. Where synthetic assets can be utilized on DeFi to obtain financial support from pooling your real-world assets as a synthetic asset in the liquidity pools without having to hand over the actual asset to a centralized counterparty (Banks).

#### • *Improve liquidity:*

The other main issue in the DeFi field is the lack of liquidity. Market makers can influence the liquidity of the long run and released blockchain assets, risk handling is limited in financial instruments. Whereas with the help of Synthetic assets they expand their business largely by securing portfolios and preserving profits.

#### • Extended technology:

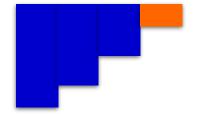
Another major issue in DeFi is the technical constraints of the current smart contract platforms. There are Cross-chain binding issues that are persisting and limit the assets entering the Decentralized finance. Synthetic Assets help in entering the DeFi with the value of the real-world asset and not demands to own assets directly value in this ecosystem.

#### Oracles

In the blockchain context, an *oracle* is a way to bring real-world data onto the blockchain so that it can be used by a decentralized application.

Oracles serve many purposes for application builders. For example:

- Most stable coin designs use an oracle to bring in data of the exchange rate of assets, to peg their value to a real-world currency.
- Synthetic assets use oracles as price feeds to determine if the underlying cryptocurrency sufficiently collateralizes the debt position.





• Decentralized insurance markets use oracles to bring in information about whether a claim is valid or not.

# **Products**

PredictRAM allows for the creation of decentralized derivatives, and these markets are inherently more accessible than traditional financial markets. Anyone with an internet connection and an Ethereum wallet and NEAR Wallet can access these markets no matter their location or social status.

#### **Potential Users**

- Business and corporates
- Retail portfolio investors
- Hedge funds managers

#### Use cases

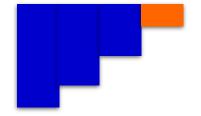
PredictRAM Protocol is universal and allows for the creation of any type of derivative. What follows is a list of sample Financial derivative products that can theoretically be built using PredictRAM Protocol:

# **Hedging Tool**

An investor can hedge any portfolio by using SynthAsset.

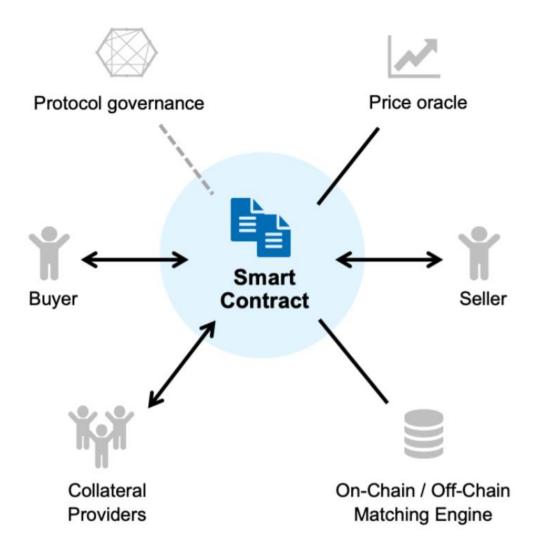
SynthAsset is a combination of best performing stock baskets in which investors can take a position before the event, eliminate extreme market volatility during the event and earn great returns after the event.

By using collective intelligence predictive analytics data algorithms. we aggregated the best stock selected by financial market experts and create tokenized risk mitigating asset SynthAsset.



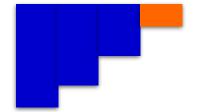


# **Process**



#### Global Market Size:

The gross market value of derivatives contracts – summing positive and negative values – stood at \$12.6 trillion in end-June 2021





#### **Benefits**

#### Fractionalisation

The asset can be split into far greater amounts than using traditional methods. This lowers the entry barriers to investments that have high minimum investments and lower ticket numbers.

#### Data transparency

Data can be stored and accessed securely on the blockchain due to the immutable and distributed nature of blockchain technology.

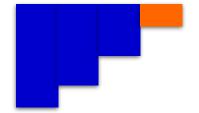
#### Operational Efficiency

Processes such as compliance, whitelisting, escrow account management, dividend distribution, corporate action management, and drag-along actions can be automated with smart contracts.

# **Bonds Settlements**

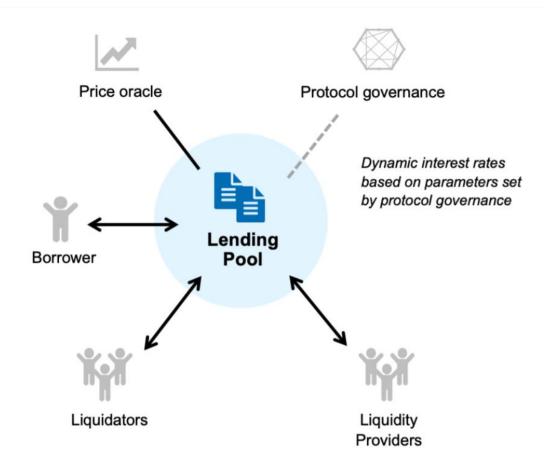
Enabling secure and efficient bond settlement with blockchain technology

Bond tokenization is the fact of representing the ownership of a bond by a token on a blockchain, and automating the execution of the bond's terms via programmable smart contracts.





#### **Process**



#### **Market Size**

As of August 2020, ICMA estimates that the overall size of the global bond markets in terms of USD equivalent notional outstanding is approximately \$128.3tn. This consists of \$87.5tn SSA bonds (68%) and \$40.9tn corporate bonds (32%).

# **Benefits**

#### Shorter settlement time

Bonds can be traded 24/7/365 with a record that can be updated within seconds or minutes (depending on the underlying blockchain), compared to traditional T+3/T+2 settlement times.

#### **Low Cost**





Reduced friction and transaction costs for creation, distribution, trading, and settlement of financial assets.

#### **Transparency**

Increased auditability and transparency of transactions through blockchain-based records.

"We pay interest per the minute. We firmly think this will change the nature of the intraday marketplace," McDermott said.

Smart contracts on the blockchain enable the cash and collateral to interchange simultaneously, and McDermott noted that this is a big step up for the repomarket, which is valued at \$4.6 trillion.

# **Carbon Bonds Tokens**

Synthetic carbon token that tracks corporate co2 emissions in an industrial zone.

When emissions rise, token holders (these may be locals living nearby, city officials, and outside speculators) profit as the company issue co2 tokens. However, when emissions decrease, the companies profit by retaining tokens, incentivizing them to continually reduce co2 emissions.

#### Market Size

The market size for carbon credits trading is around \$300 billion per year, and this is set to become twice as large.





# **Technology**

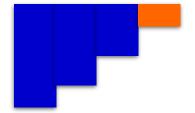
Many modern applications use the client-server architecture, combining a user interface, business logic, and data. The manufacturers of such software can control and modify components at their discretion. However, the rise of the Ethereum blockchain platform gave momentum to so-called decentralized applications or Dapps. In contrast to applications based on the centralized model, the business logic and data are staged in each blockchain network hash, where tampering or alteration is impossible, due to the absence of a centralized control hub.

The PredictRAM platform combines both approaches - the centralized and decentralized architecture models.

# Platform Architecture

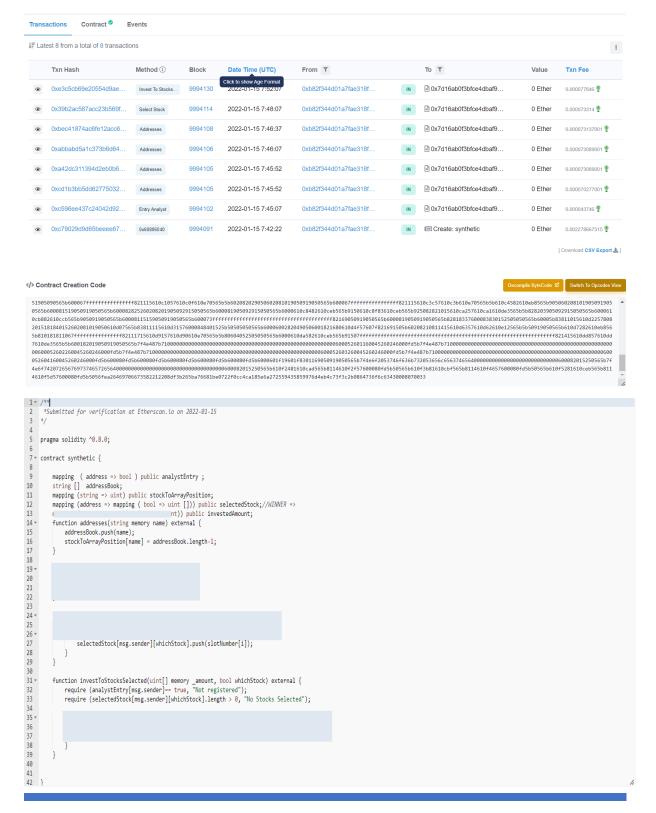
From a technical perspective, the PredictRAM platform consists of four key elements:

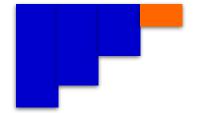
- 1. A user interface (front end), where the user can sign up and interact with the platform by viewing the current offers, managing their account, and so on;
- 2. A set of back-end microservices supporting the website, the admin The panel, offer listings and smart contract interaction;
- 3. Smart contract groups in the public blockchain;
- 4. Oracles providing smart contracts with token quotes and other required data from the outside world.





## **Architecture**





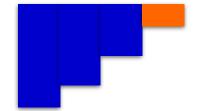


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# Secure identity

With ownership and decentralized identity (DID) details kept on the blockchain, a buyers' private-public key pair forms a digital signature ensuring it's them — this can be used for things like KYC / AML verification. Additionally, there are DID identifiers decided upon by standards organizations, such as w3c, ensuring acceptance across many different networks and platforms.

```
{
  "@context": [
    "https://www.w3.org/ns/did/v1",
    "https://w3id.org/security/suites/ed25519-2020/v1"
]
  "id": "did:example:123456789abcdefghi",
  "authentication": [{
    // used to authenticate as did:...fghi
    "id": "did:example:123456789abcdefghi#keys-1",
    "type": "Ed25519VerificationKey2020",
    "controller": "did:example:123456789abcdefghi",
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}]
}
```





## The Management Team

Our executive team has vast experience innovating in financial services. They have extensive knowledge of building market-leading trading platforms rooted in emerging technology.

#### Subir Singh

Financial Market Professional with 12+ years of work experience with Religare and Kotak Group in Financial instruments such as equity, derivatives, currency derivatives, portfolio management along with 5 years coding experience. Designed and developed 100+ modern applications with PHP, jQuery, MySQL Database. Designed many prediction models and projects using the R language, ARIMA, ARMA algorithm, ANN, CNN, RNN, LSTM, GARCH, VaR, Monte Carlo methods, Options Greeks, Currency strategy payoff models, and many more. He is a CFA US candidate.

Subir Singh has a bachelor's degree in commerce from the University of Delhi. Certified arbitrageur and algo trading operations from BIFM.

#### Sheetal Maurya:

Research Scholar at Department of Commerce Delhi School of Economics She is an alumnus of Deen Dayal Upadhyaya College, and University Gold Medallist in Bachelor of Business Studies 2014 She is also a lifetime member of the Indian Accounting Association. She is CFA US Candidate.

#### Ashutosh Jauhri

Worked in the Systems Development Service Line in the Technology Integration Service Area in deloitte consulting. Worked in Global Consumer Technology (part of Operations & Technology service line) as a Project Manager Citibank, Singapore. Worked in the Cards and Payments team, FSDCG unit as Business Analyst senior consultant Infosys ltd. Managing the API integrations for CMS Products team in Transaction Banking group chief manager icici bank.

Ashutosh is an MBA (Finance & Economics) from IIM Lucknow, Bachelor in Eng. (I.T) Delhi College of Engineering





#### **Arnab Ray**

Creative Full-Stack Developer with 6+ years of first-hand expertise in Software Architecture, Testing, Blockchain & cloud-based backend infrastructure areas and master RESTful & APIs and Front-End Development.

#### Conclusion

In conclusion, PredictRAM offers a product that caters to the needs of those who are entering the world of decentralized finance or all already involved thereby developing a risk management network using an asset-based synthetic protocol that helps preserve your assets. Since it works through a blockchain, your transactions are secure and PredictRAM can be trusted for your investments to be risk-free and secure at the same time.

PredictRAM Defi has a robust and comprehensive roadmap that will see it adapt to the best-decentralized technologies. Our forward-thinking nature is underpinned by a team with over 30+ years of combined experience, a rapid matching and pricing engine, and a trusted and secure server host. We have the volume, range of assets, and scaling capabilities to be a success.

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#### Read more at:

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https://inc42.com/buzz/sebi-allows-usage-of-blockchain-technology-for-security-monitoring/