



# Navigating Crypto: Industry Map

June 2024



# Contents

## 01 About the Industry Map

## 02 Crypto's Core Ecosystems

I. Infrastructure

II. DeFi

III. NFT

IV. Gaming

## 03 Topical Sectors

V. Real-World Assets

VI. Memecoin Trading

VII. Bitcoin Ecosystem

## 04 About Binance Research

# About the Industry Map

The Industry Map provides an overview of the crypto ecosystem. In this report, we break down different verticals into subcategories and lay out a few projects in each of them. Additional details in terms of project descriptions and relevant metrics can be found in the following slides.

This map is compiled based on publicly available data, research, and qualitative analysis. It is not intended to be an exhaustive list of projects in the industry. Certain verticals, subcategories, or projects may or may not have been included, as we aim to share a variety of key leaders as well as emerging players. The projects showcased are mapped according to their primary use cases.

The mention of specific projects does not constitute an endorsement or recommendation by Binance.

# I. Infrastructure

# Infrastructure

## Vertical Spotlights

We identified 5 key areas of innovation.



### Scalability and Fairness

As Layer-1 ("L1") chains see increasing adoption, many projects aim to make blockchains more scalable by batching transactions off-chain and more fair by implementing efficient distribution of Maximal Extractable Value ("MEV").



### Data Usability and Tooling

Data generated on blockchain networks is far from being fully usable by developers. Data querying and indexing services are key innovation areas to improve the current developer experience.



### Security and Privacy

The rising demand for network security and privacy has resulted in the emergence of projects aiming to prevent malicious data tracking, smart contract hacks, etc.



### Cloud Networks

We see more projects focusing on providing users with access to web-based services that may entail storage, computing, and content delivery through decentralized infrastructure.



### Connectivity

There are ongoing efforts to enhance L1 blockchains' connectivity and interoperability.

# Infrastructure

## Vertical Overview

### Scalability and Fairness

#### Zero-Knowledge ("ZK")



### Data Usability and Tooling

#### Remote Procedure Call ("RPC") Provider



### Security and Privacy

#### Security Solution



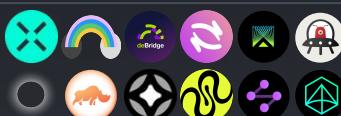
### Cloud Networks

#### Cloud Computing



### Connectivity

#### Cross-Chain Bridge



### Optimistic



### Data Indexing



### Maximal Extractable Value ("MEV") Solution



### Smart Contract Automation



### Multisig Wallet



### File Storage



### Content Delivery Network ("CDN")



### Oracle



### Wireless Networks



# Infrastructure

## Subcategory Description

### Zero-Knowledge (“ZK”):

Protocols that execute bundled transactions off-chain and verify it on-chain using zero-knowledge proofs.

	<b>Linea</b> is a zkEVM rollup solution developed by ConsenSys.
	<b>Polygon zkEVM</b> is an Ethereum L2 scaling solution that uses ZK proofs to offer validity and quick transaction finality.
	<b>Scroll</b> is a general-purpose zkEVM rollup solution.
	<b>StarkNet</b> is a decentralised, permissionless ZK rollup developed by Starkware.
	<b>zkSync Era</b> is a ZK rollup solution addressing Ethereum scalability issues with minimized security compromises.

### Optimistic:

Protocols that assume the validity of transactions and then combine them to execute off-chain.

	<b>Arbitrum</b> is the largest optimistic rollup network on Ethereum by TVL.
	<b>Base</b> is an L2 network launched by Coinbase and built on the OP Stack.
	<b>Blast</b> is an L2 network with a feature of native ETH and stablecoin yield.
	<b>Manta Pacific</b> operates as an Optimistic Rollup on Ethereum, capitalizing on Manta Network's Universal Circuits, with plans to transition to zkEVM.
	<b>Mantle</b> is an optimistic L2 solution built on Ethereum.
	<b>Mode</b> is an L2 built on the OP stack that rewards users for growing the network via new economic mechanisms.
	<b>OP Mainnet</b> is a fast, stable, and scalable L2 solution built by Ethereum developers, for Ethereum developers.
	<b>Taiko</b> is a highly configurable, and permissionless (based) optimistic / ZK hybrid rollup which uses multi proofs.

# Infrastructure

## Subcategory Description (cont.)

### Maximal Extractable Value (“MEV”) Solution:

Solutions that prevent validators from unfairly profiting by including, excluding, or reordering transactions in a block.

	<b>Eden Network</b> is an optional, non-consensus-breaking, transaction ordering protocol for Ethereum blocks.
	<b>Flashbots</b> works on mitigating the negative externalities of current MEV techniques and avoiding the risks that MEV causes to state-rich blockchains.
	<b>Jito Labs</b> builds high-performance systems to scale Solana and maximize validator rewards.
	<b>Manifold</b> is a block builder for users and validators on the Ethereum blockchain, aiding in the creation of MEV for all stakeholders.
	<b>Shutter</b> aims to prevent front-running and malicious MEV by using threshold encryption.
	<b>Skip Protocol</b> provides MEV infrastructure for blockchains and protocols such as Berachain, dYdX, Evmos, Injective, Juno, and Neutron.

# Infrastructure

## Subcategory Description (cont.)

### Remote Procedure Call (“RPC”) Provider:

RPC is the most direct interface through which developers can communicate with the blockchain system.

	<b>Alchemy</b> is a platform that enables developers to interact with the blockchain through API calls.
	<b>Ankr</b> connects developers, dApps, wallets, exchanges, and all other use cases to blockchains via their RPCs and APIs.
	<b>Blockdaemon</b> provides instant access to robust, customizable data sets with protocol specific endpoints.
	<b>GetBlock</b> is a Blockchain-as-a-Service (BaaS) platform that provides a fast and easy API connection to full nodes from leading blockchain platforms.
	<b>Infura</b> offers a development suite which provides instant, scalable API access to the Ethereum and IPFS networks.
	<b>Pocket Network</b> provides a decentralised RPC infrastructure with high uptime, cost-effective access, and low latency.
	<b>QuickNode</b> is a platform for developers to scale blockchain applications.

### Smart Contract Automation:

Platforms that enable users to automatically execute smart contracts.

	<b>Gelato Network</b> enables users to automate smart contract functions on Ethereum.
	<b>OpenZeppelin Relay</b> sends transactions via HTTP API, automating smart contract operations securely.

### Data Indexing:

Platforms that provide network data indexing and querying services.

	<b>OxScope</b> is a protocol that aims to standardize Web2 and Web3 data by building a knowledge graph.
	<b>Covalent</b> is a unified API that brings data from different chains and other searchable endpoints.
	<b>SubQuery</b> offers data indexing on Polkadot, Cosmos, Avalanche, Algorand, NEAR, Ethereum, and more.
	<b>The Graph</b> is an indexing protocol for querying networks like Ethereum.

# Infrastructure

## Subcategory Description (cont.)

### Security Solution:

Protocols that contribute to the security of blockchains.

	<b>Forta</b> is a real-time detection network for security and operational monitoring of blockchain activities.
	<b>Harpie</b> is the first on-chain firewall that protects users from scams, hacks, and theft.
	<b>ImmuneFi</b> is a leading bug bounty platform.
	<b>OpenZeppelin</b> provides security products to build and operate dApps.
	<b>Revoke.Cash</b> is a security management platform managing token approvals, protecting users against scams across 60+ networks.
	<b>SharkTeam</b> is a leading Web3 security service provider that offers smart contract audits, chain analytics, and emergency response services.
	<b>QuantStamp</b> provides security for hire, protecting over \$200B in digital asset risk from hackers.

### Multisig Wallet:

Cryptocurrency wallets that require two or more private keys to sign and send a transaction.

	<b>Safe</b> is a platform to manage digital assets on Ethereum via smart accounts.
	<b>MSafe</b> developed the first multisig, non-custodial asset management solution for the Move ecosystem.
	<b>Squads</b> is a multisig management protocol for Web3-native teams.

### Privacy Solution:

Projects that contribute to the protection of user privacy.

	<b>Anoma</b> is an intent-centric, privacy-preserving protocol for decentralized counterparty discovery, solving, and multi-chain atomic settlement.
	<b>Automata</b> provides a blockchain-based authentication solution that secures access to accounts and protects users with an active defense.
	<b>Hopr</b> is a data-centric privacy tool that prevents bots from accessing the metadata of wallets when users run transactions against a blockchain.
	<b>NYM</b> is a decentralized and tokenized infrastructure that provides privacy from the network to the application layer.

# Infrastructure

## Subcategory Description (cont.)

### Content Delivery Network (“CDN”):

CDNs are decentralized, distributed networks that provide fast delivery of internet content.

	<b>Fleek</b> is an open-source edge computing platform providing dynamic or static content acceleration.
	<b>Livepeer Network</b> is a protocol for developers who want to add live or on-demand video to their project.
	<b>Media Network</b> is a privacy-first and community-governed CDN.
	<b>Meson Network</b> is a bandwidth marketplace using blockchain to replace traditional sales models.
	<b>Theta Network</b> is a blockchain infrastructure for video and media.

# Infrastructure

## Subcategory Description (cont.)

### Computing:

Projects that provide users with access to computing services based on a decentralized infrastructure.

	<b>Aethir</b> is a cloud computing infrastructure platform focusing on the ownership, distribution, and utilization of enterprise-grade GPUs.
	<b>Akash</b> is an open network that lets users buy and sell computing resources securely and efficiently.
	<b>io.net</b> is a decentralized computing network that allows users to access cost-efficient GPUs.
	<b>Render</b> provides decentralized GPU-based rendering solutions.
	<b>Spheron</b> offers a distributed framework where independent providers supply GPU and compute resources.

### Storage:

Projects that provide users with access to storage services based on a decentralized infrastructure.

	<b>Arweave</b> offers permanent and decentralized storage in an open ledger.
	<b>BNB Greenfield</b> is a blockchain and storage platform that is EVM-compatible.
	<b>Filecoin</b> is an open-source cloud storage marketplace, protocol, and incentive layer.
	<b>Sia</b> is a decentralized cloud storage marketplace that allows direct transactions without third parties.
	<b>Storj</b> offers low-cost cloud storage with zero-trust security.

# Infrastructure

## Subcategory Description (cont.)

### Cross-Chain Bridge:

Protocols that bridge tokens from one blockchain to another.

Project	Supported Blockchains
	<b>Across Protocol:</b> Ethereum, Polygon, Base, ZkSync, and 4 other chains
	<b>Celer cBridge:</b> Ethereum, BNB Chain, Arbitrum, Aptos, Sui, and 40 other chains
	<b>Debridge:</b> Ethereum, BNB Chain, Polygon, Solana, and 8 other chains
	<b>Hop Exchange:</b> Ethereum, Arbitrum, Base, and 6 other chains
	<b>Multibit:</b> Bitcoin, Ethereum, BounceBit, Solana, Polygon, and 4 other chains
	<b>Orbiter Finance:</b> Ethereum, Base, Arbitrum, 35 other chains
	<b>Portal Bridge:</b> Ethereum, BNB Chain, and 23 other chains
	<b>Rhino.fi:</b> Ethereum, BNB Chain, opBNB, 18 other chains

Project	Supported Blockchains
	<b>Stargate:</b> Ethereum, BNB Chain, Arbitrum, and 23 other chains
	<b>Squid Router:</b> Ethereum, BNB Chain, 68 other chains for V1, Ethereum, BNB Chain, 15 other chains for V2 (Beta)
	<b>Synapse:</b> Ethereum, BNB Chain, Arbitrum, and 18 other chains
	<b>zKbridge:</b> Ethereum, BNB Chain, opBNB, Scroll, and 6 other chains

# Infrastructure

## Subcategory Description

### Oracle:

Protocols that connect off-chain with on-chain data.

	<b>API3</b> is a first-party oracle network.
	<b>Band Protocol</b> is a cross-chain data oracle platform that aggregates and connects real-world data to smart contracts.
	<b>Chainlink</b> decentralized oracle networks provide tamper-proof inputs, outputs, and computations to support smart contracts.
	<b>Pyth</b> delivers real-time, high-fidelity, high-frequency market data for DeFi applications.
	<b>RedStone Oracle</b> is a modular oracle delivering cost effective data for DeFi.
	<b>Supra Oracles</b> is a cross-chain oracle network that runs on Distributed Oracle Agreement.
	<b>UMA</b> 's Optimistic Oracle allows contracts to request and receive data.

### Decentralized Wireless Networks:

Protocols that leverage blockchain technology to offer seamless internet connection.

	<b>Helium</b> is a decentralized global network of Hotspots that provides accessible, wireless coverage for Internet of Things devices.
	<b>Karrier One</b> is a provider of a decentralized mobile network on a telecom-compliant blockchain built using Polygon Supernets.
	<b>Pollen</b> is a decentralized, privacy-focused mobile network.
	<b>Wicrypt</b> is a decentralized hotspot sharing and token mining network,

## II. Decentralized Finance (“DeFi”)

# DeFi

## Vertical Spotlights

We identified 4 key areas of innovation.



### Issuance

We see the emergence of a more diverse suite of financial products in the DeFi space, such as synthetic assets, options, and structured products.



### Liquidity

Liquidity staking, restaking and collateralized debt positions (“CDPs”) are becoming more prominent, exposing users to a variety of on-chain liquidity opportunities.



### Trading

More diverse financial products are being traded on decentralized exchanges (“DEXs”).



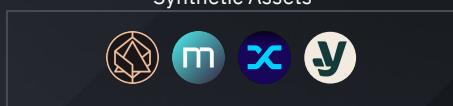
### Risk Management

There are more projects focusing on providing users with monetary protection and other security measures against hacks, scams, and technical loopholes.

# DeFi

## Vertical Overview

### Issuance



### Liquidity



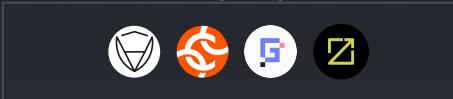
### Restaking



### Trading



### Other



### Synthetic Assets

### Options/Structured Products

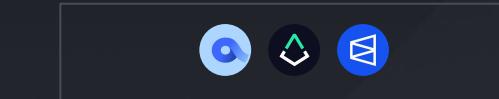
### Yield



### Liquid Restaking



### Prediction Market



### Derivatives



### Security Analytics



### Insurance



# DeFi

## Subcategory Description

**Synthetics:** Protocols that incorporate cryptocurrencies and traditional derivative assets, essentially tokenized derivatives.

Project	Description
	<b>Alchemix</b> is a DeFi protocol that allows the creation of synthetic tokens that represent the future yield of a deposit.
	<b>Metronome</b> allows users to post multi-collateral assets from their portfolio and create a multitude of synthetic assets.
	<b>Synthetix</b> is the largest derivatives liquidity protocol, allowing users to trade a wide array of derivatives in DeFi.
	<b>Youves</b> is a decentralized DeFi platform that facilitates the creation and management of synthetic assets.

# DeFi

## Subcategory Description (cont.)

**Options/Structured Products:** Yield optimizers, yield tranching, automated LP managers, options trading, etc.

Project	Description
	<b>Aevo</b> is a derivatives L2 focusing on options and perpetuals trading.
	<b>Deri Protocol</b> is a derivatives protocol providing futures, options, powers, and gamma trading products.
	<b>Katana</b> is a yield generation protocol on Solana designed to generate sustainable yield from automated option strategies.
	<b>Lyra Finance</b> is a self-custodial exchange operating on its own L2, Lyra Chain, providing perpetuals, options and spot trades.
	<b>Thetanuts Finance</b> offers on-chain options and automated strategies for users to earn and optimize their yields.
	<b>Typus Finance</b> is a yield infrastructure that offers options and options vault on Sui Network.

# DeFi

## Subcategory Description (cont.)

**Yield:** Projects providing yield strategies such as tokenized yield, yield boosting, etc

Project	Description
	<b>Aura</b> is a protocol built on Balancer to provide maximum incentives to Balancer liquidity providers and BAL stakers (into veBAL).
	<b>Convex</b> allows Curve liquidity providers to earn trading fees and claim boosted CRV without locking CRV.
	<b>Hyperlock</b> is a yield and metagovernance protocol built on Thruster, providing boosted rewards to Thruster LPs and THRUST stakers.
	<b>IPOR</b> fixes lending and borrowing rates using an interest rate swap with the liquidity pool as a contract counterparty.
	<b>Magpie</b> is a Multi-chain DeFi platform providing Yield & veTokenomics boosting services
	<b>Pendle</b> is a protocol that enables the trading of tokenized future yield on an AMM system.

# DeFi

## Subcategory Description (cont.)

**Lending:** Protocols that allow users to lend and borrow assets.

Project	Description
	<b>Aave</b> is the largest decentralized liquidity market that allows users to borrow and lend assets, earning interest on their deposits.
	<b>Compound</b> is an algorithmic, autonomous interest rate protocol built for developers to unlock open financial applications.
	<b>Fluid</b> is a decentralized lending platform with innovative features including its liquidity layer, automated limits, lending and vault protocols, robust oracle system, and DEX protocol
	<b>JustLend</b> is a decentralized money market on TRON that allows users to lend, borrow, and earn interest on their deposits.
	<b>Kamino Finance</b> is a DeFi protocol on Solana offering lending, borrowing, and liquidity provision on a single platform.
	<b>Morpho</b> is a peer-to-peer modular lending protocol with isolated lending markets.
	<b>SparkLend</b> is a lending platform that leverages a credit line from MakerDAO to offer predictable rates for DAI.
	<b>Venus</b> is an algorithmic money market protocol on BNB Chain, for lenders and borrowers with borderless stablecoins.

# DeFi

## Subcategory Description (cont.)

**Liquid Staking Providers:** Protocols that allow users to unlock liquidity through LSDs while keeping networks secure.

Project	Description
	<b>Binance</b> provides users who stake ETH with WBETH, which is yield-bearing in nature.
	<b>Coinbase</b> allows users to stake ETH for cbETH through their wallet.
	<b>Jito</b> is a liquid staking protocol on Solana offering yield through SOL staking and MEV strategies.
	<b>Lido</b> is a liquid staking protocol for proof-of-stake cryptocurrencies like ETH and MATIC.
	<b>Marinade</b> is a Solana liquid staking platform that delegates to 100+ of the best-performing validators.
	<b>Rocket Pool</b> is a decentralised liquid staking protocol for the Ethereum (ETH) ecosystem.
	<b>Sanctum</b> is a liquid staking platform on Solana providing a unified liquidity layer for SOL LSTs.

Project	Description
	<b>Stader</b> is a multichain liquid staking protocol, supporting Ethereum, BNB Chain, Polygon, and more.
	<b>Swell</b> is a non-custodial ETH liquid staking protocol.

# DeFi

## Subcategory Description (cont.)

**Collateralized Debt Position (“CDP”):** Protocols that use collaterals to mint stablecoins.

Project	Description
	<b>crvUSD</b> is a collateralized-debt-position (CDP) stablecoin pegged to the US Dollar.
	<b>JustStables</b> enables the minting of USDJ on TRON with TRX as collateral.
	<b>ListaDAO</b> is a MakerDAO fork on BNB Chain which enables the minting of lisUSD against crypto assets like BNB, ETH, LSTs, LRTs, and stablecoins.
	<b>Liquity</b> enables the generation of the stablecoin LUSD against ETH as a collateral.
	<b>MakerDAO</b> enables the generation of the largest decentralized stablecoin DAI against crypto collateral assets.

# DeFi

## Subcategory Description (cont.)

**Restaking:** Protocols that leverage staked assets to secure a designated network of participants.

Project	Description
	<b>Eigenlayer</b> is a protocol that enables staked ETH or LSTs to extend cryptoeconomic security to Actively Validated Services (AVS) on the network in return for additional yield.
	<b>Karak</b> enables users to repurpose their staked assets to extend Ethereum as well as other trust networks' security to other applications.
	<b>Picasso</b> is the first censorship-resistant, trust-minimized interoperability solution (Cross-Ecosystem IBC Hub), and also a platform for the first Generalized Restaking Layer.
	<b>Solayer</b> is a shared validator network that secures other Solana-integrated systems.
	<b>Symbiotic</b> is a generalized shared security system enabling decentralized networks to bootstrap powerful, fully sovereign ecosystems.

# DeFi

## Subcategory Description (cont.)

**Liquid Restaking:** Protocols that enable liquid positions of restaked assets.

Project	Description
	<b>Ether.fi</b> is a liquid restaking platform that allow users to deposit ETH or LSTs which will be natively restaked on Eigenlayer for yield, providing a liquid restaking token (eETH) in return.
	<b>Kelp DAO</b> provides a liquid restaking token (rsETH) solution for Eigenlayer on Ethereum.
	<b>Puffer Finance</b> is a Native Liquid Restaking Protocol (nLRP) built on the innovative EigenLayer, offering a dynamic staking platform for Ethereum users.
	<b>Renzo</b> is a Liquid Restaking Token (LRT) and Strategy Manager for EigenLayer.
	<b>Swell</b> is a liquid staking / restaking provider, allowing users to earn yield without the constraint of locking up capital.

# DeFi

## Subcategory Description (cont.)

**Spot Decentralized Exchange (“DEX”):** A peer-to-peer marketplace for trading various assets in a non-custodial manner.

Project	Description
	<b>Uniswap</b> is the largest DEX by volume, allowing users to swap, earn, and build on its platform.
	<b>Curve</b> is a multi-chain AMM-based DEX that allows users to trade at the lowest slippage.
	<b>PancakeSwap</b> is the leading decentralized exchange on BNB Chain.
	<b>Balancer</b> is an automated portfolio manager and trading platform on Ethereum.
	<b>Cetus</b> is a DEX and concentrated liquidity protocol focusing on Move-based ecosystems like Aptos and Sui.
	<b>Raydium</b> is an on-chain order book AMM on Solana.
	<b>STON.fi</b> is a decentralized AMM built on the TON blockchain providing virtually zero fees, low slippage, an extremely easy interface, and direct integration with TON wallets.
	<b>SushiSwap</b> is a fork of Uniswap, functioning as a community-driven DEX for traders and liquidity providers.

Project	Description
	<b>SUNSwap</b> is a TRON-based decentralized trading protocol for automated liquidity provision
	<b>Thruster</b> is the leading DEX and core liquidity layer on Blast L2.

# DeFi

## Subcategory Description (cont.)

**Prediction Market:** Protocols that enable users to wager, bet, and buy in future outcomes.

Project	Description
	<b>Polymarket</b> is an information markets platform that lets users trade on the world's most highly-debated topics.
	<b>Augur</b> is a prediction market allowing users to trade on outcomes including sports, crypto, politics, and current events.
	<b>Azuro</b> is an infrastructure & liquidity layer for on-chain betting.

# DeFi

## Subcategory Description (cont.)

**Derivatives:** Protocols that enable users to trade perpetual futures contracts with leverage

Project	Description
	<b>Aevo</b> is a derivatives L2 focusing on options and perpetuals trading.
	<b>Drift</b> is an onchain spot and perpetual trading platform on Solana.
	<b>dYdX</b> is an open perpetual DEX allowing for margin trading on perpetual contracts.
	<b>GMX</b> is a decentralized spot and perpetual exchange providing low swap fees, zero price impact trades, and leverage positions.
	<b>Hyperliquid</b> is an orderbook perpetual DEX operating on its own Layer 1, the Hyperliquid L1.
	<b>Jupiter</b> is a DEX aggregator on Solana which offers a perpetual trading product.
	<b>RabbitX</b> is a global permissionless perpetuals exchange powered on Starknet.
	<b>Vertex</b> is a vertically-integrated DEX on Arbitrum featuring spot, perpetual, and integrated money markets.

# DeFi

## Subcategory Description

**Security and Stress Testing:** Modules that stress test or offer other security measures to protocols.

Project	Description
	<b>Certik</b> is a security-focused audit and ranking platform.
	<b>Chainalysis</b> provides blockchain analysis for government agencies, projects, and financial institutions.
	<b>Gauntlet</b> is a financial modeling platform that optimizes capital efficiency, ensures the systemic health of protocols, and mitigates platform risks.
	<b>Zokyo</b> is a Web3 firm that builds, secures, and funds crypto and DeFi projects.

**Launchpad:** Composable modules for token issuance, liquidity, etc.

	<b>PinkSale</b> is a decentralized launchpad that allows users to launch their own token and create their own initial token sale
	<b>Pump.fun</b> is a token launchpad that allows users to deploy tokens on Solana without having to seed liquidity, using bonding curves.
	<b>Team Finance</b> is a toolkit that helps founders create tokens to raise funds from investors.
	<b>UNCX Network</b> is a one-stop-shop for DeFi solutions and services, including token lockers, liquidity locking, minting, crowdfunding, and more.

# DeFi

## Subcategory Description

**Insurance:** Protocols that aim to provide users with insurance coverage to hedge risks.

Project	Description
	<b>Nexus Mutual</b> is the largest decentralized insurance protocol that covers against smart contract failures.
	<b>InsurAce</b> is a leading multi-chain DeFi insurance protocol that is the first to issue cross-chain portfolio-based covers.
	<b>Solace</b> is a decentralized insurance protocol that provides portfolio coverages for individuals, protocols, and DAOs across multiple chains.

### III. Non-Fungible Token (“NFT”)

# NFT Vertical Spotlights

We identified 3 key areas of innovation.



## Marketplace

We see the emergence of NFT marketplaces targeting a variety of use cases, such as chain-specific listings, aggregators, and thematic curations. Users gain access to a wider range of buyer experiences.



## Financialization

There are more diverse NFT-based financial products and services, such as staking, lending, derivatives, fractionalization, etc. Users are exposed to liquidity opportunities for their previously illiquid NFT assets.



## Services

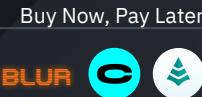
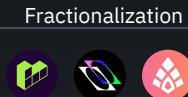
An increasing number of projects are helping users improve their experiences purchasing NFTs and managing portfolios. Other projects provide services to help creators launch, secure, and store their NFTs more seamlessly.

# NFT Vertical Overview

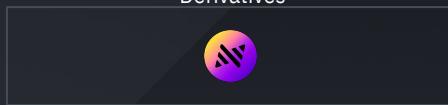
## Marketplace



## Financialization



## Services



## Options



## Rental



## Portfolio Analytics and Appraisal



## Membership and Content Gating



## Storage



## Launchpad



## Safety



# NFT

## Subcategory Description

**Open Marketplace:** Platforms that allow for any NFTs from any brands to be sold.

Project	Description
 <b>Blur</b>	<b>Blur</b> is a NFT marketplace and aggregator designed for pro traders offering 0% marketplace fees.
 <b>Immutable X</b>	<b>Immutable X</b> is a NFT marketplace built on the Immutable X blockchain.
 <b>Magic Eden</b>	<b>Magic Eden</b> is a multichain NFT marketplace with 0% listing fees.
 <b>LooksRare</b>	<b>LooksRare</b> is a decentralized NFT marketplace offering community rewards for participating.
 <b>OpenSea</b>	<b>OpenSea</b> is a digital marketplace for crypto collectibles and non-fungible tokens.
 <b>Pallet</b>	<b>Pallet</b> is an NFT marketplace built on the Sei Network.
 <b>Sudoswap</b>	<b>Sudoswap</b> is an AMM protocol enabling NFT-to-token swaps and vice versa.
 <b>Tensor</b>	<b>Tensor</b> is an advanced NFT marketplace and aggregator on Solana.
 <b>Unisat</b>	<b>Unisat</b> is a marketplace on Bitcoin supporting the trading of Ordinals and other Bitcoin assets.

# NFT

## Subcategory Description (cont.)

**Aggregator:** Platforms that allow users to easily trade NFT collections from different marketplaces in one central destination.

Project	Description
<b>BLUR</b>	<b>Blur</b> is a NFT marketplace and aggregator designed for pro traders offering 0% marketplace fees.
	<b>Opensea Pro</b> , formerly known as Gem, is a low-fee NFT marketplace aggregator. Gem was acquired by OpenSea.
	<b>Element</b> is a community-driven, aggregated marketplace for NFTs across 15 chains.

**Curated Marketplace:** Selective platforms that focus on a certain type of NFT, aesthetic, or set of values.

	<b>Foundation</b> is a curated, decentralized NFT marketplace.
	<b>tofuNFT</b> is a NFT marketplace focused on GameFi.
	<b>Zora</b> is an NFT marketplace for creators and brands, allowing the minting and trading of NFTs.

# NFT

## Subcategory Description (cont.)

**Lending:** Protocols that allow users to collateralize NFTs for loans.

Project	Description
	<b>BendDAO</b> is a decentralized peer-to-peer-based NFT liquidity protocol.
	<b>Blur</b> enables NFT owners to borrow ETH against their assets with a buy now, pay later feature for NFT purchases.
	<b>JPEG'd</b> is a decentralized lending protocol on the Ethereum network that enables holders to borrow using NFTs as collateral.
	<b>MetaStreet</b> is a liquidity scaling protocol for NFT credit markets.
	<b>NFTfi</b> is a peer-to-peer lending protocol.

# NFT

## Subcategory Description (cont.)

### Fractionalization:

Protocols that allow users to create and trade fractionalized NFTs.

	<b>NFTFY</b> offers tools for NFT fractionalization and a marketplace of fractionalized NFTs.
	<b>Floor Protocol</b> allows people to fractionalize their NFTs into micro-tokens called $\mu$ -Tokens.
	<b>Fractional</b> increases accessibility to popular NFTs by enabling collective ownership.

### Options:

Protocols that allow NFT holders to earn yields on their NFTs and engage in options trading.

	<b>Hook</b> is an NFT-native options protocol.
	<b>Wasabi</b> is an Ethereum-based, decentralized, NFT option trading protocol.

### Derivatives:

Protocols that allow users to trade NFT derivatives.

	<b>Nftperp</b> is a perpetual futures DEX for NFTs.
---	---

### Buy Now, Pay Later (“BNPL”):

Protocols that allow users to buy NFTs and pay for them later.

	<b>Blend</b> by Blur enables NFT owners to borrow ETH against their assets with a buy now, pay later feature for NFT purchases.
	<b>Cyan</b> offers buy now, pay later for NFT purchases with a 25% down payment.
	<b>Teller</b> is an oracle-less lending protocol that has a buy now, pay later system with as little as a 25% down payment.

# NFT

## Subcategory Description (cont.)

### Rental:

Protocols that allow users to rent NFTs.

 DOUBLE	<b>Double Protocol</b> is an NFT rental protocol.
 reNFT	<b>reNFT</b> is a multi-chain NFT rental protocol that enables uncollateralized renting, lending, and reward sharing.
 TAKER	<b>Taker Protocol</b> is a platform that allows users to rent NFTs based on their risk profiles.

# NFT

## Subcategory Description (cont.)

### Portfolio Analytics and Appraisal:

Tools that analyze or appraise NFTs.

	<b>CryptoSlam</b> is the leading NFT aggregator, collecting and analyzing data for millions of NFTs across 15+ Blockchains.
	<b>Nansen</b> provides users with crypto and NFT insights through a set of blockchain analytics tools.
	<b>NFTGo</b> is an NFT data aggregator with analytic tools.
	<b>Rarity Sniper</b> is a platform allowing users to track the rarity of NFT collections.

### Membership and Content Gating:

Tools that gate access to membership or content using NFTs.

	<b>Audius</b> is a music streaming and sharing platform that puts power back into the hands of content creators.
	<b>Collab.land</b> is an NFT token gating bot for Telegram and Discord with over 8M verified wallets.
	<b>Moongate</b> is a no-code toolkit to create and adopt NFT-gated memberships for brands and events.

### Storage:

Solutions for storing NFT data.

	<b>Filebase</b> is a storage platform that allows on-ramp to IPFS and decentralized file storage networks.
	<b>Nft.storage</b> is a long-term storage service designed for off-chain NFT data powered by IPFS and Filecoin.
	<b>Pinata</b> is an IPFS solution for creators and developers.

# NFT Subcategory Description

## Launchpad:

Platforms for projects to launch their own NFTs.

	<b>DropSpace</b> is a full-service minting platform that provides the technology to help founders launch their NFTs.
	<b>Mintbase</b> enables users to build their own minters, markets, and NFT redeeming systems.
	<b>NFT Launch</b> is a launchpad for upcoming NFT projects.

## Safety:

Modules that offer security measures to protocols.

	<b>Doppel</b> is an IP protection platform for NFTs.
	<b>Optic</b> monitors blockchains to reveal the origins of NFTs and how they have been reimagined, remixed, or copied.
	<b>Yakoa</b> is an NFT fraud detection network.

## IV. Gaming

# Gaming Vertical Spotlights

We identified 4 key areas of innovation.



## Games

The question remains: What is the best way to most seamlessly implement crypto-based in-game economies without impacting gamer incentives in an unsustainable way?



## Game Development

We see the emergence of projects in the form of game studios, initial game offerings (“IGOs”) launchpads, and developer kits that aim to help creators smoothly develop and launch their games with crypto-based in-game economies.



## Player Experience

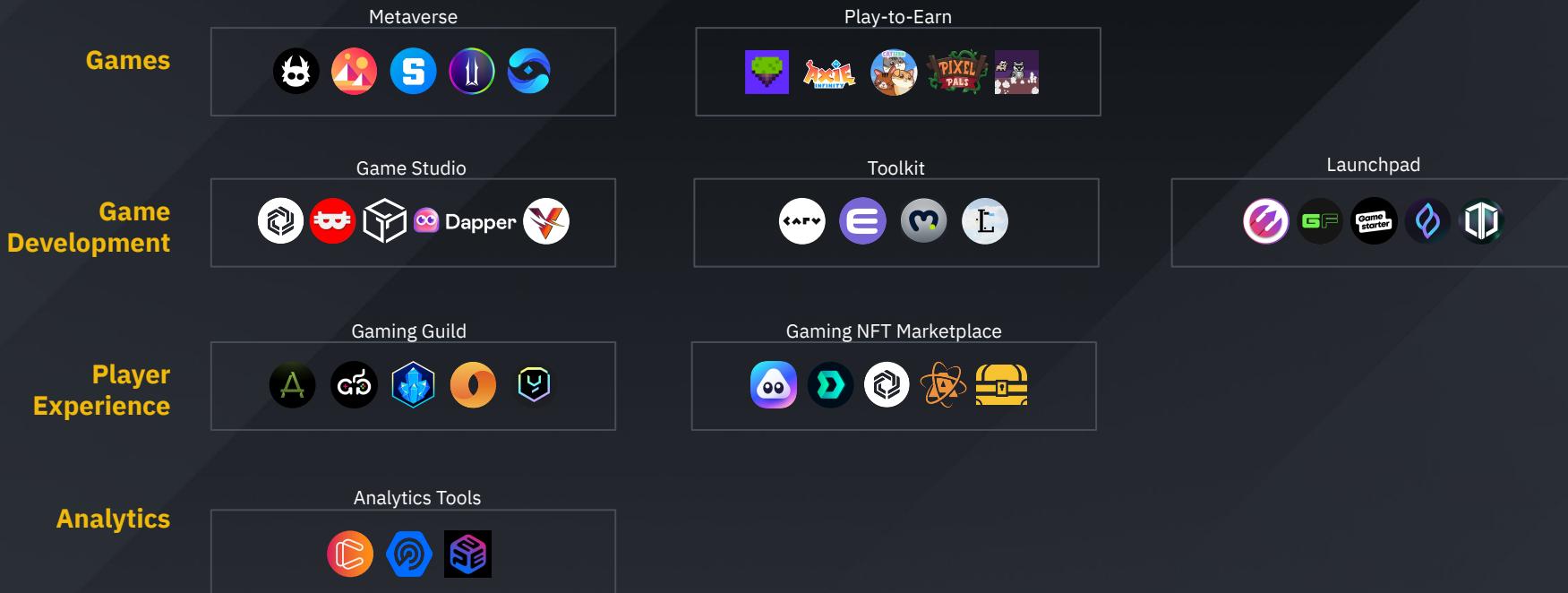
There are more diverse products and services that aim to improve the player experience by lowering the barriers to exploring and onboarding in crypto-based games.



## Analytics

Developments in analytics tools continue to remain pivotal for game developers to make informed decisions.

# Gaming Vertical Overview



# Gaming

## Subcategory Description

### Metaverse:

Virtual worlds where users can engage in a variety of immersive virtual experiences.

Project	Description
	<b>Otherside</b> is a gamified, interoperable metaverse currently under development that blends MMORPG mechanics with web3-enabled virtual worlds.
	<b>Decentraland</b> is a 3D virtual world where users can create and monetize content.
	<b>The Sandbox</b> is currently the largest metaverse project where players can build, own, and monetize their gaming experiences.
	<b>Illuvium</b> is the world's first Interoperable Blockchain Game (IBG) including an open-world exploration game, industrial city builder, and autobattler on Ethereum.
	<b>StarryNift</b> is an AI-powered co-creation metaverse, offering users a 3D virtual experience for play, creation, and socialization.

# Gaming

## Subcategory Description (cont.)

### Play-to-Earn:

Games where users can monetize their gaming experiences in the form of cryptocurrencies.

Project	Description
	<b>Axie Infinity</b> is a virtual game where players collect NFTs that represent digital pets and engage in the crypto-based in-game economy.
	<b>Catizen</b> is a play-to-earn virtual pet game on the TON blockchain, accessible on the Telegram app.
	<b>Pixels</b> is a Web3 social gaming platform on the Ronin Network, blending farming, exploration, and community building in an open-world universe.
	<b>Pixelpals</b> is Pixelmon's second hyper-casual game built on Mantle which combines elements of pet management, land management, and card dueling
	BigTime is a free-to-play, multiplayer action RPG game that combines fast-action combat and adventure through space and time.

# Gaming

## Subcategory Description (cont.)

### Game Studio:

Studios that specialize in developing crypto-based games. The games listed are not meant to be exhaustive.

 Dapper	<b>Dapper:</b> CryptoKitties, NBA Top Shot, NFL All Day, UFC Strike, etc.
 Gala Games	<b>Gala Games:</b> Champions Arena, Eternal Paradox, Meow Match, etc.
 Immutable	<b>Immutable:</b> Gods Unchained, Guild of Guardians, Shardbound, etc.
 Nakamoto Games	<b>Nakamoto Games:</b> Brawler Master, Naka Connect, Naka Rider, etc.
 Vulcan Studios	<b>Vulcan Studios:</b> Berserk, Hexenagos, Vulcan Runner, etc.

### Launchpad:

Platforms that provide services to creators to launch games with crypto-based in-game economies.

 Gamestarter	<b>Gamestarter</b> is a Web3 gaming hub pioneering a dynamic ecosystem to empower the next wave of gaming.
 Gamefi	<b>Gamefi</b> is a game-dedicated launchpad that conducts Initial Game Offerings (IGO) for game projects to get first access to game assets and engage with the GameFi community.
 TrustPad	<b>TrustPad</b> is a decentralized multi-chain fundraising platform enabling projects to raise capital and promise safety to early stage participants.
 Seedify	<b>Seedify</b> is a leading Web3 Gaming Incubator and Launchpad for Web3 projects focusing on innovative technologies such as DeFi, AI, Big Data, NFTs and Web3 Gaming.
 Enjinstarter	<b>Enjinstarter</b> is a metaverse and Web3 gaming launchpad offering advisory, IDOs, incubation, and fundraising services for projects.

# Gaming

## Subcategory Description (cont.)

### Toolkit:

Tools for incorporating crypto-based economies into games.

	<b>CARV Protocol</b> is a modular data layer that facilitates data exchange and value distribution across the gaming and AI sectors.
	<b>Enjin</b> offers a suite of integrated products that make non-fungible tokens (NFTs) easy for individuals, businesses, and game developers
	<b>Moralis Unity SDK</b> provides full wallet and blockchain integration for Unity Games.
	<b>Mud</b> is an engine for building multichain autonomous 3D worlds.

# Gaming

## Subcategory Description (cont.)

### Game NFT Marketplace:

Platforms for gamers to trade in-game items in the form of NFTs.

	<b>AirNFTs</b> is a cross-chain gaming NFT marketplace on BNB Chain, Fantom, Polygon and Ethereum.
	<b>Atomic Hub</b> is an NFT marketplace on Wax, Immutable and EOS networks.
	<b>dMarket</b> enables secure buying, selling, and trading of in-game NFTs.
	<b>Immutable Marketplace</b> is a leading NFT marketplace on Immutable X for NFT and blockchain gaming.
	<b>TokenTrove</b> is a premier NFT marketplace on Immutable X.

### Gaming Guild:

Gamer communities that collectively monetize the play-to-earn model and lower its entry barrier.

	<b>Avocado DAO</b> focuses on investing in NFT assets within games and emergent metaverses, NFT platforms, and P2E games.
	<b>Good Games Guild</b> is a leading gaming hub for blockchain-based games.
	<b>GuildFi</b> is an interconnected Web3 ecosystem of games, NFTs and communities across the metaverse.
	<b>Merit Circle</b> is A DAO developing a Web3 ecosystem for gaming, offering tools like Beam, a specialized blockchain for gaming, and various applications for enhanced gaming experiences.
	<b>Yield Guild Games</b> is a play-to-earn gaming guild for investing in non-fungible tokens (NFTs) used in virtual worlds and Web3 games.

# Gaming

## Subcategory Description

### Gaming Analytics:

Platforms that provide data insights on the Web3 gaming landscape.

	<b>Chainplay.GG</b> is a one-stop hub for all things blockchain gaming.
	<b>DappRadar</b> is an analytics platform that offers the latest data on various Dapps.
	<b>P2E Analytics</b> is an NFT gaming research hub that provides on-chain and off-chain data on Web3 games.

## V. Real-World Assets (“RWA”)

# Real-World Assets (“RWA”)

## Vertical Spotlights

We identified 2 key areas of innovation.



### RWA Rails

These projects provide the regulatory, technical, and operational rails upon which real-world assets are brought into crypto.



### Tokenized Asset Providers

Asset providers are focused on originating and creating demand for tokenized RWAs that maintain a specific underlying asset class.

# Real-World Assets (“RWA”)

## Vertical Overview

### RWA Rails

#### Blockchains



#### Securitization



#### Regulatory



### Tokenized Asset Providers

#### Treasuries



#### Credit



#### Real Estate



#### Stablecoins



#### Commodities



#### Trade Finance



#### Climate



#### Public Equities and Fixed Income



# Real-World Assets (“RWA”)

## Subcategory Description

### Blockchains:

Permissioned or permissionless blockchains tailored specifically for RWAs.

	<b>MANTRA</b> is an RWA-focused L1 blockchain capable of adherence to real world regulatory requirements.
	<b>Plume</b> is the first modular L2 blockchain for RWAs that simplifies onchain asset deployment while fostering a composable ecosystem through DeFi applications.
	<b>Polymesh</b> is an institutional-grade permissioned blockchain built specifically for regulated assets.
	<b>Realio Network</b> is an interoperable Layer-1 multi-chain Web3 ecosystem focused on the issuance and management of digitally native real-world assets (RWAs).

### Securitization:

Converting real-world assets into legally compliant digital securities.

	<b>Bitbond</b> is a bank-grade tokenization platform for regulated financial institutions and large issuers.
	<b>R3</b> is a leading provider of enterprise financial technology and services such as digitalization and tokenization.

	<b>Securitize</b> is a fully digital, regulatory compliant platform for issuing and trading digital asset securities.
	<b>Superstate</b> is a blockchain-based asset management firm bringing traditional financial assets onchain via tokenization.

# Real-World Assets (“RWA”)

## Subcategory Description

### Regulatory:

Services to ensure investor and issuer compliance.

	<b>Quadrata</b> is a Web3 identity solution providing blockchain-verified KYC and AML screening for users to participate in DeFi in a privacy-preserving and legally compliant way.
	<b>Tokeny</b> provides an enterprise-grade infrastructure to allow companies and financial actors to compliantly issue, transfer, and manage assets on blockchain.
	<b>Verite</b> is a collection of standardized protocols for decentralized identity verification.
	<b>Spruce</b> is a toolkit for digital identity and can be used to reference investor and issuer compliance when transacting RWAs.

# Real-World Assets (“RWA”)

## Subcategory Description

### Treasuries:

Projects offering tokenized real-world treasures (including fixed income products and yield-bearing tokens).

	<b>DigiFT</b> is the first regulated exchange for on-chain real-world assets, such as equities, bonds, treasuries, and money market funds.
	<b>Centrifuge</b> is a platform providing the infrastructure for tokenized real-world assets investment and on-chain credit.
	<b>Fortunafi</b> provides an investment fund protocol that deploys investor funds into real-world assets ranging from publicly traded and private assets.
	<b>Maple Finance</b> is a capital marketplace for institutional credit, also offering a Cash Management Pool backed by U.S. Treasuries.
	<b>Matrixdock</b> is a real-world asset tokenization platform focusing on U.S. Treasury Bills.
	<b>TrueFi</b> is an on-chain credit protocol, which also offers a short-term U.S. Treasury Bill fund.
	<b>Ondo Finance</b> is a platform tokenizing institutional-grade financial products such as U.S. Treasuries.
	<b>OpenEden</b> provides a U.S. Treasury Bills vault with direct exposure to a pool of short-dated U.S. Treasury Bills.

# Real-World Assets (“RWA”)

## Subcategory Description (cont.)

### Credit:

Projects connecting on-chain investors with real world private credit deals.

	<b>Centrifuge</b> is a platform providing the infrastructure for tokenized real-world assets investment and on-chain credit.
	<b>Clearpool</b> is a decentralized credit marketplace for unsecured institutional liquidity.
	<b>Credix</b> is a decentralized credit marketplace on Solana connecting investors with FinTechs in emerging markets.
	<b>Goldfinch</b> is a decentralized, globally accessible credit protocol connecting on-chain investors to real world borrowers.
	<b>Maple</b> is an institutional capital network that provides the on-chain infrastructure connecting institutional lenders and borrowers.
	<b>Truefi</b> is an on-chain credit protocol connecting borrowers, lenders, and portfolio managers.

# Real-World Assets (“RWA”)

## Subcategory Description

### Real Estate:

Projects providing the fractionalization and/or tokenization of real estate for collective investment or trading.

	<b>CitaDAO</b> is a global marketplace for tokenized real estate built on the Ethereum ecosystem.
	<b>Parcl</b> is a decentralized perpetuals exchange for real estate synthetics, including global city indexes.
	<b>Propy</b> is a platform that automates real estate transactions via smart contracts and NFTs.
	<b>Lofty</b> is a fractional real estate marketplace on Algorand.
	<b>RealT</b> fractionalizes the value of real estate properties and creates a two-sided market between sellers and buyers.
	<b>Roofstock onChain</b> is a marketplace for tokenized real estate NFTs.

	<b>Tangible</b> is a real-world asset tokenization protocol and marketplace.
---	--

# Real-World Assets (“RWA”)

## Subcategory Description

### Stablecoins:

Issuers of stablecoins, which are tokens with values that are pegged 1:1 to another asset class such as fiat currency or gold, backed by real-world reserves.

	<b>Circle</b> is a financial technology firm specializing in payment and commerce, and the primary issuer of USD Coin (USDC) which is a fiat-backed stablecoin.
	<b>Tether</b> is the issuer of multiple fiat-backed stablecoins such as USDT, EURT, CNHT, MXNT, and XAUT which is backed by physical gold.
	<b>MakerDAO</b> is a protocol which generates DAI, a multi-collateral decentralized stablecoin backed by crypto assets through Collateralized Debt Positions (CDPs).
	<b>Paxos</b> is a financial institution specializing in settlement and asset tokenization services, issuing multiple stablecoins such as Paypal USD (PYUSD), Pax Dollar (USDP), and PAX Gold (PAXG) which is backed by physical gold.
	<b>First Digital</b> is the issuer of First Digital USD (FDUSD), which is a fiat-backed stablecoin.
	<b>Kinesis</b> is the issuer of Kinesis Gold (KAU), and Kinesis Silver (KAG), which are stablecoins backed by precious metals.
	<b>Mountain Protocol</b> is the issuer of USDM, the first regulated and permissionless yield-bearing stablecoin backed by U.S. Treasuries.

# Real-World Assets (“RWA”)

## Subcategory Description

### Commodities:

Projects that provide exposure to real-world commodities through tokenization or indexes.

	<b>LandX</b> is a decentralized protocol tokenizing agriculture, providing capital to real-world farmers in exchange for a legal share of their crop in perpetuity.
	<b>Ostium</b> is a decentralized perpetual exchange on Arbitrum enabling onchain price exposure to a suite of Real World Assets, including with forex, commodities, indices, and blue-chip crypto assets.

### Trade Finance:

Projects that originate and create demand for trade finance-backed RWAs.

	<b>Defactor</b> is providing a DeFi-based source of funding to help close the trade finance gap.
	<b>Polytrade</b> is a decentralized trade finance platform focused on receivables financing.

# Real-World Assets (“RWA”)

## Subcategory Description

### Climate:

Projects that originate and create demand for climate asset-backed RWAs.

	<b>Regen Marketplace</b> creates a place to buy, trade, and retire ecological credits in the digital carbon market.
	<b>Flowcarbon</b> vertically integrates across the entire carbon credit lifecycle, offering solutions ranging from RWA origination and financing to credit sales and corporate carbon portfolio management.
	<b>Frigg.eco</b> works with a select group of project developers and helps them access refinancing via crypto by issuing green bonds on-chain.
	<b>KlimaDAO</b> is a DeFi protocol growing environmental commodity markets on-chain, as a means to efficiently and transparently accelerate climate financing at a global scale.
	<b>Toucan Protocol</b> is an infrastructure provider built to bring environmental assets like carbon credits on-chain, making them more accessible for markets and builders.

# Real-World Assets (“RWA”)

## Subcategory Description

### Public Equities and Fixed Income:

Projects that originate and create demand for public fixed income and equity-backed RWAs.

	<b>Backed Finance</b> is a protocol issuing tokenized structured products that track the value of publicly traded securities such as bonds and equities.
	<b>BondbloX</b> is a fractionalized bond exchange that offers an assortment of public corporate bond offerings.
	<b>Benji Investments by Franklin Templeton</b> is a mobile app that allows investors to browse tokenized securities such as its money market fund.
	<b>Swarm Markets</b> is a regulatory-compliant platform offering a unique tokenization and trading solution to the world of TradFi.
	<b>SOMA.finance</b> is a revolutionary multi-asset DEX and issuance platform for tokenized equities, digital assets, NFTs and more.

# VI. Memecoin Trading

# Memecoin Trading

## Vertical Spotlights

We identified 3 key areas of development.



### Trading Tools

The growing demand for memecoins have spurred the development of numerous trading tools designed to simplify and enhance the trading experience.



### Price Analysis Tools

Crucial to on-chain trading, these tools extract data from blockchains and present price information on token pairs.



### On-chain Data Analytics

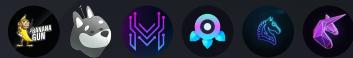
Apart from metrics like price, liquidity, and market capitalization, on-chain traders utilize specialized tools to analyze a token's characteristics.

# Memecoin Trading

## Vertical Overview

### Trading Tools

#### Trading Bots



#### Launchpads



### Price Analysis Tools

#### Charting



### On-chain Data Analytics

#### Data Tools



# Memecoin Trading

## Subcategory Description

### Trading Tools:

Bots developed to simplify and enhance the on-chain trading experience

	<b>Banana Gun Bot</b> is a Telegram trading bot on Solana which allows users to trade and snipe upcoming token launches, with MEV-protection features.
	<b>BONKbot</b> is a Telegram trading bot on Solana with MEV-protection features.
	<b>Maestro</b> provides a suite of multi-chain Telegram bots for on-chain trading, including a Buy Bot, Sniper Bot, Wallet Bot, and Whale Bot (wallet tracker).
	<b>Photon</b> is an on-chain trading tool on Solana and Ethereum focusing on efficiency and an intuitive UI/UX.
	<b>Trojan</b> is a Telegram trading bot on Solana with copy trading, sniping, MEV-protection, and DCA features.
	<b>Unibot</b> is an onchain trading terminal with a web application and Telegram bot, supporting multiple chains with copy trading, sniping, and MEV-protection features.

# Memecoins

## Subcategory Description

### Launchpads:

Composable modules for token issuance, liquidity, etc.

	<b>Pump.fun</b> is a token launchpad that allows users to deploy tokens on Solana without having to seed liquidity, using bonding curves.
	<b>PinkSale</b> is a decentralized launchpad that allows users to launch their own token and create their own initial token sale

# Memecoins

## Subcategory Description (cont.)

### Price Analysis Tools:

Charting tools that extract on-chain data to provide users with useful information on tokens.

	<b>DEX Screener:</b> Ethereum, Solana, BNB Chain, Base, Arbitrum, Blast, TON, Polygon, and 78 other chains.
	<b>DEXTools:</b> Ethereum, Solana, BNB Chain, Base, Arbitrum, Blast, TON, Polygon, and 78 other chains and 84 other chains.
	<b>Birdeye:</b> Ethereum, Solana, BNB Chain, Base, Arbitrum, and 5 other chains.
	<b>Coinhall:</b> Solana, Injective, Sei, Osmosis, Kujira, and 9 other chains.
	<b>GeckoTerminal:</b> Ethereum, Solana, BNB Chain, Base, Arbitrum, Blast, TON, Polygon, and 158 other chains.

# Memecoins

## Subcategory Description

### Onchain Data Analytics:

Forensic tools that provide detailed information about smart contracts and tokens.

	<b>Cielo</b> is a Web3 information layer, providing an onchain analytics feed and a wallet tracker bot for multiple chains.
	<b>De.fi</b> provides a portfolio tracker and scanning tool for smart contracts and tokens.
	<b>HolderScan</b> provides real-time analytics on token holders and historical holding data on multiple chains.
	<b>Token Sniffer</b> is a smart contract scanner providing automated contract audits to highlight high-risk token assets.

## VII. Bitcoin Ecosystem

# Bitcoin Ecosystem

## Vertical Spotlights

We identified 3 key areas of innovation.



### Layer 2 Solutions

Enhancing scalability of the Bitcoin Network and / or programmability for native Bitcoin assets to be utilized.



### Infrastructure

Core foundational technology providers that support the functionality, accessibility, and security of the Bitcoin ecosystem.

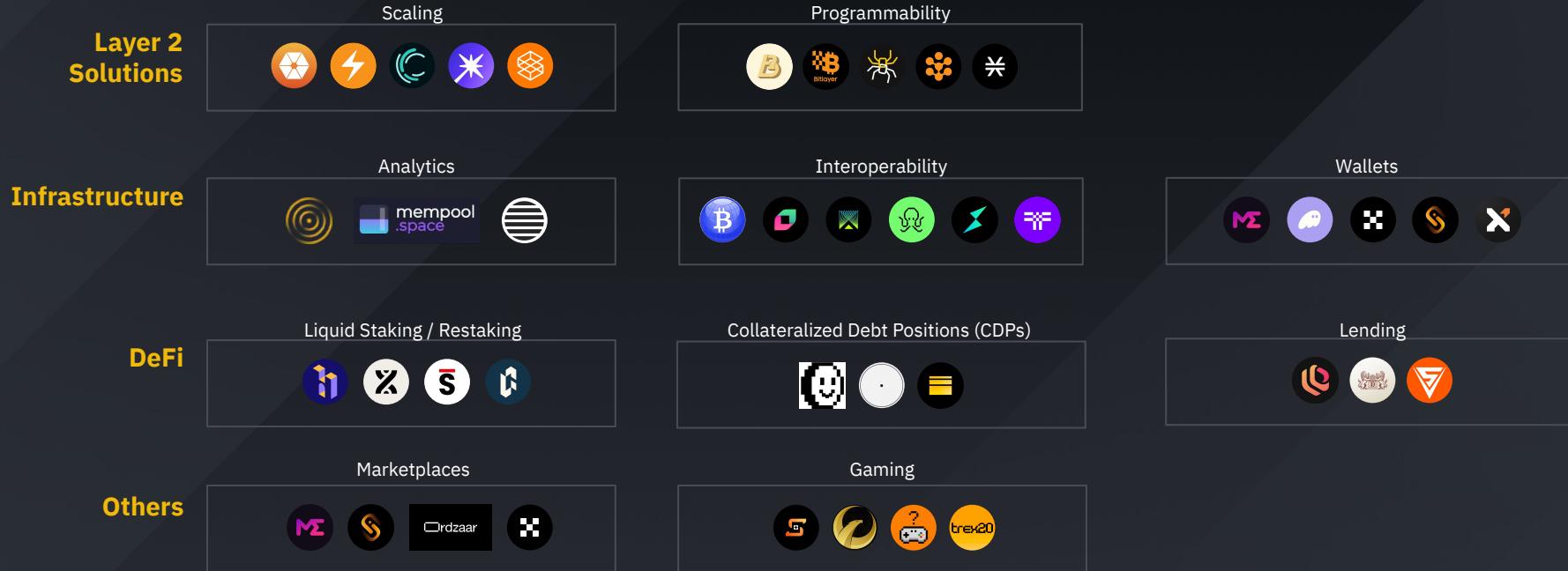


### DeFi

Decentralized financial applications built on or compatible with Bitcoin, enabling peer-to-peer financial interactions.

# Bitcoin Ecosystem

## Vertical Overview



# Bitcoin Ecosystem

## Subcategory Description

### Scaling:

Projects that aim to enhance scalability of the Bitcoin Network.

	<b>Citreia</b> is an EVM-compatible ZK-rollup that uses Bitcoin both as a data availability and a settlement layer, via its BitVM-based trust-minimized two-way peg program Clementine.
	<b>Lightning Network</b> is a scaling solution for Bitcoin which uses payment channels to provide fast and low-cost transactions.
	<b>Liquid Network</b> is a Bitcoin sidechain which enables fast, confidential settlement and issuance of digital assets on top of Bitcoin.
	<b>Merlin Chain</b> is an EVM-compatible ZK-rollup on Bitcoin enhancing efficiency and scalability.
	<b>SatoshiVM</b> is an EVM-compatible ZK-rollup built on Bitcoin, which uses native BTC as gas.

# Bitcoin Ecosystem

## Subcategory Description

### Programmability:

Projects that aim to introduce smart contract programmability to the Bitcoin Network.

	<b>BEVM</b> is an EVM-compatible Bitcoin Layer-2 using native BTC as gas.
	<b>Bitlayer</b> acts as a Layer-2 solution for Bitcoin, boasting 100% EVM and Ethereum toolchain compatibility, with BTC as native token(gas token).
	<b>Botanix</b> is an EVM-compatible Proof-of-Stake chain on Bitcoin secured by decentralized multisig wallets.
	<b>Rootstock</b> is an EVM-compatible general purpose Layer-2 on Bitcoin that leverages the security of Bitcoin Network.
	<b>Stacks</b> is a Bitcoin Layer-2 enabling smart contracts and decentralized applications to use Bitcoin as a secure base layer.

# Bitcoin Ecosystem

## Subcategory Description

### Analytics:

Blockchain explorers that provide transaction information on the Bitcoin Network.

	<b>BTCScan</b> is a block explorer for the Bitcoin Network.
	<b>Mempool.space</b> is a mempool and block explorer for the Bitcoin and Liquid Network.
	<b>Ordiscan</b> is a block explorer for Bitcoin, supporting multiple protocols such as Inscriptions, BRC-20, Runes, and Rare Sats.

# Bitcoin Ecosystem

## Subcategory Description

### Interoperability:

Protocols establishing cross-chain interoperability between the native Bitcoin Network and other blockchains.

	<b>Borderless Bitcoin</b> leverages the LayerZero Omnichain Fungible Token (OFT) standard to seamlessly integrate Bitcoin across all LayerZero-supported networks.
	<b>Chainflip</b> is a cross-chain AMM enabling native asset swaps without wrapped tokens or specialized wallets.
	<b>Multibit</b> offers a secure and efficient bridging mechanism to allow for seamless cross-network transfers of tokens between the ETH chain, BNB chain, and BTC network.
	<b>Symbiosis</b> is a cross-chain AMM DEX that pools together liquidity from different networks: L1s and L2s, EVM and non-EVM.
	<b>THORChain</b> is a network that facilitates native asset settlement between Bitcoin, Ethereum, BNB Chain, Avalanche, Cosmos Hub, Dogecoin, Bitcoin Cash and Litecoin through cross-chain swaps.
	<b>Threshold Network</b> provides a decentralized bridge between Bitcoin and Ethereum with tBTC.

# Bitcoin Ecosystem

## Subcategory Description

### Wallets:

Infrastructure supporting the storage of Bitcoin native assets.

	<b>Magic Eden Wallet</b> is a self-custody wallet supporting Bitcoin, Inscriptions, Runes, and assets across multiple other chains.
	<b>Phantom</b> is a non-custodial wallet supporting multiple chains such as Solana, Bitcoin, Ethereum, and Polygon.
	<b>OKX Web3 Wallet</b> supports over 80 networks, including Bitcoin and native protocols such as BRC-20, Runes, and Ordinals.
	<b>Unisat Wallet</b> is a non-custodial wallet designed for the Bitcoin ecosystem, supporting an array of native Bitcoin assets such as Ordinals, BRC-20, and Runes.
	<b>XVerse</b> is a non-custodial Bitcoin wallet for BTC, Ordinals, BRC20, STX and Rare Sats.

# Bitcoin Ecosystem

## Subcategory Description

### Liquid Staking / Restaking:

Projects that enable yield on native Bitcoin and provide Liquid Staking Tokens (LSTs) or Liquid Restaking Tokens (LRTs) in return.

	<b>Babylon Chain</b> enables native BTC staking and provides yield by securing and validating Proof-of-Stake chains on Cosmos.
	<b>BounceBit</b> is an EVM-compatible Layer-1 providing liquid restaking infrastructure on Bitcoin.
	<b>pSTAKE Finance</b> is a Bitcoin yield protocol and liquid staking provider building on Babylon chain.
	<b>Lorenzo</b> is a liquid restaking provider which builds on Babylon's staking infrastructure.

# Bitcoin Ecosystem

## Subcategory Description

### Marketplaces:

Platforms enabling the trading of various Bitcoin native assets and token standards.

	<b>Magic Eden:</b> Ordinals, Runes
	<b>Unisat:</b> Ordinals, BRC-20, Atomicals, Runes
	<b>Ordzaar:</b> Ordinals, Runes
	<b>OKX Marketplace:</b> Ordinals, BRC-20, Atomicals, Runes

# Bitcoin Ecosystem

## Subcategory Description

### Lending:

Decentralized projects enabling lending and borrowing on native Bitcoin assets.

	<b>Liquidium</b> is the leading Bitcoin lending protocol where users can borrow and lend against Inscriptions, Ordinals, Runes, BRC-20, and more.
	<b>Ordibank</b> is a cross-chain, intent-based lending protocol focused on the use of BTC, BRC-20s, Atomicals, Runes and Ethereum's stablecoins.
	<b>Sovryn</b> is a decentralized protocol on Rootstock built for trading, lending and borrowing.

### Collateralized Debt Positions (CDPs):

Protocols that use collaterals to mint stablecoins.

	<b>bitSmiley</b> is the issuer of bitUSD, an overcollateralized stablecoin minted against BTC.
	<b>Ducat Protocol</b> is the issuer of UNIT, an overcollateralized stablecoin minted against BTC.
	<b>Satoshi Protocol</b> is the issuer of SAT, an overcollateralized stablecoin minted against BTC on BEVM.

# Bitcoin Ecosystem

## Subcategory Description

### Gaming:

Projects pioneering game development and infrastructure on Bitcoin.

	<b>Life Beyond Studios</b> is a video game studio integrated with Animoca Brands, developing games powered by blockchain technology.
	<b>Oneness Matrix</b> is a modular gaming-intent Bitcoin Layer-2 developed for Web3 gaming.
	<b>Ordz Games</b> provides a series of inscriptions for retro games, allowing game owners to receive a certain percentage reward of the player's points while playing their Ordz Game.
	<b>Trex20</b> offers multiple games built on Bitcoin, with an NFTfi marketplace for borrowing, lending, and trading NFTs.

# About Binance Research

Binance Research is the research arm of Binance, the world's leading cryptocurrency exchange. The team is committed to delivering objective, independent, and comprehensive analysis and aims to be the thought leader in the crypto space. Our analysts publish insightful thought pieces regularly on topics related but not limited to, the crypto ecosystem, blockchain technologies, and the latest market themes.



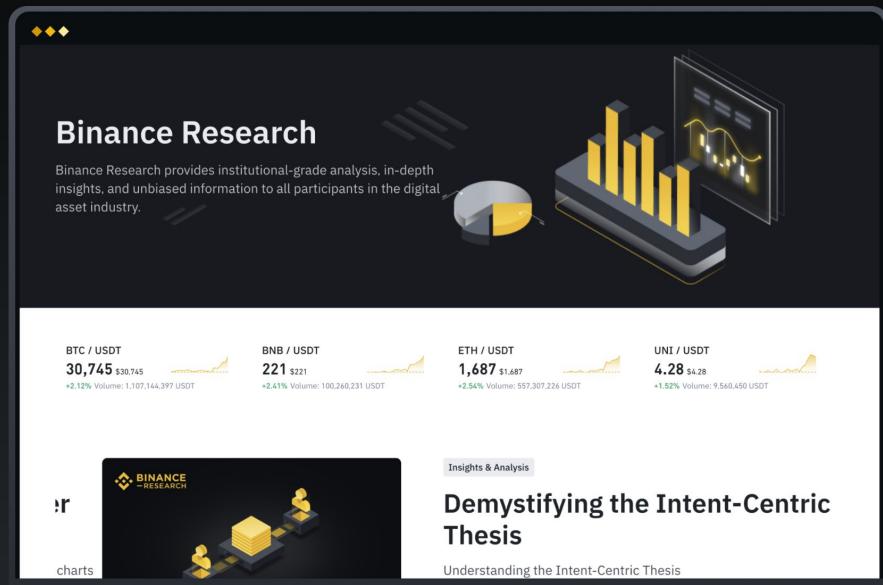
[www.binance.com/en/research](http://www.binance.com/en/research)



@BinanceResearch



@BinanceResearch



The screenshot shows the Binance Research homepage. At the top, there's a dark header with the Binance logo and the text "Binance Research". Below the header, there's a section with a bar chart and a line graph. The text reads: "Binance Research provides institutional-grade analysis, in-depth insights, and unbiased information to all participants in the digital asset industry." Below this, there are four price cards for BTC/USDT, BNB/USDT, ETH/USDT, and UNI/USDT. Each card shows the current price, a small chart, and a percentage change. At the bottom, there's a section titled "Insights & Analysis" with a thumbnail for an article titled "Demystifying the Intent-Centric Thesis".

Pair	Current Price	Change	Volume
BTC / USDT	30,745 \$30,745	+2.12%	Volume: 1,107,144,397 USDT
BNB / USDT	221 \$221	+2.41%	Volume: 100,260,231 USDT
ETH / USDT	1,687 \$1,687	+2.54%	Volume: 557,307,226 USDT
UNI / USDT	4.28 \$4.28	+1.52%	Volume: 9,560,450 USDT

charts

Insights & Analysis

**Demystifying the Intent-Centric Thesis**

Understanding the Intent-Centric Thesis

# Contributors



## Kennard Low

Kennard is currently working for Binance as a Macro Research Analyst intern. Prior to joining Binance, he worked as a DeFi research analyst at an RWA private credit protocol and a Web3 consulting firm. He is a junior at Singapore Management University (“SMU”), and has been involved in the cryptocurrency space since 2021.

