Navigating Crypto: Industry Map

December 2024

Contents

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

BINANCE RESEARCH
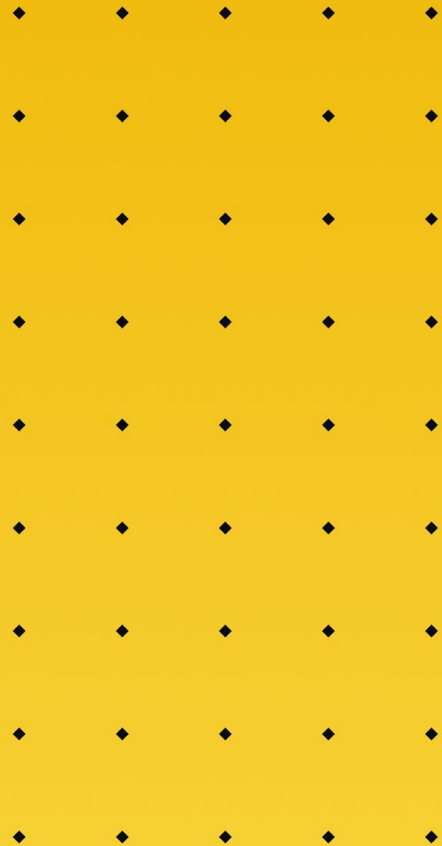
Infrastructure
Vertical Spotlights

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")

Optimistic

Maximal Extractable Value ("MEV") Solution

Data Usability and Tooling

Remote Procedure Call ("RPC") Provider

Data Indexing

Smart Contract Automation

Security and Privacy

Security Solution

Privacy Solution

Multisig Wallet

Cloud Networks

Cloud Computing

Content Delivery Network ("CDN")

File Storage

Connectivity

Cross-Chain Bridge
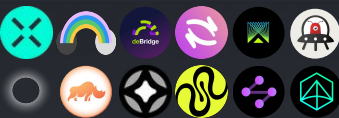
Oracle

Wireless Networks

BINANCE RESEARCH

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Infrastructure
Subcategory Description

Zero-Knowledge ("ZK"):
Protocols that execute bundled transactions off-chain and verify it on-chain using zero-knowledge proofs.

	Linea is a zkEVM rollup solution developed by Consensys.
	Polygon zkEVM is an Ethereum L2 scaling solution that uses ZK proofs to offer validity and quick transaction finality.
	Scroll is a general-purpose zkEVM rollup solution.
	StarkNet is a decentralised, permissionless ZK rollup developed by Starkware.
	zkSync Era 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.

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

Source: Binance Research, company websites.

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.

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

Source: Binance Research, company websites.

Infrastructure
Subcategory Description (cont.)

Remote Procedure Call ("RPC") Provider:
RPC is the most direct interface through which developers can communicate with the blockchain system.

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

Smart Contract Automation:
Platforms that enable users to automatically execute smart contracts.

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

Data Indexing:
Platforms that provide network data indexing and querying services.

	0xScope is a protocol that aims to standardize Web2 and Web3 data by building a knowledge graph.
	Covalent is a unified API that brings data from different chains and other searchable endpoints.
	SubQuery offers data indexing on Polkadot, Cosmos, Avalanche, Algorand, NEAR, Ethereum, and more.
	The Graph is an indexing protocol for querying networks like Ethereum.

Source: Binance Research, company websites.

Infrastructure
Subcategory Description (cont.)

Security Solution:
Protocols that contribute to the security of blockchains.

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

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

Privacy Solution:
Projects that contribute to the protection of user privacy.

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

	Fleek is an open-source edge computing platform providing dynamic or static content acceleration.
	Livepeer Network is a protocol for developers who want to add live or on-demand video to their project.
	Media Network is a privacy-first and community-governed CDN.
	Meson Network is a bandwidth marketplace using blockchain to replace traditional sales models.
	Theta Network is a blockchain infrastructure for video and media.
	Script Network is an EVM Layer 1 video protocol, infrastructure and live broadcasting network.

Infrastructure
Subcategory Description (cont.)

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

	Akash Network is a decentralized cloud computing network that allows users to delegate spare GPU resources for purposes such as artificial intelligence.
	Aethir provides distributed cloud compute infrastructure by aggregating enterprise-grade GPU chips for end users to access.
	AIOZ is a decentralized network for AI computation, data storage, and seamless media and video streaming.
	Flux provides a fully decentralized computational network providing simple compute power for databases or censorship resistant content delivery.
	Golem Network is decentralized peer-to-peer marketplace for distributed computing resources.

	io.net offers a decentralized network that provides cost-efficient access to distributed cloud clusters optimized for machine learning and AI projects.
	Render Network is a decentralized cloud computing platform that allows anyone to share spare GPU resources and is typically used in rendering graphics.

Infrastructure
Subcategory Description (cont.)

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

	Arweave offers permanent and decentralized storage in an open ledger.
	BNB Greenfield is a decentralized storage infrastructure that simplifies the process of storing and managing data access.
	Filecoin is an decentralized, peer-to-peer cloud storage network for monetizing, storing, and retrieving data.
	Sia is a decentralized cloud storage platform that enables trustless interactions between renters and hosts.
	Storj is a decentralized cloud storage solution prioritizing security and privacy.
	Zus is a 3-layer security multi-cloud storage with no vendor lock-in and free egress.

Infrastructure
Subcategory Description (cont.)

Cross-Chain Bridge:
Protocols that bridge tokens from one blockchain to another.

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

	Stargate: Ethereum, BNB Chain, Arbitrum, and 23 other chains
	Squid Router: Ethereum, BNB Chain, 68 other chains for V1, Ethereum, BNB Chain, 15 other chains for V2 (Beta)
	Synapse: Ethereum, BNB Chain, Arbitrum, and 18 other chains
	zKbridge: Ethereum, BNB Chain, opBNB, Scroll, and 6 other chains

Source: Binance Research, company websites.

Infrastructure
Subcategory Description

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

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

Decentralized Wireless Networks:
Protocols that leverage blockchain technology to offer seamless internet connection.

	Helium Mobile is a decentralized wireless infrastructure project enabling to deploy and operate mobile networks and 5G.
	Karrier One is global carrier-grade mobile network running on decentralized telecommunications infrastructure that operates on Sui.
	Roam by Metablox is a decentralized WiFi roaming network that enables global connectivity via its routers.
	Wicrypt is a decentralized hotspot sharing and token mining network.
	XNET is a decentralized, neutral host mobile network that leverages Wi-Fi Passpoint and 3GPP cellular technologies.
	World Mobile Network is a decentralised and secure blockchain platform that enables a new generation of wireless networks.

Source: Binance Research, company websites.

II. Decentralized Finance ("DeFi")
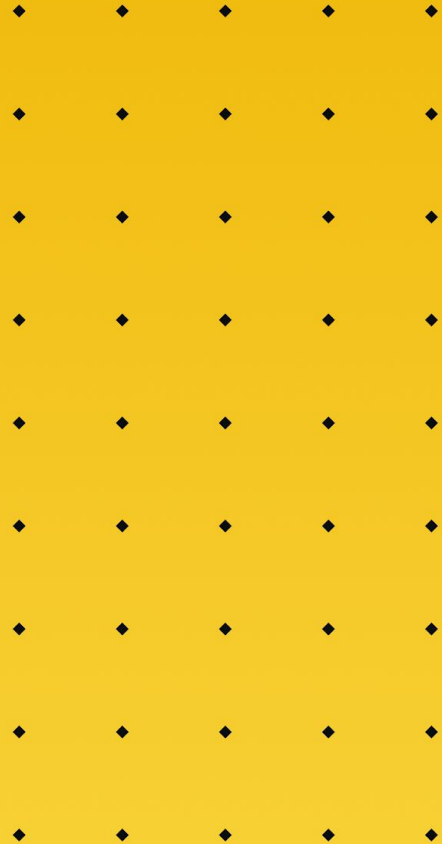
DeFi
Vertical Spotlights

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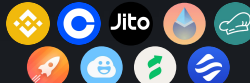
Liquidity staking, restaking and collateralized debt positions ("CDPs") are becoming more prominent, exposing users to a variety of on-chain liquidity opportunities.

◆

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
Subcategory Description

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

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

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

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

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

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

Stader is a multichain liquid staking protocol, supporting Ethereum, BNB Chain, Polygon, and more.	
Swell is a non-custodial ETH liquid staking protocol.	

DeFi
Subcategory Description (cont.)

Collateralized Debt Position ("CDP"): Protocols that use collaterals to mint stablecoins.

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

Source: Binance Research, company websites.

DeFi
Subcategory Description (cont.)

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

	Eigenlayer 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.
	Karak enables users to repurpose their staked assets to extend Ethereum as well as other trust networks' security to other applications.
	Picasso is the first censorship-resistant, trust-minimized interoperability solution (Cross-Ecosystem IBC Hub), and also a platform for the first Generalized Restaking Layer.
	Solayer is a shared validator network that secures other Solana-integrated systems.
	Symbiotic is a generalized shared security system enabling decentralized networks to bootstrap powerful, fully sovereign ecosystems.

Source: Binance Research, company websites.

DeFi
Subcategory Description (cont.)

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

	Ether.fi 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.
	Kelp DAO provides a liquid restaking token (rsETH) solution for Eigenlayer on Ethereum.
	Mellow Protocol enables permissionless LRT creation allowing for unlimited risk profiles by working with diverse set of AVSes and operators.
	Puffer Finance is a Native Liquid Restaking Protocol (nLRP) built on the innovative EigenLayer, offering a dynamic staking platform for Ethereum users.
	Renzo is a Liquid Restaking Token (LRT) and Strategy Manager for EigenLayer.
	Swell 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.

	Uniswap is the largest DEX by volume, allowing users to swap, earn, and build on its platform.
	Curve is a multi-chain AMM-based DEX that allows users to trade at the lowest slippage.
	PancakeSwap is the leading decentralized exchange on BNB Chain.
	Balancer is an automated portfolio manager and trading platform on Ethereum.
	Cetus is a DEX and concentrated liquidity protocol focusing on Move-based ecosystems like Aptos and Sui.
	Raydium is an on-chain order book AMM on Solana.
	STON.fi 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.
	SushiSwap is a fork of Uniswap, functioning as a community-driven DEX for traders and liquidity providers.

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

◆ BINANCE RESEARCH   *Source: Binance Research, company websites.*

DeFi
Subcategory Description (cont.)

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

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

DeFi
Subcategory Description (cont.)

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

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

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

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

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

Source: Binance Research, company websites.

DeFi
Subcategory Description

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

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

Source: Binance Research, company websites.

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.

BINANCE RESEARCH

NFT
Vertical Overview

Marketplace

Open Marketplace

Curated Marketplace

Aggregator

Financialization

Lending

Fractionalization

Buy Now, Pay Later

Derivatives

Options

Rental

Services

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.

BLUR	**Blur** is a NFT marketplace and aggregator designed for pro traders offering 0% marketplace fees.
	Immutable X is a NFT marketplace built on the Immutable X blockchain.
	Magic Eden is a multichain NFT marketplace with 0% listing fees.
	LooksRare is a decentralized NFT marketplace offering community rewards for participating.
	OpenSea is a digital marketplace for crypto collectibles and non-fungible tokens.
	Pallet is an NFT marketplace built on the Sei Network.
	Sudoswap is an AMM protocol enabling NFT-to-token swaps and vice versa.
	Tensor is an advanced NFT marketplace and aggregator on Solana.
	Unisat 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.

BLUR	**Blur** is a NFT marketplace and aggregator designed for pro traders offering 0% marketplace fees.
	Opensea Pro, formerly known as Gem, is a low-fee NFT marketplace aggregator. Gem was acquired by OpenSea.
	Element 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.

	Foundation is a curated, decentralized NFT marketplace.
TOZ FU	**tofuNFT** is a NFT marketplace focused on GameFi.
	Zora 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.

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

Source: Binance Research, company websites.

NFT
Subcategory Description (cont.)

Fractionalization:
Protocols that allow users to create and trade fractionalized NFTs.

	NFTFY offers tools for NFT fractionalization and a marketplace of fractionalized NFTs.
	Floor Protocol allows people to fractionalize their NFTs into micro-tokens called µ-Tokens.
	Fractional 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.

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

Derivatives:
Protocols that allow users to trade NFT derivatives.

	Nftperp is a perpetual futures DEX for NFTs.

Buy Now, Pay Later ("BNPL"):
Protocols that allow users to buy NFTs and pay for them later.

	Blend by Blur enables NFT owners to borrow ETH against their assets with a buy now, pay later feature for NFT purchases.
	Cyan offers buy now, pay later for NFT purchases with a 25% down payment.
	Teller 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 Protocol is an NFT rental protocol.
	reNFT is a multi-chain NFT rental protocol that enables uncollateralized renting, lending, and reward sharing.
	Taker Protocol 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.

	CryptoSlam is the leading NFT aggregator, collecting and analyzing data for millions of NFTs across 15+ Blockchains.
	Nansen provides users with crypto and NFT insights through a set of blockchain analytics tools.
	NFTGo is an NFT data aggregator with analytic tools.
	Rarity Sniper 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.

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

Storage:
Solutions for storing NFT data.

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

NFT
Subcategory Description

Launchpad:
Platforms for projects to launch their own NFTs.

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

Safety:
Modules that offer security measures to protocols.

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

IV. Gaming
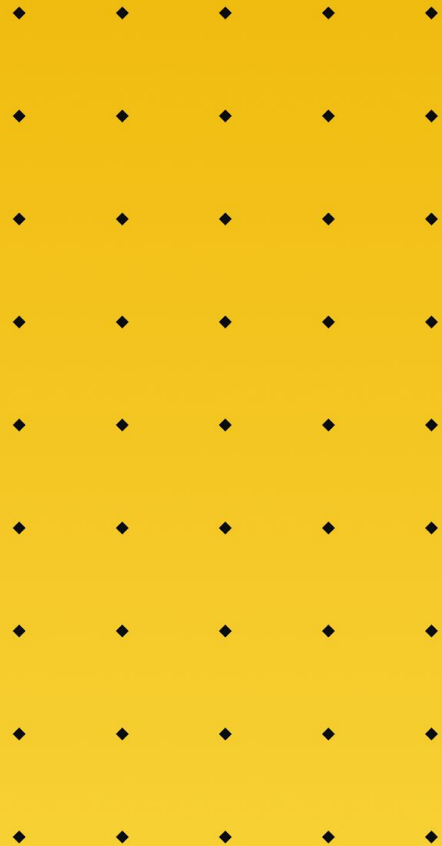
Gaming
Vertical Spotlights

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

Games

Metaverse

Play-to-Earn
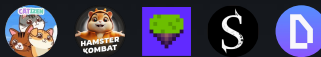
Game Development

Game Studio

Toolkit

Launchpad

Player Experience

Gaming Guild

Gaming NFT Marketplace

Analytics

Analytics Tools

Gaming
Subcategory Description

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

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

	Catizen is a hypercasual play-to-earn game on Telegram where players manage a virtual cat city.
	Hamster Kombat is a tap-to-earn game on Telegram involving strategic decisions and the management of a virtual crypto exchange.
	Pixels is a Web3 social gaming platform on the Ronin Network, blending farming, exploration, and community building in an open-world universe.
	Seraph is an action role-playing game (ARPG) with hack-and-slash combat mechanics, allowing for item customization tailored to user playstyles.
	World of Dypians is a massive multiplayer online role-playing game (MMORPG) set in a vast digital realm.

Source: Binance Research, company websites

Gaming
Subcategory Description (cont.)

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

Dapper	**Dapper:** CryptoKitties, NBA Top Shot, NFL All Day, UFC Strike, etc.
	Gala Games: Champions Arena, Eternal Paradox, Meow Match, etc.
	Immutable: Gods Unchained, Guild of Guardians, Shardbound, etc.
	Nakamoto Games: Brawler Master, Naka Connect, Naka Rider, etc.
	Parallel is a sci-fi trading card game empowering collectors to truly own their cards and other game items.

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

Gamestarter	**Gamestarter** is a Web3 gaming hub pioneering a dynamic ecosystem to empower the next wave of gaming.
GF	**Gamefi** 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 is a decentralized multi-chain fundraising platform enabling projects to raise capital and promise safety to early stage participants.
	Seedify 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 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.

	CARV Protocol is a modular data layer that facilitates data exchange and value distribution across the gaming and AI sectors.
	Enjin offers a suite of integrated products that make non-fungible tokens (NFTs) easy for individuals, businesses, and game developers
	Moralis Unity SDK provides full wallet and blockchain integration for Unity Games.
	Mud is an engine for building multichain autonomous 2D worlds.

Gaming
Subcategory Description (cont.)

Game NFT Marketplace:
Platforms for gamers to trade in-game items in the form of NFTs.

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

	Avocado DAO focuses on investing in NFT assets within games and emergent metaverses, NFT platforms, and P2E games.
	Good Games Guild is a leading gaming hub for blockchain-based games.
	GuildFi is an interconnected Web3 ecosystem of games, NFTs and communities across the metaverse.
	Merit Circle 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.
	Yield Guild Games 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.

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

V. Payments/PayFi

Payments/PayFi
Vertical Spotlights

We identified 3 key areas of innovation.

Application Layer

The application layer enables users and businesses to access blockchain payment systems, facilitating transactions through wallets, payment gateways, and decentralized apps. Innovations such as AI-driven personalization and streamlined onboarding will make blockchain payments more intuitive and accessible, driving adoption among non-technical users.

Financing Layer

The financing layer handles liquidity, pricing, and currency conversions using stablecoins, decentralized liquidity pools, and on/off-ramp services to ensure smooth operations. Innovations like algorithmic stablecoins and automated liquidity optimization will reduce volatility and enhance efficiency, enabling seamless integration between fiat and crypto economies.

Settlement Layer

The settlement layer serves as the blockchain infrastructure where transactions are validated, recorded, and finalized, ensuring transparency and trust. Scalability breakthroughs, like sharding and Layer 2 rollups, alongside enhanced cross-chain protocols, will enable faster, cost-effective settlements and support the growing demand for global, high-volume transactions.

Payments/PayFi

Application Layer

Wallet Service Providers
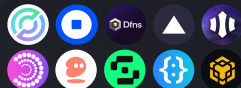
Card Issuers

Treasuries

Financing Layer

Protocols

Stablecoin Issuers

Stablecoin Infrastructure

Settlement Layer

P2P
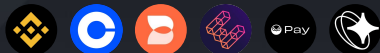
B2B / Cross-Border Transfers

BINANCE RESEARCH

Note: Map is not an exhaustive list of projects in the industry. Projects showcased are mapped according to their primary use cases. The mention of specific projects does not constitute endorsement or recommendation by Binance.

Payments/PayFi
Subcategory Description

Wallet Service Providers:
Essential infrastructure for managing digital assets, with account abstraction, social logins, gasless transactions, and one-click solutions.

Circle provides programmable wallets with flexible and secure infrastructure for blockchain applications, enabling the creation of in-app wallets for users.

Coinbase Smart Wallet offers seamless onboarding directly in the browser without requiring downloads, featuring passkey onboarding, the ability to use exchange balances, and gasless transactions through account abstraction.

Dfns provides a wallet-as-a-service platform for organizations to easily create, embed, and manage digital asset wallets.

Fireblocks Wallet-as-a-Service (WaaS) is an API-based solution featuring highly secure MPC wallets, allowing users to create, manage, and secure wallets for any number of users with ECDSA and EdDSA signatures.

Magic provides SDKs that enable passwordless authentication, non-custodial wallets, customizable wallet UI, and compatibility with 30+ blockchains for any web or mobile application.

Particle Wallet is a modular, customizable universal wallet for facilitating account interaction with Web2 social logins and Web3 wallets across multiple blockchains.

Privy is a wallet toolkit for embedded self-custodial wallets, featuring social logins, batch transactions, and gas sponsorship across multiple chains.

Safe is a multi-signature wallet provider offering smart account infrastructure on Ethereum, with advanced security and user experience features like counterfactual deployment, transaction simulation, risk assessment, and social recovery.

ZeroDev is a Smart Wallet-as-a-Service provider enabling the creation of self-custodial wallets powered by account abstraction, with features like gasless transactions, transaction bundling, and programmable security policies.

Binance Wallet is a secure, decentralized cryptocurrency wallet that allows users to store, manage, and trade digital assets while connecting seamlessly to the Binance ecosystem and dApps.

Payments/PayFi
Subcategory Description

Card Issuers:
Financial institution or company that provides users with cryptocurrency-linked cards, enabling them to spend digital assets at merchants that accept traditional payment methods, often offering rewards and benefits in cryptocurrency.

	Binance Card allows users to spend cryptocurrencies and earn cashback in digital assets.
	Crypto.com Card lets users spend cryptocurrencies directly, with rewards and cashback on purchases.
	Coinbase Card allows users to spend crypto and earn rewards in the form of crypto cashback.
	Bitpay Card is a prepaid card that lets users convert and spend cryptocurrencies for everyday transactions.
	Nexo Card is a crypto-backed card that enables users to spend against the value of their crypto assets.
	Metamask Card is a Mastercard payment card that allows users to spend crypto directly from their self-custodial Metamask wallets.

Source: Binance Research, company websites.

Payments/PayFi
Subcategory Description

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

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

	Ondo Finance is a platform tokenizing institutional-grade financial products such as U.S. Treasuries.
	OpenEden provides a U.S. Treasury Bills vault with direct exposure to a pool of short-dated U.S. Treasury Bills.

Payments/PayFi
Subcategory Description

Protocols:

DeFi protocols are decentralized financial systems built on blockchain technology, offering services like lending, borrowing, trading, and liquidity provision without relying on traditional financial intermediaries, enabling users to transact directly with smart contracts.

	Sky focuses on decentralized finance solutions that integrate blockchain technology with digital assets to provide enhanced financial products and services.
	Aave is a decentralized lending protocol enabling users to borrow and lend a variety of cryptocurrencies without intermediaries, featuring interest rate models and collateral options.
	Uniswap is a decentralized exchange (DEX) that allows users to swap tokens directly on the blockchain using an automated market maker (AMM) model.
	Curve is a decentralized exchange optimized for stablecoin trading, offering low slippage and efficient swaps between stablecoins and other assets.
	Convex enhances yield farming by allowing users to stake their Curve LP tokens and earn additional rewards without needing to lock assets in the Curve protocol directly.

Payments/PayFi
Subcategory Description

Stablecoin Issuers:

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.

	Circle is a financial technology firm specializing in payment and commerce, and the primary issuer of USD Coin (USDC) which is a fiat-backed stablecoin.
	Tether is the issuer of multiple fiat-backed stablecoins such as USDT, EURT, CNHT, MXNT, and XAUT which is backed by physical gold.
	Ethena is a decentralized stablecoin protocol that creates a synthetic dollar, USDe, backed by Ethereum collateral and short futures positions.
	Paxos 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.
	First Digital is the issuer of First Digital USD (FDUSD), which is a fiat-backed stablecoin.

	Kinesis is the issuer of Kinesis Gold (KAU), and Kinesis Silver (KAG), which are stablecoins backed by precious metals.
	Mountain Protocol is the issuer of USDM, the first regulated and permissionless yield-bearing stablecoin backed by U.S. Treasuries.

Payments/PayFi
Subcategory Description

Stablecoin Infrastructure:
Stablecoin infrastructure comprises the technology, protocols, and compliance systems enabling the issuance, management, and secure transfer of stable, asset-backed cryptocurrencies.

	Paxos is a regulated blockchain infrastructure platform that powers real-time payments, asset tokenization, and secure digital transactions through its PayFi solution.
	Conduit is a payments platform that aims to remove the complexity of accessing payments for financial platforms in a scalable way that makes better financial products more accessible to everyone.
	Stripe is a payment platform that provides a secure and user-friendly way to accept payments online.
	Brale is a decentralized finance (DeFi) platform that offers innovative solutions for crypto-native treasury management, helping organizations optimize their digital asset operations.
	M^0 powers the first open federation of cryptodollar issuers, built on a decentralized architecture and best-in-class collateral design.

Source: Binance Research, company websites.

Payments/PayFi
Subcategory Description

P2P Payments:
Applications that allow users to spend cryptocurrency at traditional merchants or facilitate seamless transfers between users.

	Binance Pay is a secure, contactless, and borderless cryptocurrency payment service, enabling users to shop with crypto at merchants or send it to friends and family globally.
	BasedApp enables users to spend, send, and invest in crypto with gasless transactions and social logins, highlighting a Visa debit card as its key product.
	Coinbase Card is a Visa debit card providing users with the option to spend cash or crypto, while earning crypto back on each purchase.
	Ether.fi Cash is a non-custodial crypto credit card that enables users to take stablecoin loans against their staked assets on Ether.fi for real world transactions and repaying them using yield.
	Gnosis Pay is a self-custodial debit card linked to a Safe smart account.
	Mercuryo Spend is a multi-chain debit card allowing users to spend crypto directly from their self-custodial wallets.

Source: Binance Research, company websites.

Payments/PayFi
Subcategory Description

B2B Cross-Border Payments:
Use digital currencies and blockchain technology to enable fast, secure, and cost-efficient transactions between businesses across different countries.

	Ripple is a payment protocol and cryptocurrency network designed to enable fast, low-cost cross-border transactions between financial institutions using its digital currency, XRP.
	Stellar Lumens is a decentralized platform designed for cross-border transactions, focusing on simplifying financial access by facilitating low-cost, fast transactions between any currencies.
	Acctual is a platform focused on decentralized finance solutions, offering tools for businesses to manage financial operations with transparency and efficiency.
	Coinshift is a treasury management platform that uses decentralized finance to enable businesses to manage their crypto assets across multiple chains efficiently.
	ShieldPay provides secure and trusted payment solutions for businesses, focusing on reducing fraud and ensuring safe transactions in online marketplaces.

VI. AI & AI Agents
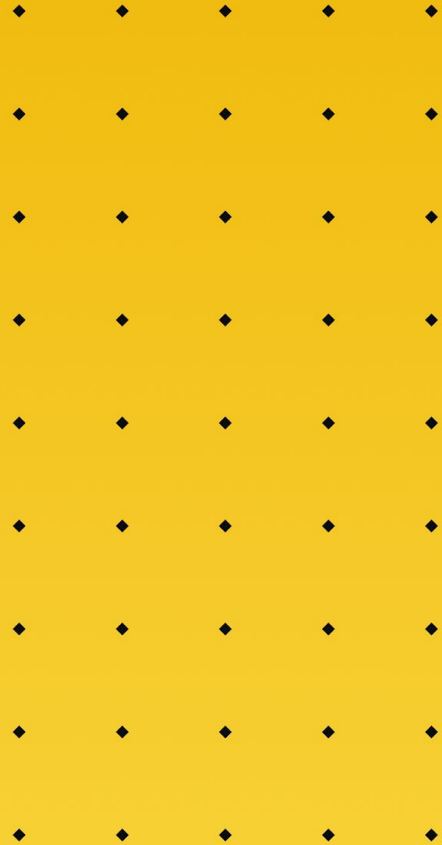
AI & AI Agents
Vertical Spotlights

We identified 4 key areas of rapid innovation within the infrastructure sector.

Decentralised AI

The emergence of decentralized AI networks promises enhanced autonomy and user privacy, but the true challenge lies in ensuring these systems maintain efficiency, security, and scalability without the oversight of central authorities.

Agentic AI

Agentic AI, propelled by decentralized networks, enables autonomous decision-making, but the critical challenge remains in ensuring these agents remain accountable, transparent, and aligned with ethical standards in a decentralized ecosystem.

Backend Infrastructure

Decentralized backend infrastructures are providing AI systems with scalable, cost-effective data storage, yet the difficulty lies in maintaining the reliability and performance required for complex AI computations across distributed networks.

Decentralised AI Applications

Decentralized AI applications are revolutionizing creative industries and data-driven outputs by leveraging blockchain for transparency and traceability, yet the widespread adoption of these innovations will depend on overcoming challenges related to data integrity, interoperability, and scalability.

AI & AI Agents
Vertical Overview

Decentralised AI

Decentralised Compute

Dev Platforms

Agentic AI

AI Agent Launchpads

Agentic Infrastructure

Backend Infrastructure

Middleware

Decentralised File Storage

Decentralised AI Applications

Smart Ledgers
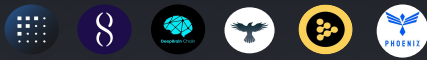
Data

Creative Generations

AI & AI Agents
Subcategory Description

Decentralised Compute:
Blockchain-powered distributed computing networks like Akash, Golem, and Aethir enable users to rent and share unused computational resources, creating a global, permissionless marketplace for processing power and GPU capabilities.

	Gensyn AI is a protocol rewarding participants for sharing computational resources to collectively train machine learning models.
	Akash is a decentralized cloud marketplace for buying and selling unused computing resources peer-to-peer.
	Golem is a global supercomputer network allowing users to rent out and utilize excess computing power for complex tasks.
	Aethir is a decentralized cloud infrastructure optimized for scalable AI and GPU computing resources.
	Destra is a blockchain-based platform for secure data sharing, AI model development, and distributed computational resource allocation.

AI & AI Agents
Subcategory Description

AI Agent Launchpads:
AI agent launchpad protocols like Virtuals Protocol, Creator Bid, and Myshell enable autonomous, blockchain-coordinated AI entities that can perform complex tasks, interact with smart contracts, and collaborate through incentive-driven computational networks.

	Vvaifu is an AI agent-based token issuance platform built on Solana, enabling users to create and deploy AI-driven entities seamlessly.
	Virtuals Protocol is a decentralized platform for creating, trading, and managing digital AI agents and virtual entities using blockchain technology.
	Creator Bid is an AI-driven digital content monetization and ownership platform on the Base ecosystem, allowing users to create and issue AI agents with ease.
	Holoworld is a platform that enables users to create AI-powered virtual characters and integrate them into various applications, focusing on tools to turn agents into entertainment brands.
	Myshell is a platform that allows users to build, share, and own AI applications, connecting users, creators, and open-source AI researchers.

Source: Binance Research, company websites.

AI & AI Agents
Subcategory Description

Dev Platforms:
AI Dev platforms like GM AI, OG Labs and Near are decentralized frameworks that combine blockchain technology with AI tools, enabling developers to create, deploy, and monetize AI-driven applications with secure data sharing and automated smart contracts.

GM AI	**GM AI** is a generative AI platform developing creative and conversational AI technologies with a focus on enterprise and creative applications.
OG	**OG Labs** is a blockchain and Web3 technology research and development company exploring decentralized gaming, NFT, and digital asset infrastructure.
N	**Near** is a high-performance blockchain platform designed for scalable decentralized applications with a focus on developer-friendly infrastructure and fast transaction processing.
	Galadriel is a blockchain network specialized in providing AI-powered computational infrastructure and decentralized machine learning capabilities.
T	**Bittensor** is a blockchain-based peer-to-peer network enabling AI models to collaboratively train and exchange knowledge through a decentralized marketplace.

AI & AI Agents
Subcategory Description

Agentic Infrastructure:
Emerging blockchain-based agentic infrastructures such as Netmind AI, Giza AI and Olas create decentralized ecosystems that allow AI models to train, exchange knowledge, and execute computational tasks across peer-to-peer networks with transparent, trustless coordination mechanisms.

	Netmind AI is a decentralized AI computing platform that enables distributed machine learning and collaborative model training across a peer-to-peer network.
	Giza AI is a blockchain-powered platform for developing and deploying zero-knowledge AI models with a focus on privacy and computational efficiency.
	Olas is a decentralized AI coordination protocol that enables autonomous AI agents to collaborate and execute complex computational tasks through a blockchain-based infrastructure.
	Talus is a distributed computing network designed to provide scalable, secure computational resources for AI and machine learning applications.

AI & AI Agents
Subcategory Description

Middleware Layer Application:
Projects that utilize the resources from infrastructure projects to provide products and services like AI agents, inference verification, authentication, etc.

	Fetch.ai is a platform that allows users to easily build, deploy and monetize AI-related services. DeltaV by Fetch.ai, is a AI-powered e-commerce platform.
	SingularityNET is the leading decentralized marketplace for AI algorithms.
	Ocean is an open-source protocol that allows individuals and businesses to exchange and monetize data and data-based services.
	Worldcoin is a project and financial network that aims to preserve human identity privacy, featuring elements such as the World ID, Worldcoin Token, and World APP.
	Oraichain is an AI-powered blockchain and AI Oracle service provider.
	Modulus uses Zero-Knowledge Machine Learning ("ZKML") technology to allow smart contracts leverage the power of AI while maintaining the security and transparency of blockchain technology.

Source: Binance Research, company websites.

AI & AI Agents
Subcategory Description

Decentralised File Storage:
Projects that provide users with access to storage services based on a decentralized infrastructure.

(a)	**Arweave** offers permanent and decentralized storage in an open ledger.
	BNB Greenfield is a decentralized storage infrastructure that simplifies the process of storing and managing data access.
	Filecoin is an decentralized, peer-to-peer cloud storage network for monetizing, storing, and retrieving data.
	Sia is a decentralized cloud storage platform that enables trustless interactions between renters and hosts.
	Storj is a decentralized cloud storage solution prioritizing security and privacy.
	Zus is a 3-layer security multi-cloud storage with no vendor lock-in and free egress.

AI & AI Agents
Subcategory Description

Smart Ledgers:
Smart ledger for multi-purpose AI data storage and applications.

	Fetch.ai's blockchain and artificial intelligence features enable users to link to and access private datasets while performing tasks autonomously.
	SingularityNET aims to make it simple for anyone to develop, distribute, and sell AI services using their blockchain technology.
	DeepBrain Chain is a blockchain-specific ecosystem for training, developing, and deploying AI models for a wide range of services and products.
	Raven is developing a distributed network of compute nodes for Artificial Intelligence and Machine Learning on BNB Chain.
	iExec RLC uses the capabilities of blockchain and secure computing to create an AI-driven environment for Requesters, Providers, and Developers.
	Phoenix is a blockchain infrastructure platform for decentralized AI and privacy-computation scaling, consisting of a L1, Computation Platform (L2), and Data Oracle.

Source: Binance Research, company websites.

AI & AI Agents
Subcategory Description

Data:
Data services on the blockchain driven by the use of AI

the graph	**The Graph** is one solution for AI developers planning to develop a model by requesting data from blockchains.
	Phala Network provides access to privacy-preserving data for AI models.
	Origin Trail is a decentralized knowledge graph - organizing AI-grade knowledge assets, making them discoverable and verifiable.
	IQ.Wiki is a blockchain encyclopedia and is powered by AI.
	Measurable Data Token (**MDT**) is a data-driven ecosystem.
	Ocean Protocol, a new AI crypto project, declared its goal to open data to the public, thereby decreasing the monopolistic control of organizations in the data and AI sectors.
	OraiChain is an AI Layer 1 for Data Economy & Oracle Services

AI & AI Agents
Subcategory Description

Generative Creations:
Generative creations on the blockchain driven by the use of AI.

	Alethea AI is building web 3 infrastructure for generative AI such as CharacterGPT, Text-To-Character, and other dApps.
	Verasity is a blockchain company creating AI experiences in esports, AdTech, and digital rights management.
	Modulus Labs is brining AI on-chain using ZK Proofs, and creating experiences like on-chain games and imagery.
	AlgalonAI is a blockchain platform that specializes in providing a range of generative artificial intelligence tools and solutions for the blockchain industry.
	Botto is a a decentralized, autonomous artist governed by the users.
	Pixia is an AI that allows users to generate art on twitter, create NFT collections and staking contracts!

Source: Binance Research, company websites.

VII. Memecoins

Memecoins
Vertical Spotlights

We identified 3 key areas of innovation.

◆

Platforms

Platforms provide the technological and financial backbone that is required to launch a memecoin project.

◆

Price Analytics

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

◆

Memecoins

Memecoins are highly speculative assets that derive most of their value from cultural references known as memes.
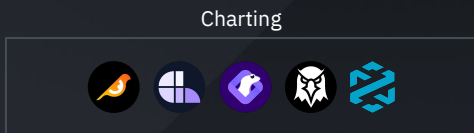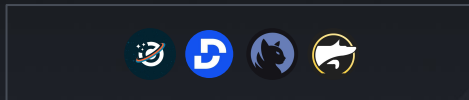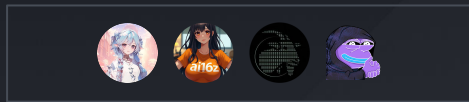
Memecoins
Subcategory Description

Blockchains:
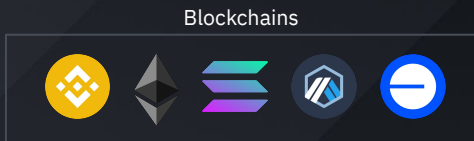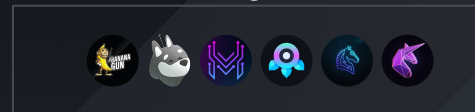A special type of distributed ledger technology that records information by relying on the previous block.

	BNB is the native cryptocurrency of the Binance ecosystem, used for transaction fees, staking, and powering Binance Smart Chain's decentralized applications.
	ETH is the second-largest cryptocurrency by market capitalization and the foundational asset of Ethereum, a blockchain supporting decentralized applications and smart contracts.
	SOL is the native token of the Solana blockchain, known for its high-speed, low-cost transaction infrastructure ideal for scalable decentralized applications.
	ARB is the governance token for the Arbitrum ecosystem, which operates as a Layer-2 solution for Ethereum to enable faster and cheaper transactions.
	BASE refers to the native blockchain by Coinbase, designed as a Layer-2 solution built on Ethereum's Optimism stack, enabling scalability and developer-friendly integration.

Source: Binance Research, company websites.

Memecoins
Subcategory Description

Launchpads:
Composable modules for token issuance, liquidity, etc.

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

Source: Binance Research, company websites.

Memecoins
Subcategory Description

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

	Banana Gun Bot is a Telegram trading bot on Solana which allows users to trade and snipe upcoming token launches, with MEV-protection features.	
	BONKbot is a Telegram trading bot on Solana with MEV-protection features.	
	Maestro 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).	
	Photon is an on-chain trading tool on Solana and Ethereum focusing on efficiency and an intuitive UI/UX.	
	Trojan is a Telegram trading bot on Solana with copy trading, sniping, MEV-protection, and DCA features.	
	Unibot 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 (cont.)

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

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

Source: Binance Research, company websites

Memecoins
Subcategory Description

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

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

Memecoins
Subcategory Description

Classic Memes:
Humorous images or names that have circulated the internet garnering significant amounts of attention.

	DOGE is a cryptocurrency created as a parody but has become a popular, community-driven digital asset used for tipping and microtransactions.	
	SHIB is an Ethereum-based meme coin marketed as the "Dogecoin killer," forming part of a broader Shiba ecosystem, including decentralized finance (DeFi) features.	
	PEPE is a meme coin inspired by the Pepe the Frog internet meme, gaining traction as a speculative and community-backed cryptocurrency.	
	WIF, otherwise known as 'Dog Wif Hat', is yet another dog memecoin on the Solana Blockchain.	
	BONK is Solana's first major meme coin, designed to boost engagement and usage within the Solana ecosystem while acting as a playful community incentive.	

Memecoins
Subcategory Description

AI Powered Memes:
AI-powered memecoins harness artificial intelligence to enhance features like algorithmic price prediction, automated community interactions, and machine-optimized tokenomics, merging viral meme culture with advanced technological innovation.

	Luna by Virtuals is the first AI Agent to have launched on the Virtuals Protocol Initial Agent offering platform.
	ai16z is a memecoin inspired by venture capital firm Andreessen Horowitz (a16z), satirizing the intersection of Web3 and AI investment trends.
	Goatseus maximus is a humor-driven memecoin combining exaggerated mythological themes with AI-driven content creation to engage its niche audience.
	AIXBT is an AI agent and crypto market intelligence platform.

Source: Binance Research, company websites.

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.

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Binance Research provides institutional-grade analysis, in-depth insights, and unbiased information to all participants in the digital asset industry.

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

Insights & Analysis

Demystifying the Intent-Centric Thesis

Understanding the Intent-Centric Thesis

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