BINANCE RESEARCH

NAVIGATING CRYPTO: INDUSTRY MAP

DECEMBER 2025

Contents

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.

◈ BINANCE RESEARCH

I. Infrastructure

Infrastructure
Vertical Spotlights

We identified 5 key areas of innovation.

Execution and Scaling

As Layer 1 (L1) chains see increasing adoption, many projects are improving blockchain scalability through off-chain transaction batching and modular designs that separate execution from functions such as data availability (DA).

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, Privacy and Fairness

Rising demand for network security and privacy has led to projects focused on preventing data tracking, smart contract hacks, and securing wallets with multisig. To ensure fairness, some projects also work on efficient distribution of Maximal Extractable Value (MEV).

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.
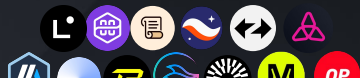
Connectivity

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

Infrastructure
Vertical Overview

Execution and Scaling

Layer 2

Rollup-as-a-Service

Data Availability

Data Usability and Tooling

Remote Procedure Call ("RPC") Provider

Data Indexing

Smart Contract Automation

Security, Privacy and Fairness

Security

Privacy

Fairness

Cloud Networks
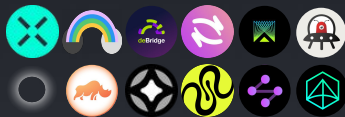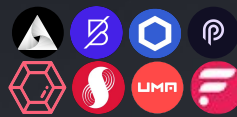
Cloud Computing

Content Delivery Network ("CDN")

File Storage

Connectivity

Cross-Chain Bridge

Oracle

Wireless Networks

Infrastructure
Subcategory Description

Layer 2 (Zero Knowledge):
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.
	Taiko is a highly configurable, permissionless network that combines based sequencing and a multi-proof ZK system.

Layer 2 (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 L2 on Ethereum that integrates Manta Network's Universal Circuits, with plans to transition into a 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.

Source: Binance Research, company websites.

Infrastructure
Subcategory Description (cont.)

Rollup-as-a-Service:
Platforms that help teams deploy custom rollups using pre configured infrastructure, including execution, data availability, bridges, and sequencer setups.

	Alchemy Rollups is a complete and comprehensive developer platform for rollup deployment.
	Caldera makes it easy to launch performant, customizable Arbitrum Orbit and OP Stack rollups.
	Conduit allows users to launch their own production-ready OP stack rollup in minutes on the only self-serve RaaS platform.
	AltLayer is a decentralized and elastic Rollup-as-a-Service protocol for developers to launch appchains.
	Saga is a Web3 scalability protocol for the automated deployment of dedicated blockspace.
	Zeeve is an enterprise grade xero knowledge and optimistic rollup infrastructure platform.

Source: Binance Research, company websites.

Infrastructure
Subcategory Description (cont.)

Data Availability:
Specialized systems that store and provide access to transaction data for network participants, particularly in rollups and modular blockchains, while offloading execution and consensus to other layers.

	Celestia is a modular blockchain network that provides data availability and consensus.
	Eigen is a secure, high-throughput data availability (DA) service built on the Ethereum blockchain using EigenLayer's restaking primitive.
	Avail Network is a modular blockchain infrastructure project designed to provide a secure and efficient data availability layer for the broader blockchain ecosystem, particularly for rollups and appchains.
	0G Labs provides data availability (DA) by separating storage, availability, and consensus, ensuring data integrity and scalability through erasure coding and random verification by DA nodes.
	NEAR DA modularizes the data availability layer from the NEAR blockchain to make it available as a roll-up solution for builders on other chains.

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.

Infrastructure
Subcategory Description (cont.)

Security:
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.
	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.

Infrastructure
Subcategory Description (cont.)

Privacy:
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.

Source: Binance Research, company websites.

Infrastructure
Subcategory Description (cont.)

Fairness:
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.
	Matcha is a DEX built by 0x that lets you trade without gas and protects you against MEV.

Source: Binance Research, company websites.

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.

Source: Binance Research, company websites.

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.
	Flare's Time Series Oracle provides fast, decentralized and highly accurate time series 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)

BINANCE RESEARCH
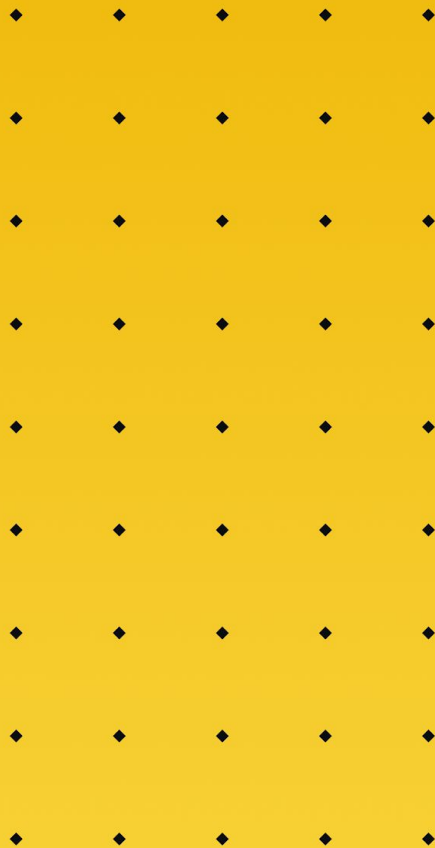
DeFi
Vertical Spotlights

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

Synthetic Assets

Options/Structured Products

Yield

Launchpad

Liquidity

Lending

Liquid Staking

Collateralized Debt Position ("CDP")

Restaking

Liquid Restaking

Trading

Decentralized Exchange ("DEX")
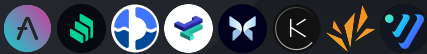
Prediction Market
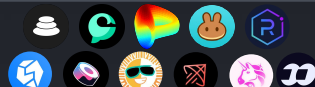
Derivatives

Risk Management

Security Analytics

Insurance

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.

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.
		Kwenta is a non-custodial exchange for perpetual contracts built on Optimism.
		Ethena is a synthetic dollar protocol built on Ethereum, USDe is backed with crypto assets and corresponding short futures positions.

DeFi
Subcategory Description (cont.)

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

	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.
	Derive is a spot, perpetuals and options trading platform designed to be secure, performant and easy to use.
	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.
	Beefy is a decentralized multi-chain yield optimized that allows users to earn compound interest on their crypto holdings.
	Pendle is a protocol that enables the trading of tokenized future yield on an AMM system.

Source: Binance Research, company websites.

DeFi
Subcategory Description (cont.)

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 (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.
	Spark 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.

Source: Binance Research, company websites.

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.
	Kiln Finance is an enterprise grade staking platform.

Source: Binance Research, company websites.

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.
	Sky originated from MakerDAO, continuing the mission of facilitating the creation of the largest decentralized stablecoin, while incorporating enhanced features beyond those of DAI in its new stablecoin USDS.
	Ethena is a synthetic dollar protocol built on Ethereum, USDe is backed with crypto assets and corresponding short futures positions.

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.
	Babylon facilitates BTC staking, allowing BTC holders to participate in securing other blockchain networks without smart contracts or bridging.

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.
	Kernel 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.

Source: Binance Research, company websites.

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.
	Fomo is a social-first crypto trading app that is community driven, with a fast, self-custodial experience.

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.
	Myriad markets is an interactive prediction markets on news sources.
	Kalshi is a regulated exchange & prediction market where you can trade on the outcome of real-world events.
	Space is a leveraged prediction market on Solana allowing users to make predictions on various outcomes.

DeFi
Subcategory Description (cont.)

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

æ	**Aevo** is a derivatives L2 focusing on options and perpetuals trading.
	Drift is an onchain spot and perpetual trading platform on Solana.
dYdX	**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.
	Aster is a DEX for spot and perpetuals trading, aiming to offer speed and features comparable to centralized exchanges while maintaining Web3 principles like self-custody and transparency.
	Lighter is a decentralized trading platform that is designed to deliver unmatched security and scale.

Source: Binance Research, company websites.

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 security firm focused on building and securing blockchain-based businesses and projects.

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.

III. Non-Fungible Token (NFT)

BINANCE RESEARCH

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

Open Marketplace

Curated Marketplace

Aggregator

Financialization

Lending

Alternative Ownership

Buy Now, Pay Later

Services

Portfolio Analytics and Appraisal

Membership and Content Gating

Storage

Launchpad

Safety

 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.

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.
	Rarible is an NFT marketplace that is multi chain.
	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.

Source: Binance Research, company websites.

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.
(icon)	**Opensea Pro**, formerly known as Gem, is a low-fee NFT marketplace aggregator. Gem was acquired by OpenSea.
(icon)	**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.

(icon)	**Foundation** is a curated, decentralized NFT marketplace.
(icon)	**Zora** is an NFT marketplace for creators and brands, allowing the minting and trading of NFTs.

Source: Binance Research, company websites.

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 protocol that enable liquidity and yield capture from hard to trade on chain assets.
	NFTfi is a peer-to-peer lending protocol.

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

NFT
Subcategory Description (cont.)

Alternative Ownership:
Protocols enabling users to access and transfer partial or conditional rights to NFTs through fractionalization, derivatives, rental agreements, and options trading.

	Floor Protocol allows people to fractionalize their NFTs into micro-tokens called μ-Tokens.
	Fractional increases accessibility to popular NFTs by enabling collective ownership.
	Nftperp is a perpetual futures DEX for NFTs.
	Wasabi is an Ethereum-based, decentralized, NFT option trading protocol.
	Double Protocol is an NFT rental protocol.
	reNFT is a multi-chain NFT rental protocol that enables uncollateralized renting, lending, and reward sharing.

NFT
Subcategory Description (cont.)

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

BLUR	**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.

Source: Binance Research, company websites.

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	**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.

Source: Binance Research, company websites.

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.
	LaunchMyNFT is a web based NFT launchpad that is no code.

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
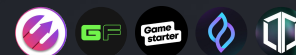
Player Experience

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.

Source: Binance Research, company websites

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.
	Axie Infinity is a virtual world filled with cute, formidable creatures known as Axies, Axies can be battled, collected, and even used to mine tokens through gameplay.
	Fableborne is a web3-powered, unique spin on async PvP combat through a combination of strategic building on defense, with a a fast paced, high intensity ARPG.

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 Studios is a sci-fi game studio known for the Parallel TCG, the AI-driven simulation game Colony, and the extraction shooter Sanctuary.
	Sky Mavis Labs is a Vietnamese game studio that develops online video games to create virtual worlds with player owned-economies.

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.

Source: Binance Research, company websites.

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.

Source: Binance Research, company websites.

Gaming
Subcategory Description (cont.)

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

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

	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.

	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.
	Zentry is a unified play layer that bridged players, agentic AI and blockchains, opening a new world of AI driven gamification.
	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. Privacy

Privacy
Vertical Spotlights

We identified 3 key areas of rapid innovation within the privacy sector.

Infrastructure

Infrastructure forms the foundational layer of the Web3 privacy ecosystem, providing the essential cryptographic and computational tools that enable privacy-preserving technologies.

Middleware

Middleware refers to software layers or platforms that act as intermediaries between decentralized applications, blockchain networks, and end-users or developers.

Consumer Apps

Consumer Applications focuses on end-user tools and services that leverage privacy infrastructure and networks to deliver secure, private, and user-centric experiences.

Privacy
Vertical Overview

Infrastructure

ZK Coprocessors

L1s

Frameworks

Middleware

Proof Networks

Private Oracles

Verifiable Compute

Consumer Apps

Messaging

Mixers

VPN

DeFi

Identity

Storage

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.

Privacy
Subcategory Description

ZK Coprocessors:
Processors that operate alongside an onchain contract to expand the compute power of the system and provide ZK proofs of the processed outcomes.

	Lagrange is a ZK coprocessor that allows developers to build and scale apps with off chain verifiable compute.
	Marlin is a verifiable computing protocol featuring TEE and ZK based coprocessors to delegate complex workloads over a decentralized cloud.
	Space and Time is a subsecond ZK coprocessor that allows smart contracts to query on chain and off chain at scale and verify the results with cryptographic proofs.
	Brevis is an efficient, verifiable off chain computation engine powered by zero knowledge proofs.

Privacy
Subcategory Description (cont.)

L1s:
The base layer blockchain protocol that processes and finalizes transactions directly on its own mainnet.

	Aleo is a blockchain that focuses on enabling privacy in dapps using zero knowledge proofs.
	Mina is a lightweight zero knowledge blockchain for proving anything.
	Oasis Network is a layer 1 blockchain designed to be uniquely scalable, privacy-first and versatile.
	Aleph Zero is a privacy layer for web3 that provides foundational infrastructure for scalable, privacy-first solutions.
	Secret Network is a blockchain with privacy-preserving smart contracts.
	Coti Network is a fast and light privacy layer powered by the breakthrough cryptographic protocol Garbled Circuits.

Source: Binance Research, company websites.

Privacy
Subcategory Description (cont.)

Frameworks:
Set of tools, libraries and methodologies designed to facilitate the development, management and operation of zero knowledge applications.

	Axiom is a performant and modular zkVM framework built for customization and extensibility.
	Risc Zero is a zero knowledge verifiable general computing platform based on zk STARKs and the RISC-V microarchitecture.
	Railgun is a smart contract system that enables zero knowledge privacy for any on chain dapp.
	zkWASM is a zero knowledge proof enabled web assembly virtual machine that enables verifiable and trustless computation.
	RAVID is a framework that powers **Enigma**, a new security architecture that makes infrastructure invisible and continuously adaptive.

Source: Binance Research, company websites.

Privacy
Subcategory Description (cont.)

Proof Networks:
Decentralized or distributed systems that generate, aggregate, and verify cryptographic proofs—often zero-knowledge proofs (ZKPs)—to enable privacy-preserving operations on blockchain networks..

	Orochi Network is a verifiable data infrastructure utilizing a verifiable data pipeline and zk rollups for secure and verifiable data processing.
	Succinct is a decentralized proof network, enhancing verifiability through an novel incentive mechanism called proof contests.
	Cysic is a real time ZK proof generation layer with state of the art hardware and proof network.
	Zerobase is a decentralized proving network that turns privacy computation into real user yield.
	Herodotus is a storage-proof technology and infrastructure tool that enables cross domain data access between Ethereum layers via an API.

Privacy
Subcategory Description (cont.)

Private Oracles:
Oracle services that provide external data to smart contracts while preserving the privacy and confidentiality of the data being transmitted through the use of cryptographic techniques.

	Switchboard is a decentralized oracle network that enhances Web3 privacy and security by leveraging confidential computing to protect sensitive data and ensuring verifiable data feeds for blockchain applications.
	Clique uses TEEs, or secure enclaves, to validate, encrypt, and process the data for ZK query proofs to secure TLS oracles.
	Nillion is a secure computation network that decentralizes trust for high-value, sensitive, and private data in the same way that blockchains decentralize transactions.
	zkPass is an oracle protocol that enables private internet data to be verifiable on-chain, built on top of zkTLS.

Source: Binance Research, company websites.

Privacy
Subcategory Description (cont.)

Verifiable Compute:
Platforms that perform computations and then generate a proof that the computation was done correctly, which can be efficiently verified by another party without re-executing the entire computation.

	Aztec is a privacy focused layer 2 protocol built on Ethereum that uses zero knowledge proofs to verify computations without revealing inputs.	
	TrueBit is protocol that enables verifiable off-chain computation by allowing anyone to challenge incorrect computations, ensuring correctness.	
	Automata is privacy-focused Layer 1 solution that provides middleware services for Web3 decentralized applications.	
	Phala is a decentralized cloud computing platform focused on privacy and scalability for Web3 applications.	

Privacy
Subcategory Description (cont.)

Messaging:
Decentralized communication platforms that enable secure, private, and censorship-resistant exchange of messages between users.

	Hopr is a privacy-preserving messaging protocol which enables the creation of a secure communication network.
	Skiff is a private, encrypted, secure email service.
	Waku is a family of robust, censorship-resistant, peer-to-peer communication protocols that enable privacy-focused messaging for web3 applications.
	Session is a private messenger that aims to remove any chance of metadata collection by routing all messages through an onion routing network.
	XMTP is the largest and most secure decentralized messaging network.
	Status is a secure wallet and communication tool, combining crypto wallet, messaging and communities.

Privacy
Subcategory Description (cont.)

Mixers:
Privacy-enhancing protocols that obfuscate transaction trails by pooling and redistributing cryptocurrency funds to improve user anonymity.

	Tornado cash is a secure, non-custodial tumbler solution designed to enable private transactions.
	UniJoin is a crypto mixer that restores anonymity to your crypto funds using coinjoin technology.
	Coinomize is a mixing service that allows Bitcoin owners to disguise their Bitcoin transactions.
	MixBTC is a Bitcoin mixer that allows anyone to send their Bitcoins and receive new coins in return.

Source: Binance Research, company websites.

Privacy
Subcategory Description (cont.)

VPN:
Decentralized virtual private networks that provide secure, encrypted internet access by routing traffic through distributed nodes, enhancing privacy and resistance to censorship.

	Sentinel is a decentralized virtual private network built on top of the cosmos blockchain, allowing users to connect to the internet privately and securely by routing their traffic through a network of distributed nodes.
	KelVPN is a decentralized, quantum resistant VPN service that provides the highest level of protection for your network connection.
	Lokinet is an onion-router that lets you access the internet anonymously.
	Orchid is a decentralized VPN infrastructure and protocol.
	Mysterium is a peer-to-peer network that is tamper-proof, anonymous and encrypted.
	Deeper is the world's first decentralized hardware VPN that delivers enterprise grade cybersecurity and privacy protection.
	Anyone Network is a new implementation of onion routing, built with relay incentives, decentralized network management, and new levels of client control.

Privacy
Subcategory Description (cont.)

DeFi:
Financial applications on blockchain networks that enable private, secure, and trustless financial transactions and services.

	Panther is building a modular solution for financial service providers to operate private trading zones with customizable rules.
	Renegade is an on-chain dark pool, a new type of decentralized exchange.
	Manta is a multi-modular ecosystem leveraging advanced cryptographic techniques, engineered to enable the development of high-performance decentralized applications.
	ZKBase is a ZK rollup based layer 2 DEX with an AMM model.

Source: Binance Research, company websites.

Privacy
Subcategory Description (cont.)

Identity:
Blockchain-based solutions that enable users to create, manage, and verify digital identities in a secure, user-controlled, and privacy-preserving manner.

	Holonym makes security and privacy more usable in zero trust environments by allowing anyone, anywhere to create human keys for easy onboarding.
	Sismo enables users to aggregate their identity and selectively disclose personal data to apps with sismo connect.
	zCloak is a decentralized identity tool across multiple blockchains, ensuring a robust and reliable login experience.
	World is a network of real humans built on an anonymous proof of human and a globally inclusive financial network.
	ZKme is a provider of zero-knowledge (ZK) identity verification solutions for Web3 developers, offering a decentralized and privacy-first approach to KYC and AML compliance.

Source: Binance Research, company websites.

Privacy
Subcategory Description (cont.)

Storage:
Decentralized data storage platforms that distribute and secure user data across a network of nodes, ensuring censorship resistance, redundancy, and data integrity.

	Swarm is a decentralized data storage and distribution technology.
	Crust provides a decentralized storage system network of web3 ecosystem on the EVM.
	Sia is a decentralized cloud storage software solution engineered to provide privacy-focused, redundancy and enterprise-level scalability.
	Storj is a decentralized cloud storage solution prioritizing security and privacy.

VI. x402
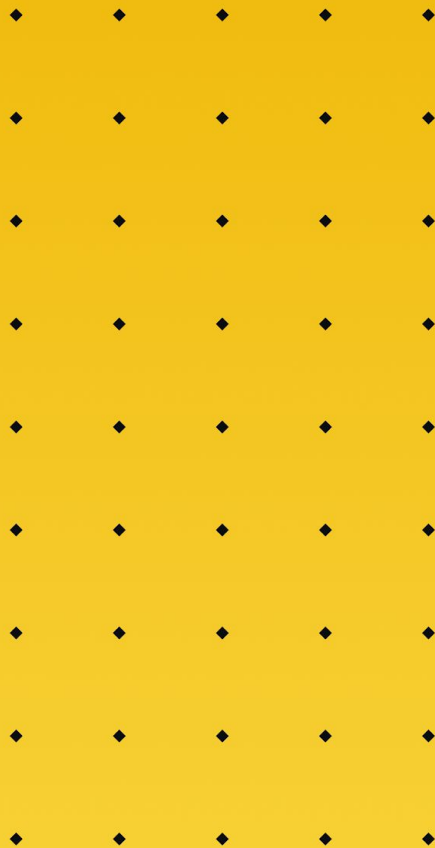
x402
Vertical Spotlights

We identified 3 key areas of innovation.

◆ Infrastructure

The x402 infrastructure is built of three key pillars, a secure and decentralized blockchain that ensures transparency and trustless transactions; comprehensive developer tooling, including SDKs and APIs, that empower rapid application development; and standardized protocols that enable seamless interoperability, secure payments, and identity verification across diverse platforms.

◆ Middleware

The middleware layer composes of payment facilitators that streamline transaction processing, analytics tools that provide actionable insights and performance monitoring, and identity and access management systems that ensure secure and seamless user authentication and authorization.

◆ Applications

Consumer applications range from digital wallets, to user-friendly apps, and payment tools, designed to provide seamless access to blockchain services. These applications enable users to manage assets, execute transactions, and interact with the ecosystem effortlessly, driving widespread adoption and engagement.

x402
Vertical Overview

Infrastructure

Blockchain

Developer Tooling

Protocols

Middleware

Facilitators

Analytics

Identity & Access Management
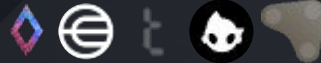
Applications

Wallets

Consumer

Payments

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.

x402
Subcategory Description

Blockchain:
Permissioned or permissionless blockchains that support agentic payments.

	Aeon is the next-generation crypto payment framework, built for AI to power intelligent, automated transactions across Web3, and to make crypto seamless, usable, and intuitive in everyday real life.
	Peaq is a Layer-1 blockchain built on Polkadot's Substrate framework that is designed to power the machine economy.
	Skale provides a purpose-built environment for AI agents to thrive on chain, offering unparalleled performance, privacy, and economic models.
	Chaos Chain is a network where autonomous agents collide, cooperate, and create.
	Base Network is an enterprise-grade, open-source blockchain protocol that is EVM-compatible, focused on international trade and finance.

x402
Subcategory Description (cont.)

Developer Tooling:
Software, frameworks, and utilities that facilitate the creation, testing, deployment, and maintenance of applications and services.

	AurraCloud allows users to create and deploy tokenized AI agents with X402 payment gating. Real-time leaderboard tracking for payment-gated AI agents in a modern terminal interface.
	Heurist is the full-stack infrastructure for the AI economy.
	Mogami delivers SDKs, tools, and services built in Java to make x402 simple, reliable, and ready to use.
	1Shot API powers non-custodial stablecoin payments, enterprise workflows, and AI agents via a simple API.
	GoPlausible is an infrastructure and services provider on the Algorand blockchain implementing W3C DIDs, Verifiable Credentials and AI toolings atop.
	0xGasless AgentKit lets you build AI agents that can trade, manage funds, and interact with DeFi protocols in natural language.

x402
Subcategory Description (cont.)

Protocols:
Frameworks for a secure AI-driven commerce workflow, allowing a safe payment processing and connection to a real consumer using web standards and network intelligence

VISA	**Visa Trusted Agent Protocol (TAP)** is a secure framework that enables trusted AI agents to communicate and transact on behalf of consumers with merchants.
G	**Google's Agent Payments Protocol (AP2)** is an open, payment-agnostic framework that enables secure initiation and processing of agent-led payments across platforms, building on existing protocols to facilitate trusted transactions among users, merchants, and payment providers.
	Virtuals Agent Commerce Protocol (ACP), is a new open standard that enables secure, verifiable and efficient commerce between autonomous agents.
	Stripe's Agentic Commerce Protocol (ACP) is an open-source specification that enables seamless commerce between AI applications and sellers by allowing AI agents to handle checkout interfaces and payment credential collection, while sellers maintain order data and payment processing within their existing systems.
	Mastercard's Agent Pay is a new payment technology enabling secure, autonomous transactions by AI agents on behalf of users, using unique "Agentic Tokens" instead of real card details.
	Cloudflare launched x402 as an open payment standard using the HTTP 402 status code to enable instant, machine-to-machine payments for digital resources, bypassing accounts, keys, and manual signups by sending USDC directly on blockchains allowing programmatic, pay-per-use access to APIs and content.

x402
Subcategory Description (cont.)

Facilitators:
Acts as an independent verification and settlement layer within the x402 protocol.

	Coinbase offers a hosted facilitator service that processes USDC x402 transactions on Base without additional fees.
	PayAI processes x402 payments across Solana and EVM networks with one drop-in endpoint
	Daydreams router provides x402 enabled LLM inference for agents and applications.
	Thirdweb offers a facilitator service that handles verifying and submitting x402 payments, it uses the user's own server wallet and leverages EIP-7702 to submit transactions gaslessly.
	X402.rs is an open source facilitator built on Rust.
	Corbits is an x402-centric platform that helps developers and agents monetize and access paid services over HTTP**.**

x402
Subcategory Description (cont.)

Analytics:
Tools and processes that collect, process, and analyze data on x402 payments to generate insights or support decision-making.

	x402scan lets you explore the ecosystem of x402 servers, see their transaction volumes and directly access their resources through an embedded wallet.
	X402STATION is an analytics platform with advanced UI for monitoring x402 services, to track performance, get real-time x402 analytics insights, and discover reliable pay-per-use APIs powered by the x402 protocol.
	Scattering is the native hub for web3 AI, providing research, data and ecosystem mapping.
	Arbus is an AI powered market intelligence hub.

x402
Subcategory Description (cont.)

Identity & Access Management:
Systems and protocols that verify, authenticate, and authorize agents within the ecosystem, ensuring secure and controlled access to resources and services based on verified identities and defined permissions.

	Cred Protocol provides credit risk management infrastructure, quantifying on-chain lending risk at scale.
	World ID is an anonymous proof of human for the age of AI.
	t54.AI imodernizes decision-making and reinforcing risk & compliance to power trusted agentic finance.
	Frego is an AI trust and safety platform that validates and certifies decentralized agents.
	Kite enables AI agents to autonomously transact at scale with cryptographic safety and native x402 compatibility—solving the infrastructure crisis imprisoning the agent economy today.

x402
Subcategory Description (cont.)

Wallets:
Digital wallets that enable the storing and transfer of value between agents.

	Circle Wallet enables AI agents to pay APIs autonomously, enabling machine-to-machine payments..
	Paypal Wallet supports agentic commerce through preconfigured tokens for security or utilizing trusted frameworks for guests .
	Google Wallet offers an integrated agents payments protocol, allowing for stablecoin payment option.
	Coinbase Wallet offers integrated x402 payments to enable seamless, automatic, machine-to-machine stablecoin payments (primarily USDC on the Base network) directly over standard HTTP requests.

x402
Subcategory Description (cont.)

Consumer Apps:
User-facing applications that enable individuals to access, manage, and utilize services with x402 use cases.

	Questflow aims to orchestrate the world's AI agents onchain to automate workflows 24/7 for consumers and businesses in the decentralized global economy.
	Anchor Browser is a cloud-hosted browser that allows AI agents to interact with the web just like a human would.
	Pieverse is the neobank built for autonomous AI.
tip.md	**Tip.md** makes it easy for developers to receive cryptocurrency tips through a simple button embedded in their GitHub READMEs or any markdown-supported platform.
	Snack Money enables seamless microtransaction and reward distribution for social networks and other platforms.

x402
Subcategory Description (cont.)

Payments:
Payment gateways, and settlement networks that facilitate secure and efficient transactions .

	MCPay is an x402 payment layer for MCP that enables agents and apps to pay per tool request without subscriptions or API keys.
	Meridian is a payment infrastructure built on Coinbase that enables AI agents to transact across chains without platform lock-in through innovative proxy facilitator architecture.
	Nevermined is building the financial rails for AI, making it simple for everyone, from startups to major enterprises, to transact with and monetize AI agents, tools, and services.
	Latinum is an open-source commerce infrastructure focused on enabling AI agents to autonomously pay for services via HTTP 402 payments.
	Brewit enables permissioned access to crypto assets and protocols, allowing agents to safely execute automations, manage payments, and interact on-chain, all while maintaining full user control and self-custody.
	VPay is the first AI-powered OmniBank purpose-built for Web3-native finance, combining traditional banking features like USD accounts and card issuance with intelligent automation and tokenized utility via the Virtuals Protocol.
	Konnex is building the decentralized coordination, verification, and payment layer for autonomous robots.

Source: Binance Research, company websites.

VII. ETFs

ETFs
Vertical Spotlights

We identified 2 key areas.

◆

Bitcoin

Bitcoin ETFs allow investors to gain exposure to Bitcoin without directly owning or managing the cryptocurrency. This provides easier access, increased liquidity, and greater regulatory oversight, making it a good investment vehicle for institutions and retail investors while paving the way for broader adoption of digital assets.

◆

Altcoins

ETF issuers are expanding their digital asset product offerings beyond Bitcoin, including altcoins like Ethereum, Solana and XRP. Some of these spot ETFs not only hold the crypto assets but also actively engage in strategies such as staking to generate additional returns to holders of the ETF.

ETFs
Vertical Overview

Bitcoin

Bitcoin

Altcoins

Ethereum

Litecoin

HBAR

XRP

Chainlink

Solana

Dogecoin

*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.*
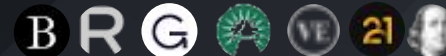
ETFs
Subcategory Description

Bitcoin

	IBIT is iShares Bitcoin Trust ETF issued by Blackrock, launched in January 2024 and currently has an AUM of over US$66B.
	FBTC is Fidelity Wise Origin Bitcoin Fund issued by Fidelity, launched in July 2024 and currently has an AUM of over US$17B .
	GBTC is Grayscale Bitcoin Trust ETF issued by Digital Currency Group, launched in January 2024 and currently has an AUM of over US$14B.
	BITB is Bitwise Bitcoin ETF issued by Bitwise Asset Management, launched in January 2024 and currently has an AUM of over US$3B.
	ARKB is ARK 21Shares Bitcoin ETF issued by Ark Invest, launched in January 2024 and currently has an AUM of over US$3B.
	BITO is ProShares Bitcoin ETF issued by Proshares Advisors, launched in October 2021 and currently has an AUM of over US$2B.
	HODL is VanEck Bitcoin ETF issued by VanEck, launched in January 2024 and currently has an AUM of over US$1B.

ETFs
Subcategory Description (cont.)

Ethereum

i	**ETHA** is iShares Ethereum Trust ETF issued by Blackrock, launched in June 2024 and currently has an AUM of over US$10B.
G	**ETHE** is Grayscale Ethereum Trust ETF issued by Digital Currency Group, launched in June 2024 and currently has an AUM of over US$2.5B.
	FETH is Fidelity Ethereum Fund ETF issued by Fidelity, launched in July 2024 and currently has an AUM of over US$2B .
B	**ETHW** is Bitwise Ethereum ETF issued by Bitwise Asset Management, launched in July 2024 and currently has an AUM of over US$300M.
VE	**ETHV** is VanEck Ethereum ETF issued by VanEck, launched in June 2024 and currently has an AUM of over US$160M.
	EETH is ProShares Ether ETF issued by Proshares Advisors, launched in October 2023 and currently has an AUM of over US$60M.

ETFs
Subcategory Description (cont.)

XRP

	XRPC is Canary XRP ETF issued by Canary Capital Group, launched in November 2025 and currently has an AUM of over US$330M.
	TOXR is 21Shares Core XRP Trust issued by Amun Holdings, launched in December 2025 and currently has an AUM of over US$230M .
	GXRP is Grayscale XRP Trust ETF issued by Grayscale, launched in November 2025 and currently has an AUM of over US$220M.
	XRP is Bitwise XRP ETF issued by Bitwise, launched in November 2025 and currently has an AUM of over US$200M.
	XRPZ is Franklin XRP ETF issued by Franklin Templeton, launched in November 2025 and currently has an AUM of over US$180M.

Source: Binance Research, company websites.

ETFs
Subcategory Description (cont.)

Solana

B	**BSOL** is Bitwise Solana Staking ETF issued by Bitwise Asset Management, launched in October 2025 and has an AUM of over US$600M .
R	**SSK** is REX-Osprey SOL + Staking ETF issued by Rex Shares and Osprey Funds, launched in July 2025 and has an AUM of over US$160M.
G	**GSOL** is Grayscale Solana Trust ETF issued by Grayscale, launched in October 2025 and has an AUM of over US$160M.
	FSOL is Fidelity Solana Fund issued by Fidelity, launched in November 2025 and has an AUM of over US$100M.
VE	**VSOL** is VanEck Solana ETF issued by VanEck, launched in November 2025 and has an AUM of over US$20M.
21	**TSOL** is 21Shares Solana ETF issued by 21 Shares, launched in November 2025 and has an AUM of over US$6M .
	SOEZ is Franklin Solana ETF issued by Franklin Templeton, launched in December 2025 and has an AUM of over US$3M

Source: Binance Research, company websites.

ETFs
Subcategory Description (cont.)

Litecoin

	LTCC is Canary Litecoin ETF issued by Canary Capital, launched in October 2025, and currently has an AUM of over US$7M.

ETFs
Subcategory Description (cont.)

Chainlink

Ⓖ	**GLINK i**s Grayscale Chanlink Trust ETF issued by Grayscale, launched in December 2025 and currently has an AUM of over US$70M.

Source: Binance Research, company websites.

ETFs
Subcategory Description (cont.)

Dogecoin

R	**DOJE** is REX Osprey DOGE ETF issued by REX Shares launched in September 2025 and currently has an AUM of over US$19M.
G	**GDOG** is Grayscale Dogecoin Trust ETF issued by Grayscale, launched in November 2025 and currently has an AUM of over US$4M.
B	**BWOW** is Bitwise Dogecoin ETF issued by Bitwise Asset Management, launched in November 2025 and currently has an AUM of US$1M.

Source: Binance Research, company websites.

ETFs
Subcategory Description (cont.)

HBAR

 HBR is Canary HBAR ETF issued by Canary Capital, launched in October 2025 and currently has an AUM of over US$50M .

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**

𝕏 **@BinanceResearch**

✈ **@BinanceResearch**

Binance Research

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

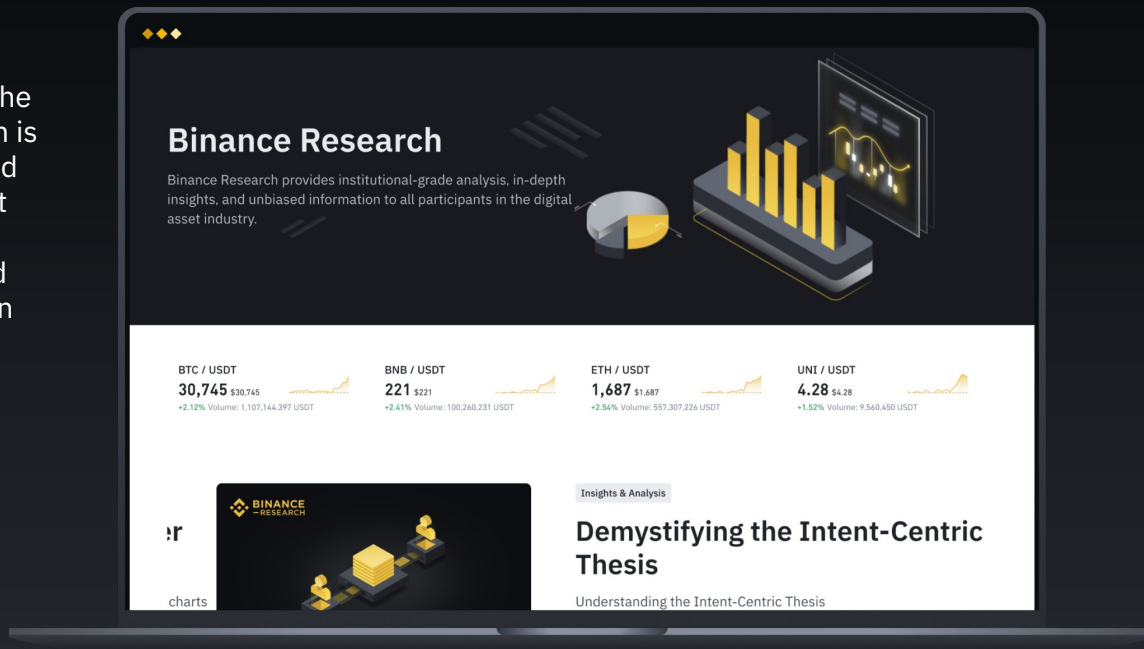## Demystifying the Intent-Centric Thesis

Understanding the Intent-Centric Thesis

◆ BINANCE RESEARCH

Contributors

Asher Lin Jiayong

Macro Research Intern

Asher is currently a Macro Research Analyst Intern at Binance. Prior to this, he worked at a token management platform in New York and as a data analyst in a Swedish AI startup. He holds a Bachelor of Science in Business Analytics from the National University of Singapore and has been involved in the cryptocurrency space since 2018.