CoinDesk Indices

Digital Asset Classification Standard (DACS) Glossary

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Table of Contents

Introduction

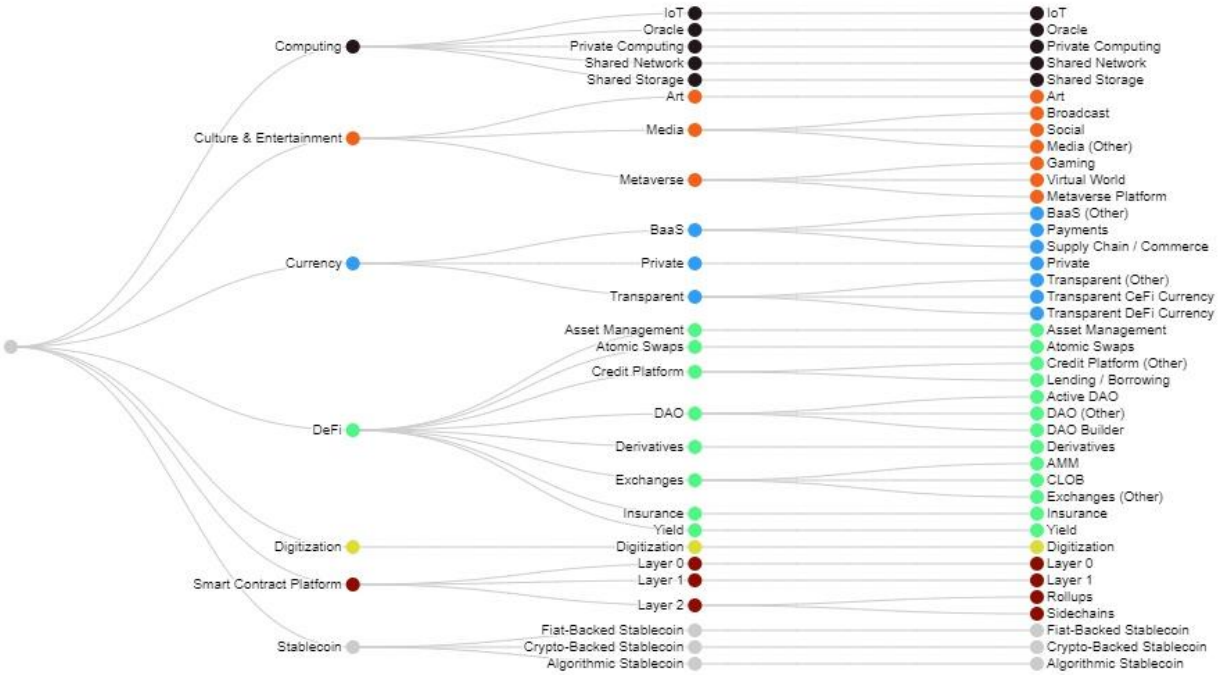
The digital asset industry has grown at a rapid pace since the inception of bitcoin in 2008, accelerating the emergence of the new digital finance economy. This booming new asset class has resulted in the development of new investment vehicles and opportunities with thousands of different projects, use cases, and applications. Blockchain technology has been the driving force and the underlying infrastructure in this transformation.

That extraordinary growth has created a commensurate amount of complexity. To help investors better understand the digital asset space, CoinDesk Indices introduced the Digital Asset Classification Standard (DACS). The DACS provides the market with a reliable structure and transparency to help classify and simplify the industries inside the asset class.

Using a classification standard to define markets is not a new concept. The Global Industry Classification Standard (GICS), developed by MSCI and Standard & Poor's in 1999, has been widely used by equity investors to classify publicly traded companies globally. Research shows GICS explains stock return co-movements within sectors, helping investors determine important drivers for company valuations, identify relative value opportunities by comparing companies in the same sector, and develop sector-level macro insights to make decisions on asset allocation.

Furthermore, sector indices developed based on GICS have become the backbone for investor allocation, risk, and performance-evaluation models. According to a recent IIA benchmark survey, nearly half of the equity indices are sector- or industry-based, which really speaks to the power of GICS to modernize equity investing.

While DACS is unique to digital assets, it serves many of the same functions as classification systems used for traditional asset classes. Among other things, DACS provides the market with a transparent and standardized method to determine sector and industry exposure, facilitate portfolio attribution analysis, and help pinpoint investment opportunities.



DACS Structure

7 Sectors, 26 Industry Groups, 40 Industries

Computing

The Computing sector consists of projects that aim to decentralize the sharing, storing, and transmission of data by removing intermediaries and ensuring privacy for all users. All projects that aim to gather, transmit, store, and share data and web services in a decentralized manner play a key factor in building the infrastructure of Web 3.0. This includes on-chain and off-chain data transmission, social data platforms, peer-to-peer secure data transactions, open networks, free market private computation, and decentralized file storage and file sharing.

- **IoT:** IoT projects contribute to the development of the Internet of Things and Web 3.0 real world, off-chain connections. IoT platforms allow for application interoperability between IoT networks and blockchain DApps. They allow interconnectivity on a trustless network with no reliance on any central entity or centralized database of user info that can be subject to manipulation. IoT can allow the execution of smart contracts using oracles and real-world data.
- **Oracle**: Oracle refers to any project with the primary ability to gather, organize, and transmit either on-chain to on-chain data or off-chain to on-chain data in real time. It typically operates with a native token to cover transaction costs and governance rights.

- **Private Computing:** Private computing refers to the free market buying and selling of cloud computing power, surplus bandwidth, and other computational services. Private computing markets are decentralized, global, and pseudonymous with no barriers to entry.
- **Shared Network:** Shared Network refers to an open-source market of distributed cloud computing that allows participants (miners) to offer energy and computation resources at a variable cost to pseudonymous buyers. Shared Network also includes open networks that provide miners with a low cost, decentralized alternative to the existing web service providers. The decentralized upholding of the network and its growth aligns with Metcalfe's law of networks, and relinquishes the need for large, centralized cloud service providers.
- **Shared Storage:** Shared storage refers to the decentralization of storage servers which are traditionally owned and operated by a central organization. Shared storage decentralizes the storage responsibilities across an open-source network of miners with a system of economic incentives. This allows for pseudonymous, private file sharing on a decentralized network. The centralization of data storage is a high risk for potential hacks and bad actors to access sensitive information. Shared storage platforms increase security of data storage by running on a blockchain network that allows for privacy and pseudonymity of data transmitters.

Currency

Currency sector refers to any non-pegged digital asset acting exclusively as a medium of exchange and unit of account, running on a blockchain network with the ability to complete cross-border transactions without restriction. Digital assets in the Currency sector serve the narrow purpose of being transacted on a network and tend not to have additional utility.

- **Blockchain as a Service (BaaS):** BaaS enables businesses, entrepreneurs, or governments to leverage cloud-based, permissioned blockchain services to build, use, and host various blockchain applications and develop permissioned blockchains with a closed-source node selection structure sometimes referred to as master nodes. All BaaS projects lack the Byzantine Fault Tolerant (BFT) consensus mechanism that most projects utilize to ensure a trustless, decentralized network.
    - **BaaS (other):** All permissioned Blockchain as a Service providers with use cases that could not be further classified at the industry level at this time.
    - **Payments:** Blockchain based BaaS services intended merely for the unbarred global digital asset transactions. Under BaaS Payments, native BaaS tokens are transferred between parties via a permissioned, master node validated blockchain.

    - **Supply Chain / Commerce:** Blockchain based BaaS services enable producers, distributors, and consumers to grow their customer and client networks by utilizing permissioned blockchains for the purpose of tracking, processing, and distributing goods and services while relying on a central entity to ensure the security and legitimacy of the master-node validated blockchain.

- **Private**: Any digital asset whose ledger does not display the deposit addresses of the sender or the receiver. In addition, the ledger does not reveal the wallet balances of any holder. This can include blockchains that utilize Zero Knowledge Proofs (zksnarks, zkrollups), Schnorr signatures, and any similar innovations that hide the addresses of users, while maintaining trust.
- **Transparent**: Any digital asset whose ledger displays the deposit addresses of both senders and receivers and may reveal wallet balances publicly.
    - **Transparent (Other):** All Transparent digital assets with use cases that could not be further classified at the industry level at this time.
    - **Transparent Cefi Currency**: Any digital asset distributed by a central entity and backed by a centralized reserve treasury (i.e., corporation, government, CBDC's, centralized exchange), or created for direct use on a centrally controlled platform such as a centralized exchange or centralized hot wallet. All tokens must be minted and transacted on a BFT smart contract platform.
    - **Transparent Defi Currency**: Any digital asset either mined or minted on a smart contract platform backed by a decentralized reserve treasury.

Decentralized Finance (DeFi)

Defi refers to digital assets that support financial products and services that are not facilitated or controlled by any central entity. These financial products and services are accessible without any barrier to entry or identification requirements. All DeFi tokens must be created on smart contract platforms and offer open-sourced liquidity with the ability for token holders to reserve governance rights.

- **Asset Management:** Protocols that provide access to different investment strategies on a single platform with no barrier to entry.
- **Atomic Swaps:** Cross-chain peer-to-peer trading enabling trustless, atomic trade execution with smart contracts.
- **Credit Platforms:** Decentralized credit programs where participants can lend out their tokens and earn an interest rate determined by an automated protocol.
    - **Credit Platforms (Other):** All DeFi Credit Platform tokens with use cases that could not be further classified at the industry level at this time.

    - **Lending / Borrowing:** Decentralized automated credit protocols that enable participants to lend their assets to earn yield and borrow those staked assets from other liquidity providers.

- **Decentralized Autonomous Organization (DAO):** DAOs are open source blockchain protocols governed by a set of rules, embedded in smart contracts that are created by its elected members who can automatically execute certain actions without the need for intermediaries. A DAO can be defined as a protocol with the intended goal of securing a basket of digital assets while allowing the contributors to that basket to have direct governance rights over that basket. The governance rights allow contributors to vote to approve or deny proposals.
    - **Active DAO:** The Active DAO industry includes all Decentralized Autonomous Organizations currently operating with a group of participants or voters with the goal of decentralizing the decision making and operating processes of the DAO treasury.
    - **DAO (Other):** All DAO projects with use cases that could not be further classified at the industry level at this time
    - **DAO Builder:** Includes all platforms designed to help users build Decentralized Autonomous Organizations with customized governance settings and voting principles.
- **Derivatives:** Derivatives include tokens that support options, futures, perpetual swaps, margin trading, and leverage. Derivatives can also include synthetic derivatives that tokenize real-world assets.
- **Exchanges:** Decentralized exchanges allow token holders to do peer-to-peer trading that cannot be controlled, censored, or altered by any central authority.
    - **AMM:** Exchanges backed by a decentralized liquidity pool where prices are determined by an algorithm defined in a smart contract running on a single blockchain.
    - **CLOB:** Exchanges backed by an order book for decentralized peer-to-peer trading on a single blockchain.
    - **Exchanges (Other):** All decentralized exchanges and DeFi Trading Protocols with use cases that could not be further classified at the industry level at this time.
- **Insurance:** DeFi Insurance protocols enable users to hedge risk within a decentralized governance framework by purchasing insurance through a staking protocol that can match lost funds in case of a claim.
- **Yield:** Includes all DeFi vaults in which depositors can stake assets in a yield bearing vault that aggregates a positive yield from various defi platforms and assets.

Culture & Entertainment

Culture & Entertainment includes all projects that aim to decentralize social media platforms, create decentralized gaming worlds, and increase direct peer-to-peer interaction between content creators and their audience, while at the same time maintain user privacy, security, and ownership of data and digital assets.

- **Art:** All platforms for minting Non-Fungible Tokens (NFTs) intended for digital artistic creations and collectibles. This industry also includes decentralized marketplaces for NFT artwork as well as native tokens for NFT marketplaces.
- **Media:** All projects that aim to decentralize social media platforms including broadcast streaming and video sharing as well as create direct links among content creators, consumers, and advertisers.
    - **Broadcast:** All platforms that allow broadcasting on a decentralized platform that is not centrally governed, have no barrier to entry, and are censorship resistant. Broadcasting platforms that qualify for Web 3.0 do not follow traditional advertiser to consumer models, but establish direct connections among advertiser, content creators, and audiences.
    - **Social:** All platforms that allow for uncensored interaction between peer-to-peer users and/or users and content creators and sponsors. Social also includes platforms that are designed for the minting of social tokens for various intended use cases such as decentralized governance.
    - **Media (Other):** All Media projects with use cases that could not be further classified at the industry level at this time.
- **Metaverse:** A loose network of virtual worlds with social connections and interactions as a primary function. Based on blockchain technology, it encompasses virtual worlds and augmented reality. Metaverse includes gaming realms, GameFi, and virtual worlds. Virtual worlds must maintain a decentralized marketplace and offer the ability to tokenize and trade digital assets within the metaverse.
    - **Gaming:** Games where there is either a narrative, or a strong focus on gameplay. Gameplay can take on various forms, such as player-versus-player (PVP), or player-versus-environment (PVE). Native tokens may be used as part of in-game reward systems, or for purchasing in-game assets.
    - **Virtual World:** Open-sourced virtual worlds that do not have a set narrative, but rather focus on social interactions via avatars. Virtual worlds feature marketplaces for decentralized trading of scarce land and other digital assets such as clothing and accessories. In virtual worlds, identity and player-owned assets are secured and verified through public key cryptography. These assets may be compatible across various open virtual worlds and can be traded on secondary marketplaces. Virtual

worlds allow for creators and builders to design their own experiences and games within the metaverse.

- **Metaverse Platform**: Online stores or developer products hosting a range of games, wherein a native token is compatible across the platform. Metaverse Platform also includes marketplaces that allow for trading of virtual assets, such as NFTs, in-game items and land.

Smart Contract Platform

Smart contracts are computerized blockchain protocols that execute terms of a contract. Smart Contracts represent computer code that ensures when the terms of the contract are met by both parties. It, executes automatically, allowing for peer-to-peer trustless transactions. Smart contract platforms are designed for the building of decentralized applications, layer 2 scaling solutions, DAO's, and custom protocols. Each platform has a unique open-source user and miner incentive structure and utilizes BFT consensus mechanism. Each platform utilizes a native token for the payment towards building on the platform, providing liquidity, and allowing interoperability between the native token and newly created tokens built on the platform.

- **Layer 0:** Layer 0 smart contract platforms act as the foundational layer for blockchain ecosystems. They serve as blockchain builders and relayers, facilitating interoperability between multiple chains on the same network. Layer 0 blockchains typically act as the "hub" of a "hub and spoke" blockchain ecosystem, providing consensus, maintaining a unified ledger, and in some cases validating blocks for the entire network. Layer 0s allow multiple blockchains on the same network to communicate and transact with each other.

- **Layer 1:** Layer 1 smart contract platforms act as the primary settlement layer of a blockchain and decentralized application (dApp) ecosystem. Most on-chain transactions and smart contract activities take place on Layer 1. A decentralized network of validators processes transactions in blocks and are compensated for their services in the form of gas fees, paid for as a fee denominated in the protocol's token. These gas fees fluctuate relative to the computational demand that the transaction imposes on the network and reflect the overall network congestion at any given time.

- **Layer 2:** Layer 2 smart contract platforms are designed as scaling solutions for Layer 1 blockchains. Layer 2s allow for significantly less expensive transactions, faster settlement and higher throughputs. This system facilitates processes that would otherwise be too costly on a Layer 1 such as high-frequency trading, and more complex smart contract capabilities. Several Layer 2 blockchains can exist "on top" of a Layer 1 blockchain, using a system of side chains or rollups to bundle large quantities of transactions and settle them into significantly more manageable batches on the Layer 1 network.

- **Rollups:** Rollups are a form of Layer 2 scaling solution that leverages the security and consensus mechanisms of the parent Layer 1 chain. Rollups batch and compress transactions, which are then validated and settled separately on the Layer 1. This significantly reduces the computational burden on the Layer 1 network, freeing up bandwidth for other processes and reducing overall costs associated with gas fees. There are currently two types of rollups: Optimistic and Zero Knowledge (ZK). Optimistic rollups use a checks and balances system to retroactively ensure the validity of all transactions that have been processed on the Layer 2. ZK rollups incorporate a more proactive cryptographic technique known as "zero knowledge proofs", which leverage computational certainty to post transactions to the Layer 1.

- **Sidechains:** Sidechains are a type of de facto scaling solution where an independent blockchain forms a symbiotic partnership with a Layer 1 smart contract platform via a two-way bridge. Though sidechains cannot benefit from the main Layer 1's security and consensus, they are not bound by the rules that govern that Layer 1 and are thus free to operate the blockchain in any way they see fit. Typically, sidechains also focus on higher throughputs, faster transaction speeds and lower costs.

Digitization

Digitization refers to the process by which real world documents, contracts, public names, etc. are uploaded to a blockchain for the purpose of transparency, publicly verifiable ownership, and immutability. Proof of ownership, identity, and authenticity are both valuable traits that are made possible by blockchain technology.

Stablecoin

Stablecoins are a set of protocols whose native token is pegged to a fiat currency, most commonly the US dollar. Stablecoin issuers may use one of several methods to maintain their peg such as 1:1 dollar-backed reserves, multi-asset treasuries, collateralized lending, or mint-and-burn mechanisms, etc. Stablecoins allow for frictionless transfer and exchange of fiat-pegged assets on the blockchain.

- **Fiat-Backed Stablecoin**: Fiat-backed stablecoins refer to stablecoins whose collateral typically consists of fiat currencies (e.g., US dollar) or their equivalents (e.g., US Treasury Bills). The entities that issue stablecoins are often centralized organizations that operate primarily off-chain in order to manage their reserves. The reserve's primary function is to maintain the peg between the token and the target fiat currency, such as the US dollar, Euros, or other currencies.

- **Crypto-Backed Stablecoin**: Crypto-backed stablecoins are stablecoins in which the collateral is made up of other cryptocurrencies. This can include other types of stablecoins, Bitcoin, Ether, and non-fungible tokens (NFTs). Crypto-backed

stablecoins tend to operate on-chain, where their reserves can be transparently verified by anyone, and are typically over-collateralized in order to accommodate the greater volatility of their reserves.

- **Algorithmic Stablecoin**: Algorithmic stablecoins refer to stablecoins in which there is a dynamic change in supply to maintain the peg, either through a rebasing or seigniorage mechanism. Rebasing is a mint-and-burn mechanism that distributes the change in supply proportionally across all token holders. Seigniorage is a mint-and-burn mechanism where there is an alternative token used to maintain the peg. If the price is above or below its peg, tokens will be minted (burned). Stablecoins that are partially algorithmic are also classified as algorithmic stablecoins.

Appendix 1: Historical Changes

Effective Date	Type	Previous	Updated
12/1/2022	Definition Change: Currency	Currency sector refers to any digital asset acting primarily as a medium of exchange and unit of account running on a blockchain network with the ability to complete cross-border transactions without restriction. Digital assets in the Currency sector do not necessarily act as a store of value	Currency sector refers to any non-pegged digital asset acting exclusively as a medium of exchange and unit of account, running on a blockchain network with the ability to complete cross-border transactions without restriction. Digital assets in the Currency sector serve the narrow purpose of being transacted on a network and tend not to have additional utility.
12/1/2022	Structure Modification	Stablecoin included as an Industry Group within Currency Sector	Stablecoin is a standalone sector with (3) Industry Groups: • Fiat Backed Stablecoin • Crypto-Backed Stablecoin • Algorithmic Stablecoin
12/1/2022	Structure Modification	Smart Contract Platform comprised of two Industry Groups: • Multi-Chain/Parachain • Single Chain	Smart Contract comprised of three Industry Groups: • Layer 0 • Layer 1 • Layer 2 Layer 2 Industry Group comprised of two Industries: Sidechains and Rollups
5/1/2022	Structure Modification	Stablecoins included in Currency Sector / Transparent Industry Group	Stablecoin created as a stand-alone Industry Group / Industry in Currency Sector.
5/1/2022	Industry Name Change	Metaverse (Other)	Metaverse Platform
5/1/2022	Industry Name Change	VR Real Estate	Virtual World
5/1/2022	Definition Change: Metaverse (Other)	All Metaverse projects with use cases that could not be further classified at the industry level at this time.	Online stores or developer products hosting a range of games, wherein a native token is compatible across the platform. Metaverse Platforms also includes marketplaces that allow for trading of virtual assets, such as NFTs, in-game items and land.
5/1/2022	Definition Change: VR Real Estate	All virtual worlds that have a limited supply of real estate, allowing for the authenticable ownership of virtual plots of land that are traded on a free market with no barrier to entry.	Open-sourced virtual worlds that do not have a set narrative, but rather focus on social interactions via avatars. Virtual worlds feature marketplaces for decentralized trading of scarce land and other digital assets such as clothing and accessories. In virtual worlds, identity and player-owned assets are secured and verified through public key cryptography. These assets may be compatible across various open virtual worlds and can be traded on secondary marketplaces. Virtual worlds allow for creators and builders to design their own experiences and games within the metaverse.
5/1/2022	Gaming	Video games that allow for free market trading and decentralized ownership of in-game digital assets. Assets must be able to be custodied via decentralized wallets as NFT's or native game token currencies. Also	Games where there is either a narrative, or a strong focus on gameplay. Gameplay can take on various forms, such as player-versus-player (PVP), or player-versus-environment (PVE). Native tokens may be

		includes peer-to-peer gambling AMM platforms	used as part of in-game reward systems, or for purchasing in-game assets.
4/1/2022	Sector Name Change	Entertainment	Culture & Entertainment
4/1/2022	Definition Change: Metaverse	Blockchain based virtual worlds and augmented realities including gaming realms (also referred to as GameFi) and virtual real estate. Virtual worlds must maintain a decentralized marketplace and offer the ability to tokenize and trade digital assets within the metaverse.	A loose network of virtual worlds with social connections and interactions as a primary function. Based on blockchain technology, it encompasses virtual worlds and augmented reality. Metaverse includes gaming realms, GameFi, and virtual real estate. Virtual worlds must maintain a decentralized marketplace and offer the ability to tokenize and trade digital assets within the metaverse.
2/1/2022	Industry Name Change	DEX	CLOB
2/1/2022	Structure Modification	Atomic Swaps included as an Industry under Exchanges in DeFi Sector	Atomic Swaps included as its own Industry Group in DeFi Sector
1/1/2022	Industry Name Change	Transparent CeFi Token	Transparent CeFi Currency
1/1/2022	Industry Name Change	Transparent DeFi Token	Transparent DeFi Currency
1/1/2022	Industry Group & Industry Name Change	Indexers	Asset Management
1/1/2022	Definition Change for Indexers Industry (renamed Asset Management Industry)	Protocols that provide access to a diversified portfolio of digital assets with index rules defined by a smart contract. Indices that investors can gain exposure to by either depositing into an index vault/pool or buying the index native token that tracks the performance of the weighted index.	Protocols that provide access to different investment strategies on a single platform with no barrier to entry.
1/1/2022	Removal of Swaps Industry Group	Swaps is an eligible Industry in DACS	Swaps Industry is no longer eligible in DACS - digital assets previously classified in the Swaps Industry are re-classified.
1/1/2022	Definition Change for Atomic Swaps Industry	DEXs and AMMs that allows token exchange across multiple blockchains.	Cross-chain trading enabled by trustless, atomic trade execution with smart contracts without the use of a centralized exchange.

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