

Wilshire



Digital Asset Taxonomy System December 2021

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1. Overview

This document describes the Digital Asset Taxonomy System (DATS), which is a comprehensive methodology for classifying digital assets from industry to subsector based on their functionality or use-case, as well as Digital Asset Taxonomy Themes, which are themes and subthemes in which digital assets are grouped across Industries.

2. Taxonomy System and Taxonomy Theme Classification Process

Each classified asset undergoes an in-depth review that is focused on its use case and features to determine its placement in the Taxonomy System and any applicable Taxonomy Themes. The process includes the following:

- 360-degree review of the token by DATS's analysts, including a review of its whitepaper, website, and public code repositories
- Review of publicly available information sources, including industry news, social media sites like Twitter, and sites with user communities like Reddit
- Communication with the project team behind the asset
- Communication with DATS's industry contacts and other private sources to confirm token features and utility
- A review of token activity and associated data using a blockchain explorer and other tools
- Other investigation as may be necessary to understand the asset, its use case(s) or intended use case(s), and how it fits into various digital asset Themes and ecosystems

When the review process for a token is complete, DATS's analysts submit a proposed Taxonomy System classification and applicable Taxonomy Themes to the Wilshire Digital Asset Advisory Group (Advisory Group). The Advisory Group will then review the proposals, and, where appropriate, approve the classification and themes.

Classifications made under DATS are reevaluated quarterly and updated as needed to maintain accuracy. When reevaluating results, the last weekday of the quarters ending in March, June, September, and December serve as the data cut-off date for the review process. Assets may be added to or removed from DATS as a result of the quarterly review.

Digital assets that fall within the top 1000 by market capitalization are reviewed quarterly to determine their classification. Other assets may be considered for inclusion on request.

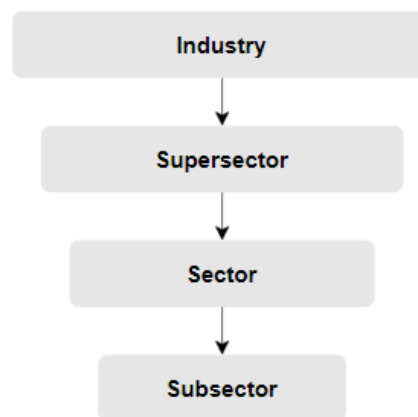
Note that DATS does not accept compensation from asset or token projects for classification and that all decisions related to DATS are made exclusively by the Advisory Group and based on the requirements outlined in this methodology.

3. Digital Asset Taxonomy

3.1 Taxonomy Structure and Scope

To provide a familiar classification format, DATS's structure follows four resolution tiers: Industry, Supersector, Sector, and Subsector.

Figure 1: Digital Asset Classification Structure



All assets classified under this taxonomy fall under our definition of the Digital Asset Industry, which includes digital assets that exist within public blockchain networks; private blockchain companies are not included in this taxonomy.

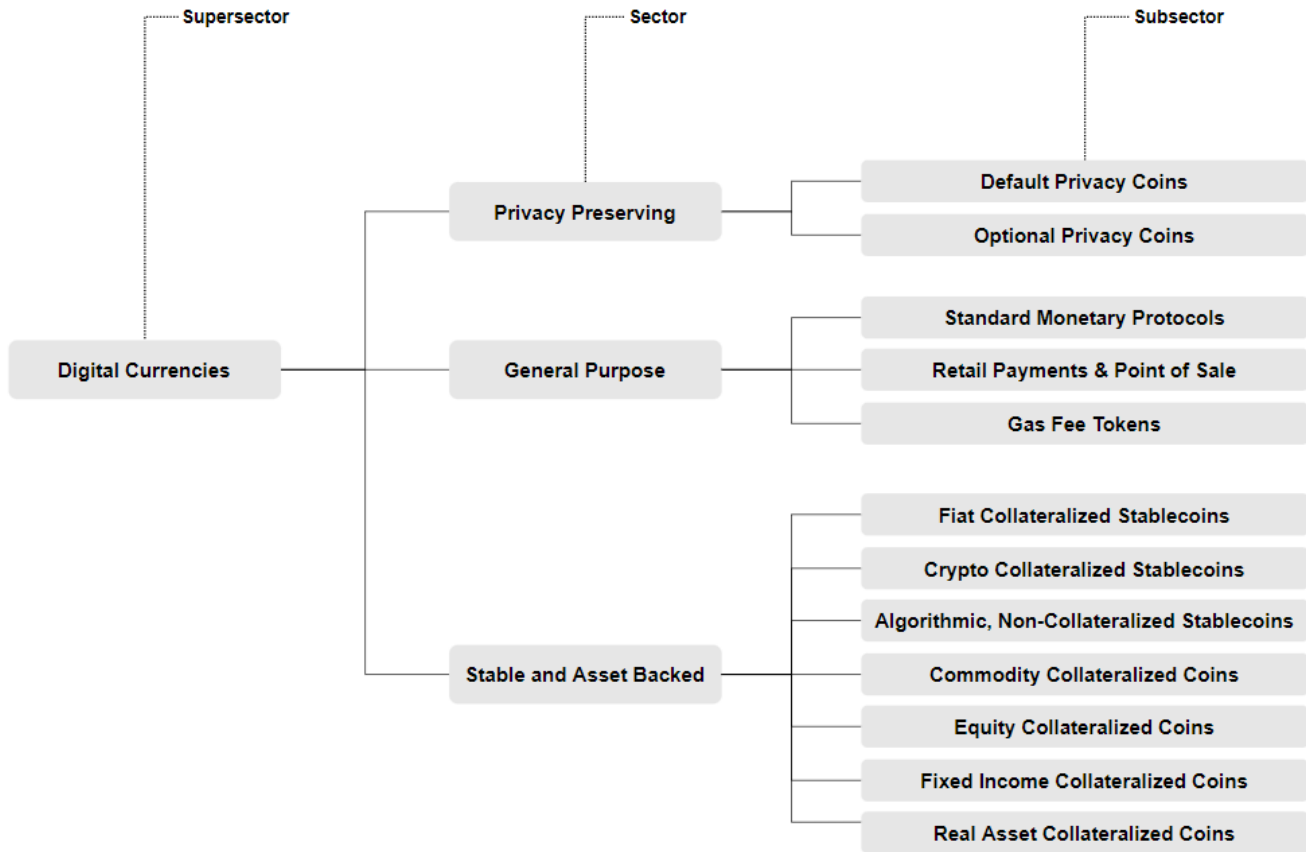
Under the Digital Asset Industry, the taxonomy includes three supersectors – Digital Currencies, Computation Platforms, and Financial Instruments – which are described in subsequent sections.

3.2 Digital Currencies Supersector

3.2.1 Definition

The Digital Currencies Supersector is composed of digital assets whose main objective is to replicate the fundamental functions of money: store of value, medium of exchange, and unit of account.

3.2.2 Overview



3.2.3 Digital Currencies Sectors and Subsector Definitions

Sector	Subsector	Definition
General purpose	Standard Monetary Protocols	Digital currency protocols intended to be used as money and bound by algorithmic money issuance.
	Retail Payments & Point of Sale	Projects pursuing compatibility with existing payment infrastructure through debit or credit cards and specialized Point-of-Sale software and hardware.
	Gas Fee Tokens	Currencies designed to be solely used as payment for transaction and computational fees in networks where a secondary token is used as a medium of exchange.

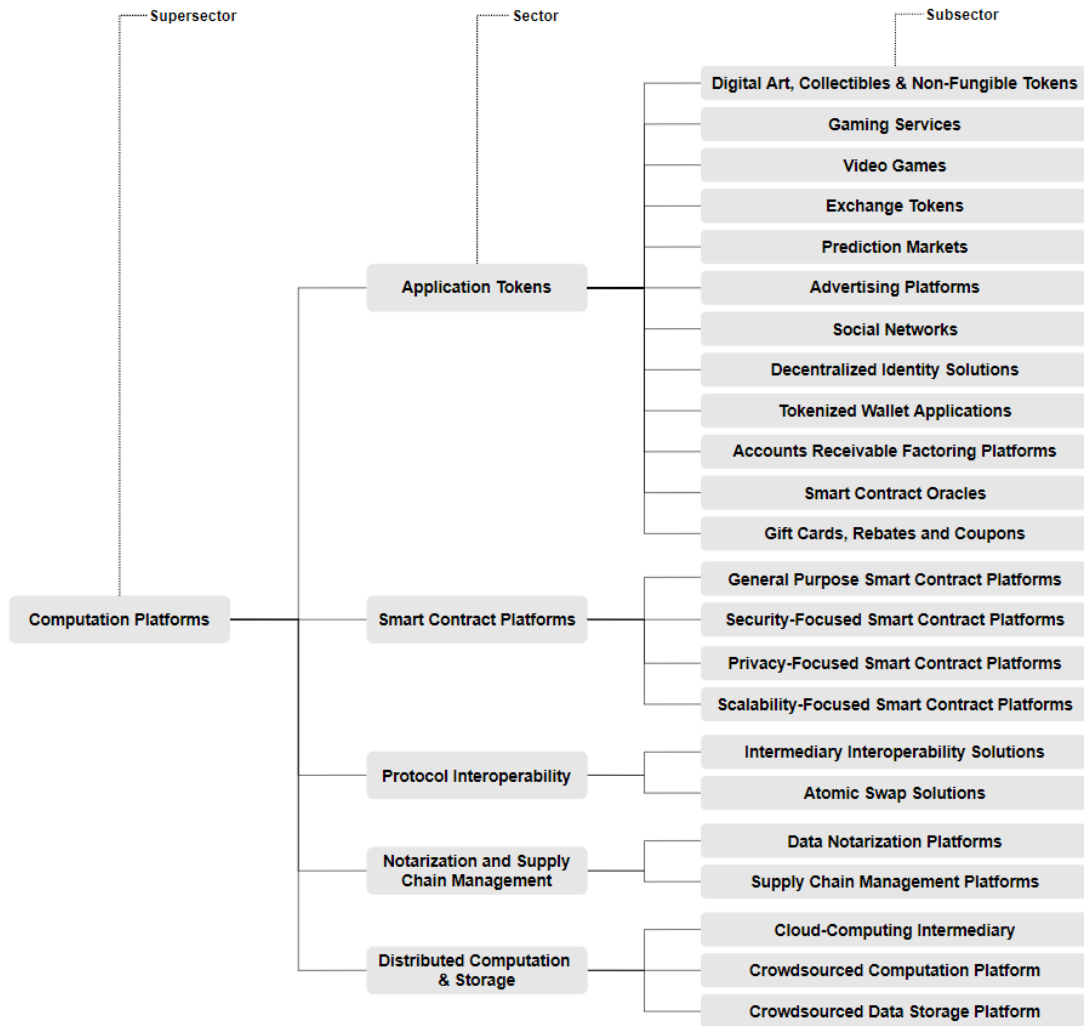
Privacy-Preserving	Default Privacy Coins	Digital currency protocols where private transactions occur by default.
	Optional Privacy Coins	Digital currency protocols whereby both pseudonymous and anonymous transactions are enabled by default, allowing users to decide whenever to transact privately.
Stable & Asset Backed	Fiat Collateralized Stablecoins	Stablecoins backed by a pool of fiat collateral held by a centralized custodian.
	Algorithmic, Non-Collateralized Stablecoins	Stablecoins that do not employ a reserve model to guarantee stability, but instead rely on a purely algorithmic system to value the asset on par with fiat currencies using seigniorage shares.
	Commodity Collateralized Coins	Digital currencies pegged to the value of real-world commodities, such as oil, precious metals and minerals.
	Equity Collateralized Coins	Digital currencies pegged to the value of real-world equity products.
	Fixed Income Collateralized Coins	Digital currencies pegged to the value of real-world fixed income products .
	Real Asset Collateralized Coins	Digital currencies pegged to the value of real-world assets such as physical art, property or wine.

3.3 Computation Platforms Supersector

3.3.1 Definition

The Computation Platforms Supersector is composed of assets that exist within networks that support highly expressive, Turing-complete smart contracts.

3.3.2 Overview



3.3.3 Computation Platforms Sector and Subsector Definitions

Sector	Subsector	Definition
Application Tokens	Digital Art, Collectibles & Non-Fungible Tokens	Digitized and cryptographically-bound ownership rights to both real world and digital assets, often in the form of Non-Fungible Tokens (NFTs).
	Gaming Services	Projects pursuing tokenized casinos and gambling applications.

Video Games	Projects pursuing tokenized video games that allow players to use digital tokens to wager bets, exchange skins, and purchase in-game services.
Exchange Tokens	Tokens used as trading pairs, liquidity providers, IEO and/or listing gateways for centralized and decentralized digital asset spot exchanges.
Prediction Markets	Tokens used to pay for the creation, dispute and/or trading of events listed on prediction markets.
Advertising Platforms	Projects pursuing tokenized advertising models and ad revenue sharing platforms.
Social Networks	Tokenized social media networks where users employ specific tokens to “like,” vote, monetize or reward content.
Decentralized Identity Solutions	Tokenized identity solutions where a user's identity is tied to a specific token and cryptographic identity, or where specialized services such as AML/KYC checks are paid for using the application’s token.
Tokenized Wallet Applications	Wallet applications or browsers where through a specialized token users can source access to different applications.
Accounts Receivable Factoring Platforms	Applications where enterprise users can tokenize and factor accounts receivable to source liquidity in a short time-frame.
Smart Contract Oracles	Tokens used to report the outcome of events and/or feed data to smart contracts, which then use that information to update their state and/or trigger asset transfers.
Gift Cards, Rebates and Coupons	Projects pursuing the tokenization of gift cards, rebate rewards, and coupons.
Protocol Interoperability	
Intermediary Interoperability Solutions	Tokenized intermediary networks in charge of validating the proof of the existence of one asset, and recreating it in another chain.
Atomic Swap Solutions	Protocols that facilitate cross-chain atomic swap exchanges.
Data Notarization Platforms	Notarization protocols that leverage public blockchains to timestamp general arbitrary data.

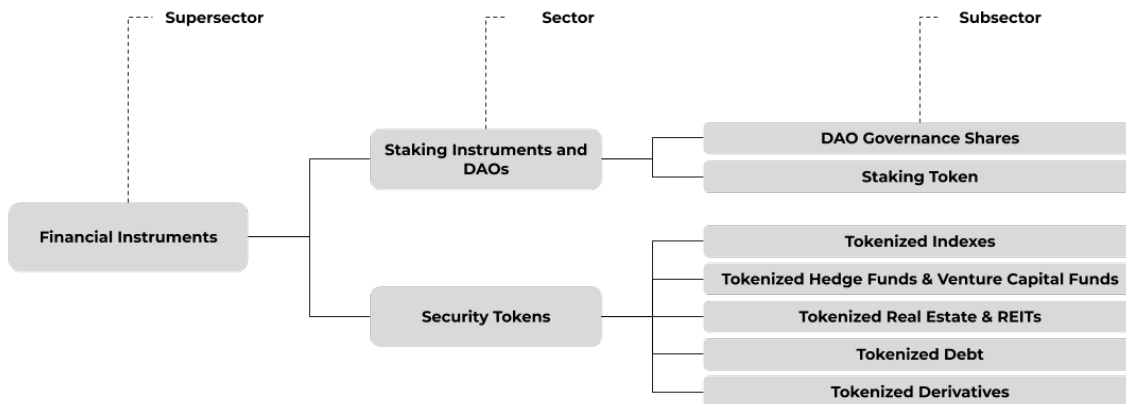
Notarization and Supply Chain Management	Supply Chain Management Platforms	Platforms that aim to use blockchains to provide tamper-proof supply chain management systems.
Smart Contract Platforms	General Purpose Smart Contract Platforms	Platforms for the computation and verification of multi-purpose Turing-complete contracts.
	Security-Focused Smart Contract Platforms	Platforms that provide security-focused, Turing-complete contracts that can be created using functional programming languages with semantics that can be formally verified.
	Privacy-Focused Smart Contract Platforms	Platforms that provide privacy-focused, Turing-complete contracts that can be executed and verified privately.
	Scalability-Focused Smart Contract Platforms	Platforms that enable smart contracts to be processed and verified in parallel through techniques such as blockchain sharding and centralized database management systems.
Distributed Computation & Storage	Cloud-Computing Intermediary	Platforms that enable smart contracts and their developers to source centralized cloud-computing resources via a tokenized intermediary.
	Crowdsourced Computation Platform	Platforms that enable users to receive passive income by renting unused computational resources, which can then be purchased by smart contract applications and developers.
	Crowdsourced Data Storage Platform	Platforms that enable users to receive passive income by renting unused storage space, which can then be purchased by smart contract applications, developers and consumers to store data in a decentralized fashion.

3.4 Financial Instruments Supersector

3.4.1 Definition

The Financial Instruments Supersector is composed of assets that apply the decentralized properties of digital assets to financial contracts and corporate structures that exist in traditional finance.

3.4.2 Overview



3.4.3 Financial Instruments Sector and Subsector Definitions

Sector	Subsector	Definition
Staking Instruments and Decentralized Autonomous Organizations	DAO Governance Shares	Tokenized shares that grant members of a Decentralized Autonomous Organization units of voting power.
	Staking Token	Tokens for the purpose of time-locking, whereby holders receive passive income by increasing a network's resistance against Sybil attacks.
Security Tokens Privacy-Preserving	Tokenized Indexes	Tokenized baskets of real-world securities or digital assets.
	Tokenized Hedge Funds & Venture Capital Funds	Tokenized securities whereby holders have a claim on a fund's performance.
	Tokenized Real Estate & REITs	Tokenized securities that represent shares of ownership of a real estate property or Real Estate Investment Trust.
	Tokenized Debt	Tokenized debt instruments, P2P loans, and Collateralized Debt Obligations.
	Tokenized Derivatives	Tokenized financial derivatives which derive their value from the performance of an underlying asset.

4. Digital Asset Themes

In addition to an asset's taxonomy classification, digital assets can be grouped into themes and subthemes that are centered around certain shared characteristics related to their purpose, utility, asset structure, or other key factors. Unlike in taxonomy classification, an asset can appear in multiple themes or subthemes if it meets the applicable criteria.

4.1 Environmentally Focused Theme

The Environmentally Focused theme is centered around assets that aim to achieve more efficient energy usage on a per transaction basis than assets implemented on Proof-of-Work blockchains.

To be considered for inclusion in the Environmentally Focused theme, an asset must:

- Use a consensus mechanism known to consume less energy than Proof-of-Work, be implemented on one or more blockchains known to consume less energy than Proof-of-Work, or be environmentally focused in another notable manner, such as through the use of verifiable clean energy sources for the majority of its energy consumption
- Exist on a public blockchain and trade on spot exchanges that list other crypto assets

Crypto assets that fall within the top 1000 by market capitalization are reviewed quarterly for inclusion in the theme. Other assets may be considered for inclusion on request.

4.2 Decentralized Finance (DeFi) Theme

The DeFi theme focuses on assets that disintermediate centralized financial services by utilizing smart contracts on blockchains to apply the decentralized properties of digital assets to activities, including, but not limited to, lending, exchange, and insurance.

To be considered for inclusion in the DeFi theme, an asset must:

- Be primarily intended to replace the functionality of a product or service available in traditional financial services, excluding assets that are primarily intended for usage as a payments token or as a store of value
- Be decentralized, as indicated by factors which may include:
 - The asset having the majority of its supply outside of the control of insiders such as the asset's treasury, the team or organization leading the project, and investors who back the team or organization leading the project
 - The asset having the majority of its validator nodes under the control of disparate parties
 - Other attributes that indicate decentralization, such as a review of blockchain metrics and asset governance structure
- Exist on a public blockchain and trade on spot exchanges that list other crypto assets

Crypto assets that fall within the top 1000 by market capitalization are reviewed quarterly for inclusion in the DeFi theme. Other assets may be considered for inclusion on request.

4.2.1 Automated Market Maker (AMM) Subtheme

The AMM subtheme includes assets that are used to pay fees on and/or govern trading platforms where an automated algorithm allows users to trade one digital asset for another without the need for a centralized order book mechanism or traditional market maker.

4.2.2 Asset Management Subtheme

The Asset Management subtheme includes assets that are used to pay fees on and/or govern protocols that provide users with the ability to manage a portfolio of digital assets in a decentralized manner via smart contracts.

4.2.3 Derivatives Subtheme

The Derivatives subtheme includes assets that are used to pay fees on and/or govern protocols that provide users with the ability to execute digital asset derivatives transactions, including, but not limited to, perpetuals, synthetic assets, options, and futures.

4.2.4 Lending & Borrowing Subtheme

The Lending & Borrowing subtheme includes assets that are used to pay fees on and/or govern protocols which use smart contracts to enable users to:

- Borrow digital assets while utilizing their digital asset holdings as collateral; or
- Lend out their digital asset holdings to earn interest

4.2.5 Insurance Subtheme

The Insurance subtheme includes assets that are used to pay fees on and/or govern protocols that offer digital asset insurance coverage; these assets can be used in scenarios where users are insuring their individual assets or by pools/protocols that are seeking insurance coverage.

4.2.6 Prediction Markets Subtheme

The Prediction Markets subtheme includes assets that are used to pay fees on and/or govern protocols/platforms that provide users with the ability to predict the outcome of speculative markets and real-world events.

4.2.7 Yield Aggregator Subtheme

The Yield Aggregator subtheme includes assets that are used to pay fees on and/or govern protocols/platforms that provide users with the ability to generate yield on their digital assets through mechanisms that require the user to lock their capital, including, but not limited to, yield farming.

Appendix A: Changelog

Substantive changes to DATS are tracked in the table below.

Version	Change	Description
0.3	Taxonomy Themes introduced	Taxonomy Themes were added to the document
0.4	Classification process added	The token classification process was added in the Industry Taxonomy and Taxonomy Theme Classification Process section
0.4	Taxonomy Theme descriptions updated	The Taxonomy Theme descriptions were updated to describe the factors considered when evaluating assets for theme inclusion
0.5	Digital Currencies supersector changes and new subsectors	<p>In the Digital Currencies supersector, the Commodity Backed Coins subsector was moved to the Stable and Asset Backed sector and was renamed to Commodity Collateralized Coins.</p> <p>Also, Equity Collateralized Coins, Fixed Income Collateralized Coins, and Real Asset Collateralized Coins were added as new subsectors under the Stable and Asset Backed sector.</p>

About Wilshire Digital Assets Advisory Group

Chaired by Blythe Masters, an expert in financial services, technology and digital assets, the Wilshire Digital Assets Advisory Group (Advisory Group) is comprised of highly-experienced digital asset practitioners to ensure full transparency into classification decisions as the market continues to evolve at pace.

About Wilshire

Wilshire is a global provider of market-leading indexes, advanced analytics, and multi-asset investment solutions. A trusted partner to a diverse range of more than 500 leading institutional investors and financial intermediaries, our clients rely on us to improve investment outcomes for a better future. Wilshire advises on over \$1.3 trillion in assets and manages \$93 billion in assets and is headquartered in the United States with offices worldwide.

About DAR

Digital Asset Research (DAR) is a specialist provider of crypto data and research. Since 2017, DAR has combined its expertise in traditional financial services and the crypto space to meet the needs of institutional clients, including asset managers, banks, custodians, family offices, fintech firms, fund administrators, hedge funds, and venture capital firms. DAR's core offerings include Clean Pricing & Verified Volume Data, a Crypto Events Calendar, a Reference Data Master, an Industry Taxonomy & Taxonomy Themes, Exchange Diligence, and Token Diligence, as well as related crypto market research.

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