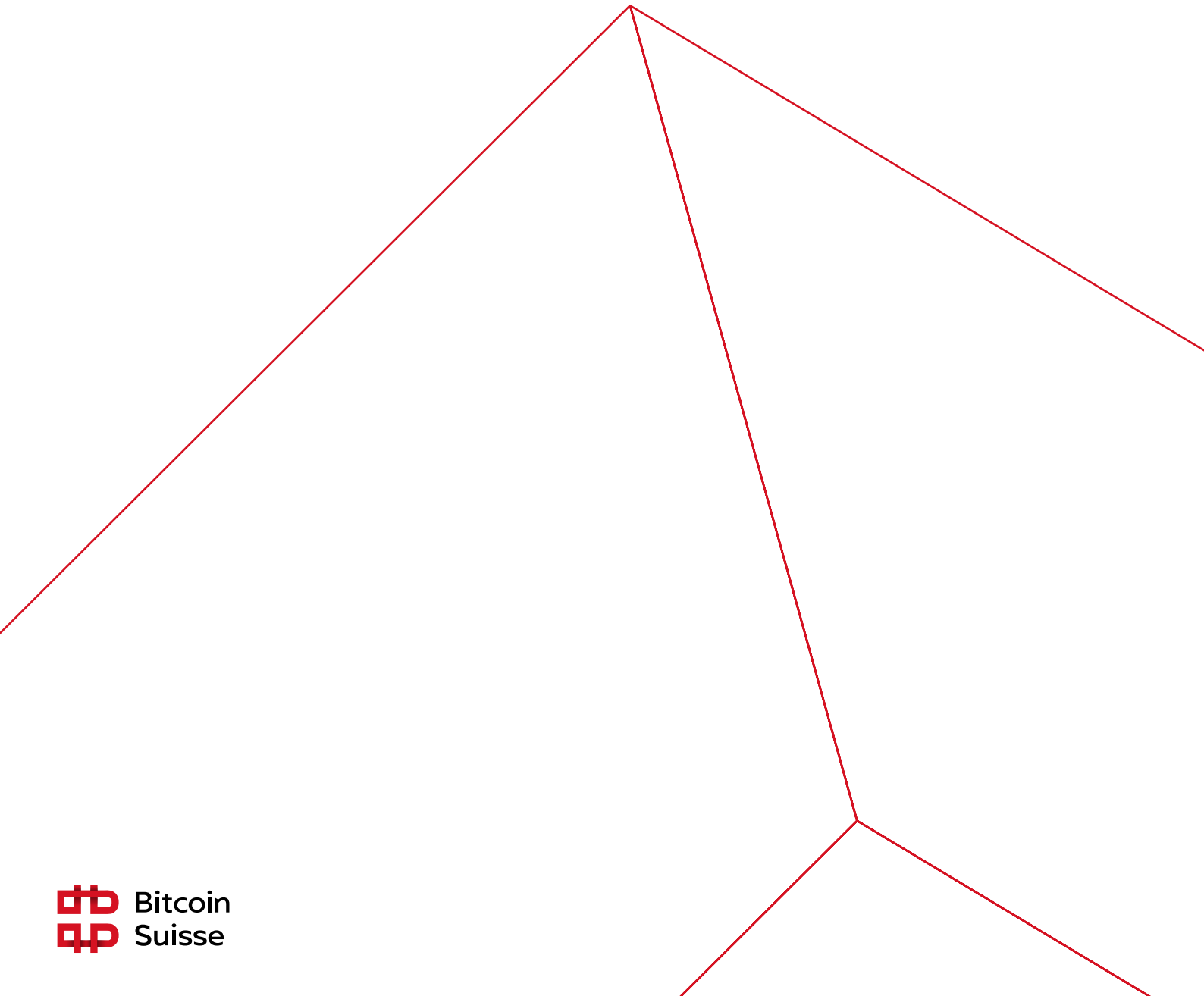
Bitcoin Suisse Global Crypto Taxonomy

Version 1.0.0 – May 2023

Bitcoin Suisse Global Crypto Taxonomy Board



Bitcoin Suisse

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1. Introduction

The crypto space is young and very dynamic, with new tokens or coins appearing and disappearing on a weekly basis. In addition, the concept of what a crypto asset is and can be is constantly evolving as it solely depends on software: algorithms can recreate existing assets known from Traditional Finance (TradFi) as well as create entirely new conceptions that have not existed, and maybe could never exist, outside the digital, blockchain-powered world which is the "crypto space."

Therefore, the primary objective of our taxonomy is to make the space more accessible for investors and a larger expert audience by offering a systematic structuring of the crypto space into sectors and sub sectors. The taxonomy not only helps to compare crypto assets but also gets tools to better compare groups of similar crypto assets. Crypto assets show much more inherent variance in design and hence "financial functionality" than stocks or bonds do. Thus, understanding (dis)similarity between assets is crucial for professional crypto asset and portfolio management. Investors will value a systematic clustering of similar tokens to better compare risk-reward profiles.

This document presents the design principles, the taxonomy including all definitions, key information about the governance around taxonomy updates, and finally a glossary.

This work is licensed under a *Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License*. Commercial licensing is available, e.g., to build products and services that make use of the Bitcoin Suisse Global Crypto Taxonomy including the Classification List. We are happy to hear from you. If you are interested, please contact *cryptotaxonomy-board@bitcoinsuisse.com*.

2. Design

2.1. Principles

A *taxonomy* is a scheme for hierarchical classification of objects into groups of types. Several economic taxonomies are in use to classify economic activity: the *North American Industry Classification System* (NAICS, 1997) used in North America, the *Global Industry Classification Standard* (GICS, 1999) by MSCI and S&P, the *Industry Classification Benchmark* (ICB, 2005) by DJ and FTSE, the *Swiss General Classification of Economic Activities* (NOGA), etc. While these systems are based on decade-long experiences in traditional industries and financial instruments, one can talk about a "crypto space" at most since 2009, a mere 14 years. The emerging industry is awash with experimentation and innovation, a dynamic environment that produces design failures and successes. Although the space is still in early stages compared to TradFi, it is necessary to bring more systematic structure into the space to help investors, policy makers, and media to embrace and navigate it with confidence. The Bitcoin Suisse Global Crypto Taxonomy (GCT) is our contribution to do just that.
To reach a consistent logic for clustering crypto assets, two main design principles are guiding the taxonomy:

1. Protocols, not institutions. The taxonomy focuses on cryptographic protocols that implement crypto assets rather than companies or other types of institutions that engage in the crypto space. Why? The core tenet of "crypto" is decentralization and thus disintermediation. We are not focusing on the crypto industry: even if some protocols have founding teams, sales, marketing, etc. these factors do not enter the definitions for sectors and sub sectors.

2. Primary protocol purpose. The purpose of the protocol takes precedence over the economic function or technical implementation of the crypto asset itself. We refer to functions ("Uniswap is an exchange") rather than technologies ("Uniswap uses ERC-20 governance tokens"). Taxonomy attributes define the way a protocol is perceived, used, and analyzed as a financial asset.

2.2. Governance

The Bitcoin Suisse Global Crypto Taxonomy (GCT) is periodically revised and published on a bi-annual basis by Bitcoin Suisse Research. Its maintenance is governed by the Bitcoin Suisse Global Crypto Taxonomy Board (GCT Board). The GCT Board consists of members who are employed by Bitcoin Suisse AG. The GCT Board makes its decisions concerning the setup of the taxonomy solely based on the design principles mentioned above. For example, the token universe of Bitcoin Suisse does not affect the content or composition of the GCT and the Classification List.
The GCT Board consists of in-house experts from multiple teams at Bitcoin Suisse:

- Head of Research and its deputy.
- Head of Invest & Advice and its deputy.
- Product Owner Crypto Stack and its deputy.

The GCT Board can consult additional experts inside and outside of Bitcoin Suisse (e.g., academic researchers or industry professionals with explicit crypto expertise) for help in resolving border cases and/or larger changes to the taxonomy.

The GCT Board is the maintainer/owner of the governance process. The governance process ensures that the taxonomy stays relevant and accommodating to the ever-evolving crypto space by adding/removing or splitting/merging (sub) sectors.

The yearly governance cycle is depicted in the following table.

Deadline	Action/Deliverable
January 1st internal review starts	(No deliverable)
March 1st Release candidate	Preliminary change log & Classification List for community feedback
March 15th Freeze	Incorporation of feedback, finalizing documentation
April 1st Public release	GCT Taxonomy & Classification List
July 1st internal review starts	(No deliverable)
September 1st Release candidate	Preliminary change log & Classification List for community feedback
September 15th Freeze	Incorporation of feedback, finalizing documentation
October 1st Public release	GCT Taxonomy & Classification List

To support users in understanding changes to the taxonomy, a versioning scheme loosely based on *semantic versioning* is applied. Given a version number MAJOR.MINOR.PATCH, we increment the:

- MAJOR version when non-backwards compatible changes are made, e.g., removing a sector or sub sector.
- MINOR version when backwards-compatible changes are made, e.g., renaming, adding, or merging sectors or sub sectors.
- PATCH version when backwards-compatible bugs are fixed, e.g., typos in names or similar.

Under normal circumstances, users can expect only MINOR releases. A MAJOR release would only be warranted if the change is profoundly altering the taxonomy in a non-backwards-compatible way. Finally, PATCH releases for bug-fixing are possible but rather unlikely to occur.

Classifying or reclassifying crypto assets into the taxonomy that do not call for changes to the taxonomy do not alter the version number.

All taxonomy changes are tracked and documented in the Version History & Change Log and published alongside the latest GCT release.

Each GCT release contains the taxonomy in the latest version plus a list of crypto assets classified by Bitcoin Suisse Research. A “maintenance release” does not alter the taxonomy, “major release” and “minor release” do as describe above.

The crypto investment community is provided with an online feedback channel to report mistakes, proposals for reclassification, or other information/data that may help improve the accuracy or quality of the GCT. Interested parties also have the possibility to subscribe to a mailing list to stay informed on changes and updates to the taxonomy.

3. Bitcoin Suisse Global Crypto Taxonomy

3.1. Overview

The Bitcoin Suisse Global Crypto Taxonomy (GCT) aims to accommodate all kinds of crypto assets that make use of blockchains and decentralized protocols. It is a 2-tier taxonomy with the ambition to be complete and extendible, able to provide a "home" for each crypto asset – current or future.

The top tier defines and captures sectors. Crypto assets insides a sector share similar and comparable attributes, while crypto assets in different sectors differ in their attributes reducing comparability. In other words, one sector should be clearly distinguishable from another whereas crypto assets inside the same sector should have defining attributes in common. The same applies to the sub sectors, a level below. At launch, the GCT consists of 6 sectors and 25 sub sectors (cf. Table 1).

3.2. Definitions and criteria

This section presents definitions to all sectors and sub sectors plus a short list of criteria for inclusion and exclusion.

Given the early stage of crypto, we do expect the GCT to be changing more often and more substantially than related traditional taxonomies. As blockchains and protocols evolve, sub sectors, and even sectors, may undergo further division and/or refinement. If the growth of the crypto space will be so strong that many sub sectors will amass many assets, it may be necessary to add a third tier to the GCT in the future to provide an additional level of differentiation.

Sector	Sub Sector
0100 Cryptocurrency	0101 Payment coin 0102 Privacy coin 0103 Stablecoin
0200 General Purpose Smart Contract Platform	0201 Layer 1 0202 Layer 2
0300 Decentralized Finance	0301 Exchange 0302 Derivative 0303 Credit 0304 Asset management 0305 Prediction market 0306 Insurance 0307 Liquid staking 0308 Payment service
0400 Utility	0401 Network 0402 Data 0403 Computing 0404 Certification 0405 Commodity 0406 Governance
0500 Culture	0501 Media 0502 Collectible 0503 Metaverse 0504 Gaming
0600 Tokenized Asset	0601 TradFi asset class 0602 Other TradFi instrument

Table 1. Overview Bitcoin Suisse Global Crypto Taxonomy (version 1.0.0)

3.3. Cryptocurrency (0100)

The "Cryptocurrency" sector contains blockchains with the primary purpose of being a form of cryptographically secured digital money. They may differ in monetary policies, level of privacy, relation to fiat currencies, etc. As markets evolve, some may offer additional functionality 'beyond money', which will require a reassessment of their classification

Payment coin (0101). A cryptocurrency that offers money-like characteristics of medium of exchange, store of value, and unit of account – but nothing else.

Inclusion	Exclusion
■ Transparent sender/receiver addresses ■ Transparent transaction amount ■ No smart contract functionality	■ Pegged to a fiat currency ■ Sender/receiver obfuscated ■ Transaction amount obfuscated

Privacy coin (0102). A cryptocurrency that offers privacy-preserving attributes in addition such as obfuscating sender/receiver addresses or transaction amounts, etc.

Inclusion	Exclusion
■ Sender or receiver address obfuscated ■ Transaction amount obfuscated ■ No smart contract functionality	■ Sender and receiver address visible ■ Transaction amount visible ■ Pegged to a fiat currency

Stablecoin (0103). A cryptocurrency whose valuation is pegged to a fiat currency such as USD or commodity like gold. They can be fiat- or crypto-collateralized or use an algorithmic stabilization mechanism.

Inclusion	Exclusion
■ Pegged to a fiat currency or commodity ■ No obfuscation ■ No smart contract functionality	■ No peg to a fiat currency

3.4. General purpose smart contract platform (0200)

The "general purpose smart-contract platform" sector contains blockchains that offer functionality 'beyond money', usually in the form of decentralized applications consisting of smart contracts that utilize the native coin of the blockchain and oracles as external data sources.

Layer 1 (0201). A base blockchain with the primary function to deploy and run smart contracts using a native token as 'gas' and that has an inherent source of cryptoeconomic security and thus does not rely on an external security source.

Inclusion	Exclusion
■ Base layer blockchain with a native token ■ Smart contract functionality	■ No smart contract functionality ■ No base layer blockchain

Layer 2 (0202). A blockchain that depends technically on another Layer 1 and inherits fully or partially its cryptoeconomic security (e.g., rollups, side chains, etc.). It can but does not have to feature its own native token.

Inclusion	Exclusion
■ Smart contract functionality ■ Technical dependence on another Layer ■ Cryptoeconomic security inheritance	■ No smart contract functionality ■ Layer 1 blockchain

3.5. Decentralized Finance (0300)

The "Decentralized Finance (DeFi)" sector contains smart-contract-based protocols that may operate on their own or another blockchain and are powered by a native token. These protocols recreate existing (e.g., exchanges, loans) or create new financial instruments (e.g., prediction markets).

Exchange (0301). A DeFi protocol that allows the trading of token pairs across one or more blockchains using an automated-market maker (with single or multi-token pools) or an order book.

Inclusion	Exclusion
▪ Uses an automated market-maker or order book	▪ No token-pair trading

Derivative (0302). A DeFi protocol that creates tokens whose performance is based on the performance of another, underlying crypto asset.

Inclusion	Exclusion
▪ Uses an underlying crypto asset ▪ Applies a financial contract (e.g., option, future, swap)	▪ No underlying crypto asset involve

Credit (0303). A DeFi protocol that allows users to borrow or lend tokens that are backed by locked-up tokens serving as collateral.

Inclusion	Exclusion
▪ Locking mechanism ▪ Yield mechanism	▪ Not possible to deposit collateral

Asset management (0304). A DeFi protocol that enables portfolio management activities such as asset allocation, weighting, etc. to build structured products, indices, or strategies based on crypto assets on-chain.

Inclusion	Exclusion
▪ Enables on-chain structured products, (tracker) indices, or portfolio strategies based on crypto assets	▪ No possibility to create structured products, indices, or portfolios

Prediction market (0305). A DeFi protocol that implements a prediction market by allowing users to collaboratively bet on predictions for events.

Inclusion	Exclusion
▪ Enables betting on an outcome ▪ Uses a data oracle	▪ No prediction-betting (only gambling)

Insurance (0306). A DeFi protocol that will pay out an insurance sum when a condition is met.

Inclusion	Exclusion
▪ Allows to define a pay-out condition ▪ Uses a data oracle	▪ No conditional payout mechanism ▪ No oracle functionality

Liquid staking (0307). A DeFi protocol that, in exchange for a staked token, issues an equivalent 'liquid' token that can be used elsewhere during the staking period.

Inclusion	Exclusion
▪ Accepts a staked token ▪ Issues a new, "liquid token" in return	▪ Does not offer a liquid token ▪ Does not accept a staked token.

Payment service (0308). A DeFi protocol that enables on-chain payment services beyond the transfer of native crypto assets such as invoice clearance, merchant platforms, stablecoin minting (c.f. sub sector 103), and others.

Inclusion	Exclusion
▪ On-chain payments using smart contracts ▪ Allows for the creation of customized payment solutions	▪ No smart contracts

3.6. Utility (0400)

The Utility sector contains blockchains and protocols that enable access to or represent a resource. The resource does not have to be digital.

Network (0401). A utility blockchain whose underlying resource is network connectivity (e.g., Internet of Things).

Inclusion	Exclusion
▪ Represents or enables access to network connectivity	▪ Does not represent or enable access to a resource

Data (0402). A utility blockchain whose underlying resource is data (e.g., storage, oracles).

Inclusion	Exclusion
▪ Represents or enables access to a data resource	▪ Does not represent or enable access to a resource

Computing (0403). A utility blockchain whose underlying resource is computing power.

Inclusion	Exclusion
▪ Represents or enables access to computing resource	▪ Does not represent or enable access to a resource

Certification (0404). A utility blockchain that certifies an off-chain circumstance (e.g., identity, provenance, ownership, etc.) digitally.

Inclusion	Exclusion
▪ Represents or enables access to a certificate ▪ Provides a 'proof' mechanism ▪ Uses an external data oracle	▪ Does not represent or enable access to a resource ▪ no certificate issuance

Commodity (0405). A utility blockchain whose underlying resource is a commodity different from the above sub sectors (e.g., energy, CO2, etc.).

Inclusion	Exclusion
▪ Gives access to a commodity ▪ Services the extraction, storage, tracking or distribution of the commodity	▪ Does not represent or enable access to a resource ▪ no certificate issuance

Governance (0406). A utility blockchain that allows holders to coordinate in decision-making, usually but not limited to protocol governance.

Inclusion	Exclusion
▪ Enables collective decision-making by voting or other coordination mechanism	▪ Does not enable access to governance

3.7. Culture (0500)

The Culture sector contains blockchains or protocols that represent cultural works of art – as opposed to utility. The protocol purpose is dominating; the crypto asset used (e.g., non-fungible or fungible) is immaterial. Media (0501). A culture protocol that enables production and/or distribution of media content.

Inclusion	Exclusion
■ Token enables media production and/or distribution	■ Token does not represent a cultural work

Collectible (0502). A culture protocol that manages collectibles or pieces of art, digital or physical.

Inclusion	Exclusion
■ Represents collectible, NFT or art piece ■ Uses non-fungible crypto asset	■ Does not represent a cultural work

Metaverse (0503). A culture protocol that manages assets in a virtual world (e.g., weapons, land, etc.) that can be traded.

Inclusion	Exclusion
■ Represents a tradable virtual-world asset	■ Represents GameFi asset or collectible

Gaming (0504). A culture protocol that manages GameFi assets inside a game, e.g., in-game currency.

Inclusion	Exclusion
■ Represents an in-game currency or asset	■ Does not represent a GameFi asset

3.8. Tokenized asset (0600)

The 'Tokenized Asset' sector contains blockchains and protocols to manage tokenized versions of asset classes or instruments of traditional finance (TradFi).

TradFi asset class (0601). A protocol to manage representations of instruments of a TradFi asset class (e.g., a share, bond, real estate, commodities, etc.).

Inclusion	Exclusion
■ Represents a TradFi asset class	■ Does not represent a TradFi instrument

Other TradFi instrument (0602). The protocol to manage representations of a TradFi financial instrument that does not fall under a typical/traditional asset class.

Inclusion	Exclusion
■ Represents a financial instrument outside of asset classes	■ Does not represent a TradFi instrument

4. Classification List

A list of crypto assets classified according to the GCT by the GCT Board can be downloaded from *www.bitcoinsuisse.com/crypto-taxonomy*

Important note:
The Classification List does not consider legal and regulatory aspects when classifying crypto assets, as it is prepared solely according to the definitions and inclusion/exclusion criteria of the GCT.

5. Version history, Change log

Date	Relase type	Version	Comments
01.04.2023	Major	1.0.0	First public release

6. Glossary

Automated market maker
A type of decentralized cryptocurrency exchange that utilizes crypto asset pools to enable trading without order books.

Coin
Term for the native asset of a Layer-1 blockchain, whose functionality is limited to solely functional transaction purposes. A coin is akin to a physical coin changing hands, as a peer-to-peer payment. A coin is to be separated from a token which has additional innate, programmed, functionality.

Cryptoeconomic security
The underlying security infrastructure of a blockchain, provided either by proof-of-work, proof-of-stake or another security mechanism.

Crypto assets
Umbrella term for coins (native to a blockchain) and tokens (smart contracts).

Fungible
Ability of a crypto asset to be readily interchanged for another of like kind.

Layer 0
A Layer 0 is a blockchain layer that interconnects two or more Layer 1 blockchains enabling full interoperability between them.

Layer 1
A base blockchain network that processes and finalizes transactions on its own blockchain with a native token. A Layer 1 has an inherent source of cryptoeconomic security and does not rely on an external security source.

Layer 2
A blockchain layer that is separate from Layer 1 but relies fully or partially on a Layer 1's inherited cryptoeconomic security.

Liquid token
A crypto token given to users who loan their crypto to a liquidity pool, representing a user's share of the pool, enabling redemption for the original tokens invested.

Locking mechanism
A mechanism to lock crypto assets used as collateral.

Non-fungible
Inability of a crypto asset to be readily interchanged for another of like kind.

(Cryptographic) Protocol
Set of rules to allow entities to transmit information using cryptographic methods such as key exchange, encryption, hashing, etc.

Sector
A cluster in an ecosystem whose items/elements share the same or related characteristics. Within each sector there may exist several, more granular sub sectors with differentiable features.

Smart contract
A program that runs when predetermined conditions are met.

Sub sector
A sub cluster to a specific sector. A crypto asset in a sub-sector is always also a member of the main sector.

Taxonomy
A comprehensive framework that enables systematic identification, clustering, and classification of blockchains, protocols, and their designs.

Token
Term for an asset, whose functional features are only limited by its implementation and therefore expand beyond a simple Coin which is limited to simple peer-to-peer transactions. Usually, it is residing in a smart contract on top of a blockchain, being used for transactional purposes, rewards and staking participations, purchasing computation power, building decentralized applications and smart contracts.

Tokenized assets
Real world assets, tangible or intangible, that are represented on blockchains.

TradFi
A shorthand form used by the crypto community to denote “traditional finance.” While the term is not precisely defined, it is used in the context of this taxonomy to denote financial instruments predating the crypto era.

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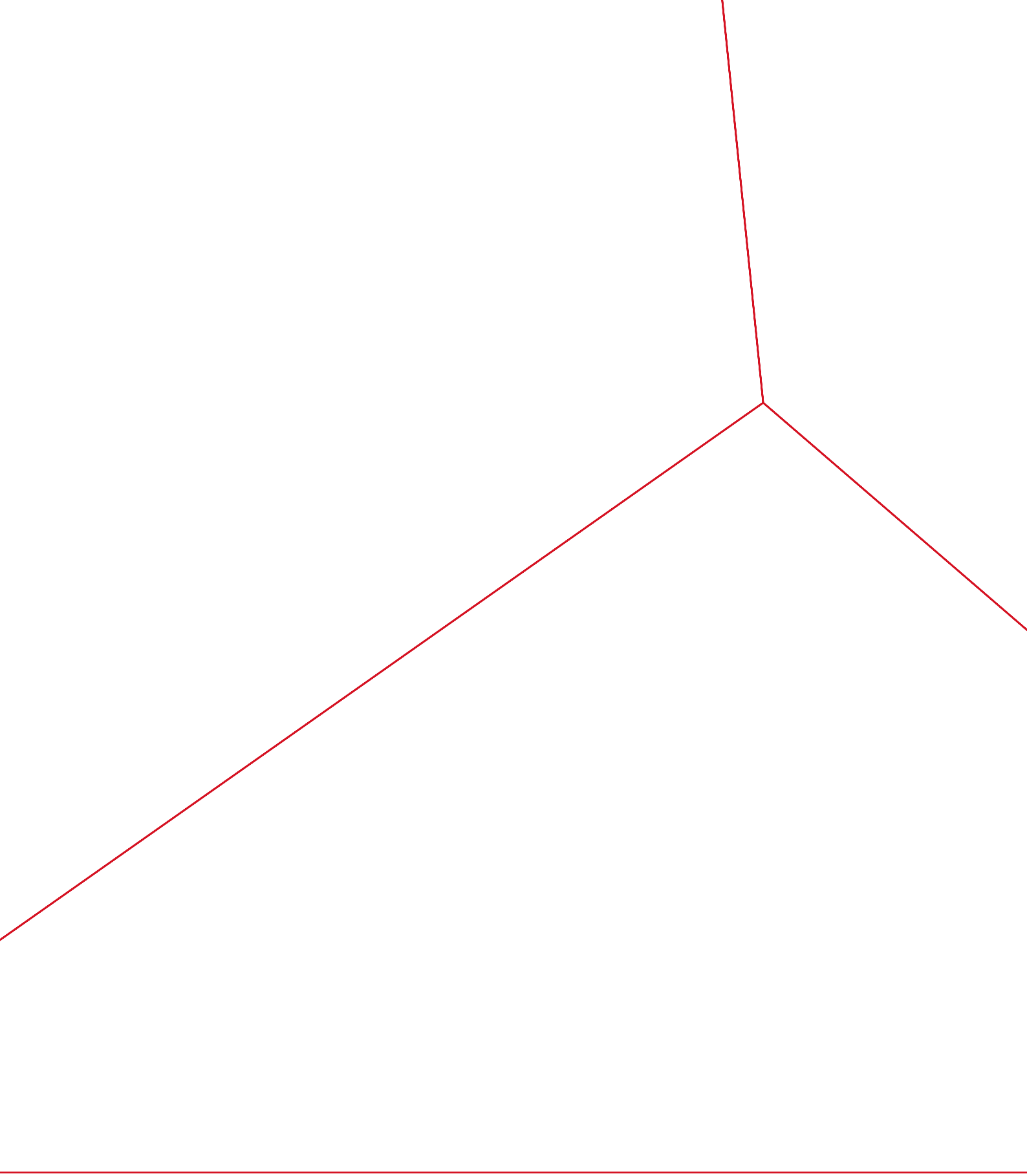

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