

S&P Crypto Ecosystem Indices *Methodology*

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Introduction

Index Objective

The S&P Crypto Ecosystem Indices measure the performance of a selected group of crypto-linked equities which may be combined with a selected group of digital assets.

The S&P Digital Markets 50 Index is a multi-asset strategy focused on the crypto ecosystem, consisting of two asset class components, equity and cryptocurrency, weighted at 70% and 30%, respectively.

Index Highlights

In the equity component, the index selects 35 U.S.-listed and -domiciled companies drawn from the S&P Global BMI (“the underlying index”) that are associated with digital asset operators, infrastructure providers, financial services, blockchain applications, and supporting technologies.

The index determines eligibility based on Theia Insights’ Concept2Universe workflow, which employs natural language processing (NLP) to link companies to the S&P Crypto Ecosystem and Digital Assets Infrastructure Theme. The equity portion weights constituents based on the product of float-adjusted market capitalization (FMC) and the square of the product of Aggregate Concept Relatedness Score (ACRS) and Thematic Exposure Score. ACRS is a composite score derived from four distinct relevance measures, each evaluating a company’s connection to a theme from a different perspective.

In the cryptocurrency component, the index selects 15 eligible cryptocurrencies ranked by market cap and weighted according to the process below.

For information on the S&P Global BMI and the S&P Cryptocurrency Broad Digital Asset Index, please refer to the S&P Global BMI Methodology and S&P Digital Asset Indices Methodology, respectively, available at www.spglobal.com/spdji/.

Theia Insights

Theia Insights is a data science and investment intelligence company that builds thematic-linked classification systems and factor models for global financial markets.

For more information on Theia Insights, please see [here](#).

Supporting Documents

This methodology is meant to be read in conjunction with supporting documents providing greater detail with respect to the policies, procedures and calculations described herein. References throughout the methodology direct the reader to the relevant supporting document for further information on a specific topic. The list of the main supplemental documents for this methodology and the hyperlinks to those documents is as follows:

Supporting Document	URL
S&P Dow Jones Indices’ Equity Indices Policies & Practices Methodology	Equity Indices Policies & Practices
S&P DJI Digital Assets Policies & Practices and Index Mathematics Methodology	S&P DJI Digital Assets Policies, Practices, & Mathematics Methodology

Supporting Document	URL
S&P Dow Jones Indices' Index Mathematics Methodology	Index Mathematics Methodology

This methodology was created by S&P Dow Jones Indices to achieve the aforementioned objective of measuring the underlying interest of each index governed by this methodology document. Any changes to or deviations from this methodology are made in the sole judgment and discretion of S&P Dow Jones Indices so that the index continues to achieve its objective.

Eligibility Criteria

Index Universe

At each rebalancing, the index universe for each component is the underlying index listed below:

Component Asset Class	Component Underlying Index	Target Company Count
Equity	S&P Global BMI	35
Cryptocurrency	S&P Cryptocurrency Broad Digital Asset Index	15

Equity Component Eligibility Factors

At each rebalancing, constituents within the index universe must satisfy the following criteria as of each rebalancing reference date to be eligible for index inclusion:

- **Float-Adjusted Market Capitalization (FMC):** be greater than or equal to US\$ 100 million (US\$ 75 million for current constituents)
- **Liquidity Threshold:** have three-month Median Daily Value Traded (MDVT) of US\$ 3 million (US\$ 1 million for current constituents)
- **Aggregate Concept Relatedness Score¹:** have an ACRS linked to the theme of at least 2.0 (current constituents at least 1.5). Stocks without coverage are excluded.

Aggregate Concept Relatedness Score (ACRS) is a comprehensive metric designed to evaluate the relatedness of each company within the theme. ACRS is a composite score derived from four distinct relevance measures (rounded for selection):

- Thematic Exposure Score
- Research Question Score
- Keywords Score
- Model Judgement Score

For further details on score rounding, please see Appendix B.

For more information on Theia Insights' Concept2Universe framework, please refer [here](#).

- **Listed and Trading:** be domiciled and listed in the U.S.
- **Multiple Share Class:** Each company is represented once by the Designated Listing. For more information regarding the treatment of multiple share classes in these indices, please refer to Approach B within the Multiple Share Classes section of S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.

¹ Companies retain both their Overall Category and ACRS scores during the March and September rebalances, unless they are new constituents to the S&P Global BMI, to reduce turnover from changes to Overall Category and ACRS.

Cryptocurrency Component Eligibility Factors

At each rebalancing, constituents must satisfy the following criteria as of each rebalancing reference date to be eligible for index inclusion:

- **Market Capitalization:** be greater than or equal to US\$ 300 million (US\$ 200 million for current constituents). For cryptocurrency indices, “market capitalization” refers to the product of “Effective Coin Supply” multiplied by the seven-day median coin price.
- **Liquidity Threshold:** have three-month Median Daily Value Traded (MDVT) of US\$ 1 million (US\$ 500,000 for current constituents).
- **Custodian:** have at least two custodians that meet the minimum technology and information security requirements below²:
 - **Technology Security.** MPC (Multi-party computing, most secure) or MultiSig (Multi-Signature)
 - **Information Security.** ISO 27001 or SOCII
- **Asset Type:** must not be an abandoned coin or a meme coin, as defined by Lukka
- **Blockchain Hard Forks:** In the event that a digital asset included in the index undergoes a blockchain hard fork resulting in the creation of two or more distinct assets, only the asset that retains the original ticker symbol remains a constituent of the index. Any new asset resulting from the blockchain hard fork, which is assigned a different ticker symbol, is not added to the index, regardless of market capitalization, trading volume, or other eligibility criteria.

The index continues to track the original asset under its unchanged ticker, and no adjustment is made to the index for the value of any forked assets not included. This excludes migrations to a new ticker where the old ticker is discontinued. Note, this section refers to hard forks of a blockchain only, not a codebase fork.

² For history prior to launch, the indices did not include a custody requirement as an element of eligibility. History is based on the index constituents that met the custody element as of the Launch Date. As of November 1, 2025, custodian count backtest data is applied to historical rebalances.

Index Construction

Consistent Selection

At each rebalancing, select constituents for each respective component according to the following processes:

Equity Component: At each rebalancing, the index selects 35 companies according to the following process:

1. Rank companies within each Theia Insights Overall Category Level ('Level 1', 'Level 2' and 'Level 3') in descending order, first by the product of the company's FMC and the square of the product of the rounded ACRS and Thematic Exposure Score.

For more information on Theia Insights classifications, please refer to Appendix A.

2. Select the highest-ranking 'Level 1' companies in order until the target constituent count of 35 is reached.
3. If, after Step 2, there are still fewer than 35 constituents, select the highest-ranking 'Level 2' stocks with the higher product of the company's FMC in the eligible index universe and the square of the product of the ACRS and Thematic Exposure Score until the target constituent count of 35 is reached.

Cryptocurrency Component: At each rebalancing, the index selects 15 constituents from the S&P Cryptocurrency BDA Index according to the following process:

1. Rank the eligible digital assets by market capitalization and automatically select the highest ranking 80% of the target count.
2. Select current constituents ranked in the top 120% of the target constituent count until the target constituent count is met.
3. If the target constituent count is still not met, select the highest-ranking non-constituent until the target count is reached.

Constituent Weightings³

1. At each rebalancing, the components reweight according to the table below:

Asset Class	Weight Allocation
Equity	70%
Cryptocurrency	30%

2. **Equity Component:** Multiply the square of the product of Aggregate Concept Relatedness Score and Thematic Exposure Score by the company's float-adjusted market capitalization in the eligible index universe and use this product to weight all eligible companies.
3. **Cryptocurrency Component:** The index market capitalization weights constituents.

³ For history prior to June 2025, due to data availability, the index rebalanced semi-annually in June and December using the respective reference dates. For history prior to June 2022, due to the lack of Level 1 companies, capping constraints could not be reached and the Equity component did not include a weighting restriction on Level 2 companies.

4. Group all eligible equities by company and the index weights of constituents according to the following process:
 - a. Categorize constituents as 'Level 1' or 'Level 2' according to the following process:
 - i. **Equity Component:** Categorize constituents into 'Level 1' or 'Level 2', as defined by Theia Insights.
 - ii. **Cryptocurrency Component:** Categorize constituents of the S&P Cryptocurrency MegaCap Index (Bitcoin and Ethereum) as 'Level 1'. Categorize constituents of the S&P Cryptocurrency BDA Ex-MegaCap Index as 'Level 2'.
 - b. Cap the weights at the following levels to determine each constituent's weight:

Category	Weight Cap
Level 1	4.8%
Level 2	2.5%

Cap Level 2 companies in the equity component at 25% of the total index weight.

The sum of the constituents with weight greater than 4.8% cannot exceed 45% of the total index weight.

For indices that use capping rules across more than one attribute, S&P DJI utilizes an optimization program to satisfy the capping rules. The stated objective for the optimization is to minimize the difference between the pre-capped weights of the stocks in the index and the final capped weights. This is done by using an optimization procedure that chooses final weights in such a way to minimize the sum of the squared difference of capped weight and uncapped weight, divided by uncapped weight for each stock.

Constraint Relaxation. If the optimization process fails to find a solution, the 25% Equity Component Level 2 Group Cap is incrementally relaxed by 5% and the single stock cap on Level 2 companies is incrementally relaxed by 0.5% iteratively until a solution is found.

Asset Class and Category	Single Stock Cap	Group Cap
Equity Component – Level 2	2.5%	25%
Equity Component – Level 2	3.0%	30%
Equity Component – Level 2	3.5%	35%

For more information on the index calculation methodology, please refer to the Capped Market Capitalization Weighted Indices section of the S&P Dow Jones Indices' Index Mathematics Methodology for details.

Index Maintenance

Rebalancing

The index rebalances quarterly, effective after the close of the third Friday of March, June, September and December. The rebalancing reference dates are the close of the third Friday of February, May, August and November, respectively.

Data Source. Theia Insights provides updated S&P Crypto Ecosystem and Digital Assets Infrastructure theme scores data quarterly, utilizing the S&P Global BMI universe as of the first business day of February, May, August and November. Stocks that are added or removed between these dates and the rebalancing reference dates may not be covered and may not be eligible.

Additions and Deletions

Additions. Except for spin-offs, split-offs, and mergers/acquisitions, companies can only be added to the index at rebalancings.

Deletions. If a stock is dropped from its underlying index, it is also removed from the respective index simultaneously. Between rebalancings, deletions can occur due to acquisitions, mergers, and spin-offs, or due to bankruptcies, delisting from eligible exchanges, or suspensions.

Corporate Actions

Spin-Offs. Spin-offs are added to all indices where the parent security is a constituent at a zero price at the market close of the day before the ex-date (with no divisor adjustment) and are removed after at least one day of regular way trading (with a divisor adjustment).

For information on Corporate Actions, please refer to the Non-Market Capitalization Indices section of S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.

If the original ticker is retired or reassigned to a forked asset, the Index Committee reviews the event and applies expert judgment to determine the appropriate treatment, prioritizing continuity and transparency for index users.

For further information on the treatment of corporate actions in digital asset indices, please refer to S&P Dow Jones Indices' Digital Asset Indices Policies & Practices Methodology.

Index Calculation

The index calculates by means of the divisor methodology used for all S&P Dow Jones equity indices.

For more information on the index calculation methodology, please refer to the S&P Dow Jones Indices' Index Mathematics Methodology.

Additional Index Return Series

In addition to the indices detailed in this methodology, additional return series versions of the indices may be available, including, but not limited to the following: currency, currency hedged, decrement, fair value, inverse, leveraged, and risk control versions. For a list of available indices, please refer to the [S&P DJI Methodology & Regulatory Status Database](#).

For information on various index calculations, please refer to S&P Dow Jones Indices' Index Mathematics Methodology.

For the inputs necessary to calculate certain types of indices, including decrement, dynamic hedged, fair value, and risk control indices, please refer to the Parameters documents available at www.spglobal.com/spdji/.

The Index Committee may change the date of a given rebalancing for reasons including market holidays occurring on or around the scheduled rebalancing date. Any such change will be announced with proper advance notice where possible.

This document should be read in conjunction with the underlying indices' methodology documents, available at www.spglobal.com/spdji/, in order to gain a complete understanding of the indices' eligibility rules, policies, and procedures.

Index Data

Calculation Return Types

S&P Dow Jones Indices calculates multiple return types which vary based on the treatment of regular cash dividends. The classification of regular cash dividends is determined by S&P Dow Jones Indices.

- Price Return (PR) versions are calculated without adjustments for regular cash dividends.
- Gross Total Return (TR) versions reinvest regular cash dividends at the close on the ex-date without consideration for withholding taxes.
- Net Total Return (NTR) versions, if available, reinvest regular cash dividends at the close on the ex-date after the deduction of applicable withholding taxes.

In the event there are no regular cash dividends on the ex-date, the daily performance of all three indices will be identical.

For a complete list of indices available, please refer to the daily index levels file (“.SDL”).

For more information on the classification of regular versus special cash dividends as well as the tax rates used in the calculation of net return, please refer to S&P Dow Jones Indices’ Equity Indices Policies & Practices Methodology.

For more information on the calculation of return types, please refer to S&P Dow Jones Indices’ Index Mathematics Methodology.

Index Governance

Index Committee

An S&P Dow Jones Indices Index Committee maintains the indices. All committee members are full-time professionals at S&P Dow Jones Indices. The Index Committee meets regularly. At each meeting, the Committee may review pending corporate actions that may affect index constituents, statistics comparing the composition of the index to the market, companies that are being considered as candidates for addition to the index, and any significant market events. In addition, the Index Committee may revise index policy covering rules for selecting companies, treatment of dividends, share counts or other matters.

S&P Dow Jones Indices considers information about changes to its indices and related matters to be potentially market moving and material. Therefore, all Index Committee discussions are confidential. S&P Dow Jones Indices' Index Committees reserve the right to make exceptions when applying the methodology if the need arises. In any scenario where the treatment differs from the general rules stated in this document or supplemental documents, clients will receive sufficient notice, whenever possible. In addition to the daily governance of indices and maintenance of index methodologies, at least once within any 12-month period, the Index Committee reviews the methodology to ensure the indices continue to achieve the stated objectives, and that the data and methodology remain effective. In certain instances, S&P Dow Jones Indices may publish a consultation inviting comments from external parties.

For information on Quality Assurance and Internal Reviews of Methodology, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.

Index Policy

Calculation Schedule

The index calculates on all business days when at least one of the underlying indices trades. If only one underlying index trades, the value of the non-trading component carries over from the prior trading day.

Contact Information

For questions regarding an index, please contact: index_services@spglobal.com.

Index Dissemination

Index levels are available through S&P Dow Jones Indices' Web site at www.spglobal.com/spdji, major quote vendors (see codes below), numerous investment-oriented Web sites, and various print and electronic media.

Tickers

The table below lists headline indices covered by this document. All versions of the below indices that may exist are also covered by this document. Please refer to the S&P DJI Methodology & Regulatory Status Database for a complete list of indices covered by this document.

Index	BBG	RIC
S&P Digital Markets 50 Index (USD)	SPDM50UP	.SPDM50UP
S&P Digital Markets 50 Index (USD) TR	SPDM50UT	.SPDM50UT
S&P Digital Markets 50 Index (USD) NTR	SPDM50UN	.SPDM50UN

Index Data

Daily constituent and index level data are available via subscription.

For product information, please contact S&P Dow Jones Indices at www.spglobal.com/spdji/en/contact-us.

Web site

For further information, please refer to S&P Dow Jones Indices Web site at www.spglobal.com/spdji/.

Appendix A

Eligible Theia Insights Concept2Universe Per Index

Theia Insights performs an annual assessment of the Theia Insights Industry Classification and Concept2Universe taxonomies to evaluate and prioritize potential updates to each classification structure. The purpose is to ensure these classification systems continue to accurately and comprehensively represent the most economically relevant industries in today's markets, providing customers with the most granular framework for analysis. Any update to the systems are generally made in the second half of each calendar year. After receiving notification of an update to the system the Index Committee reviews the update and then determines what, if any, changes should be applied to the indices using Theia Insights data.

Theia Insights Concept2Universe Relatedness Levels - Overall Category Definitions

Based on Concept2Universe Score: Companies are grouped into one of five relatedness levels based on relative position in the basket and minimum score thresholds:

- Level 1: Strong, direct relatedness between company and the target concept
- Level 2: Moderate relatedness between company and the target concept
- Level 3: Peripheral relatedness between company and the target concept – e.g., supply chain relation
- Level 4: Negligible relatedness between company and the target concept
- Level 5: No relatedness between company and the target concept

Appendix B

Weighting Score Rounding

The indices round up the Thematic Exposure Score and Aggregate Concept Relatedness Score attributes according to the following process:

- **Thematic Exposure Score:** Original values are between 0 and 1. The scores round up in multiples of 0.1, e.g., 0.62 rounds up to 0.7.
- **Aggregate Concept Relatedness Score:** Original values are between 0 and 5. The scores round up in multiples of 0.25, e.g., 2.62 is rounded up to 2.75.

Disclaimer

Performance Disclosure/Back-Tested Data

Where applicable, S&P Dow Jones Indices and its index-related affiliates (“S&P DJI”) defines various dates to assist our clients by providing transparency. The First Value Date is the first day for which there is a calculated value (either live or back-tested) for a given index. The Base Date is the date at which the index is set to a fixed value for calculation purposes. The Launch Date designates the date when the values of an index are first considered live: index values provided for any date or time period prior to the index’s Launch Date are considered back-tested. S&P DJI defines the Launch Date as the date by which the values of an index are known to have been released to the public, for example via the company’s public website or its data feed to external parties. For Dow Jones-branded indices introduced prior to May 31, 2013, the Launch Date (which prior to May 31, 2013, was termed “Date of introduction”) is set at a date upon which no further changes were permitted to be made to the index methodology, but that may have been prior to the Index’s public release date.

Please refer to the methodology for the Index for more details about the index, including the manner in which it is rebalanced, the timing of such rebalancing, criteria for additions and deletions, as well as all index calculations.

Information presented prior to an index’s launch date is hypothetical back-tested performance, not actual performance, and is based on the index methodology in effect on the launch date. However, when creating back-tested history for periods of market anomalies or other periods that do not reflect the general current market environment, index methodology rules may be relaxed to capture a large enough universe of securities to simulate the target market the index is designed to measure or strategy the index is designed to capture. For example, market capitalization and liquidity thresholds may be reduced. In addition, forks have not been factored into the back-test data with respect to the S&P Cryptocurrency Indices. For the S&P Cryptocurrency Top 5 & 10 Equal Weight Indices, the custody element of the methodology was not considered; the back-test history is based on the index constituents that meet the custody element as of the Launch Date. Also, the treatment of corporate actions in back-tested performance may differ from treatment for live indices due to limitations in replicating index management decisions. Back-tested performance reflects application of an index methodology and selection of index constituents with the benefit of hindsight and knowledge of factors that may have positively affected its performance, cannot account for all financial risk that may affect results and may be considered to reflect survivor/look ahead bias. Actual returns may differ significantly from, and be lower than, back-tested returns. Past performance is not an indication or guarantee of future results.

Typically, when S&P DJI creates back-tested index data, S&P DJI uses actual historical constituent-level data (e.g., historical price, market capitalization, and corporate action data) in its calculations. As ESG investing is still in early stages of development, certain datapoints used to calculate certain ESG indices may not be available for the entire desired period of back-tested history. The same data availability issue could be true for other indices as well. In cases when actual data is not available for all relevant historical periods, S&P DJI may employ a process of using “Backward Data Assumption” (or pulling back) of ESG data for the calculation of back-tested historical performance. “Backward Data Assumption” is a process that applies the earliest actual live data point available for an index constituent company to all prior historical instances in the index performance. For example, Backward Data Assumption inherently assumes that companies currently not involved in a specific business activity (also known as “product involvement”) were never involved historically and similarly also assumes that companies currently involved in a specific business activity were involved historically too. The Backward Data Assumption allows the hypothetical back-test to be extended over more historical years than would be feasible using only actual data. For more information on “Backward Data Assumption” please refer to the FAQ. The methodology and factsheets of any index that employs backward assumption in the back-tested history

will explicitly state so. The methodology will include an Appendix with a table setting forth the specific data points and relevant time period for which backward projected data was used. Index returns shown do not represent the results of actual trading of investable assets/securities. S&P DJI maintains the index and calculates the index levels and performance shown or discussed but does not manage any assets.

Index returns do not reflect payment of any sales charges or fees an investor may pay to purchase the securities underlying the Index or investment funds that are intended to track the performance of the Index. The imposition of these fees and charges would cause actual and back-tested performance of the securities/fund to be lower than the Index performance shown. As a simple example, if an index returned 10% on a US \$100,000 investment for a 12-month period (or US \$10,000) and an actual asset-based fee of 1.5% was imposed at the end of the period on the investment plus accrued interest (or US \$1,650), the net return would be 8.35% (or US \$8,350) for the year. Over a three-year period, an annual 1.5% fee taken at year end with an assumed 10% return per year would result in a cumulative gross return of 33.10%, a total fee of US \$5,375, and a cumulative net return of 27.2% (or US \$27,200).

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