FTSE Global Digital Asset Index Series

In Association with Digital Asset Research v1.8



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Introduction

1. Introduction

- 1.1 This document sets out the Ground Rules for the FTSE Global Digital Asset Index Series. The companion documents <u>Guide to the Vetting of Digital Assets and Digital Asset Exchanges</u> and the <u>Guide to the Calculation of the FTSE DAR Digital Asset Prices</u> should be read in conjunction with this document. Copies of both of these documents are available at www.lseg.com/en/ftse-russell/.
- 1.1.1 A digital asset is a Cryptographically Secured Digital Instrument for which the issuance, transfer and ownership is recorded on a data structure commonly referred to as a Blockchain.
- 1.1.2 The FTSE Global Digital Asset Index Series is designed to provide market participants a mechanism to evaluate digital asset investments and prices.
- 1.2 The FTSE Global Digital Asset Index Series does not take account of ESG factors in its index design.
- 1.3 The base currency of the FTSE Global Digital Asset Index Series is US Dollars (USD).

1.4 The FTSE Global Digital Asset Index Series incorporates the:

- FTSE Digital Asset Total Cap Index (Large, Mid, Small and Micro Cap)
- FTSE Digital Asset All Cap Index (Large, Mid and Small Cap)
- FTSE Digital Asset Index (Large and Mid Cap)
- FTSE Digital Asset Large Cap Index
- FTSE Digital Asset Mid Cap Index
- FTSE Digital Asset Small Cap Index
- FTSE Digital Asset SMID Cap Index (Small and Mid Cap)
- FTSE Digital Asset Micro Cap Index
 - FTSE Digital Asset Bitcoin Ethereum Index

1.5 The FTSE Global Digital Asset Index Series (4pm EST) incorporates the:

- FTSE Digital Asset Total Cap Index (4pm EST) (Large, Mid, Small and Micro Cap)
- FTSE Digital Asset All Cap Index (4pm EST) (Large, Mid and Small Cap)
- FTSE Digital Asset Index (4pm EST) (Large and Mid Cap)
- FTSE Digital Asset Large Cap Index (4pm EST)
- FTSE Digital Asset Mid Cap Index (4pm EST)
- FTSE Digital Asset Small Cap Index (4pm EST)
- FTSE Digital Asset SMID Cap Index (Small and Mid Cap) (4pm EST)
- FTSE Digital Asset Micro Cap Index (4pm EST)
- FTSE Digital Asset Bitcoin Ethereum Index (4pm EST)
- FTSE Digital Asset Top 5 Equal Weight Index (4pm EST)

1.6 The FTSE Global Digital Asset Index Series (1000 UTC) incorporates the:

FTSE Digital Asset Total Cap Index (1000 UCT)

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1.7 FTSE Digital Asset Proof of Stake Indices

- FTSE Digital Asset Total Cap Proof of Stake Index
- FTSE Digital Asset Total Cap Proof of Stake Index (4pm EST)
- FTSE Digital Asset Total Cap Proof of Stake Index (1700 CET)

1.8 FTSE Digi50 Indices

- FTSE Digi50 Index (4pm EST)
- FTSE Digi50 Index (1700 CET)

1.9 FTSE Digital Asset Top 20 Indices

- FTSE Digital Asset Top 20 Index (4pm EST)
- FTSE Digital Asset Top 20 Capped 25% Index (4pm EST)
- 1.10 Indices are calculated at Price Return levels only.

1.11 FTSE Russell

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- 1.12 FTSE Russell does not make any representation or warranty, express or implied, as to the accuracy, completeness or correctness of the FTSE Global Digital Asset Index Series.
- 1.13 No liability whether as a result of negligence or otherwise is accepted by FTSE Russell (or any person concerned with the preparation or publication of these Ground Rules) for any losses, damages, claims and expenses suffered by any person as a result of:
 - any reliance on these Ground Rules, and/or
 - any inaccuracies in these Ground Rules, and/or
 - any non-application or misapplication of the policies or procedures described in these Ground Rules, and/or
 - any inaccuracies in the compilation of the index series or any constituent data.

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Management responsibilities

Management responsibilities

2.1 FTSE International Limited (FTSE)¹

- 2.1.1 FTSE is the Benchmark Administrator of the Index Series.
- 2.1.2 FTSE is responsible for the daily calculation, production and operation of the index series and will:
 - maintain records of the index weightings of all constituents;
 - make changes to the constituents and their weightings in accordance with the Ground Rules;
 - carry out periodic index reviews of the index series and apply the changes resulting from the reviews as required by the Ground Rules;
 - publish changes to the constituent weightings resulting from their ongoing maintenance and the periodic reviews;
 - disseminate the indices.

2.2 Digital Asset Research

- 2.2.1 Digital Asset Research (DAR) assesses the quality of pricing data, qualifies pricing sources, calculates the FTSE DAR Digital Asset Prices and supplies FTSE Russell with price feeds and advises on the eligibility of assets in the FTSE Global Digital Asset Index Series.
- 2.2.2 DAR is an independent, privately-owned research firm and data provider which partners with FTSE Russell in research into and providing data on digital assets.
- 2.2.3 DAR is responsible for the ongoing vetting of digital assets and of the Broker Dealer/Exchanges of digital assets. DAR collects and validates the data it obtains as Principal to identify ensuring both digital assets and Broker Dealer/Exchanges of digital assets pass a strict set of rules.

2.3 Amendments to these Ground Rules

2.3.1 These Ground Rules shall be subject to regular review (at least once a year) by FTSE Russell to ensure that they continue to best reflect the aims of the index series. The feedback from these consultations will be considered by the FTSE Russell Index Governance Board before approval is granted.

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¹ The term administrator is used in this document in the same sense as it is defined in Regulation (EU) 2016/1011 of the European Parliament and of the Council of 8 June 2016 on indices used as benchmarks in financial instruments and financial contracts or to measure the performance of investment funds (the European Benchmark Regulation) and The Benchmarks (Amendment and Transitional Provision) (EU Exit) Regulations 2019 (the UK Benchmark Regulation).

FTSE Russell Index policies

3. FTSE Russell Index policies

These Ground Rules should be read in conjunction with the following policy documents which can be accessed through the links below:

3.1 Queries and Complaints

FTSE Russell's complaints procedure can be accessed through the following link:

Benchmark_Determination_Complaints_Handling_Policy.pdf

3.2 Policy for Benchmark Methodology Changes

Details of FTSE Russell's policy for making benchmark methodology changes can be accessed through the following link:

Policy_for_Benchmark_Methodology_Changes.pdf

3.3 Real Time Status Definitions

3.3.1 For indices that are calculated in real time, please refer to the following guide for details of real time status definitions:

Real_Time_Status_Definitions.pdf

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Digital asset eligibility

Digital asset eligibility

- 4.1 Eligibility requirements
- 4.1.1 Constituent digital assets in the FTSE Global Digital Assets Index Series are all selected from an eligible universe of digital assets that have been classified as Benchmark Assets as they have met the eligibility requirements set out in the <u>Guide to the Vetting of Digital Assets and Digital Asset Exchanges</u>.
- 4.1.2 Constituents are eligible for inclusion in the FTSE Digital Asset Proof of Stake Indices if they are current constituents of the FTSE Global Digital Asset Index Series.
- 4.1.3 Constituents are eligible for inclusion in the FTSE Digi50 Indices if they are current constituents of the FTSE Digital Asset Total Cap Index, excluding the DAR Taxonomy Subsectors Fiat Collateralized Stablecoins; Algorithmic, Non-Collateralized Stablecoins; and Crypto Collateralized Stablecoins. For further details please refer to the Digital Asset Research (DAR) Taxonomy tables using the following link:

DAR-taxonomy-table-digital_asset.pdf (ftserussell.com)

4.1.4 Constituents are eligible for inclusion in the FTSE Digital Asset Top 20 Indices if they are current constituents of the FTSE Digital Asset Total Cap Index.

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Periodic review of constituents

Periodic review of constituents

5.1 Eligible digital assets

All digital assets in the FTSE DAR Reference Price – Benchmark Assets universe are eligible for FTSE Global Digital Asset Index Series.
 Guide to the Vetting of Digital Assets and Digital Asset Exchanges.pdf

5.2 FTSE DAR Reference Price

5.2.1 The price of each digital asset in a FTSE Global Digital Asset Index is the FTSE DAR Reference Price – Benchmark Asset Fixes.

Details of the FTSE DAR Reference Prices are provided in this document: <u>Guide to the Calculation of the FTSE DAR Digital Asset Prices and FTSE DAR Reference Prices.</u>

5.3 Index reviews

- 5.3.1 The FTSE Global Digital Asset Index Series is reviewed on a quarterly basis in March, June, September, and December (the review month) using market information defined by circulating supply as at 22:00 UTC of the last day of the month prior to the review month (the data cut-off date).
- 5.3.2 The FTSE Global Digital Asset Indices use the price as at 22:00 UTC on the Wednesday after the first Friday of the review month. The review will be implemented on the third Friday, after close of the review month. ²
- 5.3.3 The FTSE Global Digital Asset Indices (4pm EST) use the price as at 4:00pm Eastern Time on the Wednesday after the first Friday of the review month. The review is implemented on the third Friday, after close of the review month.³
- 5.3.4 The FTSE Global Digital Asset Indices (1000 UCT) use the price as at 10:00 Coordinated Universal Time on the Wednesday after the first Friday of the review month. The review is implemented on the third Friday, after close of the review month. 4

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² Prior to March 2022, the indices were reviewed on a quarterly basis in January, April, July and October (the review month) using market information as defined above as at the close of the last day of the month prior to the review month (the data cut-off date). The FTSE Global Digital Asset Indices reviews were implemented at 22:00 UTC on the Sunday following the second Friday in the month following the month of the data cut-off date.

³ Prior to March 2022, the indices were reviewed on a quarterly basis in January, April, July and October (the review month) using market information as defined above as at the close of the last day of the month prior to the review month (the data cut-off date). The FTSE Global Digital Asset Index Series reviews were implemented at 4:00pm Eastern Time on the Sunday following the second Friday in the month following the month of the data cut-off date.

⁴ Prior to March 2022, the indices were reviewed on a quarterly basis in January, April, July and October (the review month) using market information as defined above as at the close of the last day of the month prior to the review month (the data cut-off date). The FTSE Global Digital Asset Index Series reviews were implemented at 10:00pm Coordinated Universal Time on the Sunday following the second Friday in the month following the month of the data cut-off date.

5.3.5 The FTSE Global Digital Asset Indices (1700 CET) use the price as at 17:00 Central European Time on the Wednesday after the first Friday of the review month. The review will be implemented on the third Friday, after close of the review month.⁵

5.4 Review process

- 5.4.1 Value digital assets by circulating capitalisation (tokens in issue * price) and rank digital assets by circulating capitalisation.
 - A digital asset's circulating capitalisation will consist of any tokens in issue as of the last day of the asset vetting rebalance month end as detailed in the Guide to the Vetting of Digital Assets and Digital Asset Exchanges, which can be accessed using the following link:

Guide to the Vetting of Digital Assets and Digital Asset Exchanges.pdf

- 5.4.2 The top 70% from rule 5.2.1 will be categorised as Large Cap, 70% to 95% will be categorised as Mid Cap, 95% to 99% will be categorised as Small Cap, and the bottom 1% will be categorised as Micro Cap. The All Cap Index is a composite of Large, Mid and Small Cap digital assets, the Total Cap Index is defined as All Cap plus Micro Cap.
- 5.4.3 To reduce turnover, existing and potential constituents are subject to a series of 'buffer zones' to determine the cut-off points between Large, Mid, Small and Micro Cap the buffers are detailed in the table below.

	Turnover bands (based on the index universe)	
	Eligible for inclusion	Eligible for exclusion
Large Cap	68%	72%
Mid Cap	93%	96%
Small Cap	98%	99.5%

5.4.4 To reduce turnover in the FTSE Digital Asset Top 5 Equal Weight Index (4pm EST), 'buffer zones' are applied to determine the cut-off points between the Top 5 – the buffers are detailed in the table below.

	Turnover bands (based on the index universe)	
	Eligible for inclusion	Eligible for exclusion
FTSE Digital Asset Top 5 Equal Weight Index (4pm EST)	Risen to 4 or above	Fallen to 6 or below

- A constant number of constituents will be maintained in the FTSE Digital Asset Top 5 Equal Weight Index (4pm EST). Where a greater number of constituents qualify to be added to an index than those qualifying to be deleted, the lowest ranking current constituents in the index will be deleted to ensure that an equal number of constituents are added and deleted at the periodic review. Likewise, where a greater number of constituents qualify to be deleted than those qualifying to be added, the highest ranking constituents which are presently not included in the index will be added to match the number of constituents being deleted at the periodic review.
- 5.4.6 If there are less than 5 eligible digital assets in the FTSE Digital Asset Top 5 Equal Weight Index (4pm EST) eligible universe, the index will include only the eligible constituents.
- 5.4.7 Digital Assets currently not in the FTSE Global Digital Asset Index Series:
 - Digital assets at or above 70% of the eligible universe by circulating capitalisation will be included in the Large Cap Index;
 - Digital assets ranked below 70%, but within the top 95% of the eligible Universe by circulating capitalisation will be included in the Mid Cap Index;

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⁵ Prior to March 2022, the indices were reviewed on a quarterly basis in January, April, July and October (the review month) using market information as defined above as at the close of the last day of the month prior to the review month (the data cut-off date). The FTSE Global Digital Asset Index Series reviews were implemented at 17:00 Central European Time on the Sunday following the second Friday in the month following the month of the data cut-off date.

- Digital assets ranked below the top 95%, but within the top 99% of the eligible Universe by circulating capitalisation will be included in the Small Cap Index;
- Digital assets ranked below 99% of the eligible universe by circulating capitalisation will be included in the Micro Cap Index.
- Digital assets ranked in the Top 5 of the eligible universe by circulating capitalisation will be included in the Top 5 Index.

5.4.8 Existing constituents:

- Large Cap constituents will remain in the Large Cap Index if ranked within the top 72% as described in Rule 5.3.1. If ranked between 72% and 96% of the eligible universe constituents will move to the Mid Cap Index. If ranked below 98% of the eligible universe but within the top 99.5% of the eligible universe, constituents will move to the Small Cap Index. If ranked below 99.5% of the eligible universe by circulating capitalisation, constituents will be moved to the Micro Cap Index;
- Mid Cap constituents will move to the Large Cap Index if ranked within the top 72% as described in Rule 5.3.1. If ranked between 72% and 96% of the eligible universe constituents will remain in the Mid Cap Index. If ranked below 98% of the eligible universe but within the top 99.5% of the eligible universe, constituents will move to the Small Cap Index. If ranked below 99.5% of the eligible universe by circulating capitalisation, constituents will be moved to the Micro Cap Index;
- Small Cap constituents will move to the Large Cap if ranked within the top 72% as described in Rule 5.3.1. If constituents are ranked between 72% and 96% of the eligible universe by full market capitalisation constituents will move to the Mid Cap Index. If ranked below 96% of the eligible universe but within the top 99.5% of the eligible universe, constituents will remain in the Small Cap Index. If constituents are ranked below 99.5% of the eligible universe by circulating capitalisation, constituents will be moved to the Micro Cap Index;
- Micro Cap constituents will move to the Large Cap Index if ranked within the top 72% of the ranking described in Rule 5.3.1. If ranked between 72% and 96% of the eligible universe by full market capitalisation constituents will move to the Mid Cap Index. If constituents are ranked below 96% of the eligible universe but within the top 99.5% of the eligible universe, constituents will move to the Small Cap Index. If ranked below 99.5% of the eligible universe by circulating capitalisation, constituents will remain in the Micro Cap Index.

5.4.9 FTSE Digital Asset Proof of Stake Indices

Eligible digital assets are defined and maintained by Digital Asset Research (DAR) as primarily utilizing a Proof-of-Stake consensus mechanism. DAR classifies digital assets seven (7) business days prior to the month end, prior to the review month as defined in rule 5.3.

5.4.10 FTSE Digi50 Indices

FTSE Digi50 will consist of the largest 50 digital assets which qualify for inclusion in the index.

FTSE Digital Asset Top 20 Indices

FTSE Digital Asset Top 20 will consist of the largest 20 digital assets which qualify for inclusion in the index.

5.4.11 Reviewing Digital Assets for the FTSE Digi50 and FTSE Digital Asset Top 20:

A digital asset will be inserted at the periodic review if it rises above the position stated below:

FTSE Digi50 – Risen to 45th or above of the eligible universe

FTSE Digital Asset Top 20 – Risen to 18th or above of the eligible universe

A digital asset will be deleted at the periodic review if it falls below the position stated below:

FTSE Digi50 – Fallen to 56th or below of the eligible universe

FTSE Digital Asset Top 20 - Fallen to 23th or below of the eligible universe

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5.4.12 A constant number of constituents will be maintained for the FTSE Digi50 and FTSE Digital Asset Top 20 Indices at quarterly reviews. Where a greater number of constituents qualify to be inserted in an index than those qualifying to be deleted, the lowest ranking constituents presently included in the index will be deleted to ensure that an equal number of constituents are inserted and deleted at the periodic review. Likewise, where a greater number of constituents qualify to be deleted than those qualifying to be inserted, the highest ranking constituents which are presently not included in the index will be inserted to match the number of constituents being deleted at the periodic review.

If there are less than 50 eligible digital assets in the FTSE Digi50 eligible universe, then the indices will include only the eligible constituents.

If there are less than 20 eligible digital assets in the FTSE Digital Asset Top 20 eligible universe, then the indices will include only the eligible constituents.

5.4.13 Capping is applied to the constituents of the FTSE Digital Asset Top 20 Capped 25% Index so that any single asset does not exceed 25%. The calculation of the constituent capping factors will be based on prices at close at 10:00 UTC on the Wednesday following the first Friday of the month and weights as designated to take effect after close of business on the third Friday of each review month (i.e. effective from the open the following Sunday). The capping will be applied on a quarterly basis in March, June, September, and December.

5.5 Liquidity screen

5.5.1 Eligible digital assets will be tested for liquidity on a quarterly basis. For further details please refer to the Guide to Calculation Methods for Digital Asset Liquidity through the following link:

FTSE Global Digital Asset Index Series Guide to Calculation Method for the Liquidity Test

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Changes to the constituent digital assets

6. Changes to the constituent digital assets

6.1 Intra-review additions

The FTSE Global Digital Asset Index Series and the FTSE Digi50 Indices and the FTSE Digital Asset Top 20 Indices will not accept intra-review additions.

6.2 Intra-review deletions

A constituent will be removed from the FTSE Global Digital Asset Index Series if it is removed from FTSE DAR Reference Price – Benchmark Assets Universe. The deletion will be concurrent with the deletion from the benchmark assets universe and its weight will be distributed pro-rata amongst the remaining constituents of the FTSE Global Digital Asset Index Series.

Should an intra-quarter rebalance takes place, a minimum of two days' advanced notification with details on the review will be provided.

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Digital asset actions and network events

7. Digital asset actions and network events

7.1.1 Full details of changes to constituent digital assets at the quarterly review due to events can be accessed in the digital actions and network events guide through the following link:

Digital Actions and Network Events Guide

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Index calculation method

Index calculation method

8.1 Prices

- 8.1.1 FTSE calculates the FTSE DAR Reference Price for each digital asset using the method outlined in the Guide to the Calculation of FTSE DAR Digital Asset Prices document and FTSE DAR Reference Prices.
- 8.1.2 Exchange rates used are WMR Closing Spot Rates hourly service, coinciding with the hourly production of the FTSE Global Digital Asset Index Series. For the indices which observe daylight-saving time, the exchange rates are mapped accordingly. For example, FTSE Global Digital Asset Index Series (1700 CET) will use the WMR Closing spot rate at 1600 UTC when the daylight-saving time is being observed and 1700 UTC otherwise.

8.2 Calculation frequency

- 8.2.1 The FTSE DAR Reference Price is calculated hourly and the 22:00 UTC fix is used for the calculation of the FTSE Global Digital Asset Index Series and associated products.
- 8.2.2 The FTSE DAR Reference Price is calculated hourly and the 4:00pm Eastern Time fix is used for the calculation of the FTSE Global Digital Asset Index Series (4pm EST) and associated products.
- 8.2.3 The FTSE DAR Reference Price is calculated hourly and the 17:00 Central European Time fix is used for the calculation of the FTSE Global Digital Asset Index Series (1700 CET) and associated products.

8.3 Index calculation

8.3.1 The FTSE Global Digital Asset Index Series calculation formula is described below:

$$\sum_{i=1}^{N} \frac{(p_i(t) \times e_i(t) \times s_i(t) \times f_i(t))}{d}$$

Where.

- -i = 1,2,...,N digital assets;
- N is the number of digital assets in the index;
- t is the calculation time;
- $-p_i(t)$ is the FTSE DAR Reference Price of the digital asset i at calculation time t;
- e_i(t) is the exchange rate required to convert the digital asset i price into the index's base currency at calculation time t;
- $s_i(t)$ is the circulations supply used by FTSE Russell for the digital asset, as defined in these Ground Rules at calculation time t;

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- $-f_i(t)$ is the investibility weighting factor to be applied to a digital asset i at calculation time t, to allow amendments to its weighting, expressed as a number between 0 and 1, where 1 represents a 100% free float. Free float is computed as $f_i(t) = \frac{(s_i(t) staked\ digital\ assets_i(t))}{s_i(t)}$;
- d is the divisor, a figure that represents the total capital of the index at the base date base hour. The
 divisor can be adjusted to allow changes to digital assets to be made without distorting the index in the
 FTSE Global Digital Asset Index Series.

8.4 Index opening and closing hours

- 8.4.1 The FTSE Global Digital Asset Index Series is calculated Sunday to Friday at 22:00 UTC.
- 8.4.2 The FTSE Global Digital Asset Index Series (4pm EST) is calculated Sunday to Friday at 4:00pm Eastern Time
- 8.4.3 The FTSE Global Digital Asset Index Series (1000 UTC) is calculated Sunday to Friday at 1000 Coordinated Universal Time. The FTSE Global Digital Asset Index Series (1700 CET) is calculated Sunday to Friday at 1700 Central European Time.

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Appendix A

Further information

A glossary of terms used in FTSE Russell's Ground Rule documents can be found through the following link:

Glossary - Digital Assets.pdf

Further information on the FTSE Global Digital Asset Index Series is available from FTSE Russell.

For contact details please visit the FTSE Russell website or contact FTSE Russell client services at info@ftserussell.com.

Website: www.lseg.com/en/ftse-russell/

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