# MarketVector™

# INDEX GUIDE

**MarketVector™ Coinbase Solana Benchmark Rate**

**VERSION 1.02 | 01.2026**

# Contents

# 1   Introduction

In accordance with IOSCO Principle 9 (Transparency of Benchmark Determination), this document provides the rules for establishing, calculating and maintaining the MarketVector™ Coinbase Solana Benchmark Rate index (the "Index").

MarketVector Indexes GmbH (the "Index Owner") makes no warranties or representations as to the accuracy and/or completeness of the Indexes and does not guarantee the results obtained by persons using the Indexes in connection with trading funds or securities. The Index Owner makes no representations regarding the advisability of investing in any fund or security.

The Index Owner reserves the right to update the rules in this Index Guide at any time. The Index Owner also reserves the right to make, in exceptional cases or in temporary situations, exceptions to the rules in this Index Guide. The Indexes are the property of MarketVector Indexes GmbH. The Index Owner has selected an index calculator to calculate the Indexes.

MarketVector™ is a registered trademark of Van Eck Associates Corporation and therefore protected against unlawful usage. The use of MarketVector™ Indexes in connection with any financial products or for benchmarking purposes requires a license. Please contact MarketVector Indexes GmbH for more details.

## 1.1   Approval of Index Methodologies

The Index Owner has established the index and it's individual methodology covered in this Index Guide. A detailed written "Procedure for Index Development" describes the steps and approvals required to develop, document and approve an Index and its methodology. The intention of the Procedure for Index Development is to ensure that the methodology of an Index meets the requirements of IOSCO Principle 12 (Quality of the Methodology) and is approved and implemented according to a robust and reliable process.

The methodology for the index and its methodology covered in this Index Guide has been analysed by the Index Owner's Index Operations department in order to ensure that it is robust and reliable, has clear rules on use of discretion, allows sustainable validation (based on reasonable back testing) and is traceable and verifiable. Furthermore, the size, liquidity and transparence of the underlying market for the methodology has been tested and particular circumstances for each relevant market have been taken into account.

The index methodology and the related detailed analysis was presented by the Index Operations Department to the Independent Oversight Function for its approval. Based on the aforementioned approval process and its documentation each Index Methodology was presented to the Management Board (Geschäftsführer) of the Index Owner for final approval.

## 1.2   Review of this Index Guide

According to IOSCO Principle 10 (Periodic Review), the Index Owner reviews this Index Guide on an annual basis and immediately in case of special circumstances that require a review. The review takes place in meetings attended by the Independent Oversight Function and the Management Board of the Index Owner. If changes to this Index Guide are considered necessary, the process described in Section 5.2 applies.

# 2   Index Universe

## 2.1   Index Universe

The index universe of the MarketVector™ Coinbase Solana Benchmark Rate index is comprised of Solana.

# 3   General Definitions

## 3.1   Pricing Source

The only pricing source for the index is Coinbase.

## 3.2   Index Dissemination

The Index is calculated with the constituent prices converted to USD. The dissemination is in USD.

# 4 Index

The following section defines all relevant index parameters, this includes

- Universe and selection lists,

- Review: selection,

- Dissemination: times, currencies and identifiers.

## 4.1  MarketVector™ Coinbase Solana Benchmark Rate

The MarketVector™ Coinbase Solana Benchmark Rate is designed to be a robust price for Solana in USD traded in the exchange Coinbase. There is no component other than Solana in the index and no other exchange is included other than Coinbase.

In case of a hard fork, the forked coin is not added to the index. Only in case it is significant enough to replace the existing coin in terms of market capitalization and acceptance, MarketVector Indexes may decide for a different treatment.

In the unlikely event a spun-off coin is larger than Solana (by market capitalization) and is in general accepted as the successor of the original chain, the index owner might decide to keep it as the only index component.

The index is calculated daily between 00:00 and 24:00 London time (BST/GMT) and the index values are disseminated to data vendors every second.

The index is disseminated in USD and the closing value is calculated at 16:00:00 London time (BST/GMT) with fixed 16:00 London time (BST/GMT) exchange rates.

The MarketVector™ Coinbase Solana Benchmark Rate has the following identifiers:

| Index Type | ISIN | SEDOL | WKN | Bloomberg | Reuters |
|---|---|---|---|---|---|
| Price Return Index | DE000A4AKXU9 | BPLZNG5 | A4AKXU | CSOLBR | .CSOLBR |

The index was launched on 03 February 2025 with a base index value of 32.47 as of 30 June 2021.

# 5   Ongoing Maintenance

Events are announced at least four days prior to implementation.

## 5.1   Changes due to Forks

A hard fork occurs when a blockchain protocol is radically changed, such that it becomes incompatible with older versions. In effect, participants taking part in transactions on the old blockchain must upgrade to the new one in order to continue validating transactions. However, participants that do not upgrade may continue to support and validate transactions on the older blockchain protocol separately.

The result of this is that a blockchain splits into two - hence the name 'hard fork'. If there are nodes permanently supporting the new chain, then the two chains will co-exist.

Users that once held digital assets on an older blockchain before the protocol change at a pre-specified blockchain length will now also hold an amount of new coins on the altered blockchain. This new asset has essentially been derived from an older token as well as its associated blockchain's transaction history.

The index treatment is specified in the section 4.

## 5.2   Changes to the Index Guide

Any changes to the Index Guide will be reviewed and approved by the Legal and Compliance Department. Legal and Compliance may also request a conclusive description and further information on any change and may consult the operations department on such changes. The key elements to be analysed in this phase of the change process are robustness, transparency, reliability and integrity. The result of the review will be communicated to the operations department. The email will be archived by the operations department.

In case of changes that might immediately change the composition of an index or must be considered material for any other reason also need to be approved by the Independent Oversight Function ("IOF") prior to their publication and implementation.

In case of material changes an advance notice will be published and provided to users. MarketVector Indexes will generally disseminate a notification related to an Index Guide change 30 days prior to the change. A shorter period of time may be applied at MarketVector Indexes's discretion if the relevant index has not been licensed for a financial product to a third party. The notice will describe a clear time frame that gives the opportunity to analyse and comment upon the impact of such proposed material change. Any material comments received in relation to the Index Guide change and MarketVector Indexes's response to those comments will be made publicly accessible after any consultation, except where confidentiality has been requested by the originator of the comments.

## 5.3   Discretion regarding the Use of Input Data and Extraordinary Events

Pursuant to IOSCO Principle 8 (Hierarchy of Data Inputs), MarketVector Indexes has established the following rules identifying how and when discretion may be exercised in the administration of an index. In case input data are or appear to be qualitatively inferior or different sources provide different data, an extraordinary event, or a situation is not covered by the index rules, MarketVector Indexes may use or change data/index composition at its own discretion according to the following discretion policy after a plausibility check. Regarding input data, this may include:

- Liquidity and size data,

- Event information,

- Other secondary data.

Regarding extraordinary events, this may include:

- Trading stops,

- Regulatory actions (depending on the applicable jurisdiction),

- Hacks,

- Detection of fraud,

- Changes in custodian coverage,

- Etc.

Any changes must subject to reasonable discretion. The decision on any change must be required, appropriate, commensurable and in line with the respective index scope and objective and must reasonably consider in a balance weight the interest of Users, investors in related products and the integrity of the market.

Index operations ensures consistency in the use of discretion in its judgement and decision. Employees involved in the operations team must have shown the respective experience and skills. Significant decisions are subject to sign-off by a supervisor. In case of material changes to data the relevant situation will be analyzed in detail, described and presented to the IOF and discussed and reviewed with the IOF.

The broad range of possible data quality problems does not allow to define specific steps for each possible instance. MarketVector Indexes will always weight the different interest of the index users, the integrity of the market and other involved parties and determine the least disadvantageous measure that equally considers the relevant interests best.

In order to avoid individual decisions in similar cases for the future an update of the index rules can be taken into consideration if applicable. Regarding the use of data, other possible mitigation measures are the change of input data sources or providers and/or own data research where possible and reasonable.

Records are kept about material judgement or discretion by MarketVector Indexes and will include the reasoning for said judgement or discretion.

## 5.4   Input Data and Contributor Selection

According to the input data requirements under IOSCO Principle 7 (Data Sufficiency), the following shall apply with regard to the input data used for the management and provision of an index and the relevant input data providers ("Contributors"):

- the input data shall be sufficient to represent accurately and reliably the market or economic reality that the benchmark is intended to measure;

- the input data shall be transaction data, if available and appropriate. If transaction data is not sufficient or is not appropriate to represent accurately and reliably the market or economic reality that the index is intended to measure, input data which is not transaction data may be used, including estimated prices, quotes and committed quotes, or other values;

- the input data shall be verifiable;

- clear guidelines regarding the types of input data, the priority of use of the different types of input data and the exercise of expert judgement, to ensure compliance with the Index Guide and index methodology and the aforementioned requirements are defined in the Code of Conduct for Contributors; and

- where an index is based on input data from Contributors, MarketVector Indexes will obtain, where appropriate, the input data from a reliable and representative panel or sample of Contributors so as to ensure that the resulting index is reliable and representative of the market or economic reality that the index is intended to measure.

In order to control the quality of contributors, MarketVector Indexes will conduct the following controls:

- Evaluate market share, reputation, quality and cost of possible input data sources and providers before selecting them on the basis of the gathered information and data;

- Compare the input data of one Contributor with the input data from one or more other Contributors in order to ensure the integrity and accuracy of the input data and in case of bad quality replace a Contributor with another Contributor.

MarketVector Indexes will not use input data from a contributor if it has any indication that the Contributor does not adhere to its Code of Conduct for Contributors and in such a case shall obtain representative publicly available data.

# 6 Calculation

## 6.1 Index Formula

The index is calculated as an average of 1-hour quantity weighted median prices, which are calculated for 20 3-minute intervals.

$$Index\ Value = \frac{1}{n} \sum_{i=1}^{n} M(i).$$

where the quantity weighted median price for each interval $i$ is

$$M(i) = \begin{cases} p_{i,k} & \text{if } k \text{ satisfies } \sum_{j=1}^{k-1} q_{i,j} < \frac{1}{2} \sum_{j=1}^{J_i} q_{i,j} \text{ and } \sum_{j=k+1}^{J_i} q_{i,j} < \frac{1}{2} \sum_{j=1}^{J_i} q_{i,j}, \\ p_{i,1} & \text{if } q_{i,1} > \frac{1}{2} \sum_{j=1}^{J_i} q_{i,j}, \\ \frac{p_{i,k}+p_{i,k+1}}{2} & \text{if } \sum_{j=k+1}^{J_i} q_{i,j} = \frac{1}{2} \sum_{j=1}^{J_i} q_{i,j}, \end{cases}$$

with the number of intervals calculated as the total index time window divided by the interval window:

$$n = \frac{T}{b},$$

and

$p_{i,j}$    = $j$th price in $i$th interval,
$q_{i,j}$    = $j$th quantity/volume traded in $i$th interval,
$J_i$     = number of trades in $i$th interval,
$b$      = interval window for the calculation of the median prices,
$n$      = number of intervals,
$T$      = total index time window for the calculation of an index price.

The set of trades for the total index calculation consists of transactions occurring within the total index time window as follows:

$$\theta_t = \{a_{i,j}(s_{i,j}, p_{i,j}, q_{i,j}) | t - T \le s < t\},$$

with
$\theta_t$    = set of trades for the calculation of the index price at time $t$,
$a_{i,j}$    = trade $j$ in trade set $A_i$,
$s_{i,j}$    = time of trade $a_{i,j}$.
Each interval consists of a subset of trades of $\theta_t$:

$$A_i \subset \theta_t$$

$A_i$ being the set of trades for the calculation of the median price in interval $i$, where each trade $a_{i,j}$ within $A_i$ is sorted by price $p_{i,j}$ in ascending order and it holds that trades occur within the interval window as follows:

$$A_i = \{a_{i,j}(s_{i,j}, p_{i,j}, q_{i,j}) | (t - T) + (i - 1)b \le s < (t - T) + ib\}.$$

**Index Parameters**

| Parameter | Value |
|---|---|
| Total time window of index ($T$) | 1 hour |
| Interval window ($b$) | 3 minutes |
| Number of intervals ($n$) | 20 (given available transactions) |

## 6.2   Input Data

The following rounding procedures are used for the index calculation:

- Rounding to 6 decimal places:

    – index values.

- Rounding to 18 decimal places:

    – prices ($p_{i,j}$).

## 6.3   Data Correction and Disruptions

MarketVector Indexes will usually receive information about errors or disruption from calculation agent, client, internal systems (IT) or by monitoring the respective output.
The following list of errors does not affect the indexes, as data are not considered in the calculation process:

- Bad data such as non-numerical price, volume or timestamp,

- Late/delayed transactions,

- Non-reporting exchanges.

- For BBR/EBR only: Full exchange exclusion when weighted median price of an exchange within the total index window deviates more than 10% from the median of the rest of the exchanges' median price.

Incorrect or missing input data will be corrected immediately:

- The error is immediately communicated to the calculation agent, if applicable.

- Calculation agent will be asked to investigate the reason for the error.

- An email will be sent to all affected clients to inform them about the error; this includes the reason for the issue and an estimate on when the issue will be solved.

- MarketVector Indexes recalculates missing EOD data points and disseminates to vendors and clients.

In case of a material error,

- Legal and Compliance to check the relevant agreements for liability of the calculation agent.

- If MarketVector Indexes identifies any conduct that may involve manipulation or attempted manipulation of the index by calculation agent it will report this to the regulator.

- Where possible and economically reasonable MarketVector Indexes will try to use another calculation agent.

Investigations and communication regarding disruptions with calculation agents will be handled by Compliance and Senior Management. They are either caused by disruptions in calculation or dissemination, which might affect different servicers.

- The disruption is immediately communicated to the calculation/dissemination agent, if applicable.

- Calculation/dissemination agent will be asked to investigate the reason for the disruption.

- An email will be sent to all affected clients to inform them about the disruption; this includes the reason for the issue and an estimate on when the issue will be solved.

- MarketVector Indexes prompts calculation agent to make all efforts to restart index calculation.

- MarketVector Indexes prompts Dissemination agent to make all efforts to restart index dissemination.

- MarketVector Indexes recalculates missing EOD data points and disseminates to vendors and clients.

- Legal and Compliance to check the relevant agreements for liability of the calculation/dissemination agent.

- If MarketVector Indexes identifies any conduct that may involve manipulation or attempted manipulation of the index by calculation/dissemination agent it will notify the competent authority where required.

- Where possible and economically reasonable MarketVector Indexes will try use another calculation and/or dissemination agent.

# 7   Appendix

## 7.1   Changes to the Index Guide

This table contains all changes to the index guide after 1 January 2018.

| Date | IG Version | Change |
| --- | --- | --- |
| 01 May 2025 | 1.01 | Change in the decimal precision of the index value |
| 01 January 2026 | 1.02 | De-scoping under the amended EU BMR |

# 8 Disclaimer

limitation, lost income or lost profits and opportunity costs) in connection with any use of the Content even if advised of the possibility of such damages.

# 9    Regulatory Status

All indexes administered by MarketVector Indexes GmbH currently qualify as non-significant benchmarks within the meaning of Article 3 (27) of the EU Benchmarks Regulation (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, as amended by Regulation (EU) 2025/914). Accordingly, the administration of these indexes no longer falls within the direct scope of the EU Benchmarks Regulation as of 1 January 2026. As benchmark usage evolves over time, MarketVector may consider voluntarily opting in to EU Benchmarks regulation supervision should relevant regulatory thresholds be met. Regardless of regulatory classification, MarketVector continues to apply the organizational, operational, and governance frameworks developed under the EU Benchmarks Regulation. MarketVector continues to administer its benchmarks in line with the IOSCO Principles for Financial Benchmarks and recognized index-industry best practices, ensuring the integrity, transparency, and reliability of its entire suite of index offerings.