

# INDEX GUIDELINE

SOLACTIVE INVESS BITCOIN 40% RC INDEX

VERSION 1.0

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### INTRODUCTION

This document (the "Guideline") is to be used as a guideline with regard to the composition, calculation and maintenance of Solactive Invess Bitcoin 40% RC Index (the "Index"). Any amendments to the rules made to the Guideline are approved by the Oversight Committee specified in Section 5.5. The Index is calculated, administered, and published by Solactive AG ("Solactive") assuming the role as index administrator (the "Index Administrator") under the Regulation (EU) 2016/1011 (the "Benchmark Regulation" or "BMR"). The name "Solactive" is trademarked.

The text uses defined terms which are formatted with "SMALL CAPS". Such Terms shall have the meaning assigned to them as specified in Section 6 (Definitions).

The Guideline and the policies and methodology documents referenced herein contain the underlying principles and rules regarding the structure and operation of the INDEX. Solactive does not offer any explicit or tacit guarantee or assurance, neither pertaining to the results from the use of the INDEX nor the level of the INDEX at any certain point in time nor in any other respect. Solactive strives to the best of its ability to ensure the correctness of the calculation. There is no obligation for Solactive – irrespective of possible obligations to issuers – to advise third parties, including investors and/or financial intermediaries, of any errors in the INDEX. The publication of the INDEX by Solactive does not constitute a recommendation for capital investment and does not contain any assurance or opinion of Solactive regarding a possible investment in a financial instrument based on this INDEX.



## 1. INDEX SPECIFICATIONS

#### 1.1. SCOPE OF THE INDEX

Category	Description				
Asset Class	ETF				
Strategy	Representation of Bitcoin ETFs, with a volatility target layer on top.				
Regional Allocation	United States				
Volatility Target	40%				

The INDEX allows a maximal leverage of 100%.

#### 1.2. IDENTIFIERS AND PUBLICATION

The INDEX is published under the following identifiers:

Name	ISIN	Currency	Type	RIC	BBG ticker
Solactive Invess Bitcoin 40% RC Index	DE000SL0LR34	USD	AR*/VT*	.SOLXBT40	SOLXBT40 Index

<sup>\*</sup>AR means that the INDEX is calculated as adjusted return index VT means that the top level index is a Vol Target index.

The Underlying Index/Basket published under the following identifiers:

Name	ISIN	Currency	Туре	RIC	BBG ticker
Solactive Bitcoin ETF Selection PR Index	DE000SL0K6C4	USD	PR*	.SOLXBTCU	

<sup>\*</sup>PR means that the INDEX is calculated as price return

The INDEX is published via the price marketing services of Boerse Stuttgart GmbH and may be distributed to all of its affiliated vendors. Each vendor decides on an individual basis as to whether it will distribute or display the INDEX via its information systems. In the event that data cannot be provided to the price marketing services of Boerse Stuttgart GmbH, the INDEX cannot be published.

Any publication in relation to the INDEX (e.g. notices, amendments to the GUIDELINE) will be available at the website of the INDEX ADMINISTRATOR: <a href="https://www.solactive.com/news/announcements/">https://www.solactive.com/news/announcements/</a>.



#### 1.3. INITIAL LEVEL OF THE INDEX

The initial level of the INDEX on TBD, the START DATE, is 1000. Index values from TBD, the LIVE DATE, will be recorded in accordance with Article 8 of the BMR. Levels of the INDEX published for a period prior to the LIVE DATE have been back-tested.

#### 1.4. PRICES AND CALCULATION FREQUENCY

The level of the INDEX is calculated on each CALCULATION DAY from 08:00 a.m. to 16:50 ET based on the TRADING PRICES on the EXCHANGES on which the INDEX COMPONENTS are listed. Should there be no current TRADING PRICE for an INDEX COMPONENT, the later of: (i) the most recent CLOSING PRICE; or (ii) the last available TRADING PRICE for the preceding CALCULATION DAY is used in the calculation.

In addition to the intraday calculation a closing level of the INDEX for each CALCULATION DAY is also calculated. This closing level is based on the CLOSING PRICE for the INDEX COMPONENT on the respective EXCHANGES on which the INDEX COMPONENTS are listed.

#### 1.5. LICENSING

Licenses to use the INDEX as the underlying value for financial instruments, investment funds and financial contracts may be issued to stock exchanges, banks, financial services providers and investment houses by Leonteq.



## 2. INDEX SELECTION

As this INDEX is based on a static basket, no selection takes place.

#### 2.1. INDEX UNIVERSE REQUIREMENTS

Not applicable as no ordinary rebalance takes place.

#### 2.2. INDEX CONSTITUENTS

The Underlying Index is based on a basket ("Basket") containing the following securities, each referred as "Index Component":

Name	Currency	ISIN	RIC	Weight	Exchange
BITWISE BITCOIN ETF	USD	US09174C1045	BITB.P	5.0%	NYSE Arca
ARK 21SHARES BITCOIN ETF	USD	US0409191022	ARKB.A	10.0%	NYSE AMEX
FIDELITY WISE ORIGIN	LICD	US3159481098	FBTC.A	30.0%	NYSE AMEX
BITCOIN FUND	USD				
ISHARES BITCOIN TRUST	USD	US46438F1012	IBIT.OQ	55.0%	NASDAQ GM

The backtest will start the spot value of 1 Bitcoin in US Dollars, as taken each WEEKDAY at 5pm New York time, as the single Volatility Asset component, from 2018-12-03 (with level of 3870.97) until 2024-01-11. Then the first rebalance with your initial composition (4 ETFs) should be effective the next opening.

#### 2.3. WEIGHTING OF THE INDEX COMPONENTS

On each Rebalance Day each Index Component is assigned a weight determined as per Section 2.2.



## 3. REBALANCE

#### 3.1. ORDINARY REBALANCE

No ordinary rebalance takes place. The BASKET will be adjusted back to the weights described in section 2.1, on the REBALANCE DAY after CLOSE OF BUSINESS.

The calculation is performed according to the Equity Index Methodology, which is available on the Solactive website: <a href="https://www.solactive.com/documents/equity-index-methodology/">https://www.solactive.com/documents/equity-index-methodology/</a>. The standard index formula stipulates that the level of the BASKET changes based on the change of the prices of its INDEX COMPONENTS taking into account their weight in the BASKET and any currency conversion in case the price of an INDEX COMPONENT is quoted in a currency other than the INDEX CURRENCY.

Any dividends or other distributions are reinvested back (net of tax) into the INDEX COMPONENT paying the dividend or other distribution at the opening of the effective date (the so-called ex-date) of the payment of such dividend or other distribution.

#### 3.2. EXTRAORDINARY REBALANCE

The INDEX is not rebalanced extraordinarily.



## 4. CALCULATION OF THE INDEX

The level of the INDEX is (i) calculated based on the level of the UNDERLYING INDEX, which is calculated as a Price Return index, and (iii) adjusted with a volatility target formula of 40%.

The calculation of the level of the UNDERLYING INDEX is done by applying the standard index formula described in the Equity Index Methodology, which is available on the Solactive website: <a href="https://www.solactive.com/documents/equity-index-methodology/">https://www.solactive.com/documents/equity-index-methodology/</a>. The standard index formula stipulates that the level of the BASKET changes based on the change of the prices of the INDEX COMPONENTS taking into account their weight in the BASKET and any currency conversion in case the price of an INDEX COMPONENT is quoted in a currency other than the INDEX CURRENCY.

Any dividends or other distributions are reinvested back into the INDEX COMPONENT paying the dividend or other distribution at the opening of the effective date (the so called ex-date) of the payment of such dividend or other distribution.

A more detailed description of the mechanics of the index calculation formula can be found in the Equity Index Methodology under Section 1.2.

#### 4.1. INDEX FORMULA

The INDEX is calculated according to the following set of formula:

On the INDEX START DATE:

$$Index_{IST} = 1000$$

On each CALCULATION DAY t following the INDEX START DATE:

$$Index_t = Index_{t-1} \times \left(1 + exp_{t-1} \times \left(\left(\frac{ui_t}{ui_{t-1}} - 1\right) - \left((rate_{t-1} + spread) \times \frac{dcf_{t,t-1}}{360}\right)\right) - (arf + tc) \times \frac{dcf_{t,t-1}}{360}\right)$$



Where:

 $Index_t$ : The level of the INDEX as of CALCULATION DAY t.

 $Index_{t-1}$ : The level of the INDEX as of CALCULATION DAY t-1.

 $exp_{t-1}$ : The exposure to the UNDERLYING INDEX as of CALCULATION DAY t-1.

 $ui_t$ : The level of the Underlying Index as of Calculation Day t.

 $ui_{t-1}$ : The level of the Underlying Index as of Calculation Day t-1.

 $rate_{t-1}$  is the interest rate determined as described below:

if Calculation Day t is after or equal to the RATE SWITCH DATE, then it is equal to the Secured Overnight Financing Rate (RIC: USDSOFR=). In such case, *spread* is set at 0.26161%.

if CALCULATION DAY t is prior to the RATE SWITCH DATE, then it is equal to the 3-month USD-Libor (RIC: USD3MFSR=). In such case, *spread* is set at 0.

 $dcf_{t,t-1}$ : The number of calendar days between Calculation Day t (including) and Calculation Day t-1 (excluding).

arf: The adjusted return factor of 5%.

tc: The transaction cost of 0.4%

#### 4.2. EXPOSURE CALCULATION

The exposure  $exp_t$  as of Calculation Day t is calculated according to the following:

$$exp_t = min\left(maxExp, \frac{targetVol}{realizedVol_{t-1}}\right)$$

Where:

maxExp is the maximum exposure to the UNDERLYING INDEX, which is set at 100%.

targetVol is the level of the target volatility of the BASKET, set at 40%.

The *realizedVol* for a CALCULATION DAY t is estimated using weekly returns and is calculated as:

$$realizedVol_t = max(vol20d_t, vol60d_t)$$

Where:

$$Vol20d_{(t)} = \sqrt{\frac{252}{20} \times \sum_{i=0}^{19} \left( \ln \left( \frac{ui_{t-i}}{ui_{t-i-1}} \right) \right)^2}$$



And:

$$Vol60d_{(t)} = \sqrt{\frac{252}{60} \times \sum_{i=0}^{59} \left( \ln \left( \frac{ui_{t-i}}{ui_{t-i-1}} \right) \right)^2}$$

#### 4.3. ACCURACY

The level of the INDEX will be rounded to 2 decimal places.

#### 4.4. ADJUSTMENTS

Under certain circumstances, an adjustment of the INDEX may be necessary. Such adjustment has to be made if a corporate action (as specified in Section 4.4 below) in relation of an INDEX COMPONENT occurs. Such adjustment may have to be done in relation to an INDEX COMPONENT and/or may also affect the number of INDEX COMPONENTS and/or the weighting of certain INDEX COMPONENTS and will be made in compliance with the SOLACTIVE Equity Index Methodology, which is incorporated by reference and available on the SOLACTIVE website: https://www.solactive.com/documents/equity-index-methodology/.

SOLACTIVE will announce the INDEX adjustment giving a notice period of at least two CALCULATION DAYS (with respect to the affected INDEX COMPONENT) on the SOLACTIVE website under the Section "Announcements", which is available at <a href="https://www.solactive.com/news/announcements/">https://www.solactive.com/news/announcements/</a>. The INDEX adjustments will be implemented on the effective day specified in the respective notice.

#### 4.5. CORPORATE ACTIONS

As part of the INDEX maintenance Solactive will consider various events — also referred to as corporate actions — which result in an adjustment to the INDEX. Such events have a material impact on the price, weighting or overall integrity of INDEX COMPONENTS. Therefore, they need to be accounted for in the calculation of the INDEX. Corporate actions will be implemented from the cum-day to the ex-day of the corporate action, so that the adjustment to the INDEX coincides with the occurrence of the price effect of the respective corporate action.

Adjustments to the INDEX to account for corporate actions will be made in compliance with the Equity Index Methodology, which is available on the SOLACTIVE website: <a href="https://www.solactive.com/documents/equity-index-methodology/">https://www.solactive.com/documents/equity-index-methodology/</a>. This document contains for each corporate action a brief definition and specifies the relevant adjustment to the INDEX variables.

While SOLACTIVE aims at creating and maintaining its methodology for the treatment of corporate actions as generic and transparent as possible and in line with regulatory requirements, it retains the right in



accordance with the Equity Index Methodology to deviate from these standard procedures in case of any unusual or complex corporate action or if such a deviation is made to preserve the comparability and representativeness of the INDEX over time.

SOLACTIVE considers the following, but not conclusive, list of corporate actions as relevant for the BASKET maintenance:

- Stock distributions (e.g. payment of a dividend in form of additional shares)
- > Stock distributions of another company (e.g. payment of a dividend in form of additional shares of another company (e.g. of a subsidiary))
- > Share splits (company's present shares are divided and therefore multiplied by a given factor)
- Reverse splits (company's present shares are effectively merged)
- Capital increases (such as issuing additional shares)
- > Share repurchases (a company offer its shareholders the option to sell their shares to a fixed price)
- > Spin-offs (the company splits its business activities into two or more entities and distributes new equity shares in the created entities to the shareholders of the former entity)
- Mergers & Acquisitions (transaction in which the ownership of a company (or other business organizations) is transferred or consolidated with other entities, e.g. fusion of two or more separate companies into one entity)
- > Delistings (company's shares are no longer publicly traded at a stock exchange)
- Nationalization of a company (effective control of a legal entity is taken over by a state)
- > Insolvency

#### 4.6. RECALCULATION

Solactive makes the greatest possible efforts to accurately calculate and maintain its indices. However, errors in the determination process may occur from time to time for variety reasons (internal or external) and therefore, cannot be completely ruled out. Solactive endeavors to correct all errors that have been identified within a reasonable period of time. The understanding of "a reasonable period of time" as well as the general measures to be taken are generally depending on the underlying and is specified in the Solactive Correction Policy, which is incorporated by reference and available on the Solactive website: <a href="https://www.solactive.com/documents/correction-policy/">https://www.solactive.com/documents/correction-policy/</a>.

#### 4.7. MARKET DISRUPTION

In periods of market stress Solactive calculates its indices following predefined and exhaustive arrangements as described in the Solactive <u>Disruption Policy</u>, which is incorporated by reference and



available on the Solactive website: www.solactive.com. Such market stress can arise due to a variety of reasons, but generally results in inaccurate or delayed prices for one or more INDEX COMPONENT. The determination of the Index may be limited or impaired at times of illiquid or fragmented markets and market stress.



## 5. MISCELLANEOUS

#### 5.1. DISCRETION

Any discretion which may need to be exercised in relation to the determination of the INDEX (for example the determination of the INDEX UNIVERSE (if applicable), the selection of the INDEX COMPONENTS (if applicable) or any other relevant decisions in relation to the INDEX) shall be made in accordance with strict rules regarding the exercise of discretion or expert judgement.

#### 5.2. METHODOLOGY REVIEW

The methodology of the Index is subject to regular review. In case a need of a change of the methodology has been identified within such review (e.g. if the underlying market or economic reality has changed since the launch of the Index, i.e. if the present methodology is based on obsolete assumptions and factors and no longer reflects the reality as accurately, reliably and appropriately as before), such change will be made in accordance with the <a href="Methodology Policy">Methodology Policy</a>, which is incorporated by reference and available on the Solactive website: <a href="https://www.solactive.com">www.solactive.com</a>.

Such change in the Methodology will be announced on the Solactive webpage under the section "Announcement", which is available at <a href="https://www.solactive.com/news/announcements/">https://www.solactive.com/news/announcements/</a>. The date of the last amendment of this Index is contained in this Guideline.

## 5.3. CHANGES IN CALCULATION METHOD

The INDEX ADMINISTRATOR shall apply the method described above for the composition and calculation of the INDEX. However, it cannot be excluded that the market environment, supervisory, legal and financial or tax reasons may require changes to be made to this method. The INDEX ADMINISTRATOR may also make changes to the terms and conditions of the INDEX and the method applied to calculate the INDEX that it deems to be necessary and desirable in order to prevent obvious or demonstrable error or to remedy, correct or supplement incorrect terms and conditions. The INDEX ADMINISTRATOR is not obliged to provide information on any such modifications or changes. Despite the modifications and changes, the INDEX ADMINISTRATOR will take the appropriate steps to ensure a calculation method is applied that is consistent with the method described above.



#### 5.4. TERMINATION

Solactive makes the greatest possible efforts to ensure the resilience and continued integrity of its indices over time. Where necessary, Solactive follows a clearly defined and transparent procedure to adapt index methodologies to changing underlying markets (see Section 5.2 "Methodology Review") in order to maintain continued reliability and comparability of the indices. Nevertheless, if no other options are available the orderly cessation of an index may be indicated. This is usually the case when the underlying market or economic reality, which an index is set to measure or to reflect, changes substantially and in a way not foreseeable at the time of inception of the index, the index rules, and particularly the selection criteria, can no longer be applied coherently or the index is no longer used as the underlying value for financial instruments, investment funds and financial contracts.

Solactive has established and maintains clear guidelines on how to identify situations in which the cessation of an index is unavoidable, how stakeholders are to be informed and consulted and the procedures to be followed for a termination or the transition to an alternative index. Details are specified

in the Termination Policy, which is incorporated by reference and available on the Solactive website: <a href="https://www.solactive.com/documents/termination-policy/">https://www.solactive.com/documents/termination-policy/</a>.

#### 5.5. OVERSIGHT

An Oversight Committee composed of staff from Solactive and its subsidiaries (the "Oversight Committee") is responsible for decisions regarding any amendments to the rules of the INDEX. Any such amendment, which may result in an amendment of the Guideline, must be submitted to the Oversight Committee for prior approval and will be made in compliance with the Methodology Policy, which is available on the Solactive website: <a href="https://www.solactive.com/documents/methodology-policy/">https://www.solactive.com/documents/methodology-policy/</a>.



#### 6. DEFINITIONS

This section contains defined terms used throughout this GUIDELINE document.

"BENCHMARK REGULATION" shall have the meaning as defined in Section "Introduction".

"BMR" shall have the meaning as defined in Section "Introduction".

"Business Day" is a day on which the New York Stock Exchange (MIC: XNYS) is open for general business.

"CALCULATION DAY" is every weekday from Monday to Friday. A day on which either the New York Stock Exchange (NYSE) is not open for general business is not a CALCULATION DAY.

"CLOSE OF BUSINESS" is the calculation time of the closing level of the INDEX as outlined in Section 1.4.

"CLOSING PRICE" in respect of an INDEX COMPONENT is an INDEX COMPONENT'S final regular-hours TRADING PRICE published by the EXCHANGE and determined in accordance with the EXCHANGE regulations. If the EXCHANGE has no or has not published a CLOSING PRICE in accordance with the EXCHANGE rules for an INDEX COMPONENT, the last TRADING PRICE will be used.

**"EXCHANGE"** is with respect to the INDEX and every INDEX COMPONENT, the respective exchange where the INDEX COMPONENT has its listing as determined in accordance with the rules in Section 2.2.

"GUIDELINE" shall have the meaning as defined in Section "Introduction".

"INDEX" shall have the meaning as defined in Section "Introduction".

"INDEX ADMINISTRATOR" shall have the meaning as defined in Section "Introduction".

"INDEX COMPONENT" shall have the meaning as defined in Section 2.1.

"INDEX CURRENCY" is the currency specified in the column "Currency" in the table in Section 1.2.

"INDEX OWNER" shall have the meaning as defined in Section "Introduction".

"INDEX UNIVERSE" is the sum of all financial instruments which fulfill the INDEX UNIVERSE REQUIREMENTS of the UNDERLYING INDEX.

"LIVE DATE" shall have the meaning as defined in Section 1.3.

"Oversight Committee" shall have the meaning as defined in Section 5.5.

"RATE SWITCH DATE" shall be 2020-12-31.

"REBALANCE DAY" shall mean the eleventh BUSINESS DAY of the months of January, April, July and October. If such a day is not a BUSINESS DAY, the first BUSINESS DAY immediately following such eleventh calendar day is considered as the effective REBALANCE DAY.

"SOLACTIVE" shall have the meaning as defined in Section "Introduction".

"START DATE" shall have the meaning as defined in Section 1.3.



"TRADING PRICE" in respect of an INDEX COMPONENT and a BUSINESS DAY is the most recent published price at which the INDEX COMPONENT was traded on the respective EXCHANGE.

"UNDERLYING INDEX" shall have the meaning as defined in Section 2.2.



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