

# INDEX GUIDELINE

SOLACTIVE TRAC INDEX SERIES

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 each index (the “**INDEX**”) of the Solactive TRAC Index Series (the “**INDEX SERIES**”). Any amendments to the rules made to the **GUIDELINE** are approved by the **INDEX COMMITTEE** specified in Section 4.5. The **INDEX SERIES** are owned and published by Solactive AG (“**SOLACTIVE**”) assuming the role as 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 5 (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	Multi-Asset
Strategy	<p>The INDEX SERIES are a rules-based strategy designed to provide exposure to a portfolio of multiple sub-indices (each an “<b>INDEX COMPONENT</b>”), representing various asset classes.</p> <p>The allocation to these components is dynamically adjusted, based on the rebalancing frequency defined in the SPECIFIC INDEX PARAMETERS, according to their realized volatility levels.</p>

## 1.2. IDENTIFIERS AND PUBLICATION

The INDEX is published under the identifiers specified in the SPECIFIC INDEX PARAMETERS.

The INDEX is published on the website of the INDEX ADMINISTRATOR ([www.solactive.com](http://www.solactive.com)) and is, in addition, available 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.

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

## 1.3. INITIAL LEVEL OF THE INDEX

The initial level of the INDEX on the INDEX START DATE is INDEX START LEVEL. Historical values from the INDEX 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 during the CALCULATION WINDOW based on the TRADING PRICES on the EXCHANGES on which the INDEX COMPONENTS are listed.

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 PRICES for the INDEX COMPONENTS 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 SOLACTIVE.

## 2. INDEX COMPONENTS

The INDEX tracks the performance of a volatility-weighted portfolio comprising multiple sub-components ( “**INDEX COMPONENT**”), representing various asset classes. Each INDEX COMPONENT, along with its respective identifier and supporting documentation, is detailed in the SPECIFIC INDEX PARAMETERS.

## 3. CALCULATION OF THE INDEX

### 3.1. INDEX FORMULA

The INDEX is calculated as an *Excess Return* and *Total Return* INDEX.

The level of the INDEX at the INDEX START DATE is equal to:

$$I_{ER,0} = IndexStartLevel$$

$$I_{TR,0} = IndexStartLevel$$

The level of the INDEX (the “**INDEX LEVEL**”) as of each CALCULATION DAY  $t$  that falls after the INDEX START DATE is calculated according to the following formula:

$$I_{ER,t} = I_{ER,t-1} \times (1 + IER_t)$$

$$I_{TR,t} = I_{TR,t-1} \times (1 + ITR_t)$$

Where:

$I_{ER,t}$ : means the EXCESS RETURN Index level as of CALCULATION DAY  $t$ ;

$I_{TR,t}$ : means the TOTAL RETURN Index level as of CALCULATION DAY  $t$ ;

$I_{ER,t-1}$ : means the EXCESS RETURN Index level as of the CALCULATION DAY immediately preceding CALCULATION DAY  $t$ ;

$I_{TR,t-1}$ : means the TOTAL RETURN Index level as of the CALCULATION DAY immediately preceding CALCULATION DAY  $t$ ;

$IER_t$ : means the INTERMEDIATE EXCESS RETURN as of CALCULATION DAY  $t$ , defined in section 3.2.2.;

$ITR_t$ : means the INTERMEDIATE TOTAL RETURN as of CALCULATION DAY  $t$ , defined in section 3.2.1.;



## 3.2. INTERMEDIATE RETURN

### 3.2.1. INTERMEDIATE TOTAL RETURN

The INTERMEDIATE TOTAL RETURN as of CALCULATION DAY  $t$ , is calculated according to the following formula:

$$ITR_t = IER_t + \left( Rate_{t-1} * \frac{DC_{t,t-1}}{DayCount} \right)$$

Where:

- $IER_t$ : means the level of the INTERMEDIATE EXCESS RETURN as of CALCULATION DAY  $t$ , defined in section 3.2.2.;
- $Rate_{t-1}$ : means the INTEREST RATE as of the CALCULATION DAY immediately preceding CALCULATION DAY  $t$ . Provided that no level of INTEREST RATE is published in respect of such day, the level of INTEREST RATE in respect of the immediately preceding calendar day in which a level of INTEREST RATE has been published shall be used;
- $DC_{t,t-1}$ : means the number of calendar days in the period from (and including) CALCULATION DAY  $t$  to (but excluding) the CALCULATION DAY immediately preceding CALCULATION DAY  $t$ ;
- $DayCount$ : means the INTEREST RATE DAY COUNT as of the CALCULATION DAY  $t$ ;

### 3.2.2. INTERMEDIATE EXCESS RETURN

$$IER_t = \sum_{i=1}^{nb} AdjW_{t-l} \times RPW_{t-l}^i \times \left( \frac{U_t^i}{U_{t-1}^i} - 1 \right)$$

Where:

- $l$ : means the number of CALCULATION DAY lags, as defined in the SPECIFIC INDEX PARAMETERS;
- $nb$ : means the number of INDEX COMPONENTS as defined in section 2;
- $U_t^i$ : means the CLOSING LEVEL of INDEX COMPONENT  $i$  as of CALCULATION DAY  $t$ ;
- $U_{t-1}^i$ : means the CLOSING LEVEL of INDEX COMPONENT  $i$  as of the CALCULATION DAY immediately preceding CALCULATION DAY  $t$ ;
- $RPW_{t-k}^i$ : means the Risk Parity Weight of INDEX COMPONENT  $i$  as of  $k$  CALCULATION DAYS immediately preceding CALCULATION DAY  $t$  in accordance with the following formula:



$$RPW_t^i = \frac{(Variance_{L,t}^i)^{-\frac{1}{2}}}{\sum_{j=1}^{nb} (Variance_{L,t}^j)^{-\frac{1}{2}}}$$

$AdjW_{t-k}$ : means the Adjusted Weights as of  $k$  CALCULATION DAYS immediately preceding CALCULATION DAY  $t$  in accordance with the following formula:

$$AdjW_t = \min \left( MaxLeverage, \frac{TargetVol}{\sigma_t} \right)$$

Where:

$MaxLeverage$ : defined in the SPECIFIC INDEX PARAMETERS;

$TargetVol$ : defined in the SPECIFIC INDEX PARAMETERS;

$\sigma_t$ : means the realized volatility of the index components as of CALCULATION DAY  $t$  in accordance with the following formula:

$$\sigma_t = \sqrt{252 \times \max(PVar_{L,t}, PVar_{S,t})}$$

Where:

$PVar_{L,t}$ : means the Portfolio Variance Long as of CALCULATION DAY  $t$  in accordance with the following formula:

$$PVar_{L,t} = RPW_t^T \times \Sigma_{(L,t)} \times RPW_t$$

$PVar_{S,t}$ : means the Portfolio Variance Short as of CALCULATION DAY  $t$  in accordance with the following formula:

$$PVar_{S,t} = RPW_t^T \times \Sigma_{(S,t)} \times RPW_t$$

Where:

- $RPW_t^T$ : Transposed vector of Risk Parity Weights for all  $nb$  INDEX COMPONENTS as of CALCULATION DAY  $t$ ;
- $RPW_t$ : Vector of Risk Parity Weights for all  $nb$  INDEX COMPONENTS as of CALCULATION DAY  $t$ ;
- $\Sigma_{(L,t)}$ : Long Covariance-Variance matrix as of CALCULATION DAY  $t$ ;
- $\Sigma_{(S,t)}$ : Short Covariance-Variance matrix as of CALCULATION DAY  $t$ ;
- $nb$ : means the number of INDEX COMPONENTS as defined in section 2;



### 3.3. EXPONENTIALLY WEIGHTED VARIANCE AND COVARIANCE

The realized short-term and long-term variances of the INDEX COMPONENT  $i$  are based on exponentially weighted moving averages in accordance with the following formula:

If  $t = VarStartDate$ :

$$Variance_{S,t}^i = \sum_{k=1}^N \frac{\alpha_{S,k}}{x_S} \times \left( \log \left( \frac{U_{t-k+1}^i}{U_{t-k}^i} \right) \right)^2$$

$$Variance_{L,t}^i = \sum_{k=1}^N \frac{\alpha_{L,k}}{x_L} \times \left( \log \left( \frac{U_{t-k+1}^i}{U_{t-k}^i} \right) \right)^2$$

Otherwise:

$$Variance_{S,t}^i = \lambda_S \times Variance_{S,t-1}^i + (1 - \lambda_S) \times \left( \log \left( \frac{U_t^i}{U_{t-1}^i} \right) \right)^2$$

$$Variance_{L,t}^i = \lambda_L \times Variance_{L,t-1}^i + (1 - \lambda_L) \times \left( \log \left( \frac{U_t^i}{U_{t-1}^i} \right) \right)^2$$

The realized short-term and long-term covariances of the INDEX COMPONENT  $i$  and  $j$  are based on exponentially weighted moving averages in accordance with the following formula:

If  $t = CovStartDate$ :

$$Covariance_{S,t}^{i,j} = \sum_{k=1}^N \frac{\alpha_{S,k}}{x_S} \times \log \left( \frac{U_{t-k+1}^i}{U_{t-k}^i} \right) \times \log \left( \frac{U_{t-k+1}^j}{U_{t-k}^j} \right)$$

$$Covariance_{L,t}^{i,j} = \sum_{k=1}^N \frac{\alpha_{L,k}}{x_L} \times \log \left( \frac{U_{t-k+1}^i}{U_{t-k}^i} \right) \times \log \left( \frac{U_{t-k+1}^j}{U_{t-k}^j} \right)$$

Otherwise:

$$Covariance_{S,t}^{i,j} = \lambda_S \times Covariance_{S,t-1}^{i,j} + (1 - \lambda_S) \times \log \left( \frac{U_t^i}{U_{t-1}^i} \right) \times \log \left( \frac{U_t^j}{U_{t-1}^j} \right)$$

$$Covariance_{L,t}^{i,j} = \lambda_L \times Covariance_{L,t-1}^{i,j} + (1 - \lambda_L) \times \log \left( \frac{U_t^i}{U_{t-1}^i} \right) \times \log \left( \frac{U_t^j}{U_{t-1}^j} \right)$$





Where:

*CovStartDate*: defined in the SPECIFIC INDEX PARAMETERS;

*VarStartDate*: defined in the SPECIFIC INDEX PARAMETERS;

*log*: means the natural logarithm to the basis of Euler's number  $e$  ( $\sim 2.781$ );

$U_t^i$ : means the CLOSING LEVEL of INDEX COMPONENT  $i$  as of CALCULATION DAY  $t$ ;

$U_{t-1}^i$ : means the CLOSING LEVEL of INDEX COMPONENT  $i$  as of the CALCULATION DAY immediately preceding CALCULATION DAY  $t$ ;

$N$ : means the lookback number of CALCULATION DAYS used to calculate the Variance and Covariance on the *VarStartDate* and the *CovStartDate* respectively, and is defined in the SPECIFIC INDEX PARAMETERS;

$\lambda_S$ : means the short-term decay factor, and is defined in the SPECIFIC INDEX PARAMETERS;

$\lambda_L$ : means the long-term decay factor, and is defined in the SPECIFIC INDEX PARAMETERS;

$\alpha_{S,k}$ : means the short-term weight, applied to the  $k^{th}$  return in the initial calculation window and is given by:

$$\alpha_{S,k} = (1 - \lambda_S) \times \lambda_S^{k-1}$$

$\alpha_{L,k}$ : means the long-term weight, applied to the  $k^{th}$  return in the initial calculation window and is given by:

$$\alpha_{L,k} = (1 - \lambda_L) \times \lambda_L^{k-1}$$

$x_S$ : means the sum of all  $\alpha_{S,k}$  used in the initial variance and covariance calculation and is given by:

$$x_S = \sum_{k=1}^N \alpha_{S,k}$$

$x_L$ : means the sum of all  $\alpha_{L,k}$  used in the initial variance and covariance calculation and is given by:

$$x_L = \sum_{k=1}^N \alpha_{L,k}$$

### 3.4. ACCURACY

For publication, the level of the INDEX will be rounded to the number of decimal places as specified in the SPECIFIC INDEX PARAMETERS.



### 3.5. 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: <https://www.solactive.com/documents/correction-policy/>.

### 3.6. MARKET DISRUPTION

In periods of market stress SOLACTIVE calculates its indices following predefined and exhaustive arrangements as described in the Solactive Disruption Policy, which is incorporated by reference and available on the SOLACTIVE website: <https://www.solactive.com/documents/disruption-policy/>. Such market stress can arise due to a variety of reasons, but generally results in inaccurate or delayed prices for one or more INDEX COMPONENTS. The determination of the INDEX may be limited or impaired at times of illiquid or fragmented markets and market stress.



## 4. MISCELLANEOUS

### 4.1. 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.

### 4.2. METHODOLOGY REVIEW

The methodology of the INDEX is subject to regular review, at least annually. 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 Solactive Methodology Policy, which is incorporated by reference and available on the SOLACTIVE website: <https://www.solactive.com/documents/methodology-policy/>.

Such change in the methodology will be announced on the SOLACTIVE website under the Section “[Announcement](https://www.solactive.com/news/announcements/)”, which is available at <https://www.solactive.com/news/announcements/>. The date of the last amendment of this INDEX is contained in this GUIDELINE.

### 4.3. CHANGES IN CALCULATION METHOD

The application by the INDEX ADMINISTRATOR of the method described in this document is final and binding. 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.

### 4.4. 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 the 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 Solactive Termination Policy, which is incorporated by reference and available on the SOLACTIVE website: <https://www.solactive.com/documents/termination-policy/>.

#### 4.5. INDEX COMMITTEE

An index committee composed of staff from SOLACTIVE and its subsidiaries (the “**INDEX 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 INDEX COMMITTEE for prior approval and will be made in compliance with the Methodology Policy, which is available on the SOLACTIVE website: <https://www.solactive.com/documents/methodology-policy/>.



## 5. DEFINITIONS

**“BENCHMARK REGULATION”** defined in Section “Introduction”;

**“BMR”** defined in Section “Introduction”;

**“INDEX START DATE”** defined in Section 1.3;

**“CALCULATION DAY”** means a day on which the Exchanges, as defined in the SPECIFIC INDEX PARAMETERS, are scheduled to be open for trading;

**“INDEX COMPONENT”** means each of the index components as set out in the INDEX COMPONENTS TABLE, defined in the SPECIFIC INDEX PARAMETERS;

**“INTEREST RATE”** defined in the SPECIFIC INDEX PARAMETERS;

**“INTEREST RATE DAY COUNT”** defined in the SPECIFIC INDEX PARAMETERS;

**“INDEX START DATE”** defined in the SPECIFIC INDEX PARAMETERS;

**“INDEX START LEVEL”** defined in the SPECIFIC INDEX PARAMETERS;

**“INDEX LIVE DATE”** defined in the SPECIFIC INDEX PARAMETERS;

**“INDEX LEVEL”** defined in Section 3.1;

**“CALCULATION WINDOW”** defined in the SPECIFIC INDEX PARAMETERS;

The **“CLOSING PRICE”** in respect of an INDEX COMPONENT and a TRADING DAY is a security'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;

**“GUIDELINE”** defined in Section “Introduction”;

**“INDEX”** defined in Section “Introduction”;

**“INDEX ADMINISTRATOR”** defined in Section “Introduction”;

**“INDEX COMPONENT”** is each security reflected in the INDEX, defined in the SPECIFIC INDEX PARAMETERS;

**“INDEX COMMITTEE”** defined in Section 4.5;

**“TRADING DAY”** is with respect to an INDEX COMPONENT included in the INDEX at the REBALANCE DAY and every INDEX COMPONENT included in the INDEX at the CALCULATION DAY immediately following the REBALANCE DAY (for clarification: this provision is intended to capture the TRADING DAYS for the securities to be included in the INDEX as new INDEX COMPONENTS with close of trading on the relevant EXCHANGE on the REBALANCE DAY) a day on which the relevant EXCHANGE is open for trading (or a day that would have been such a day if a market disruption had not occurred), excluding days on which trading may be ceased prior to the scheduled EXCHANGE closing time and days on which the EXCHANGE is open for a scheduled shortened period. The INDEX ADMINISTRATOR is ultimately responsible as to whether a certain day is a TRADING DAY;



The “**TRADING PRICE**” in respect of an INDEX COMPONENT and a TRADING DAY is the most recent published price at which the INDEX COMPONENT was traded on the respective EXCHANGE;

## 6. HISTORY OF INDEX CHANGES

Version	Date	Description
1.0	14 August 2025	Index Guideline creation ( <i>initial version</i> )

# CONTACT

Solactive AG  
German Index Engineering  
Platz der Einheit 1  
60327 Frankfurt am Main  
Germany

Tel.: +49 (0) 69 719 160 00

Fax: +49 (0) 69 719 160 25

Email: [info@solactive.com](mailto:info@solactive.com)

Website: [www.solactive.com](http://www.solactive.com)

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