

# INDEX GUIDELINE

SOLACTIVE QRAFT AI-GENERATED US EQUITIES LONG  
SHORT SELECT 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 Solactive Qraft AI-Generated US Equities Long Short Select 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 owned, calculated, administered 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 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	Equity
Strategy	The INDEX combines long and short exposures to securities selected from the Solactive US 1000 index which exhibit projected price appreciation opportunities (long exposure) or price depreciations opportunities (short exposure) according to Qraft's Model, applying an FX hedge and an adjustment factor on top.
Regional Allocation	US
Adjustment factor	0.95%
Rebalancing frequency	monthly

## 1.2. IDENTIFIERS AND PUBLICATION

The INDEX is published under the following identifiers:

Name	ISIN	Currency	Type	RIC	BBG ticker
Solactive Qraft AI-Generated US Equities Long Short Select Index	DE000SLOJWR3	KRW	AR*	.SOLQUSLS	SOLQUSLS Index

AR\* means that the INDEX is calculated as adjusted return.

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 04/01/2011, the START DATE, is 1000. Historical values from the 14/09/2023, 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 9:00 a.m. to 4:54 p.m. EST based on the REAL TIME PRICES of the INDEX COMPONENTS as calculated by Solactive. REAL TIME PRICES not listed in the INDEX CURRENCY are converted using the current Intercontinental Exchange (ICE) spot foreign exchange rate.

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 as calculated and published by Solactive. The CLOSING PRICES of INDEX COMPONENTS not listed in the INDEX CURRENCY are converted using the 4pm London time WM Fixing quoted by Refinitiv.

## 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 SELECTION

### 2.1. INDEX CONSTITUENTS

The INDEX is composed of the following two components (the INDEX COMPONENTS):

Component	Name	Currency	RIC	BBG Ticker
1	Solactive Qraft AI-Generated US Equities Long Short Select Index Long Leg NTR (the LONG INDEX)	USD	Not applicable	Not applicable
2	Solactive Qraft AI-Generated US Equities Long Short Select Index Short Leg TR (the SHORT INDEX)	USD	Not applicable	Not applicable

## 3. CALCULATION OF THE INDEX

### 3.1. INDEX FORMULA

The INDEX for any CALCULATION DAY  $t$ , denoted  $Index_t$ , is determined in accordance with the following formula, where  $Index_0 = 1000$ :

$$Index_t = Index_{t-1} * \left( \frac{H_t}{H_{t-1}} - AF * \frac{DC_{t-1,t}}{365} \right)$$

With:

$Index_t$  = The level of the INDEX as of CALCULATION DAY  $t$

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

$DC_{t,t-1}$  = Number of Calendar Days from (and excluding) CALCULATION DAY  $t-1$  to (and including) CALCULATION DAY  $t$

$H_t$  = The level of the HEDGED INDEX as of CALCULATION DAY  $t$

$H_{t-1}$  = The level of the HEDGED INDEX as of CALCULATION DAY  $t-1$

$AF$  = the adjustment factor of 0.95%



### 3.2. HEDGED INDEX FORMULA

The hedged index is calculated according to the following formula:

As of the START DATE:

$$H_t = 1000$$

On each CALCULATION DAY following the START DATE

$$H_t = H_R * \left( 1 + \left( \frac{LS_t}{LS_R} - 1 \right) * \frac{FX_t}{FX_R} \right)$$

With:

$H_t$  = The level of the HEDGED INDEX as of CALCULATION DAY t

$H_R$  = The level of the HEDGED INDEX x as of the REBALANCING DAY immediately preceding CALCULATION DAY t

$LS_t$  = The level of the LONG-SHORT index as of CALCULATION DAY t

$LS_R$  = The level of the LONG-SHORT index as of the REBALANCING DAY immediately preceding CALCULATION DAY t

$FX_t$  = The FX rate to convert one unit of USD to KRW as of CALCULATION DAY t

$FX_R$  = The FX rate to convert one unit of USD to KRW as of the REBALANCING DAY immediately preceding CALCULATION DAY t

### 3.3. LONG-SHORT INDEX FORMULA

The LONG-SHORT index is calculated according to the following formula:

As of the START DATE:

$$LS_t = 1000$$

On each CALCULATION DAY following the START DATE:

$$LS_t = NOSH_{Long,R} * L_t + NOSH_{Short,R} * S_t + NOSH_{Cash,R} * Cash_t$$

Where:



$LS_t$  = The level of the LONG-SHORT index as of CALCULATION DAY t

$NOSH_{Long,R}$  = The number of shares the index is holding in the LONG INDEX as of the REBALANCING DAY immediately preceding CALCULATION DAY t

$L_t$  = The level of the LONG INDEX as of CALCULATION DAY t

$NOSH_{Short,R}$  = The number of shares the index is holding in the SHORT INDEX as of the REBALANCING DAY immediately preceding CALCULATION DAY t

$S_t$  = The level of the SHORT INDEX as of CALCULATION DAY t

$NOSH_{Cash,R}$  = The number of shares the index is holding in the cash as of the REBALANCING DAY immediately preceding CALCULATION DAY t

$Cash_t$  = The level of a synthetic cash position as of CALCULATION DAY t

Where  $Cash_t = 1000$  for all CALCULATION DAYS t

The number of shares the index is holding for each of the three components (LONG INDEX, SHORT INDEX and cash) is determined according to:

$$NOSH_{Long,R} = \frac{w_{Long} * LS_R^{Net}}{L_R}$$

$$NOSH_{Short,R} = \frac{w_{Short} * LS_R^{Net}}{S_R}$$

$$NOSH_{Cash,R} = \frac{w_{Cash} * LS_R^{Net}}{Cash_R}$$

Where:

$w_{Long}$  = The weight of the LONG INDEX, which equals 100%

$w_{Short}$  = The weight of the SHORT INDEX, which equals -100%

$w_{Cash}$  = The weight of the synthetic cash position, which equals 100%

$LS_R^{Net}$  = The level of the LONG-SHORT index after transaction costs as of the respective REBALANCING DAY

$LS_R^{Net}$  is calculated according to the following formula:





$$LS_R^{Net} = (1 - TC_R) * LS_R$$

Where:

$TC_R$  = The transition costs as of the respective REBALANCING DAY

The transition costs as of any given REBALANCING DAY are calculated according to:

$$TC_R = tc * \left( abs(w_{Long} - w_{Long,R}^{Close}) + abs(w_{Short} - w_{Short,R}^{Close}) \right)$$

Where:

$tc$  = The transaction cost parameter of 0.06%

$w_{Long,R}^{Close}$  = The close weight of the LONG INDEX as of the respective REBALANCING DAY

$w_{Short,R}^{Close}$  = The close weight of the SHORT INDEX as of the respective REBALANCING DAY

The close weight of the LONG INDEX and SHORT INDEX as of any given REBALANCING DAY are calculated according to:

$$w_{Long,R}^{Close} = NOSH_{Long,RR} * \frac{L_R}{LS_R}$$

$$w_{Short,R}^{Close} = NOSH_{Short,RR} * \frac{S_R}{LS_R}$$

Where:

$RR$ : The REBALANCING DAY immediately preceding REBALANCING DAY R



## 4. LONG INDEX AND SHORT INDEX

### 4.1.1. UNIVERSE REQUIREMENTS FOR LONG AND SHORT INDEX

The INDEX UNIVERSE is comprised of all financial instruments which fulfill the below requirements (the "**INDEX UNIVERSE REQUIREMENTS**"):

Is a member of the Solactive United States 1000 Index (ISIN: DE000SLOFQG3), as published on the Solactive website: <https://www.solactive.com>.

The determination of the INDEX UNIVERSE is fully rule-based and the INDEX ADMINISTRATOR cannot make any discretionary decisions.]

### 4.1.2. SELECTION OF LONG AND SHORT INDEX COMPONENTS

Based on the INDEX UNIVERSE, the initial composition of the LONG INDEX and the SHORT INDEX as well as any selection for an ordinary rebalance is determined on the SELECTION DAY in accordance with the following rules:

The DATA PROVIDER is using two different models the Qraft Technologies' Factor Model and AI-based Strategy Factor model to generate relative scores of all stocks in the INDEX UNIVERSE.

The top 100 stocks of both models are eligible for the LONG INDEX. This leads to an index of up to 200 constituents. In case there is an overlap between both models less than 200 constituents are selected.

The bottom 100 stocks of both models are eligible for the SHORT INDEX. This leads to an index of up to 200 constituents. In case there is an overlap between both models less than 200 constituents are selected. Stocks can only be included in the INDEX if they have a borrowing fee of 2% or less.

(the "**INDEX COMPONENT REQUIREMENTS**")

The selection of the INDEX COMPONENTS is fully rule-based and the INDEX ADMINISTRATOR cannot make any discretionary decision.

### 4.1.3. WEIGHTING OF THE LONG AND SHORT INDEX COMPONENTS

On each SELECTION DAY each INDEX COMPONENT is assigned a weight based on the score provided by the two different models of the DATA PROVIDER. Weights are capped at 5% per security.



#### 4.1.4. INDEX FORMULA

The LONG INDEX and SHORT INDEX are calculated as a net total return or gross total return Index respectively. The calculation is performed according to the Equity Index Methodology, which is available on the SOLACTIVE website: <https://www.solactive.com/documents/equity-index-methodology/>. The divisor index formula stipulates that the level of the INDEX changes based on the change of the prices of its INDEX COMPONENTS taking into account their weight in the INDEX and any currency conversion in case the price of an INDEX COMPONENT is quoted in a currency other than the INDEX CURRENCY.

For the construction of the SHORT INDEX an adjustment factor of 0.5% per annum is added on each INDEX CALCULATION DAY

Any dividends or other distributions are reinvested across the entire basket of INDEX COMPONENTS by means of a divisor 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.

#### 4.1.5. ORDINARY REBALANCING OF LONG AND SHORT INDEX

In order to reflect the new selection of the INDEX COMPONENTS determined on the SELECTION DAY (in accordance with Section 2.1 and 2.2) the INDEX is adjusted on the REBALANCE DAY after CLOSE OF BUSINESS.

This is carried out by implementing the shares as determined on the FIXING DAY based on the weights calculated on the SELECTION DAY.

For more information on the rebalance procedure please refer to the Equity Index Methodology, which is incorporated by reference and available on the Solactive website: <https://www.solactive.com/documents/equity-index-methodology/>.

On each REBALANCE DAY there is a 0.06% rebalancing fee subtracted (for the long index) or added (for the short index) based on the total absolute change in the weights of each financial instrument entering or leaving the INDEX. The rebalancing fee will be applied 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 publish any changes made to the INDEX COMPONENTS with sufficient notice before the REBALANCE DAY on the SOLACTIVE website under the section "Announcement", which is available at <https://www.solactive.com/news/announcements/>

The LONG INDEX and the SHORT INDEX are not rebalanced extraordinarily.



## 4.2. ACCURACY

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

## 4.3. ADJUSTMENTS

Under certain circumstances, an adjustment of the INDEX may be necessary between two regular REBALANCE DAYS. 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 TRADING DAYS (with respect to the affected INDEX COMPONENT) on the SOLACTIVE website under the Section "Announcements", which is available at <https://www.solactive.com/news/announcements/>. The INDEX adjustments will be implemented on the effective day specified in the respective notice.

## 4.4. 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/>.

## 4.5. 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.



## 5. MISCELLANEOUS

### 5.1. DISCRETION

Any discretion which may need to be exercised in relation to the determination of the INDEX (for example 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, 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 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.

### 5.3. 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.



## 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 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/>.

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



## 6. DEFINITIONS

“**BENCHMARK REGULATION**” shall have the meaning as defined in Section “Introduction”.

“**BMR**” shall have the meaning as defined in Section “Introduction”.

“**CALCULATION DAY**” is every weekday from Monday to Friday on which the New York Stock Exchange (MIC: XNYS) is open for general business.

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

The “**CLOSING PRICE**” in respect of an INDEX COMPONENT and a CALCULATION DAY is an INDEX COMPONENTS final regular-hours closing level as calculated by Solactive

“**DATA PROVIDER**” is the Qraft Technologies Inc. For more info see: <https://qraftec.com/>.

“**GUIDELINE**” shall have the meaning as defined in Section “Introduction”.

“**Hedged INDEX**” shall have the meaning as defined in Section 3.2.

“**INDEX**” shall have the meaning as defined in Section “Introduction”.

“**INDEX ADMINISTRATOR**” shall have the meaning as defined in Section “Introduction”.

“**INDEX COMPONENT**” are the LONG INDEX and the SHORT INDEX.

“**INDEX COMPONENT REQUIREMENTS**” shall have the meaning as defined in Section 4.1

“**INDEX CURRENCY**” is the currency specified in the column “Currency” in the table in Section 1.2.

“**INDEX UNIVERSE**” is the sum of all financial instruments which fulfill the INDEX UNIVERSE REQUIREMENTS.

“**LIVE DATE**” shall have the meaning as defined in Section 1.3.

“**LONG INDEX**” is the index as defined and described in Section 3.4

“**LONG-SHORT INDEX**” is the index as defined and described in Section 3.3

“**OVERSIGHT COMMITTEE**” shall have the meaning as defined in Section 5.5.

The “**REAL TIME PRICE**” in respect of an INDEX COMPONENT and a CALCULATION DAY is an INDEX COMPONENTS real time price during the regular-hours as calculated and by Solactive

“**REBALANCING DAY**” is 2 Business Days after the SELECTION DAY

“**SELECTION DAY**” is the last CALCULATION DAY of each month.

“**SHORT INDEX**” is the index as defined and described in Section 3.4

“**SOLACTIVE**” shall have the meaning as defined in Section “Introduction”.

“**START DATE**” shall have the meaning as defined in Section 1.3.





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