

INDEX GUIDELINE

SOLACTIVE GERD KOMMER MULTIFACTOR EQUITY 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 the Solactive Gerd Kommer Multifactor Equity 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 aims to provide exposure to the equity market in the developed and emerging market countries globally where weights are tilted by reference to certain factors
Regional Allocation	Global Markets
Rebalancing Fee	-
Rebalancing Frequency	Quarterly

1.2. IDENTIFIERS AND PUBLICATION

The INDEX is published under the following identifiers:

Name	ISIN	Currency	Type	RIC	BBG ticker
Solactive Gerd Kommer Multifactor Equity Index PR	DE000SLOG201	USD	PR	.SOLGERDP	
Solactive Gerd Kommer Multifactor Equity Index NTR	DE000SLOG219	USD	NTR	.SOLGERD	SOLGERD
Solactive Gerd Kommer Multifactor Equity Index TR	DE000SLOG227	USD	TR	.SOLGERDT	

*PR, NTR, GTR means that the Index is calculated as price return, net total return, gross total return, adjusted return Index as described in the Equity Index Methodology, which is available on the SOLACTIVE website: <https://www.solactive.com/documents/equity-index-methodology/>

The INDEX is published on the website of the INDEX ADMINISTRATOR (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 31/07/2017, the START DATE, is 1000. Historical values from the 03/05/2023, 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 10:50 p.m. CET based on the TRADING PRICES on the EXCHANGES on which the INDEX COMPONENTS are listed. TRADING PRICES of INDEX COMPONENTS not listed in the INDEX CURRENCY are converted using the current Intercontinental Exchange (ICE) spot foreign exchange rate. 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 TRADING 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 PRICES for the INDEX COMPONENTS on the respective EXCHANGES on which the INDEX COMPONENTS are listed. The CLOSING PRICES of INDEX COMPONENTS not listed in the INDEX CURRENCY are converted using the 04:00 p.m. London time rates provided by WM/ Refinitiv (the "WM/ Refinitiv Rate"). If there is no 04:00 p.m. London time WM/ Refinitiv Rate for the relevant CALCULATION DAY, the last available 04:00 p.m. London time WM/ Refinitiv Rate will be used for the closing level calculation.

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

On each SELECTION DAY, the INDEX ADMINISTRATOR will revise the composition of the INDEX.

In a first step, the INDEX ADMINISTRATOR determines the INDEX UNIVERSE in accordance with Section 2.1. The INDEX UNIVERSE comprises all those financial instruments which fulfill the INDEX UNIVERSE REQUIREMENTS (as specified in Section 2.1) and will constitute a starting pool from which the components of the INDEX will be selected. Based on this INDEX UNIVERSE, the new composition of the INDEX will be determined by applying the rules outlined in Section 2.2.

Each new INDEX COMPONENT will be assigned a weight as described in Section 2.3.

2.1. INDEX UNIVERSE REQUIREMENTS

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

- Any **INDEX COMPONENT** of the **GBS INDEX UNIVERSE** of the Solactive GBS Global Markets Investable Universe USD Index NTR (ISIN: DE000SLOEM79), on any SELECTION DAY.
- Securities that are amongst the highest 0.5% in terms of short interest (measured as a percentage of total shares outstanding) are not eligible for the inclusion.

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

2.2. SELECTION OF THE INDEX COMPONENTS

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

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

I. Security Refined Weight

1. Using the components of the INDEX UNIVERSE, a COUNTRY REFINED WEIGHT is calculated according to the average of the latest available Gross Domestic Product ('GDP') and FREE FLOAT MARKET CAPITALIZATION per COUNTRY using the following formula below:

$$CRW_c = 0.5 * \frac{MCAP_c}{\sum_{c=1}^C MCAP_c} + 0.5 * \frac{GDP_c}{\sum_{c=1}^C GDP_c}$$

where:



CRW_c is the COUNTRY REFINED WEIGHT per COUNTRY c on any SELECTION DAY

$MCAP_c$ is the sum of FREE FLOAT MARKET CAPITALIZATION of securities within the COUNTRY c (i.e. weight of COUNTRY in the INDEX UNIVERSE) on any SELECTION DAY

GDP_c is the latest available nominal GDP in USD per COUNTRY c on any SELECTION DAY

C is the number of COUNTRIES in the INDEX UNIVERSE

The obtained weights are then modified in such a way to fulfil the requirements in the following order:

- i. The CRW_c should not be higher than 2 times the weight of the respective COUNTRY in the INDEX UNIVERSE, and not lower than 0.5 times the weight of the respective COUNTRY in the INDEX UNIVERSE. In case a breach happens for any COUNTRY, the excess weight will be redistributed equally among the other COUNTRIES in an iterative process until the fulfilment of all conditions. This will form a CAPPED COUNTRY REFINED WEIGHT as $CCRW_c$. The upper and lower caps are valid as of the Live Date but may be reviewed from time to time to ensure a reasonable diversification and investability of the CAPPED COUNTRY REFINED WEIGHT subject to prevailing GDP and FREE FLOAT MARKET CAPITALIZATION data.
2. Based on the CAPPED COUNTRY REFINED WEIGHT calculated above, a security REFINED WEIGHT for each security in the INDEX UNIVERSE is calculated by tilting the FREE FLOAT MARKET CAPITALIZATION of each security using the following formula:

$$Refined\ Weight_{adj,i} = \frac{MCAP_{i,c}}{\sum_{i=1}^N MCAP_i} \cdot \left(\frac{CCRW_c}{\frac{MCAP_c}{\sum_{c=1}^C MCAP_c}} \right)$$

where:

$Refined\ Weight_{adj,i}$ is the REFINED WEIGHT of security i on any SELECTION DAY

$MCAP_i$ is the FREE FLOAT MARKET CAPITALIZATION of security i on any SELECTION DAY

$MCAP_{i,c}$ is the FREE FLOAT MARKET CAPITALIZATION of security i in COUNTRY c on any SELECTION DAY

$MCAP_c$ is the sum of FREE FLOAT MARKET CAPITALIZATION of securities within the COUNTRY c (i.e. weight of COUNTRY in the INDEX UNIVERSE) on any SELECTION DAY

$CCRW_c$ is calculated in step 1 for COUNTRY c

N is the number of securities in the INDEX UNIVERSE



C is the number of COUNTRIES in the INDEX UNIVERSE

3. The initial weight cutoff threshold of 0.001% is determined to reduce the number of constituents by removing securities with a REFINED WEIGHT below the threshold. In case more than 5,000 securities are eligible, the threshold will increase by 0.0001% in each iteration to the extent that the number of constituents reaches below 5,000 with an additional iteration. And in case less than 5,000 securities are eligible, the threshold will decrease by 0.0001% in each iteration to the extent that the number of constituents reaches above 5,000 with an additional iteration.
4. Securities with a price history of less than 12 months are considered as IPOs and are not eligible for inclusion in the INDEX.

The eligible securities after the steps as described above will constitute the INTERMEDIATE UNIVERSE with security weights being defined as the security REFINED WEIGHTS.

II. Security Exclusion

In a first step, the CARBON INTENSITY for any company within the INDEX UNIVERSE is calculated and all securities of companies among the 3% highest CARBON INTENSITY per ECONOMY are removed from the INTERMEDIATE UNIVERSE.

Additionally, the INTERMEDIATE UNIVERSE is filtered on exclusion criteria as defined in the table below, based on data researched by the DATA PROVIDER.

Theme	Topic	Exclusion criterion
Controversy		Category 5 (severe ESG controversies)
Norm-Based Research	Environment	Non-compliance with UNGC principles and related international norms and standards
	Human Rights	
	Corruption	
	Labour Rights	
Controversial Weapons - Defense		Any direct Involvement*
Activity-Based Screening	Coal	(10% Thermal Coal Extraction <OR> 10% Power Generation <OR> 10% Supporting Products/Services)*
Explanation:		



-
- % figures refer to revenue threshold (for degree of involvement) above which criterion is breached
 - * includes significant corporate ownership (where a company holds a stake greater than 50% in an involved company, the revenues of the involved company are attributed to the company).
 - The terminology used in the table above is specific to the DATA PROVIDER and may change from time to time
-

For the avoidance of doubt, any company for which an evaluation of the above criteria is not possible due to the non-availability of relevant data from the DATA PROVIDER, a company remains eligible for inclusion in the INDEX.

The INTERMEDIATE UNIVERSE after the security exclusion (as described above) will constitute the INVESTABLE UNIVERSE.

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

2.3. WEIGHTING OF THE INDEX COMPONENTS

The final weight of each component in the INDEX is further determined following the below steps.

- I. Factor Calculation
 1. Using the components of the INVESTABLE UNIVERSE, the raw FACTOR SCORE of the respective equity risk factors is calculated as defined in Section 7.
 2. Each raw FACTOR SCORE is winsorized at a 3% level within its corresponding COUNTRY. This means values below the 3rd percentile will be set equal to the 3rd percentile, and values above the 97th percentile will be set equal to the 97th percentile.
 3. A raw Z-score is calculated to standardize each raw FACTOR SCORE within its corresponding COUNTRY. Meaning the average and standard deviation are calculated for each respective COUNTRY separately as opposed to the entire universe:

$$Z = \frac{(x - \mu)}{\sigma}$$

4. Raw Z-scores are capped at a lower bound of -3 and an upper bound of 3 within its corresponding COUNTRY. If a Z-score is missing, it will be replaced with the ECONOMY median of the securities within its same COUNTRY and ECONOMY
5. The following Z-scores are multiplied with -1 such that lower values get the higher score:
 - VALUE FACTOR
 - INVESTMENT FACTOR



- SIZE FACTOR

6. The final FACTOR SCORE is defined as follows:

$$F = \begin{cases} 1 + Z, & Z > 0 \\ \frac{1}{1 - Z}, & Z \leq 0 \end{cases}$$

II. Optimization

1. The final weight of each INDEX COMPONENT within its COUNTRY is determined through an optimization approach that aims to improve the FACTOR UPLIFT in the Index subject to certain constraints. The OBJECTIVE FUNCTION is to minimize the cumulative squared difference between the FACTOR UPLIFT and the TARGETED UPLIFT. On the inception day, the following constraints are employed:
 - a. Individual aggregated listing weights of a company are capped at 1% and individual securities weights are floored at 0.001%.
 - b. Compared to the INTERMEDIATE UNIVERSE, the absolute deviation of the ECONOMY weights is capped at 3%.
 - c. The FACTOR UPLIFT for VALUE FACTOR, QUALITY FACTOR, and SIZE FACTOR is floored at 20% and capped at the TARGETED UPLIFT.
2. If no solution can be found, the constraints are relaxed in an iterative process subject to the following:
 - a. ECONOMY weight constraint: Compared to the INTERMEDIATE UNIVERSE, the maximum deviation of the ECONOMY weights can be increased up to 25%.
 - b. Factor weight constraint: The floor and cap of the FACTOR UPLIFT can be decreased to 0% and increased up to 45%, respectively.
3. The final weight for the INDEX is determined by aggregating the optimization weights within the COUNTRIES.

On any following SELECTION DAY any INDEX COMPONENT is assigned a weight subject to the following constraints:

1. Any security that is an INDEX COMPONENT with a current weight below 0.001% should not be eligible for inclusion in the INDEX if it is among the bottom 10% of the MOMENTUM FACTOR and/or bottom 10% of the INVESTMENT FACTOR within its COUNTRY.
2. The final weight of each INDEX COMPONENT within its COUNTRY is determined through an optimization approach that aims to improve the FACTOR UPLIFT in the Index subject to certain constraints. The OBJECTIVE FUNCTION is to minimize the cumulative squared difference between the FACTOR UPLIFT and the TARGETED UPLIFT. On any SELECTION DAY, the following constraints are employed:



- a. Individual company weights are capped at 1% and securities weights are floored at 0.001%.
 - b. Compared to the INTERMEDIATE UNIVERSE, the absolute deviation of the ECONOMY weights is limited at 3%.
 - c. The FACTOR UPLIFT for VALUE FACTOR, QUALITY FACTOR, and SIZE FACTOR is floored at 20% and capped at the TARGETED UPLIFT.
 - d. Maximum two-way turnover is 20%.
3. If no solution can be found, the constraints are relaxed in an iterative process subject to the following:
- a. ECONOMY weight constraint: Compared to the INTERMEDIATE UNIVERSE, the maximum deviation of the ECONOMY weights can be increased up to 25%.
 - b. Factor weight constraint: The floor and cap of the FACTOR UPLIFT can be decreased to 0% and increased up to 45%, respectively.
 - c. Two-way turnover constraint: Maximum two-way turnover can be increased up to 60%.

In the event that still no optimal solution is found after the above constraints have been relaxed iteratively with different cap and floor scenarios and subject to the maximum numbers as defined above under this point, the relevant weights for securities within a country shall be the current weights scaled by a factor calculated as CAPPED COUNTRY REFINED WEIGHT divided by the current weight of the country.

4. For a security in the INDEX that is among the top 10% of the MOMENTUM FACTOR or top 10% of the INVESTMENT FACTOR, given the security's corresponding INVESTMENT FACTOR or MOMENTUM FACTOR respectively is above the bottom 10%, the weight assigned to such security shall be the maximum of its current weight in the INDEX and the weight assigned in the optimization. However, the Individual company weights should not exceed 1%.

Conversely, if a security is among the bottom 10% of the MOMENTUM FACTOR or bottom 10% of the INVESTMENT FACTOR, given the security's corresponding INVESTMENT FACTOR or MOMENTUM FACTOR respectively is below the top 10%, its weight shall be the minimum of its current weight and the weight assigned in the optimization.

For a security in the INDEX that is among the top 10% of the MOMENTUM FACTOR and bottom 10% of the INVESTMENT FACTOR or vice versa, the weight assigned to them shall be the weight as assigned in the optimization. Additionally, any security that is not an INDEX COMPONENT should not be eligible for inclusion in the INDEX if it is among the bottom 10% of the MOMENTUM FACTOR and/or bottom 10% of the INVESTMENT FACTOR.

5. Following this step, the weights within the COUNTRIES will be aggregated and redistributed proportionally, if needed, to equal 100%.



3. REBALANCE

3.1. ORDINARY REBALANCE

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/>.

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/>

3.2. EXTRAORDINARY REBALANCE

The INDEX is not rebalanced extraordinarily.



4. CALCULATION OF THE INDEX

4.1. INDEX FORMULA

The INDEX is calculated as a price return, net total return, gross total return Index.

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.

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.

4.2. ACCURACY

The level of the INDEX will be rounded to 2 decimal places. Divisors will be rounded to six decimal places. TRADING PRICES and foreign exchange rates will be rounded to six decimal places.

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. 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 between two regular REBALANCE DAYS. 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: <https://www.solactive.com/documents/equity-index-methodology/>. 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 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 following, but not conclusive, list of corporate actions as relevant for INDEX maintenance:

- > Cash Distributions (e.g. payment of a dividend)
- > 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) are 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

4.5. 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/>.

4.6. 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.



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, 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.

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”.

“**BUSINESS DAY**” is a day on which New York Stock Exchange (NYSE), the London Stock Exchange, the Tokyo Stock Exchange and Deutsche Boerse Xetra are open for general business.

“**CALCULATION DAY**” is every weekday from Monday to Friday.

“**CAPPED COUNTRY REFINED WEIGHT**” shall have the meaning as defined in Section 2.2.

“**CAPPED WEIGHT**” shall have the meaning as defined in Section 2.2.

“**CARBON INTENSITY**” on the SELECTION DAY is calculated as:

$$\text{CARBON INTENSITY} = \frac{\text{GHG}}{\text{EVIC}}$$

“**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 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.

“**COUNTRY**” is based on country classification of the Solactive Global Benchmark Series (<https://solactive.com/downloads/Guideline-Solactive-GBS-Benchmark-Series.pdf>). In case that is not available, the country of primary listing is used.

“**COUNTRY REFINED WEIGHT**” shall have the meaning as defined in Section 2.2.

“**DATA PROVIDER**” is Sustainalytics. For more information, please visit: <https://www.sustainalytics.com/>.

“**ECONOMY**” is based on the FactSet Economy Business Classification.

“**ELIGIBLE REBALANCE DAY**” is each day that is a TRADING DAY at the New York Stock Exchange, the London Stock Exchange, the EUREX Exchange and the Tokyo Stock Exchange.

“**EVIC**” is the Enterprise Value including Cash in USD on the respective SELECTION DAY.

“**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.

“**FACTOR SCORE**” shall have the meaning as defined in Section 2.3.1.

“**FACTOR UPLIFT**” is the ratio for VALUE FACTOR, SIZE FACTOR, and QUALITY FACTOR that defines as follow:

$$\text{Factor Uplift}_{f,c} = \frac{(\sum_{i=1}^N w_{i,I} * \text{Factor score}_i)}{(\sum_{i=1}^N w_{i,U} * \text{Factor score}_i)} - 1$$

where:



$w_{i,I}$ is the INDEX weight for Security i

$w_{i,U}$ is the INTERMEDIATE UNIVERSE weight for Security i

Factor score $_i$ is defined in section 2.3.1 for Security i

N is number of security in the country c

f = Value, Size, and Quality

“FINANCE” is an ECONOMY as defined above.

The “FREE FLOAT MARKET CAPITALIZATION” is with regard to each of the securities fulfilling the INDEX COMPONENT REQUIREMENTS on a SELECTION DAY the share class-specific free float market capitalization. It is calculated as the multiplication of the shares outstanding in FREE FLOAT (as sourced from data vendors) with the CLOSING PRICE of the share class as of the respective SELECTION DAY.

“GBS INDEX UNIVERSE” is the INDEX UNIVERSE as defined in the guideline of the Solactive Global Benchmark Series (<https://solactive.com/downloads/Guideline-Solactive-GBS-Benchmark-Series.pdf>) for the GBS Index specified in Section 2.1.

“GBS INDEX COMPONENT” is each security reflected in the GBS Index specified in Section 2.1.

“GDP” shall have the meaning as defined in Section 2.2.

“GHG” are the Greenhouse Gas Emissions of a company as of the SELECTION DAY. According to the GHG Protocol¹, the GHG metric is calculated as the sum of Scope 1 and Scope 2 emissions. In particular:

- > Scope 1 emissions: All direct Greenhouse Gas Emissions;
- > Scope 2 emissions: Indirect Greenhouse Gas Emissions from consumption of purchased electricity, heat or steam;

“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” is each security reflected in the INDEX.

“INDEX COMPONENT REQUIREMENTS” shall have the meaning as defined in Section 2.2.

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

“INDEX UNIVERSE REQUIREMENTS” shall have the meaning as defined in Section 2.1.

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

“INVESTMENT FACTOR” shall have the meaning as defined in Section 2.3 and 7.4.

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

¹ See Greenhouse Gas Protocol at <https://ghgprotocol.org/>.



“**MOMENTUM FACTOR**” shall have the meaning as defined in Section 2.3 and 7.3.

“**OBJECTIVE FUNCTION**” is defined as follows:

$$(FactorUplift_{Quality} - TargetedUplift)^2 + (FactorUplift_{Value} - TargetedUplift)^2 + (FactorUplift_{Size} - TargetedUplift)^2$$

Where TARGETED UPLIFT is 33.33% for SIZE FACTOR, QUALITY FACTOR, and VALUE FACTOR.

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

“**QUALITY FACTOR**” shall have the meaning as defined in Section 2.3 and 7.2.

“**REBALANCE DAY**” is the last BUSINESS DAY in January, April, July and October. If that day is not a BUSINESS DAY the REBALANCE DAY will be the immediately following BUSINESS DAY.

“**REFINED WEIGHT**” shall have the meaning as defined in Section 2.2.

“**SELECTION DAY**” is 20 weekdays (Monday to Friday) before the scheduled REBALANCE DAY, disregarding any potential change of the REBALANCE DAY.

The “**SHARE CLASS MARKET CAPITALIZATION**” is with regard to each of the securities in the INDEX on a SELECTION DAY the share class-specific market capitalization for any security in the INDEX UNIVERSE. It is calculated as the multiplication of the shares outstanding with the CLOSING PRICE of the share class as of the respective SELECTION DAY.

“**SIZE FACTOR**” shall have the meaning as defined in Section 2.3 and 7.5.

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

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

“**TARGETED UPLIFT**” is a 33.33% FACTOR UPLIFT for the SIZE FACTOR, QUALITY FACTOR, and VALUE FACTOR.

“**VALUE FACTOR**” shall have the meaning as defined in Section 2.3 and 7.1.

“**TOTAL MARKET CAPITALIZATION**” is with regard to each of the securities in the INDEX on a SELECTION DAY the sum of all SHARE CLASS MARKET CAPITALIZATIONS of a company.

“**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.

“**WM / REFINITIV RATE**” shall have the meaning as defined in Section 1.4.



7. FACTOR DEFINITIONS

Each equity risk factor is defined below.

7.1. VALUE

The VALUE FACTOR is an equally weighted average of price to book value, price to earnings, and enterprise value to EBITDA. These are calculated as follows:

$$\text{Price to Book Value} = \frac{\text{Price}_t}{\text{Book Value of Equity}_t}$$

Where:

Price_t = Local price adjusted for splits and spinoffs as of SELECTION DAY t

$\text{Book Value of Equity}_t$ = Book value of equity per share as of last fiscal year prior to SELECTION DAY t in local currency

$$\text{Price to Earnings} = \frac{\text{Price}_t}{\text{Earnings}_t}$$

Where:

Price_t = Local price adjusted for splits and spinoffs as of SELECTION DAY t

Earnings_t = Earnings per share as of last fiscal year prior to SELECTION DAY t in local currency. Depending on a company's operation industry, accounting procedures to calculate earning differ and as such certain fundamentals have to be treated differently. ECONOMIES such as Banks, Insurances, and other Financials utilize different operating expenses to measure earning, such as Loan Loss Provision for banks, or Losses, Claims, Reserves for insurances.

$$\text{Enterprise Value to EBITDA} = \frac{\text{Enterprise Value}_t}{\text{EBITDA}_t}$$

Where:

$\text{Enterprise Value}_t$ = Enterprise Value as of last fiscal year prior to SELECTION DAY t in local currency

EBITDA_t = EBITDA as of last fiscal year prior to SELECTION DAY t in local currency



7.2. QUALITY

The QUALITY FACTOR is an equally weighted average of asset turnover, profitability, and coverage ratio for all industries, except for ECONOMY **FINANCE**. These are calculated as follows:

$$\text{Asset Turnover} = \frac{\text{Sales}_t}{\text{Total Assets}_t} - \frac{\text{Sales}_{t-1y}}{\text{Total Assets}_{t-1y}}$$

Where:

Sales_t = Sales as of last fiscal year prior to SELECTION DAY t in local currency

Sales_{t-1y} = Sales as of second to last fiscal year prior to SELECTION DAY t in local currency

Total Assets_t = Assets as of last fiscal year prior to SELECTION DAY t in local currency

$\text{Total Assets}_{t-1y}$ = Assets as of second to last fiscal year prior to SELECTION DAY t in local currency

$$\text{Profitability} = \frac{\text{Earnings}_t}{\text{Book Value of Equity}_t}$$

Where:

Earnings_t = Earnings as of last fiscal year prior to SELECTION DAY t in local currency. Depending on a company's operation industry, accounting procedures to calculate earning differ and as such certain fundamentals have to be treated differently. ECONOMIES such as Banks, Insurances, and other Financials utilize different operating expenses to measure earning, such as Loan Loss Provision for banks, or Losses, Claims, Reserves for insurances.

$\text{Book Value of Equity}_t$ = Book value of equity as of last fiscal year prior to SELECTION DAY t in local currency

$$\text{Coverage Ratio} = \frac{\text{Free Cash Flow}_t}{\text{Total Debt}_t}$$

Where:

Free Cash Flow_t = Free Cash Flow as of last fiscal year prior to SELECTION DAY t in local currency

Total Debt_t = Total Debt as of last fiscal year prior to SELECTION DAY t in local currency

The QUALITY FACTOR for ECONOMY **FINANCE** is calculated as follows:

$$\text{ROA} = \frac{\text{Earnings}_t}{\text{Total Asset}_t}$$



$Earnings_t$ = Earnings as of last fiscal year prior to SELECTION DAY t in local currency. Depending on a company's operation industry, accounting procedures to calculate earning differ and as such certain fundamentals have to be treated differently. Industries such as Banks, Insurances, and other Financials utilize different operating expenses to measure earning, such as Loan Loss Provision for banks, or Losses, Claims, Reserves for insurances.

$Total Assets_t$ = Assets as of last fiscal year prior to SELECTION DAY t in local currency

7.3. MOMENTUM

The MOMENTUM FACTOR is calculated as the average between the price change from 12-months ago to 1-month ago and the price change from 6-months ago to 1-month ago:

$$Momentum = 0.5 * \left(\frac{Price_{t-1m}}{Price_{t-12m}} - 1 \right) + 0.5 * \left(\frac{Price_{t-1m}}{Price_{t-6m}} - 1 \right)$$

Where:

$Price_{t-1m}$ = Local price adjusted for splits and spinoffs as of 1-month prior to SELECTION DAY t

$Price_{t-12m}$ = Local price adjusted for splits and spinoffs as of 12-month prior to SELECTION DAY t

$Price_{t-6m}$ = Local price adjusted for splits and spinoffs as of 6-month prior to SELECTION DAY t

7.4. INVESTMENT

The INVESTMENT FACTOR is calculated as follows:

$$Investment = \frac{Total Assets_t}{Total Assets_{t-1y}} - 1$$

Where:

$Total Assets_t$ = Assets as of last fiscal year prior to SELECTION DAY t in local currency

$Total Assets_{t-1y}$ = Assets as of second to last fiscal year prior to SELECTION DAY t in local currency

7.5. SIZE

The SIZE FACTOR is calculated as follows:

$$Size = Total Market Capitalization in USD_t$$

Where:



Total Market Capitalization USD_t = TOTAL MARKET CAPITALIZATION in USD as of SELECTION DAY t



8. HISTORY OF INDEX CHANGES

Version	Date	Description
1.0	<i>03 May 2023</i>	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

Website: www.solactive.com

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