

INDEX GUIDELINE

Solactive Global Real Estate Factor Index

Version 1.0

27 February 2019



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Introduction

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INTRODUCTION

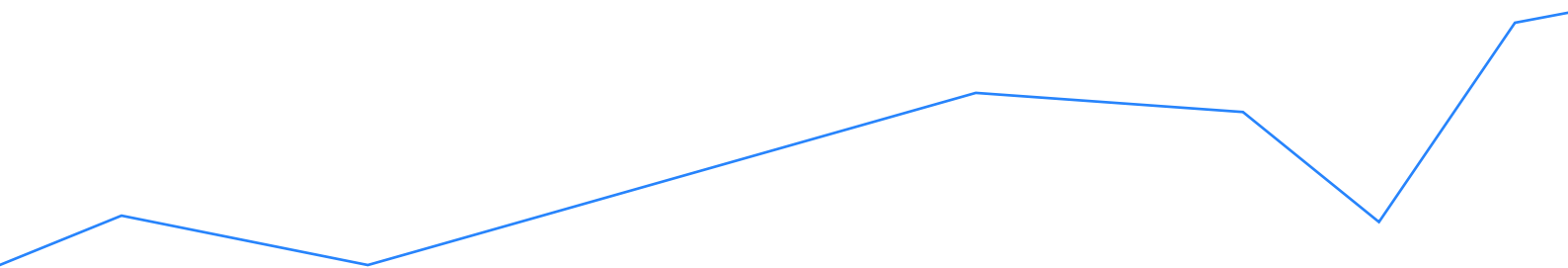
This document (the "Guideline") is to be used as a guideline with regard to the composition, calculation and maintenance of the Index. Any changes made to the Guideline are initiated by the Committee specified in Section 1.6. The Index is calculated and published by Solactive AG. The name "Solactive" is trademarked.

It contains the underlying principles and rules regarding the structure and operation of the Solactive Global Real Estate Factor Index (the "Index"). Solactive AG shall make every effort to implement the applicable regulations. Solactive AG does not offer any explicit or tacit guarantee or assurance, neither pertaining to the results from the use of the Index nor the Index value at any certain point in time nor in any other respect. The Index is merely calculated and published by Solactive AG and it strives to the best of its ability to ensure the correctness of the calculation. There is no obligation for Solactive AG – 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 AG does not constitute a recommendation for capital investment and does not contain any assurance or opinion of Solactive AG regarding a possible investment in a financial instrument based on this Index.



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Index Specifications



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1 INDEX SPECIFICATIONS

- The Solactive Global Real Estate Factor Index (the "Index") is an Index of Solactive AG and is calculated and distributed by Solactive AG.
- The Index intends to track the price movements of a portfolio of 30 securities classified as Real Estate or with a very high exposure to the Real Estate Industry. These securities are selected based on a methodology which involves valuation, fundamental, growth, risk and momentum criteria.
- The Index is a Price Return and Net Total Return index.
- The Index is published in USD.

1.1 SHORT NAME AND ISIN

The Index is distributed under the below identifiers:

Index Name	Index Currency	Index Type	WKN	ISIN	RIC	BBG ticker
Solactive Global Real Estate Factor Index	USD	PR	SLA7WE	DE000SLA7WE4	.SOLGREP	
Solactive Global Real Estate Factor Index NTR	USD	NTR	SLA7WF	DE000SLA7WF1	.SOLGREN	SOLGREN
Solactive Global Real Estate Factor Index TR	USD	TR	SLA7WG	DE000SLA7WG9	.SOLGRET	

1.2 INITIAL VALUE

The Index is based on 100 at the close of trading on the start date, 31 May 2006.

1.3 DISTRIBUTION

The Index is published via the price marketing services of Boerse Stuttgart GmbH and is distributed to all affiliated vendors. Each vendor decides on an individual basis as to whether it will distribute/display the Index via its information systems.

1.4 PRICES AND CALCULATION FREQUENCY

The price of the Index is calculated on each Business Day based on the prices on the respective Exchanges on which the Index Components are listed. The most recent prices of all Index Components are used. Prices of Index Components not listed in the Index Currency are translated using spot foreign exchange rates



quoted by Reuters. Should there be no current price available on Reuters, the most recent price or the Trading Price on Reuters for the preceding Trading Day is used in the calculation. The daily index closing value is calculated using Reuters/WMCO closing spot rates as at 4pm London time.

The Index is calculated every Business Day from 9:00 a.m. to 10:50 p.m., CET. In the event that data cannot be provided to Reuters or to the pricing services of Boerse Stuttgart GmbH, the Index cannot be distributed.

1.5 WEIGHTING

On each Adjustment Day, the new Index Components are weighted equally.

1.6 OVERSIGHT

A Committee composed of staff from Solactive AG (the "Committee" or the "Index Committee") is responsible for decisions regarding any amendments to the rules of the index.

Changes to the Guideline are submit to the Committee for approval.

1.7 PUBLICATION

All specifications and information relevant for calculating the Index are made available on the <http://www.solactive.com> web page and sub-pages.

1.8 HISTORICAL DATA

Historical data will be maintained from the launch of the Index on 27th of February 2018.

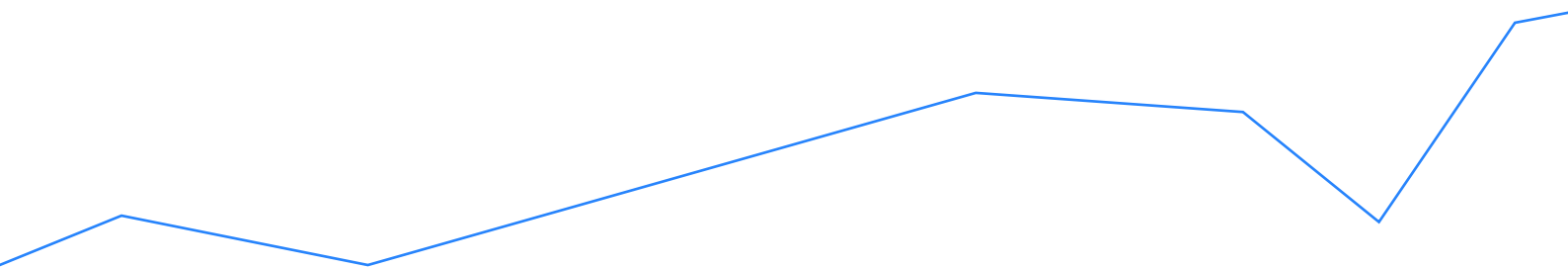
1.9 LICENSING

Licenses to use the Index as the underlying value for derivative instruments are issued to stock exchanges, banks, financial services providers and investment houses by Solactive AG.



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Composition of the Index



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2 COMPOSITION OF THE INDEX

2.1 SELECTION OF THE INDEX COMPONENTS

The initial composition of the Index as well as any ongoing adjustment are based on the following non-discretionary rules.

On the Selection Days, Solactive AG defines the Index Universe and determines the selection of the Index Components as described below.

STARTING UNIVERSE:

- Member of the Solactive GBS Developed Markets Large&Mid Cap Index
- Minimum of 1-month and 6-month Average Daily Value Traded above USD 5 million
- Is included in any of the RBICS Sub-Industries defined in Appendix 5.1.

INDEX COMPOSITION

- Each security in the starting universe is then assigned to an Industry Group as indicated in Appendix 5.1
- Each security is ranked within each of the following criteria:
 - ✓ Fundamental Rank (descending) – based on the average of the ranks on Return on Common Equity and Return on Assets.
 - ✓ Valuation Rank (ascending) – based on the average of the ranks on Price to Book Ratio, Price to Earnings Ratio and Enterprise Value / EBITDA.
 - ✓ Growth (descending) – based on the average of the ranks on Earnings Per Share and Gross Margin.
 - ✓ Momentum (ascending) – based on the 30-day Relative Strength Index.
 - ✓ Risk (ascending) – based on the maximum between 3-month and 1-year volatility.

In case any of the input parameters required above are missing, the respective security will be ranked last for the respective criterion.

- Based on each of the above ranks, an equally weighted aggregate score is derived.
- The best 30 securities based on the aggregated score are then selected, subject to an Industry Group cap of 6 securities. In the case where two securities have the same rank, the free-float market capitalization will be used as a tie breaker.



2.2 ORDINARY ADJUSTMENT

The composition of the Index is adjusted quarterly. The composition of the Index is reviewed on the Selection Day and necessary changes are announced.

The first adjustment will be made in May 2019 based on the Trading Prices of the Index Components on the Adjustment Day.

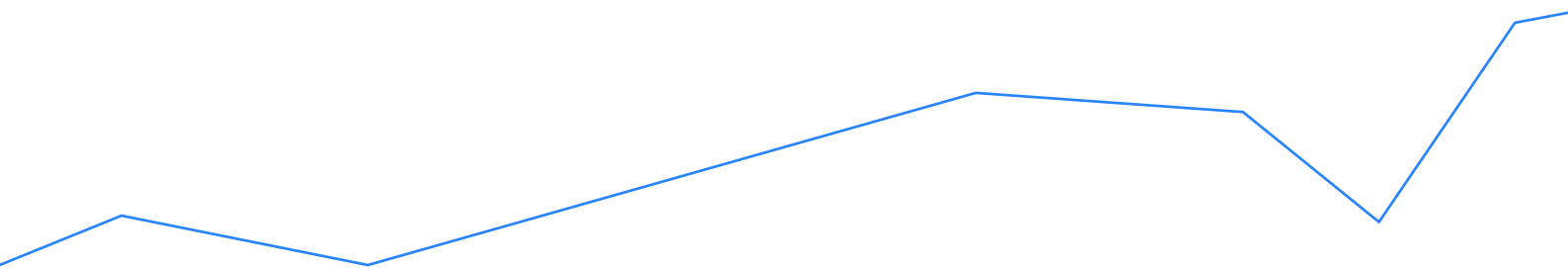
2.3 EXTRAORDINARY ADJUSTMENT

An extraordinary adjustment, if applicable, is triggered and applied in compliance with the rules set forth in the [Solactive Guideline for Extraordinary Corporate Actions](#).



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Calculation of the Index



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3 CALCULATION OF THE INDEX

3.1 INDEX FORMULA

The Index Value on a Business Day at the relevant time is calculated in accordance with the following formula:

$$Index_t = \sum_{i=1}^n x_{i,t} * p_{i,t}$$

With:

- $x_{i,t}$ = Number of Shares of the Index Component i on Trading Day t
- $p_{i,t}$ = Price of Index Component i on Trading Day t in Index Currency

3.2 ACCURACY

- > The value of the Index will be rounded to 2 decimal places.
- > The Number of Shares of the Index Components will be rounded to six decimal places.

3.3 ADJUSTMENTS

Indices need to be adjusted for systematic changes in prices once these become effective. This requires the new Number of Index Shares of the affected Index Component.

Following the Committee's decision, the Index is adjusted for distributions, capital increases and stock splits.

This procedure ensures that the first ex quote can be properly reflected in the calculation of the Index. This ex-ante procedure assumes the general acceptance of the Index calculation formula as well as open access to the parameter values used. The calculation parameters are provided by the Index Calculator.

3.4 DIVIDENDS AND OTHER DISTRIBUTIONS

Dividend payments and other distributions are included in the Index. They cause an adjustment of the Number of Shares. The new Number of Shares is calculated as follows:

$$x_{i,t} = x_{i,t-1} * \frac{p_{i,t-1}}{p_{i,t-1} - D_{i,t}}$$



with:

$x_{i,t}$ = Number of Shares of the Index Component i on Trading Day t

$D_{i,t}$ = Payment on Trading Day t multiplied by the Dividend Correction Factor of the respective country

3.5 CORPORATE ACTIONS

3.5.1 Principles

Following the announcement by an issuer of Index Components of the terms and conditions of a corporate action, the Index Calculator determines whether such corporate action has a dilutive, concentrative or similar effect on the price of the respective Index Component.

If this should be the case, the Index Calculator shall make the necessary adjustments that are deemed appropriate in order to take into account the dilutive, concentrative or similar effect and shall determine the date on which this adjustment shall come into effect.

Amongst other things, the Index Calculator can take into account the adjustment made by an Affiliated Exchange as a result of the corporate action with regard to option and futures contracts on the respective share traded on this Affiliated Exchange.

3.5.2 Capital increases

In the case of capital increases (from the company's own resources or through cash contributions) the new Numbers of Shares are calculated as follows:

$$x_{i,t} = x_{i,t-1} * \frac{p_{i,t-1}}{p_{i,t-1} - rB_{i,t-1}} \quad \text{with:} \quad rB_{i,t-1} = \frac{p_{i,t-1} - B - N}{BV + 1}$$

with:

$x_{i,t}$ = Number of Shares of Index Component i on the day of the distribution

$x_{i,t-1}$ = Number of Shares of Index Component i on the day prior to the distribution

$p_{i,t-1}$ = Closing price on the day prior to ex-date

$rB_{i,t-1}$ = Calculated value of rights issue

B = Price of rights issue

N = Dividend disadvantage

BV = Subscription ratio

$B = 0$ if capital is increased from the company's own resources.



The last dividend paid or the announced dividend proposal is applied as the dividend disadvantage. 3.5.3
Capital reductions

In the case of capital reductions, the new Number of Shares is determined as follows:

$$x_{i,t} = x_{i,t-1} * \frac{1}{H_{i,t}}$$

with:

$H_{i,t}$ = Reduction ratio of the company on day t

$x_{i,t}$ = Number of Shares of the affected Index Component on the day of the distribution

$x_{i,t-1}$ = Number of Shares of the affected Index Component on the day prior to the distribution

3.5.4 Share splits and par value conversions

In the case of share splits and par value conversions it is assumed that the prices change in ratio to the number of shares or to the par values. The new Number of Shares is calculated as follows:

$$x_{i,t} = x_{i,t-1} * \frac{N_{i,t-1}}{N_{i,t}}$$

with:

$N_{i,t-1}$ = Former par value of security class i (or new number of shares)

$N_{i,t}$ = New par value of security class i (or former number of shares)

$x_{i,t}$ = Number of Shares of the affected Index Component on the day of the distribution

$x_{i,t-1}$ = Number of Shares of the affected Index Component on the day prior to the distribution

3.6 MISCELLANEOUS

3.6.1 Recalculation

Solactive AG makes the greatest possible efforts to accurately calculate and maintain its indices. However, the occurrence of errors in the index determination process cannot be ruled out. In such cases Solactive AG adheres to its publicly available [Correction Policy](#).



3.6.2 Market Disruption

In periods of market stress Solactive AG calculates its indices following predefined and exhaustive arrangements set out in its publicly available [Disruption Policy](#).



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Definitions

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4 DEFINITIONS

The "**Adjustment Day**" is the last Business Day in February, May, August and November. If this day is however not a Trading Day, then the Adjustment Day will be postponed to the immediately following Trading Day. The historical back-tested performance was calculated without the consideration of the Trading Day calendar.

A "**Business Day**" is any day from Monday to Friday, which is not a holiday for any of the following exchanges: Hong Kong Stock Exchange, New York Stock Exchange, EUREX, Australian Securities Exchange or Tokyo Stock Exchange. Note: The historical performance before the launch date was calculated without the consideration of the holiday calendar.

The "**Dividend Correction Factor**" is calculated as 1 minus the applicable withholding tax rate and/or other applicable tax rate currently prevalent in the respective country.

The "**Exchange**" is, in respect of the Index and every Index Component, the respective primary exchange where the Index Component has its primary listing. The Committee may decide to declare a different stock exchange the "Exchange" for trading reasons, even if the company is only listed there via a Stock Substitute.

The "**Index Calculator**" is Solactive AG or any other appropriately appointed successor in this function.

The "**Index Currency**" is USD.

The "**Index Universe**" in respect of a Selection Day are companies that fulfill the following criteria:

The "**Index Component**" is each share currently included in the Index.

The "**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 (as sourced from data vendors) with the Trading Price of the share class as of the respective Selection Day.

The "**Number of Shares**" are in respect of an Index Component and any given Business Day the number or fraction of shares included in the Index. It is calculated for any Index Component as the ratio of (A) the Percentage Weight of an Index Component multiplied by the Index value and (B) its Trading Price (converted into the Index Currency according to the principles laid out in Section 1.4 of this document).

The "**Percentage Weight**" of an Index Component is the ratio of its Trading Price multiplied by its Number of Shares divided by the Index value.

The "**Selection Day**" is the day falling 14 calendar days before the scheduled Adjustment Day.

With regard to an Index Component (subject to the provisions given above under "Extraordinary Events") the "**Trading Price**" in respect of a Trading Day is the closing price on this Trading Day determined in accordance with the Exchange regulations. If the Exchange has no closing price for an Index Component, the Index Calculator shall determine the Trading Price and the time of the quote for the share in question in a manner that appears reasonable to it.

A "**Trading Day**" is in relation to the Index or an Index Component a Trading Day on the Exchange (or a day that would have been such a day if a market disruption had not occurred), excluding days on which trading



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may be ceased prior to the normal Exchange closing time. The Index Calculator is ultimately responsible as to whether a certain day is a Trading Day with regard to the Index or an Index Component or in any other connection relating to this document.



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5 APPENDIX

5.1 INDUSTRY GROUP ASSIGNMENT

Subindustry	Industry Group
Cement Manufacturing	Building Materials
General Architectural Component Manufacturing	Building Materials
Asphalt, Cement and Concrete Product Manufacturing	Building Materials
General Construction Materials Manufacturing	Building Materials
Decorative Component Manufacturing	Building Materials
Flooring Manufacturing	Building Materials
Concrete Blocks, Bricks and Aggregates Makers	Building Materials
Insulation Manufacturing	Building Materials
Industrial Glass Products Manufacturing	Building Materials
Plumbing Fixtures and Trim Manufacturing	Building Materials
Heating, Ventilation and Air Conditioning Products	Building Materials
Heating, Ventilation and Air Conditioning Products	Building Materials
Adhesives and Sealants Manufacturing	Building Materials
Heating, Ventilation and Air Conditioning Products	Building Materials
Locks and Deadbolts Manufacturing	Building Materials
Diversified Household Products Makers	Building Materials
Heating, Ventilation and Air Conditioning Products	Building Materials
Diversified Household Products Makers	Building Materials
Heating, Ventilation and Air Conditioning Products	Building Materials
Diversified Household Products Makers	Building Materials
General Coatings and Paints Makers	Building Materials
Adhesives and Sealants Manufacturing	Building Materials
Diversified Real Estate Investment and Services	Diversified REITs
Multi-Type Equity REITs	Diversified REITs
Diverse Construction and Engineering Services	Heavy Construction
Building Construction	Heavy Construction
Process Plants, Utilities and Energy Construction	Heavy Construction
Dredging and Marine Construction	Heavy Construction
Other Infrastructure Construction	Heavy Construction
Infrastructure Consulting and Design Services	Heavy Construction
Home Builders	Home Construction
Hotel and Motel Equity REITs	Hotel & Lodging REITs
Industrial and Warehouse Equity REITs	Industrial & Office REITs
Office Equity REITs	Industrial & Office REITs
Residential Mortgage REITs	Mortgage REITs



Subindustry	Industry Group
Real Estate Developers	Real Estate Holding & Development
Commercial Property Owners	Real Estate Holding & Development
Commercial and Residential Property Owners	Real Estate Holding & Development
Residential Property Owners	Real Estate Holding & Development
Commercial Real Estate Services and Brokers	Real Estate Services
Apartment Equity REITs	Residential REITs
Retail Equity REITs	Retail REITs
Healthcare and Life Sciences Equity REITs	Specialty REITs
Self-Storage Equity REITs	Specialty REITs
Land Equity REITs	Specialty REITs

5.2 CONTACT DATA

Solactive AG

German Index Engineering

Guiollettstr. 54
60325 Frankfurt am Main
Germany

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

Fax: +49 (0) 69 719 160 25

Email: info@solactive.com

5.3 CHANGES IN CALCULATION METHOD

The application by the Index Calculator of the method described in this document is final and binding. The Index Calculator 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, financial or tax reasons may require changes to be made to this method. The Index Calculator 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 Calculator is not obliged to provide information on any such modifications or changes. Despite the modifications and changes, the Index Calculator will take the appropriate steps to ensure a calculation method is applied that is consistent with the method described above.