

GUIDELINE

Solactive US Large Cap Index (CA NTR)

Version 1.0 dated September 24th, 2019



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This document contains the underlying principles and regulations regarding the structure and the operating of the Solactive US Large Cap Index (CA NTR) ("the Index"). Solactive AG shall make every effort to implement 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 values 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 is no 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.

Introduction

This document is to be used as a guideline with regard to the composition, calculation and management of the Index. Any changes made to the guideline are initiated by the Committee specified in section 1.6 of this document. The Index is calculated and published by Solactive AG. The name “Solactive” is copyrighted.

1 Index specifications

The Index is calculated and distributed by Solactive AG.

The Index aims to track the Large Cap segment of the US stock market and is selected and weighted according to Free Float Market Capitalization. The Index is adjusted semi-annually in May and November. IPOs can be included additionally on a quarterly basis in case they meet all criteria outlined in the relevant sections of this document.

Specifically, the objectives of the Index are:

- provide a benchmark for the Large Cap size segments of the US stock market.
- serve as a starting universe for smart beta Index that assign stock specific factors based on a benchmark index.
- index analytics with regard to the evolution of sectors and aggregated figures such as dividends, stock buybacks, earnings per share, among others.

The Index is a net total return index, dividend income is adjusted for withholding tax rates that are applicable to a Canadian investor.

The Index is published in USD.

1.1 Short name and ISIN

The Index is distributed under the following identifiers:

Name	ISIN	WKN	Characteristic	Reuters	Bloomberg
Solactive US Large Cap Index (CA NTR)	DE000SLA9K10	SLA9K1	NTR	.SOLUSLCC	-

1.2 Initial value

The Index is launched with a level of 1000 at the close on the start date, May 6th, 1999.

1.3 Distribution

The Index is published via the price marketing services of Boerse Stuttgart AG and are distributed to all affiliated vendors. Each vendor decides on an individual basis as to whether he will distribute/display the Index via his 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 relevant Primary Exchange in the US on which the Index Components are listed. The most recent prices of all Index Components are used. Should there be no price available on Reuters for any Business Day, the most recent price on Reuters for the preceding Business Day is used in the index calculation.

The Index is calculated every Business Day from 9:00am to 16:50pm, EST. In the event that data cannot be provided to Reuters or to the pricing services of Boerse Stuttgart AG the Index cannot be distributed.

Any incorrect calculation is adjusted on a retrospective basis.

1.5 Weighting

On each Selection Day, the new Index Components of the Index are weighted according to Free-Float Market Capitalization. The relevant Float Shares outstanding as of the Selection Day are used and are implemented as of close on the Adjustment Day. The Shares are adjusted for corporate actions between Selection Day and Adjustment Day. This only relates to corporate actions that have a direct impact on the price and shares (i.e. stock splits, stock dividends, rights issues). The number of Float Shares is sourced from a data provider that is chosen by the Index Calculator and might change over time.

1.6 Decision-making bodies

A Committee composed of staff from Solactive is responsible for decisions regarding the composition of the Index as well as any amendments to the rules (in this document referred to as the "Index Committee"). The future composition of the Index is determined by the Committee on the Selection Days according to the procedure outlined in 2.1 of this document, applicable to all stocks that meet the criteria outlined in chapter 4 of this document. The Committee shall also decide about the future composition of the Index if any Extraordinary Events occur and the implementation of any necessary adjustments.

Members of the Committee can recommend changes to the guideline and submit them 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.de> web page and sub-pages.

1.8 Historical data

Historical data will be maintained from the initial Publication Date of the Index on September 24th 2019.

Simulated performance data prior to the Publication Date is based on the assumption that all stocks historically included in the Index were U.S. incorporated.

The historical data does not include a separate review of multiple share lines as of the Index Selection Day. In addition: Due to lack of reliable Free Float Market Capitalization data, the historical selections and index weights until and including July 2003 have been done according to Full Market Capitalization.

1.9 Licensing

Licences to use the Index as the underlying for investment products issued by stock exchanges, banks, financial services providers and investment houses or for benchmark usage are granted by Solactive AG.

2 Composition of the Index

2.1 Selection of the Index Components

The initial composition of the Index as well as any ongoing adjustment is based on the following rules:

On the Selection Days, the Index Committee defines the eligible Universe according to the rules outlined in chapter 4.

All companies in the Starting Universe are ranked according to Free Float Market Capitalization in descending order.

The starting composition effective close May 6th 2015 is selected according to the following rules (based on data as of close April 22nd 2015) and subject to fulfilling all criteria as outlined in chapter 4 of this document as of close April 22nd 2015:

The 500 largest companies are added to the Index (in case more than one share line of a company fulfill all criteria outlined in chapter 4, both are included).

For any future Selections the following buffer rules apply:

- a company currently in the Index is only excluded if the Float Market Capitalization of the company is **lower** than the Float Market Capitalization of the company ranked 525 at any Selection Day (every share line is reviewed separately).
- a company currently not included in the Index is only included if the Float Market Capitalization of the company is **higher** than the Float Market Capitalization of the company ranked 475 at any Selection Day (every share line is reviewed separately).

2.2 Ordinary adjustment

The composition of the Index is adjusted at the close of the 1st Wednesday in May and November. The composition of the Index is reviewed on the Selection Day and necessary changes are announced.

The first ordinary adjustment will be made in November 2015 based on the Trading Prices of the Index Components on the Adjustment Day.

In addition to the semi-annual Adjustment Days, there is a semi-annual IPO Review Date, where potential IPOs are evaluated for inclusion on the IPO Adjustment Day. In order to be eligible for the Index, the IPO must fulfill the criteria outlined in chapter 4 as well as the buffer rules outlined in section 2.1

The changes will be implemented as of close of the IPO Review Adjustment Day. The weight of the other index components will be reduced proportionally according to their Float Market Capitalization.

The Float Market Capitalization data is updated at the IPO Review Date (including new Float Shares). That approach leads to a new weighting even absent any eligible IPO. The other criteria outlined in Chapter 4 are only reviewed semi-annually at the respective Selection Days.

Solactive AG shall publish any changes made to the Index composition with sufficient notice before the Adjustment Day publicly available on the Solactive webpage.

2.3 Extraordinary adjustment

If a company included in the Index is removed from the Index between two ordinary Adjustment Days due to an Extraordinary Event, the weight of the stock will be redistributed amongst the remaining index members. This is announced by Solactive AG after the decision has been made on its webpage. The Index is adjusted with two days' notice if possible. Other potential extraordinary adjustments might occur. The following table provides guidance on the treatment that will be applied following M&A activity. Additional corporate actions causing Extraordinary Events are covered in chapter 4 of this document. For all extraordinary corporate actions not covered within this document, the Index Committee will announce the specific treatment on the Solactive webpage.

Event	Adjustment	Adjustment Treatment
Acquisition (only Target Company is in the Index)	Yes	If the acquired constituent is delisted, the stock is removed and the proceeds are reinvested proportionally (based on the current weight) among the other constituents. This is independent as to whether the transaction has been paid for using cash, stock or a combination of both.
Acquisition or Merger (both Acquirer and Target Company are in the Index)	Yes	If the acquired constituent is delisted, the stock is removed and the cash received in the transaction is proportionally distributed to the remaining index components. In case the transaction is financed entirely or partly with new shares, then the shares of the acquirer in the index are increased accordingly, leading to an increased Market Capitalization and weight within the index.
Spin Off	Yes	The spun off company is added to the index on the ex date according to the terms of the spin off. At the next ordinary semi-annual rebalancing, the eligibility of the company is reviewed according to the criteria outlined in this methodology.

3 Calculation of the Index

3.1 Index formula

The Index Value on any Business Day is calculated in accordance with the following formula for all stocks i:

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

with:

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

$p_{i,t}$ = Price of Index Component i on Trading Day t

$f_{i,t}$ = Foreign exchange rate to convert the Price of Index Component i on Trading Day t into the Index Currency

D_t = Divisor on Business Day t

The initial Divisor on the Start Date is calculated according to the following formula (in case the Index Level at the Start Date is set to 100):

$$D_t = \frac{\sum_{i=1}^n (p_{i,t} * f_{i,t} * x_{i,t})}{\text{Initial Index Level}}$$

After the close of trading on each Adjustment Day t the new Divisor is calculated as follows:

$$D_{t+1} = \frac{\sum_{i=1}^n (p_{i,t} * f_{i,t} * x_{i,t})}{\text{Index}_t}$$

This Divisor is valid starting the immediately following Business Day.

3.2 Precision

The value of the Index will be rounded to 4 decimal places.

The Number of Index Shares of the Index Components will be rounded to integers.

Divisors will be rounded to six decimal places.

3.3 Adjustments

The Index is adjusted for systematic changes in prices due to Corporate Actions as soon as these become effective. This requires the new Number of Index Shares of the affected Index Component and the Divisor to be calculated on an ex-ante basis, i.e. based on close prices of the index components as of close prior to the respective ex date.

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

Regular Cash Distributions and Special distributions are included in the net total return Index. Distributions cause an adjustment of the Divisor. The new Divisor is calculated as follows:

$$D_{t+1} = D_t * \frac{\sum_{i=1}^n (p_{i,t} * f_{i,t} * x_{i,t}) - (y_{i,t} * g_{i,t} * x_{i,t})}{\sum_{i=1}^n (p_{i,t} * f_{i,t} * x_{i,t})}$$

with

$p_{i,t}$ = Price of Index Component i on Trading Day t

$f_{i,t}$ = Foreign exchange rate to convert the Price of Index Component i on Trading Day t into the Index Currency

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

$y_{i,t}$ = Distribution of Index Component i with ex date t+1 multiplied by the Dividend Correction Factor

$g_{i,t}$ = Foreign exchange rate to convert the amount of the distribution of Index Component i on Trading Day t into the Index Currency

D_t = Divisor on Trading Day t

D_{t+1} = Divisor on Trading Day t+1

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.

3.5.2 Capital increases

In the case of capital increases with ex date t+1 the Index is adjusted as follows:

$$x_{i,t+1} = x_{i,t} * (1 + B)$$

$x_{i,t+1}$ = Number of Index Shares of Index Component i on Trading Day t+1

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

B = Shares received for every share held

$$p_{i,t+1} = \frac{p_{i,t} + s * B}{1 + B} \quad \text{with:}$$

$p_{i,t}$ = Price of Index Component i on Trading Day t

$p_{i,t+1}$ = Hypothetical Price of Index Component i on Trading Day t+1

s = Subscription Price in the Index Component currency

$$D_{t+1} = D_t * \frac{\sum_{i=1}^n (p_{i,t} * f_{i,t} * x_{i,t}) + \sum_{i=1}^n [(p_{i,t+1} * f_{i,t} * x_{i,t+1}) - (p_{i,t} * f_{i,t} * x_{i,t})]}{\sum_{i=1}^n (p_{i,t} * f_{i,t} * x_{i,t})}$$

with

$p_{i,t}$ = Price of Index Component i on Trading Day t

$f_{i,t}$ = Foreign exchange rate to convert the Price of Index Component i on Trading Day t into the Index Currency

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

$p_{i,t+1}$ = Hypothetical price of Index Component i on Trading Day t+1

$x_{i,t+1}$ = Number of Index Shares of the Index Component i on Trading Day t+1

D_t = Divisor on Trading Day t

D_{t+1} = Divisor on Trading Day t+1

3.5.3 Share splits

In the case of share splits with ex date on Trading Day t+1 it is assumed that the prices change in ratio of the terms of the split. The new Number of Index Shares is calculated as follows:

$$x_{i,t+1} = x_{i,t} * B$$

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

$x_{i,t+1}$ = Number of Index Shares of the affected Index Component on Trading Day t+1

B = Shares after the share split for every share held before the split

3.5.4 Stock distributions

In the case of stock distributions with ex date on Trading Day t+1 it is assumed that the prices change according to the terms of the distribution. The new Number of Index Shares is calculated as follows:

$$x_{i,t+1} = x_{i,t} * (1 + B)$$

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

$x_{i,t+1}$ = Number of Index Shares of the affected Index Component on Trading Day t+1

B = Shares received for every share held

3.6 Calculation of the Index in the event of a Market Disruption Event

The Index is not calculated in the event of a Market Disruption Event or Force Majeure Event. If the Market Disruption Event or Force Majeure Event continues over a period of eight Trading Days, then the Committee will determine the necessary action (including but not limited to taking into account the market conditions prevailing at this point in time, the last quoted Trading Price for each of the Index Components as well as any other conditions that it deems relevant for calculating the Index value) such that the affected securities resulting from the Market Disruption Event are no longer causing such disruption to occur.

4. Definitions

“**Index Universe**” in respect of a Selection Day are all companies that fulfill every of the following criteria:

1. **Incorporated** in one of the following countries: Bermuda, British Virgin Islands, Cayman Islands, Curacao, Guernsey, Ireland, Isle of Man, Liberia, Luxemburg, Marshall Islands, Netherlands, Panama, Switzerland, United Kingdom, United States
 - This criterion is only reviewed at the ordinary Selection Days. The list of countries can be updated by the Index Committee with sufficient notice to the public.
2. **Domiciled** in one of the following countries: Bermuda, Cayman Islands, Curacao, Hong Kong, Ireland, Luxemburg, Netherlands, Switzerland, United Kingdom, United States, Virgin Islands
 - This criterion is only reviewed at the ordinary Selection Days. The list of countries can be updated by the Index Committee with sufficient notice to the public.
3. **Country of Risk:** United States
 - This criterion is only reviewed at the ordinary Selection Days.
4. **Average daily Value traded over the 6 months (ADV)** until and including the Selection Day of at least 100,000 USD measured using composite average daily value traded over all exchanges in the US. Companies that do not have a 6 months history (Spin Offs, IPOs) need to fulfil the requirement for the period of time they traded on an exchange. However, every potential inclusion as of the IPO Adjustment Day or ordinary Adjustment Day needs to have at least a history of 10 Trading Days as of the IPO Review Day and / or the ordinary Selection Day.
5. Only Common Stocks and REITs are eligible for index inclusion.
6. Primary Listing on a regulated Stock Exchange in the United States.
7. In case a company has multiple share lines, a ratio will be calculated that divides the 6 months ADV of every share class by the most liquid share class (in terms of 6 months ADV) of the respective company. Only share lines whose ratio exceeds 75% are eligible for the Universe.
8. No official Delisting Date has been announced as of the Selection Day.

“**Index Component**” is each share currently included in the Index.

“**Number of Shares**” is in respect of an Index Component and any given Business Day the number of shares included in the Index. As of the semi-annual Adjustment Days, the Number of shares equal the Float Shares outstanding for any stock as of the preceding Selection Day - adjusted for any corporate actions between Selection Day and Adjustment Day. This only relates to corporate actions that have a direct impact on the price and shares (i.e. stock splits, stock dividends, rights issues). The number of Float Shares is sourced from a data provider that is chosen by the Index Calculator.

“**Percentage Weight**” of an Index Component on any given day can be calculated according to the following formula:
$$(\text{Trading Price in Index Currency day (t)} * \text{Number of Shares day (t)} * 1/\text{Divisor day (t)}) / \text{Index value day (t)}).$$

In particular an “**Extraordinary Event**” is

- a Merger
- a Takeover bid
- a delisting

- the Nationalisation of a company
- Insolvency.

The Trading Price for this Index Component on the day the event came into effect is the last available market price for this Index Component quoted on the Exchange on the day the event came into effect (or, if a market price is not available for the day the event came into effect, the last available market price quoted on the Exchange on a day specified as appropriate by the Index Calculator).

In the event an Index Component announces insolvency, the Index Component shall remain in the Index until the next Adjustment Day as long as a market price for the affected Index Component is available on a Business Day. If a market price is not available on a Business Day the Trading Price for this Index Component is set to zero and removed from the index with the index weight being redistributed proportionally. The Committee may also decide to eliminate the respective Index Component at an earlier point in time prior to the next Adjustment Day. The procedure in this case is identical to an elimination due to an Extraordinary Event.

An Index Component is **“delisted”** if the Exchange announces pursuant to the Exchange regulations that the listing of, the trading in or the issuing of public quotes on the Index Component at the Exchange has ceased immediately or will cease at a later date, for whatever reason (provided delisting is not because of a Merger or a Takeover bid), and the Index Component is not immediately listed, traded or quoted again on an exchange, trading or listing system, acceptable to the Index Calculator.

“Insolvency” occurs with regard to an Index Component if (A) all shares of the respective issuer must be transferred to a trustee, liquidator, insolvency administrator or a similar public officer as result of a voluntary or compulsory liquidation, insolvency or winding-up proceedings or comparable proceedings affecting the issuer of the Index Components or (B) the holders of the shares of this issuer are legally enjoined from transferring the shares.

A **“Takeover bid”** is a bid to acquire, an exchange offer or any other offer or act of a legal person that results in the related legal person acquiring as part of an exchange or otherwise more than 10% and less than 100% of the voting shares in circulation from the issuer of the Index Component or the right to acquire these shares, as determined by the Index Calculator based on notices submitted to public or self-regulatory authorities or other information considered by the Index Calculator to be relevant.

With regard to an Index Component a **“Merger”** is

- (i) a change in the security class or a conversion of this share class that results in a transfer or an ultimate definite obligation to transfer all the shares in circulation to another legal person,
- (ii) a merger (either by acquisition or through forming a new structure) or a binding obligation on the part of the issuer to exchange shares with another legal person (except in a merger or share exchange under which the issuer of this Index Component is the acquiring or remaining company and which does not involve a change in security class or a conversion of all the shares in circulation),
- (iii) a takeover offer, exchange offer, other offer or another act of a legal person for the purposes of acquiring or otherwise obtaining from the issuer 100% of the shares issued that entails a transfer or the irrevocable obligation to transfer all shares (with the exception of shares which are held and controlled by the legal person), or
- (iv) a merger (either by acquisition or through forming a new structure) or a binding obligation on the part of the issuer of the share or its subsidiaries to exchange shares with another legal person, whereby the issuer of the share is the acquiring or remaining company and it does not involve a change in the class or a conversion of the all shares issued, but the shares in circulation directly prior to such an event (except for shares held and controlled by the legal person) represent in total less than 50% of the shares in circulation directly subsequent to such an event.

The **“Merger Date”** is the date on which a Merger is concluded or the date specified by the Index Calculator if such a date cannot be determined under the law applicable to the Merger.

“Nationalisation” is a process whereby all shares or the majority of the assets of the issuer of the shares are nationalised or are expropriated or otherwise must be transferred to public bodies, authorities or institutions.

“Exchange” refers to the primary exchange of any index component. The Trading Prices of the primary exchange are used to calculate the Index.

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.

“IPO Review Day” is 10 Business Days before the IPO Adjustment Day. As of the IPO Review Date, the IPO needs to have been traded for at least 10 Business Days before it is eligible for index inclusion at the IPO Adjustment Day.

“IPO Adjustment Day” is the 1st Wednesday of February and August. In case that day is not a Business Day the Adjustment Day will be the following Business Day.

“Publication Date” is January 2nd 2018.

“Stock Substitute” includes in particular American Depository Receipts (ADR) and Global Depository Receipts (GDR).

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 him.

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 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.

A **“Business Day”** is any day where the New York Stock Exchange and/or NASDAQ are open for trading.

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

The **“Index Currency”** is USD.

“Free Float Market Capitalization” is with regard to each of the companies in the Index on a Selection Day the share class specific Free Float Market Capitalization for any share class that meets the criteria as outlined in chapter 4. It is calculated as the multiplication of the Shares Outstanding in Free Float (as sourced from data vendors) multiplied with the closing price of the share class as of the respective Selection Day.

“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 from the perspective of a Canadian investor.

“Adjustment Day” is the close of the first Wednesday in May and November that is also a Business Day according to the definition in this document. In case that day is not a Business Day the Adjustment Day will be the following Business Day.

“Selection Day” is the Business Day 10 Business Days before the Adjustment Day. Any IPO eligible for inclusion as of the ordinary Selection Days needs to have been traded for at least 10 Business Days.

"Market Disruption Events" relate to all events causing a halt to regular pricing for any of the index components or the market in general.

5 Appendix

5.1 Contact data

Information regarding the Index

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5.2 Calculation of the Index – change 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 Series. 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, which he 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.