



DEUTSCHE BÖRSE
GROUP

Omnient®

Omnient® General Principles and Calculation Guide

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1. Introduction to the Omnient Index Guides

- STOXX Limited is the Benchmark Administrator of the Omnient indices. As such, wherever STOXX is mentioned in this document, it refers to STOXX Limited as the Benchmark Administrator of the Omnient indices.
- The **Omnient General Principles and Calculation Guide** provides an overview of the general principles, coverage and characteristics governing the Omnient indices, as well as an overview of their calculation, dissemination, the index formulas and adjustments due to corporate actions.
- The series of **Omnient Index Methodology Guides** contain index-specific rules regarding the construction and derivation of the respective portfolio-based indices, the individual component selection process and weighting schemes. Index-specific exceptions to the **Omnient General Principles and Calculation Guide** will also be described in the relevant **Omnient Index Methodology Guide**.
- The Version history of the **Omnient General Principles and Calculation Guide** is available in section 11.3.
- All rulebooks are available on <https://www.omnient.com/resources> in the Rulebook section

2. General principles

2.1 Index rationale

STOXX defines the index rationale as the basis for applying a certain methodology in order to achieve the index objective. STOXX performs intensive research and may conduct conversations with market participants and third parties for this purpose. STOXX discloses the index objective in every case.

2.2 Methodology review policies

STOXX constantly monitors the execution of the index calculation rules in order to ensure the validity of the index methodology. STOXX also conducts general methodology reviews in a periodic and ad-hoc basis, to reflect economic and political changes and developments in the investment industry. As result of these activities, STOXX introduces changes to the methodology books. Material changes are notified to subscribers and the media through the usual communication channels. Clarifications of the methodology are updated in the rulebook. All changes are tracked in section 11.3.

2.3 Index termination policy

For the termination of an index or index family for which outstanding products are present in the market to the knowledge of STOXX, a market consultation with the involved clients may be initiated by STOXX to take into account their views and concerns related to the termination or transition. In such case, a consultation period will be opened. Its duration depends on the specific issue. After the consultation period and in case of further action needed, a notification will be issued and the process defined above will be followed. In the case of a transition, STOXX will launch the alternative index and will notify of its character as a suitable replacement for an existing index whose calculation should be discontinued in the future. This notification advises clients on the alternative recommended by STOXX as replacement. The timeframe in which both indices will be calculated in parallel will be disclosed in the notification's text and will be no shorter than three months.

For the termination of an index or index family for which, to the knowledge of STOXX, no listed financial products are issued in the market, a press release notification or e-mail notification to subscribers will be communicated at least three months before coming into force. Clients or third parties with interest in the index or index family are urged to communicate as soon as possible their concerns to STOXX. Based on the feedback collected, STOXX may alter the index termination decision. For the termination of an index without financial product issued on there will be no market consultation. Changes to the original notification will be communicated in the same manner.

2.4 Index data notifications and communication

As a general rule, index data notifications are available on www.stoxx.com website in the News section. Announced changes are implemented within two days and effective on the next trading day after implementation.

Notifications covers corporate actions and dividend changes, the periodic review announcements, index calculation and production issues and errors, new index launches and general information from Omnient.

Intraday notifications are sent out for short-term corporate actions and dividend changes, for periodic review announcements corrections, for index calculation / production issues and errors corrections.

For customers a subscription to e-mail notifications is available on the website, please subscribe to the STOXX E-Mail distribution list¹.

¹ <https://www.stoxx.com/registration>

3. Coverage

3.1 Omnient global equity stock universe

All common stocks and equities with similar characteristics from financial markets that provide real-time and historical component and currency pricing form the Omnient global equity universe. This universe and the following framework described in chapter 3 and 5 is used for all Omnient indices.

3.2 Omnient investable universe

The Omnient investable universe is a portion of the STOXX global equity universe listed on the stock exchanges and countries listed respectively in section 11.1 and 11.2.

3.3 Country and regional classifications

3.3.1 Overview

The Omnient indices use the STOXX country classification model which relies on a rules-based methodology.

Each country is assigned to one or more regions. For a description of the grouping of each country into their respective geographic region and the region according to the Developed / Emerging market classification system, please refer to section 11.2.

The six criteria for the classification of a country as a developed or emerging market include macroeconomic data, market capitalization, market liquidity, free currency convertibility on onshore and offshore markets, restrictions on capital flows and governance based on political stability, control of corruption and regulatory quality.

A formal reassessment of all country classifications is done annually in Q1, when a final classification assignment decision is made for each country. A public announcement² of any classification changes resulting from the annual reassessment is released latest by April of each year. Implementation of the classification changes occurs with the quarterly index review in Q3 of the same year.

3.3.2 Country selection criteria

The selection criteria are the following:

1: World Bank GNI per capita (Source: World Bank)

Definition: Only countries that are classified as Advanced by the World Bank in terms of GNI per capita

² <https://www.omnient.com/resources>

(GNI/n), are considered as eligible for Developed Market status by STOXX. Advanced countries are those that have a GNI/n equal to or greater than the maximum cut-off value (e.g. \$12 476 for 2016), as published by the World Bank on an annual basis.

2a: Market Capitalization Screening (Source: Thomson Reuters QAD / STOXX internal data)

Definition: Countries must have a market capitalization that is equal to or greater than the 20th percentile, as calculated in terms of the market capitalization of the countries covered by STOXX, to be eligible as either a Developed or Emerging Market. Countries that do not meet this criterion, will be Not Classified.

2b: Liquidity Screening (Source: Thomson Reuters QAD / STOXX internal data)

Definition: The total value of shares traded must be equal to or greater than the 40th percentile, as calculated in terms of the value of shares traded of the countries covered by STOXX, for a country to be eligible for Developed Market status. All countries that have a total value of shares traded of less than the 40th percentile, but equal to or greater than the 30th percentile, will only be eligible for Emerging Market status. All countries that have a total value of shares traded of below the 30th percentile, will be Not Classified.

For criteria 2a and 2b, the average data of the last three consecutive years are used in order to avoid short-term fluctuations, i.e. 2017 decisions are based on average data from 2014 to 2016.

3a: Free Currency Convertibility on On-Shore and Off-Shore Markets (Source: PwC - PricewaterhouseCoopers)

Definition: The remaining countries must have free currency convertibility and availability of developed onshore and offshore markets. To get into and out of their positions, foreign investors should be able to freely buy and sell the local currency.

This criterion is only considered at the time of classification. Extraordinary events will be assessed by the STOXX Oversight Committee.

3b: No Restrictions Capital Flows (Source: PwC – PricewaterhouseCoopers)

Definition: Additionally, international investors have to be able to move funds freely in and out of the country.

3c: Governance score (Source: World Bank)

Definition: Each country is assigned a governance score based on Political Stability, Control of Corruption and Regulatory Quality as contained within the Worldwide Governance Indicators report of the World Bank.

This criterion is only considered at the time of classification. Extraordinary events will be assessed by the STOXX Oversight Committee.

Only those countries that meet the all criteria as set in steps 1, 2a, considered as eligible for Developed Market status in 2b, as well as all criteria in steps 3a, 3b and 3c, will be classified as a STOXX Developed Market.

Countries that do not meet all the criteria in steps 3a to 3c, but meet the criterion in step 2a and are considered as eligible for Emerging Market status in 2b, are classified as a STOXX Emerging Market.

Countries that cannot be classified as Developed or Emerging Markets are considered Not Classified.

Specifically, countries are considered Not Classified and are entirely excluded when they are Not Classified according to either of the minimum criteria in steps 2a or 2b.

Watch List:

All countries that would have a different classification from the previous year, would be flagged and captured in a watch list. Countries will stay on this watch list for a period of at least 1 years, and in some circumstances may stay on the watch list for many years, in order to avoid countries being classified and

reclassified because of a certain data point at a particular point in time.

Countries that oscillate between classification levels will maintain their last classification and remain on the watch list, unless decided otherwise by the STOXX Management Board, within the framework provided by the STOXX Governance Process. The watch list would allow countries to be reclassified should the STOXX Management Board deem in to be in the interest of market participants to expedite a new classification, within the framework provided by the STOXX Governance Process.

Countries may only change classification by a single level at a time, as compared to their current classification. STOXX may consider certain countries as borderline (countries that are either just below or just above the set thresholds) and may include these in the watch list to be observed and possibly reclassified by the STOXX Management Board, within the framework provided by the STOXX Governance Process.

The general spirit in which the watch list is managed would follow the principles of maintaining market integrity while striving to minimize unnecessary client impact.

STOXX will review the regional classifications and index compositions in case a country announces changes to its currency and its companies adopt a new local currency at a future date. Changes will be implemented with two trading days' notice provided that orderly trading in the original currency is possible following the announcement.

In addition, STOXX generally reviews a country's eligibility to any index at short notice in case of major market disruptions in that country.

3.3.3 Regional specifics

STOXX classifies EU Enlarged as the current EU region and will be extend in line with the extension of the European union to cover the new EU member states.

The Eurozone contains companies that are allocated to one of the defined Eurozone countries according to the rules set out in chapter 5.5.1 and that are traded in Euro. Companies allocated to Eurozone countries and not trading in EUR are not eligible for the Eurozone indices.

To cover the different share classes of companies from China, Taiwan and Hong Kong, the following STOXX index universe and regions exist:

Index family	Shares classes covered	Region
STOXX China	B, H and Red chips	As defined in table above
STOXX China A	A shares	Separate family outside of the STOXX Global index universe
STOXX China B	B shares	Derived from STOXX China universe
STOXX China H	H shares	Derived from STOXX China universe
STOXX China Red Chips	Red chip	Derived from STOXX China universe
STOXX Greater China	B, H, Red chip, Hong Kong, Taiwan	Derived from STOXX China, HK, TW universe
STOXX Hong Kong All Shares	Hong Kong, H, Red Chips	Derived from STOXX HK and China universe

4. Input Data

4.1 Sources

The input data sources for the index production include:

- Trading platforms
- Regulatory agencies
- Companies in the investable stock universe
- Real-time and end of day stock prices and currency exchange rates provided by Thomson Reuters
- Related data and service providers

4.2 Monitoring

The real-time input data feeds for the index calculation are monitored by:

- Data filters
- Quality assurance tools
- Verification against secondary sources

4.3 Data Accuracy

The data accuracy for the following factors of the index calculation is defined as (unless stated differently in the individual index methodologies):

- Input data (e.g. pricing and currency rates) and other underlying data: rounded to seven decimal places
- Index divisors and market capitalization: rounded to integer numbers
- Free float factors: rounded to four decimal places
- Product of (number of shares x free float factor x cap factor): rounded to integer numbers
- Product of (weight factor x cap factor): rounded to integer numbers
- Index values: rounded to two decimal places for dissemination
- Weights: expressed in percentage with 5 decimals

4.4 Currency rates

All real-time indices use the following currency rates:

- From 09:00 to 17:30 CET, the mid between the latest real-time bid and ask prices is used as the currency rate in order to calculate the indices for Europe, Eastern Europe and the EU Enlarged region.

- From 15:30 to 22:15 CET, the mid between the latest real-time bid and ask prices is used as the currency rate in order to calculate the indices for the Americas region.
- From 00:00 to 11:00 CET, the mid between the latest real-time bid and ask prices is used as the currency rate in order to calculate the indices for the Asia/Pacific region.

All end-of-day indices, as well as the closing procedure for the real-time indices, use currency rates as follows:

- From 17:30 CET, fixed foreign exchange rates are used for the calculation of the indices (using WM fixed exchange rates from 17:00 CET).
- The global closings set at 22:15 CET use the same fixed rates as the European indices.

The fixed foreign exchange rates are provided by the WM Company – for further information refer to Reuters page “WMRSPOT01” or Bloomberg page “WMC0”.

4.5 Stock prices

The data hierarchy used to process stock prices and calculate the Omnient equity indices are as follows. All data are provided by Thomson Reuters. For all non-equity indices the individual index methodologies contain further descriptions about the pricing sources and types.

- Opening price: the first traded price during the official trading hours of the stock’s trading system; until this is available, the previous day’s closing/adjusted price is used.
- Intraday price: the currently traded price during the official trading hours of the stock’s trading system. When the stock is not traded, the last available stock price is used, this can either be the last available intraday stock price (e.g. if the stock is temporarily suspended) or the last available closing/adjusted price (e.g. if the stock exchange is closed).
- The closing price: the last traded price or auction price during the official trading hours of the stock’s trading system is used. If the stock has not been traded all day, then the previous day’s closing/adjusted price is used.

5. Index characteristics and parameters

The following framework is used for all Omnient Indices, except differently specified in the individual [Omnient Index Methodology guides](#).

5.1 Selection lists

Selection lists are used to determine replacements in indices with a fixed number of constituents for any stock deleted due to a corporate action. Selection lists can also indicate possible changes in the composition of the index at the next review.

5.2 Index review

All indices are reviewed on a regular basis to ensure a transparent and up-to-date index basket. The implementation (“the rebalancing”) is usually conducted quarterly after the close every third Friday in March, June, September and December and effective the next dissemination day.

If the implementation day is a non-dissemination day then all dates will be anticipated by one dissemination day accordingly. The review effective day remains the dissemination day following the implementation day.



The most recent free-float data as known to Omnient are used for the component selection. The underlying data (i.e. shares, free-floats, weighting factors and cap factors) are announced on the second Friday of the review implementation month.

For the calculation of weighting and capping factors, the closing prices on the dissemination day before the announcements are used.

Index-specific exceptions to the announcement schedule are described in the relevant [Omnient Index Methodology guide](#).

5.3 Buffers

Buffers are used in the periodic reviews to reduce turnover. Based on an index-specific characteristic, an upper and a lower limit is set around the index target coverage. Stocks ranked at and above the upper limit are selected for the index. The remaining stocks necessary to achieve the target coverage (fixed number of stocks or market capitalization threshold) are selected from the highest-ranked remaining current stocks

between the upper and lower limit. If the target coverage is still not achieved, the highest remaining stocks are selected until the target coverage is achieved.

5.4 Liquidity

During the period review processes liquidity screenings are applied as defined in the specific index methodology sections (e.g. companies must have a minimum Average Daily Traded Value over a given time period). A company's ADTV is based on the trading volumes of the specific listing used for the index calculation. In case the determined ADTV level does not allow a selection of the defined number of constituents in a fixed component index, the liquidity threshold is adjusted downwards accordingly.

In case of market events that negatively influence the aggregated liquidity and market capitalization of entire markets, the liquidity requirements can be lowered or the period index review can be postponed to the next quarterly review date. In such cases, the composition remains unchanged, but new weighting factors will be implemented. Changes are communicated in advance.

5.5 Stock characteristics

Index values are calculated within the STOXX framework based on, but not limited to, one or more of the following characteristics. These characteristics are screened during the quarterly review process (ordinary adjustment) and extraordinarily outside of the review period in case of corporate actions.

Please refer to section 7 for further details about corporate actions treatment and extraordinary adjustments .

5.5.1 Country and listing

Each stock is uniquely assigned to a specific country and listing within the Omnient investable universe. The country classification and listing is based on the country of incorporation, the primary listing and the country with the largest trading volume. American and depository receipts (e.g. ADRs/GDRs) are assigned to the same country as the stock on which the receipt is issued.

5.5.2 Currency

Each stock is uniquely assigned a specific currency depending on the selected listing.

5.5.3 Industry classification benchmark (ICB)

Each stock is assigned a specific and unique ICB code. The Industry Classification Benchmark (ICB) groups together companies that have similar sources of primary revenue. The detailed hierarchy of the Industry

Classification Benchmark is available on the FTSE Russell website³.

Sector changes are implemented immediately subsequent to corporate actions. Otherwise they are published at the next component announcement and applied at the quarterly review.

Unless, stated explicitly in the individual index methodologies differently all companies classified into the ICB categories 8985 (Equity Investment Instruments) and 8995 (Non-equity Investment Instruments) are not eligible for inclusion into the indices.

5.5.4 Total number of shares

A number of shares including treasury shares held by the company itself is assigned uniquely to each stock within the Omnient universe.

Defined as “ordinary adjustments of total number of shares”, the total number of shares is reviewed on a quarterly basis based on the most recent available data. The final data are published on the quarterly underlying data announcement dates and implemented on the quarterly implementation dates. The cut-off dates for total number of shares are on the 20th of February, May, August and November. Data arriving after the cut-off dates are implemented in the following quarterly review.

5.5.5 Free-float factors

Each stock is assigned a unique free-float factor within the Omnient universe. The free-float factor reduces the total number of shares to the actual amount available on the market. All fractions of the total number of shares that are larger than 5% and whose holding is of a long-term nature are excluded from the index calculation.

This includes:

- Cross-ownership: stock owned either by the company itself, in the form of treasury shares, or owned by other companies;
- Government ownership: stock owned by either governments or their agencies;
- Private ownership: stock owned by either individuals or families;
- Restricted shares that cannot be traded during a certain period or have a foreign ownership restriction.

Block ownership is not applied for holdings of custodian nominees, trustee companies, mutual funds, investment companies with short-term investment strategies, pension funds and similar entities.

Defined as “ordinary adjustments of free float factors”, the free float factors are reviewed on a quarterly basis based on the most recent available data. The final data are published on the quarterly underlying data announcement dates and implemented on the quarterly implementation dates. The cut-off dates for free float data are on the 20th of February, May, August and November. Data arriving after the cut-off dates are implemented in the following quarterly review.

³ <http://www.ftserussell.com/financial-data/industry-classification-benchmark-icb>

5.5.6 Free-float market capitalization

The free-float market capitalization is the share of a stock's total market capitalization that is available for trading:

Free-float market capitalization = free-float factor × total market capitalization.

The weighting factor multiplied by the price of the share determines the weight of a company within a price-weighted index.

5.6 Price and return indices

All indices are calculated as price and return indices. Dividend payments are invested in return indices only and neglected in price indices. Return indices are available as gross-return versions, calculated with a full dividend re-investment and as net-return investment, where dividends net of withholding taxes are invested.

6. Index value calculation

6.1 Index formulas

The indices are calculated according to the Laspeyres formula, which measures price changes against a fixed base quantity weight. Each index has a unique index divisor, which is adjusted to maintain the continuity of the index' values across changes due to corporate actions.

6.2 Market capitalization weighted indices

The indices are weighted based on the free-float market capitalization of the constituents as defined in section 5.5.6:

$$\text{Index}_t = \frac{C_t}{D_t} = \frac{\sum_{i=1}^n p_{it} \cdot s_{it} \cdot \text{ff}_{it} \cdot \text{cf}_{it} \cdot x_{it}}{D_t}$$

Where:

t	= Time the index is computed
n	= Number of constituents in the index
p _{it}	= Price of stock (i) at time (t)
s _{it}	= Total number of shares of stock (i) at time (t)
ff _{it}	= Free float factor of stock (i) at time (t)
cf _{it}	= Cap factor of stock (i) at time (t)
x _{it}	= Exchange rate from the stock's local currency into index currency for company (i) at time (t)
C _t	= Free float market capitalization of the index at time (t)
D _t	= Divisor of the index at time (t)

6.3 Non market capitalization weighted indices

The indices are weighted based on criteria other than market capitalization, for instance, equal-weighted or proportionally to dividend yield or the inverse of volatility. Appropriate weight factors are applied in non-capitalization weighted indices instead of the (free-float) number of shares. Weight factors are adjusted for corporate actions.

$$\text{Index}_t = \frac{C_t}{D_t} = \frac{\sum_{i=1}^n p_{it} \cdot \text{wf}_{it} \cdot \text{cf}_{it} \cdot x_{it}}{D_t}$$

Where:

t	= Time the index is computed
n	= Number of constituents in the index
p _{it}	= Price of stock (i) at time (t)
wf _{it}	= Weight factor of stock (i) at time (t)
cf _{it}	= Cap factor of stock (i) at time (t)
x _{it}	= Exchange rate from the stock's local currency into index currency for company (i) at time (t)
C _t	= Capitalization of the index at time (t)

D_t = Divisor of the index at time (t)

6.3.1 Determination of weight factors

Depending on the objective of the index, its constituents may be weighted in proportion to specific metrics, best suited to achieve that objective. Percentage weights reflecting the desired criterion are converted to weight factors as follows:

$$wf_i = \frac{w_i}{p_i \cdot x_i} \cdot N, \text{ rounded to the closest integer value}$$

Where:

- wf_i = Weight factor of stock (i)
- w_i = Required percentage weight of stock (i) in the index
- p_i = Price of stock (i)
- x_i = Exchange rate from the stock's local currency into a common currency for company (i)
- N = Numeraire (e.g. 100,000,000)

The time as of which prices and exchange rates are observed is defined in the individual [Omnient Index Methodology guides](#).

6.4 Cap factors

The factor limits the maximum weight for a stock at the time of the review. Cap factors are updated during the regular quarterly index reviews and not adjusted for corporate actions. The cap factors are used to achieve a diversification and avoid a dominance of a single stock, region, country or sector in an index. Depending on the objective of the index different maximum weights are sets. Further details can be found in the individual [Omnient Index Methodology guides](#).

6.5 Conversion to index currency

All prices of index constituents are converted to the index currency as follows:

- EUR indices: non-EUR stock prices are converted to EUR for the index calculation.
- Indices in other currencies: non-EUR stock prices are converted to EUR first, and then - together with the EUR stock prices - converted to the appropriate index currency for the index calculation.

6.6 Index divisor calculation

Each index has a unique index divisor that is adjusted to maintain the continuity of the index's values across changes due to corporate actions. Changes in weights due to corporate actions are distributed proportionally across all index components. The index divisors are calculated as follows:

$$D_{t+1} = D_t \cdot \frac{C_t + \Delta C_{t+1}}{C_t}$$

Where:

D_t = Divisor at time (t)

C_t = Capitalization of the index at time (t)

ΔC_{t+1} = Difference between the adjusted index capitalization and the close index capitalization at time (t).

For companies with corporate actions effective at time (t+1), the free float market capitalization is calculated with adjusted closing prices, the new number of shares at time (t+1) and the free float factor at time (t+1) minus the free float market capitalization calculated with closing prices, number of shares at time (t) and free float factor at time (t).

For stocks with corporate actions effective at time (t+1), the adjusted index capitalization is calculated with:

- adjusted closing prices
- exchange rates at time (t)
- for market capitalization weighted indices: new number of shares at time (t+1) and free float factor at time (t+1)
- for non market capitalization weighted indices: adjusted weight factor at time (t+1) and adjusted cap factor at time (t+1)

7. Corporate actions and adjustments

All index components are adjusted for corporate actions. Any event is treated in the same way in all indices. Latest information about corporate actions and extraordinary adjustments is available in the Corporate Action forecast⁴.on <https://www.omnient.com/resources> in the section Other Resources.

7.1 Corporate actions

The list of corporate actions indicates the calculation of the adjusted prices and the impact on the index divisor. All corporate actions and dividends are implemented at the effective date (ex-date); i.e. with corporate actions where cash or other corporate assets are distributed to shareholders, the price of the stock will drop on the ex- day. Changes in weights due to corporate actions are distributed proportionally across all index components and equal an investment into the portfolio.

Withholding taxes are considered for all corporate actions and dividends where applicable and defined per country. If Omnient becomes aware of an exception on the taxation; e.g. in case a company confirms a deviating tax treatment the exception will be used for the index calculation.

Applicable withholding taxes are available on <https://www.omnient.com/resources> in the Withholding taxes section

For the corporate actions listed below, the following assumptions apply:

- Shareholders will receive “B” new shares for every “A” share held (where applicable)
- All adjusted prices consider withholding taxes based on the new shares being distributed:
 $B \times (1 - \text{withholding tax where applicable})$
- If the new shares have a dividend disadvantage - i.e. the new shares have a different dividend from that paid on the old shares - the price for these new shares will be adjusted according to the gross dividend amount

1. Cash dividend (applies to return indices only)	Divisor
<p>Definition: Cash distributions that are within the scope of the regular dividend policy or that the company defines as a regular distribution.</p> <p>Adjusted price (net return) = closing price - dividend announced by the company $\times (1 - \text{withholding tax})$</p> <p>Adjusted price (gross return) = closing price - dividend announced by the company</p>	decreases
2. Special cash dividend (applies to price and return indices)	Divisor
<p>Definition: Cash distributions that are outside the scope of the regular dividend policy or that the company defines as an extraordinary</p>	decreases

⁴ <https://www.stoxx.com/registration>

distribution.

Adjusted price = closing price - dividend announced by the company × (1 - withholding tax if applicable)

3. Split and reverse split

Divisor

Adjusted price = closing price × A / B

New number of shares = old number of shares × B / A

unchanged

For non market capitalization weighted indices:

new weight factor = old weight factor × B / A

4. Rights offering

Divisor

Standard rights issue treatments

a) For market capitalization weighted indices:

Adjusted price = (closing price × A + subscription price × B) / (A + B)

New number of shares = old number of shares × (A + B) / A

increases

b) For non market capitalization weighted indices:

Adjusted price = (closing price × A + subscription price × B) / (A + B)

New weight factor = old weight factor × closing price / adjusted price

Unchanged

Further distinctions are made applicable for both weighting schemas:

- Extremely dilutive rights issue with a share ratio larger than or equal to 2000% ($B/A \geq 20$)
- Highly dilutive rights issue with a share ratio larger than or equal to 200% ($B/A \geq 2$)

Extremely dilutive rights issues are treated as following:

- Omnient will announce the deletion of the company from all indices following the standard rules for index replacements if sufficient notice period can be given
- Sufficient notice period: Omnient is able to make an announcement about index changes two trading days before the ex-date
- The company may enter the indices again at the next periodic index review, but only after the new shares have been listed

Extremely dilutive rights issues without sufficient notice period and all highly dilutive rights issues are treated as following:

- Inclusion of the rights into the indices with a theoretical price on the ex-date
- The rights must be listed on an eligible stock exchange and tradable starting on the ex-date otherwise only a price adjustment is made
- The rights will have the same parameters as the parent company

- The rights will be removed at the close of the day they start to trade with traded price being available
- The number of shares and weighting factors will be increased after the new shares have been listed

If the subscription price is not available or equal to or greater than the closing price on the day before the effective date, then no adjustment is made.

5. Stock dividend

Divisor

Adjusted price = closing price × A / (A + B)

unchanged

For market capitalization weighted indices:

New number of shares = old number of shares × (A + B) / A

For non market capitalization weighted indices:

New weighting factor = old weight factor × (A + B) / A

unchanged

6. Stock dividend (from treasury stock)

Divisor

Stock dividends from treasury stocks will be adjusted as cash dividends.

decreases

a1) If treated as regular cash dividend, only the return indices are adjusted.

Adjusted close = close - close × B / (A + B)

a2) If treated as extraordinary dividend, the price and the return indices are adjusted.

Adjusted close = close - close × B / (A + B)

7. Stock dividend of another company

Divisor

Adjusted price = (closing price × A - price of the other company × B) / A

decreases

8. Return of capital and share consolidation

Divisor

Adjusted price = [closing price - capital return announced by company × (1 - withholding tax)] × A / B

decreases

For market capitalization weighted indices:

New number of shares = old number of shares × B / A

For non market capitalization weighted indices:

new weighting factor = old weighting factor × B / A

9. Repurchase of shares/self-tender

Divisor

For market capitalization weighted indices:

Adjusted price = [(price before tender × old number of shares) – (tender price × number of tendered shares)] / (old number of shares - number of tendered shares)

decreases

New number of shares = old number of shares - number of tendered shares

For non market capitalization weighted indices:

Adjusted price = [(price before tender × old number of shares) - (tender price × number of tendered shares)] / (old number of shares - number of tendered shares)

unchanged

New weight factor = old weight factor × closing price / adjusted price

10. Spin-off

Divisor

For market capitalization weighted indices:

Adjusted price = (closing price × A - price of spun-off shares B) / A

decreases

For non market capitalization weighted indices:

Adjusted price = (closing price × A - price of spun-off shares B) / A

decreases

New weight factor for the spun-off = weight factor of the parent company × B / A

Please refer to 7.4 for further details.

11. Combination stock distribution (dividend or split) and rights offering

Divisor

For the above corporate actions the following additional assumptions apply:

- Shareholders receive ‘B’ new shares from the distribution and ‘C’ new shares from the rights offering for every ‘A’ share held.
- If ‘A’ is not equal to one, all the following ‘new number of shares’ formulas need to be divided by ‘A’:

a1) If rights are applicable after stock distribution (one action applicable to another)

increases

Adjusted price = [closing price × A + subscription price × C × (1 + B / A)] / [(A+B) × (1+C / A)]

New number of shares = old number of shares × [(A + B) × (1 + C / A)]

/ A

a2) If stock distribution is applicable after rights (one action applicable to another) increases

$$\text{Adjusted price} = [\text{closing price} \times A + \text{subscription price} \times C] / [(A + C) \times (1 + B / A)]$$

$$\text{New number of shares} = \text{old number of shares} \times [(A + C) \times (1 + B / A)]$$

a3) Stock distribution and rights (neither action is applicable to the other) increases

$$\text{Adjusted price} = [\text{closing price} \times A + \text{subscription price} \times C] / [A + B + C]$$

$$\text{New number of shares} = \text{old number of shares} \times [A + B + C] / A$$

b) For non market capitalization weighted indices: unchanged

Adjusted prices = see above [combination stock distribution (dividend split) and rights offering]

$$\text{New weight factor} = \text{old weight factor} \times \text{closing price} / \text{adjusted price}$$

12. Addition / deletion of a company

Divisor

No price adjustments are made. The net change in index capitalization determines the divisor adjustment.

13. Free Float and shares changes

Divisor

No price adjustments are made. The net change in capitalization determines the divisor adjustment. Please refer to 7.2 for further details.

7.2 Extraordinary adjustments of free float factor and total number of share

The free float factors and outstanding number of shares are reviewed on a quarterly basis based on the most recent available data as stated in sections 5.5.4 and 5.5.5.

In particular cases, extraordinary adjustments of free float factor and total number of share can be made. The indices are updated with changes to the number of shares and/or free float factors due to corporate actions. The timing depends on the magnitude of the change:

- Changes to the number of shares due to stock dividends, splits, rights issues etc. are implemented immediately and effective the next dissemination day.

- Changes greater than ± 10 percent to the number of shares from one dissemination day to the next are announced immediately, implemented two dissemination days later and effective the next dissemination day after implementation.
- Free float factor changes greater than \pm five percent from one trading day to the next are announced immediately, implemented two dissemination days later and effective the next dissemination day after implementation.
- Changes to the combined free float adjusted number of shares greater than ± 10 percent from one dissemination day to the next are announced immediately, implemented two dissemination days later and effective the next dissemination day after implementation.
- All other applicable changes are announced on the next quarterly underlying data announcement date, implemented on the quarterly implementation date and effective the next dissemination day after implementation.

7.3 Mergers and takeovers

A merger or takeover is deemed successful if it has been declared wholly unconditional and has received the approval of all the regulatory agencies with jurisdiction over the transaction.

Changes are announced immediately, implemented two trading days later and become effective on the next trading day after implementation.

The result of a merger or a takeover is one surviving stock and one or more non-surviving stocks that may not necessarily be de-listed from the respective trading system(s). The rules below are only applied if at least one company in this transaction is a component of the Omnient Benchmark indices. Any surviving stock that does not qualify and the non-surviving stock(s) are deleted immediately.

A surviving stock that qualifies for the Omnient Benchmark indices is added to the indices as follows:

- Omnient Benchmark indices: The surviving stock replaces the largest of the original stocks.
- Omnient Size indices: The surviving stock replaces the original stock that belonged to the largest affected Size index.
- Omnient Blue-Chip and other indices: If one of the original stocks was a component, it is replaced by the surviving stock. Separate buffer rules and additional requirements for individual indices may apply according to specific index methodology.
- Omnient Select Dividend indices: If one of the original stocks was a Select Dividend component, then it is replaced by the surviving stock, if it was ranked at or above the lower buffer limit on the currently valid Select Dividend selection list. A surviving stock that falls below the lower buffer limit, is replaced by the highest-ranked non-component on the selection list.

7.4 Spin-offs

Each spun-off stock is temporarily added to all affected indices, including the fixed component indices, based on an estimated price. As a precondition a listing on one of the eligible exchanges, pricing and instrument reference data must be available. The spun-off company will be deleted at the close of the day it starts to trade with traded price being available. Separate buffer rules and additional requirements for individual

indices may be applied according to the individual [Omnient Index Methodology guides](#).

Changes are announced immediately, implemented two dissemination days later and become effective on the next dissemination day after implementation.

7.5 Sector changes

The indices are updated with the sector changes; the timing depends on the cause of the change:

- Changes due to corporate actions: Announced immediately, implemented two trading days later and effective the next trading day after implementation.
- Changes in the primary revenue source: Announced on the quarterly component announcement dates, implemented on the quarterly implementation dates and effective the next trading day after implementation.

7.6 Illiquidity, bankruptcy and delisting

Stocks are deleted if their illiquidity is due to:

- not being traded for 10 consecutive days;
- being suspended from trading;

Moreover, stocks are deleted in case of:

- official delisting
- ongoing bankruptcy proceedings: a company that has filed for bankruptcy will be deleted from the index based on either the traded stock price on its primary market, if available, or else the OTC stock price; if neither price is available, the company will be deleted at close in local currency of 0.0000001.

Changes are announced immediately, implemented two trading days later and become effective the next trading day after implementation.

7.7 Extreme market and company events

In case the investability and tradability of the indices and index based products is affected by an upcoming market or company event or disruptions of incoming data and considered significant by the Omnient Management Board the following or a combination of actions are taken. For all such changes a minimum notification period of two full trading days will be observed. The application scope may include, but is not limited to:

- application of expert judgment for index component pricing data
- adjustment of operational procedures
- postponement of index adjustments
- adjustment of selection lists

- change of weights of index constituents by adjusting the number of shares, free-float factors, weight-factors or cap factors
- adjustment of index compositions

8. Dissemination

8.1 Dissemination calendars

The Omnient indices are disseminated Monday through Friday between 0:00 and 22:15 CET, according to the calendars defined below.

In exceptional cases, the STOXX Management Board can make changes to the dissemination calendar.

REGIONAL CALENDARS

STOXX defines the following Regional Calendars:

- Omnient Europe Calendar: every weekday except January 1st, Good Friday, Easter Monday, December 25th and December 26th (this is the default calendar for any index, unless differently specified in the relevant index methodology)
- Omnient Americas Calendar: every weekday except January 1st, Good Friday and December 25th
- Omnient Asia Calendar: every weekday except January 1st

COUNTRY CALENDARS

STOXX defines Country Calendars as every weekday except non-trading days which are defined as exchange holidays. The information is provided by STOXX on an annual basis and is available on the Omnient website under Resources, Methodology, Dissemination for the countries listed in section 0.

For the latest update, please refer to the following link:

Dissemination period: <http://www.omnient.com/res-dissemination.html>

OTHER CALENDARS

- Omnient Target Calendar: every weekday except January 1st, Good Friday, Easter Monday, May 1st, December 25th and December 26th
- Omnient Eurex Calendar: every weekday except January 1st, Good Friday, Easter Monday, May 1st, December 24th, December 25th and December 26th
- Omnient Specific Calendar: Index specific calendars which cannot be associated to any of the above defined Omnient Calendars. In this case the dissemination days are specified in the individual Omnient Index Methodology guides and are subject to STOXX approval.

8.2 Dissemination period

The index dissemination period begins with the opening of the first trading system. Each index has a defined dissemination start and end time. The actual dissemination of each index is triggered, when the first opening stock price for that index is received within these timeframes. The index dissemination period ends, when the last trading system in the regional universe closes.

For the latest update, please refer to the following links:

Dissemination period: <http://www.omnient.com/indices/dissemination/period.html>

Individual index dissemination times: http://www.omnient.com/data/vendor_codes.html

8.3 Real-time and end-of-day indices

The indices are calculated and disseminated at different frequency standards:

- Real-time indices: Calculated and disseminated every 15 seconds during the index dissemination period.
- End-of-day indices: Calculated and disseminated once a day at the end of the index dissemination period.

All indices including their frequencies are listed in the data vendor code file:

http://www.omnient.com/data/vendor_codes.html

The index values are disseminated over the Consolidated Exchange Feed (CEF) of Deutsche Börse and can be procured directly from data vendors. Further information is available on <https://www.stoxx.com/res-dissemination> in the Realtime Data section.

9. Available data (Reports)

9.1 Selection lists

Selection lists are produced for indices with a fixed number of components in order to:

- indicate possible changes in the composition of the index at the time of the next quarterly / semi-annual / annual review, and
- determine replacements for any stock deleted from the indices due to corporate actions.
- The STOXX Management Board⁵ may decide to update the selection lists in between the regular publication dates to reflect extraordinary market movements and underlying data changes.

9.2 Index review lists

Each index has defined dates, when the new constituents, the underlying data (shares, free float, weight factors, cap factors) are announced and implemented. The component and the underlying data announcement dates differ by index category and are therefore covered in the Omnient Methodology Guide. The quarterly implementation for all indices is always on the third Friday in March, June, September and December.

9.3 Open quotations

The index open quotation takes the opening prices of all stocks in a real-time index into account. This value indicates what the index value would have been, if all opening stock prices had been received at the same time.

The index open quotations for the real-time indices are calculated either as soon as all the relevant opening stock prices are received or, at the latest, at 10:30 CET. If an opening stock price is unavailable at 10:30 CET, the stock's previous day's closing/adjusted price is used.

Non-EUR stock prices are converted into EUR using the currency rate valid at the time of the opening stock price (or previous day's closing/adjusted price), i.e. opening stock prices are converted using real-time currency rates and the previous day's closing prices are converted using WM fixed exchange rates of the day before.

9.4 Index settlement values

The index settlement values are calculated daily as the average of the 41 index values disseminated between

⁵ The STOXX Management Board has delegated certain decisions to internal committees.

11:50 CET and 12:00 CET.

9.5 Closing data

The closing data for the Omnient indices are disseminated after the index dissemination period for the relevant region. The closing data includes the following sets of data:

- Stock prices: both closing and adjusted prices for all components of the Omnient indices.
- Index-related values: closing values, market capitalization and divisors for all indices.
- Currency rates to EUR for all currencies used in any Omnient indices.
- Corporate actions and dividends: effective the next trading day.
- Other information like weightings, corporate actions and dividend forecasts.

9.6 Corporate action forecasts

The corporate action forecasts are updated daily and include information about future adjustments induced by confirmed corporate events. This includes, but it is not limited to:

- Mergers, takeovers, spin-offs, price and shares adjustment, and IPOs for the coming week
- Initial public offerings (IPOs): recent IPOs that could qualify for the indices.

All corporate actions and dividend forecasts are subject to change. Customers are recommended to download regularly the forecast from the website and subscribe to corporate actions and dividend alerts to receive notification for the latest changes.

9.7 Monthly reports

The monthly reports are published each month and include the following data for selected indices:

- Index composition and performance reports
- Statistical and fundamental reports
- Factsheets for various indices with information on fundamental ratios, performance data and other statistics

10. Correction policy

10.1 Input and real-time data

The correction procedures for incorrect or missing input data are as follows:

- Input data are corrected immediately.
- Real-time index values are not retroactively corrected, because the index is calculated in real-time.

10.2 Index divisor correction

The correction procedures for incorrect index divisors are:

- If discovered on the effective date, incorrect index divisors are corrected intraday.
- If discovered after, the incorrect index divisors are corrected intraday, provided that correction is feasible and considered significant by the Omnient Management Board.

10.3 Payment defaults and dividend data changes

A correction is applied, when a dividend is declared unpaid (payment default) or the dividend amount is changed by the company after the effective date. This may result in a negative reinvestment. Past index values (history) are not corrected. The following rules apply:

- The correction is feasible and considered significant by the Omnient Management Board.
- A correction will be accepted only, if the payment default is discovered within 12 months after the original ex-date.
- The index parameters (number of shares, free float factors, weighting cap factors and currency rates) effective on the day prior to the correction date are used.

11. Appendix

11.1 Stock exchanges and countries

Western Europe		
Athens Stock Exchange (GR)	NASDAQ OMX Copenhagen (DK)	NYSE EURONEXT Lisbon (PT)
Bolsa De Madrid (ES)	NASDAQ OMX Helsinki (FI)	NYSE EURONEXT Paris (FR)
Borsa Italiana (IT)	NASDAQ OMX Iceland (IS)	Oslo Børs (NO)
Deutsche Börse (DE)	NASDAQ OMX Stockholm (SE)	SIX Swiss Exchange (CH)
Irish Stock Exchange (IE)	NYSE EURONEXT Amsterdam (NL)	Vienna Stock Exchange (AT)
London Stock Exchange (GB)	NYSE EURONEXT Brussels (BE)	
Eastern Europe		
Belgrade Stock Exchange (RS)	Istanbul Stock Exchange (TR)	NASDAQ OMX Tallinn (EE)
Bratislava Stock Exchange (SK)	Ljubljana Stock Exchange (SI)	NASDAQ OMX Vilnius (LT)
Bucharest Stock Exchange (RO)	Macedonian Stock Exchange (MK)	Prague Stock Exchange (CZ)
Budapest Stock Exchange (HU)	Malta Stock Exchange (MT)	Ukrainian Exchange (UA)
Bulgarian Stock Exchange – XETRA (BG)	MICEX Stock Exchange (RU)	Warsaw Stock Exchange (PL)
Cyprus Stock Exchange (CY)	NASDAQ OMX Riga (LV)	Zagreb Stock Exchange (HR)
Americas		
Bolsa de Valores de Colombia (CO)	Bolsa Mexicana de Valores (MX)	NYSE EURONEXT (US)
Bolsa de Valores de Lima (PE)	Buenos Aires Stock Exchange (AR)	Santiago Stock Exchange (CL)
Bolsa de Valores, Mercadorias & Futuros de São Paulo (BR)	NASDAQ (US)	Toronto Stock Exchange (CA)
Asia/Pacific		
Australia Securities Exchange (AU)	Korea Exchange (KR)	Singapore Exchange (SG)
Bombay Stock Exchange (IN)	Malaysia Stock Exchange (MY)	Stock Exchange of Thailand (TH)
Ho Chi Minh Stock Exchange (VN)	New Zealand Exchange (NZ)	Taiwan Stock Exchange (TW)
Hong Kong Stock Exchange (HK)	Philippine Stock Exchange (PH)	Tokyo Stock Exchange (JP)
Indonesia Stock Exchange (ID)	Shanghai Stock Exchange (CN)	
Karachi Stock Exchange (PK)	Shenzhen Stock Exchange (CN)	
Africa		
Casablanca Stock Exchange (MA)	Johannesburg Stock Exchange (ZA)	Tunis Stock Exchange (TN)
Egyptian Exchange (EG)	Nigerian Stock Exchange (NI)	Tel Aviv Stock Exchange (IL)

11.2 Geographic region and country association

The historical and the current classifications are available on <https://www.omnient.com/resources>

11.3 Version history of Omnient General Principles and Calculation Guide

Version	Date	Changes
1	15.03.2018	First version of Omnient General Principles and Calculation guide
2	19.04.2018	Update of country classification section to align with new STOXX Country Classification system
3	03.07.2018	Typo correction on Index review section (5.2)