

INDEX GUIDELINE

SOLACTIVE EPIC OPTICAL TECHNOLOGY & PHOTONICS INDEX

Version 1.1

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INTRODUCTION

This document (the "**GUIDELINE**") is to be used as a guideline with regard to the composition, calculation and maintenance of the Solactive EPIC Optical Technology & Photonics Index (the "**INDEX**"). Any amendments to the rules made to the GUIDELINE are approved by the OVERSIGHT COMMITTEE specified in Section 5.5. The INDEX is owned, calculated, administered and published by Solactive AG ("**SOLACTIVE**") assuming the role as administrator (the "**INDEX ADMINISTRATOR**") under the Regulation (EU) 2016/1011 (the "**BENCHMARK REGULATION**" or "**BMR**"). The name "Solactive" is trademarked.

The text uses defined terms which are formatted with "SMALL CAPS". Such Terms shall have the meaning assigned to them as specified in Section 6 (Definitions).

The GUIDELINE and the policies and methodology documents referenced herein contain the underlying principles and rules regarding the structure and operation of the INDEX. SOLACTIVE does not offer any explicit or tacit guarantee or assurance, neither pertaining to the results from the use of the INDEX nor the level of the INDEX at any certain point in time nor in any other respect. SOLACTIVE strives to the best of its ability to ensure the correctness of the calculation. There is no obligation for SOLACTIVE – irrespective of possible obligations to issuers – to advise third parties, including investors and/or financial intermediaries, of any errors in the INDEX. The publication of the INDEX by SOLACTIVE does not constitute a recommendation for capital investment and does not contain any assurance or opinion of SOLACTIVE regarding a possible investment in a financial instrument based on this INDEX.



1. INDEX SPECIFICATIONS

1.1. SCOPE OF THE INDEX

Category	Description
Asset Class	Equity
Strategy	The index aims to track the performance of companies that are actively engaged in the optical technology & photonics value-chain.
Regional Allocation	Global Markets
Rebalancing Fee	-
Rebalancing Frequency	Semi-Annual

1.2. IDENTIFIERS AND PUBLICATION

The INDEX is published under the following identifiers:

Name	ISIN	Currency	Type	RIC	BBG ticker
Solactive EPIC Optical Technology & Photonics Index PR	DE000SLOE2F4	USD	PR*	.SOLAZRP	-
Solactive EPIC Optical Technology & Photonics Index NTR	DE000SLOE2G2	USD	NTR*	.SOLAZRN	SOLAZRN
Solactive EPIC Optical Technology & Photonics Index TR	DE000SLOE2H0	USD	GTR*	.SOLAZRT	-

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

The INDEX is published on the website of the INDEX ADMINISTRATOR (www.solactive.com) and is, in addition, available via the price marketing services of Boerse Stuttgart GmbH and may be distributed to all of its affiliated vendors. Each vendor decides on an individual basis as to whether it will distribute or display the INDEX via its information systems.

Any publication in relation to the INDEX (e.g. notices, amendments to the GUIDELINE) will be available at the website of the INDEX ADMINISTRATOR: <https://www.solactive.com/news/announcements/>.



1.3. INITIAL LEVEL OF THE INDEX

The initial level of the INDEX on the 15/08/2014, the START DATE, is 100. Historical values from the 28/04/2022, the LIVE DATE, will be recorded in accordance with Article 8 of the BMR. Levels of the INDEX published for a period prior to the LIVE DATE have been back-tested.¹

1.4. PRICES AND CALCULATION FREQUENCY

The level of the INDEX is calculated on each CALCULATION DAY from 9:00 a.m. to 10:50 p.m. CET based on the TRADING PRICES on the EXCHANGES on which the INDEX COMPONENTS are listed. TRADING PRICES of INDEX COMPONENTS not listed in the INDEX CURRENCY are converted using the current Intercontinental Exchange (ICE) spot foreign exchange rate. Should there be no current TRADING PRICE for an INDEX COMPONENT, the later of: (i) the most recent CLOSING PRICE; or (ii) the last available TRADING PRICE for the preceding TRADING DAY is used in the calculation.

In addition to the intraday calculation a closing level of the INDEX for each CALCULATION DAY is also calculated. This closing level is based on the CLOSING PRICES for the INDEX COMPONENTS on the respective EXCHANGES on which the INDEX COMPONENTS are listed. The CLOSING PRICES of INDEX COMPONENTS not listed in the INDEX CURRENCY are converted using the 04:00 p.m. London time rates provided by WM/ Refinitiv (the "WM/ Refinitiv Rate"). If there is no 04:00 p.m. London time WM/ Refinitiv Rate for the relevant CALCULATION DAY, the last available 04:00 p.m. London time WM/ Refinitiv Rate will be used for the closing level calculation.

1.5. LICENSING

Licenses to use the INDEX as the underlying value for financial instruments, investment funds and financial contracts may be issued to stock exchanges, banks, financial services providers and investment houses by SOLACTIVE.

¹ The data of the ESG EXCLUSIONS ENHANCED INDEX has been used as of 15/03/2022 in the back-test.



2. INDEX SELECTION

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

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

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

2.1. INDEX UNIVERSE REQUIREMENTS

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

1. Primary listing on any exchange listed in Appendix A.
2. Is not listed on a Chinese exchange (including Stock Connect).
3. FREE FLOAT MARKET CAPITALIZATION of at least USD 200,000,000 (150,000,000) for new (current) INDEX COMPONENTS on the respective SELECTION DAY.
4. AVERAGE DAILY VALUE TRADED of at least USD 1,000,000 over 3 months prior to and including the SELECTION DAY.
5. Has any detectable exposure to the PHOTONICS manufacturing industry (based on the most recent annual report) as determined by the SELECTION PARTY using publicly available reported financial statements.
6. Does not derive more than 50% of its revenue from military or weapons manufacturing sectors as determined by the SELECTION PARTY.
7. Is not classified under any of the following Photonics Applications by the EPIC PHOTONICS CLASSIFICATION:
 - a. Solar Energy Solutions Provider
 - b. Pure Manufacturer of LCD and OLED Displays
 - c. Epitaxial Wafers Manufacturer

The Photonics Applications are reviewed on the INDUSTRY CLASSIFICATION REVIEW DAY by the INDEX ADMINISTRATOR and SELECTION PARTY. If there are any changes to the excluded Photonics Applications, these will be announced on the SOLACTIVE website.

8. Is not classified under the following Photonics Category by the EPIC PHOTONICS CLASSIFICATION:



a. Telecom

The Photonics Categories are reviewed on the INDUSTRY CLASSIFICATION REVIEW DAY by the INDEX ADMINISTRATOR and SELECTION PARTY. If there are any changes to the excluded Photonics Categories, these will be announced on the SOLACTIVE website.

9. On each SELECTION DAY, any company included in the ESG EXCLUSIONS ENHANCED INDEX as determined by SOLACTIVE is then excluded from the INDEX UNIVERSE. Further, any company that is not a part of the Index Universe of the ESG EXCLUSIONS ENHANCED INDEX as of the immediately preceding SELECTION DAY of the ESG EXCLUSIONS ENHANCED INDEX, shall be excluded from the INDEX UNIVERSE.

The methodology by reference to which the ESG EXCLUSIONS ENHANCED INDEX is constructed, together with the most recent applicable categories and inclusion criteria, is available on the SOLACTIVE website: <https://solactive.com/downloads/Guideline-Solactive-ESG-Exclusions-Enhanced-Index.pdf>

The applicable categories and inclusion criteria of the ESG EXCLUSIONS ENHANCED INDEX as of March 2022 are set out in Appendix B of this document.

The INDEX ADMINISTRATOR has outsourced part of the determination of the INDEX UNIVERSE to the SELECTION PARTY. Such outsourcing has been made in accordance with the requirements of the BMR (Article 10 BMR). Any discretionary decision of the SELECTION PARTY will be made in accordance with the specifications regarding the exercise of discretion or expert judgement established by the INDEX ADMINISTRATOR.

2.2. SELECTION OF THE INDEX COMPONENTS

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

- New (current) INDEX COMPONENTS must derive at least 50% (45%) of their revenue from PHOTONICS manufacturing activities based on the most recent annual report. The percentage of revenue is provided by the SELECTION PARTY.

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

2.3. WEIGHTING OF THE INDEX COMPONENTS

On each SELECTION DAY each INDEX COMPONENT is weighted in accordance with the following steps:

- i) Each INDEX COMPONENT is initially weighted equally w_i^* ;
- ii) Then, for each INDEX COMPONENT the maximum weight $w_{i,max}$ is calculated as:



$$w_{i,max} = \text{Min}\{w_{i,max}^{liquidity}, w_{i,max}^{ownership}\}$$

where,

$$w_{i,max}^{liquidity} = \frac{(1 - \text{Haircut}) \times \text{Liquidity Measure} \times \text{Participation (\%)}}{\text{AuM} \times \text{Turnover}}$$

$$w_{i,max}^{ownership} = \frac{\text{Market Cap} \times \text{Max Ownership}}{\text{AuM}}$$

and,

AuM – the maximum of total assets under management in US Dollars of ETFs tracking the INDEX as listed in Appendix C and US Dollars 50 million;

Haircut – assumed 10%;

Liquidity Measure – 3-month AVERAGE DAILY VALUE TRADED in US Dollars;

Market Cap – FREE FLOAT MARKET CAPITALIZATION of a company in US Dollars;

Max Ownership – assumed 7.5%;

Participation (%) – assumed 100%;

Turnover – assumed 40%.

- iii) In respect of INDEX COMPONENTS whose initial weight w_i^* is greater than $w_{i,max}$, the Target Index Weight w_i shall be set to be equal to $w_{i,max}$, and the excess weight is then calculated as follows:

$$w_{i,excess} = w_i^* - w_{i,max}$$

The cumulative excess weight is calculated as the sum of $w_{i,excess}$ in respect of all INDEX COMPONENTS whose initial weight w_i^* is greater than $w_{i,max}$.

The cumulative excess weight is then proportionally distributed across all INDEX COMPONENTS whose initial weight w_i^* is less than $w_{i,max}$ such that the above maximum weight cap condition is fulfilled. This can be an iterative process until 100% weight is fully allocated and all conditions above are fulfilled.



3. REBALANCE

3.1. ORDINARY REBALANCE

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

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

In addition, if the INDEX ADMINISTRATOR determines that the INDEX weight of any INDEX COMPONENT is greater than 15% on any REVIEW DAY, then the index shall be reweighted on the ADJUSTMENT DAY that occurs immediately after such REVIEW DAY according to section 2.3 Weighting of the Index Components. All relevant data will be based on the data available as of the REVIEW DAY.

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

SOLACTIVE will publish any changes made to the INDEX COMPONENTS with sufficient notice before the REBALANCE DAY on the SOLACTIVE website under the section "Announcement", which is available at <https://www.solactive.com/news/announcements/>

3.2. EXTRAORDINARY REBALANCE

The INDEX is not rebalanced extraordinarily.



4. CALCULATION OF THE INDEX

4.1. INDEX FORMULA

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

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

Any dividends or other distributions are reinvested across the entire basket of INDEX COMPONENTS by means of a divisor at the opening of the effective date (the so-called ex-date) of the payment of such dividend or other distribution.

A more detailed description of the mechanics of the index calculation formula can be found in the Equity Index Methodology under Section 1.2.

4.2. ACCURACY

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

4.3. ADJUSTMENTS

Under certain circumstances, an adjustment of the INDEX may be necessary between two regular REBALANCE DAYS. Such adjustment has to be made if a corporate action (as specified in Section 4.4 below) in relation of an INDEX COMPONENT occurs. Such adjustment may have to be done in relation to an INDEX COMPONENT and/or may also affect the number of INDEX COMPONENTS and/or the weighting of certain INDEX COMPONENTS and will be made in compliance with the Solactive Equity Index Methodology, which is incorporated by reference and available on the SOLACTIVE website: <https://www.solactive.com/documents/equity-index-methodology/>.

SOLACTIVE will announce the INDEX adjustment giving a notice period of at least two TRADING DAYS (with respect to the affected INDEX COMPONENT) on the SOLACTIVE website under the Section "Announcements", which is available at <https://www.solactive.com/news/announcements/>. The INDEX adjustments will be implemented on the effective day specified in the respective notice.



4.4. CORPORATE ACTIONS

As part of the INDEX maintenance SOLACTIVE will consider various events – also referred to as corporate actions – which result in an adjustment to the INDEX between two regular REBALANCE DAYS. Such events have a material impact on the price, weighting or overall integrity of INDEX COMPONENTS. Therefore, they need to be accounted for in the calculation of the INDEX. Corporate actions will be implemented from the cum-day to the ex-day of the corporate action, so that the adjustment to the INDEX coincides with the occurrence of the price effect of the respective corporate action.

Adjustments to the INDEX to account for corporate actions will be made in compliance with the Equity Index Methodology with the exception of section 2.1.4 (Rights Issue) and section 2.1.5 (Capital Decrease), which is available on the SOLACTIVE website: <https://www.solactive.com/documents/equity-index-methodology/>. This document contains for each corporate action a brief definition and specifies the relevant adjustment to the INDEX variables. For RIGHTS ISSUES and CAPITAL DECREASES the treatment described in sections 4.4.1 and 4.4.2 applies.

While SOLACTIVE aims at creating and maintaining its methodology for treatment of corporate actions as generic and transparent as possible and in line with regulatory requirements, it retains the right in accordance with the Equity Index Methodology to deviate from these standard procedures in case of any unusual or complex corporate action or if such a deviation is made to preserve the comparability and representativeness of the INDEX over time.

SOLACTIVE considers following, but not conclusive, list of corporate actions as relevant for INDEX maintenance:

- > Cash Distributions (e.g. payment of a dividend)
- > Stock distributions (e.g. payment of a dividend in form of additional shares)
- > Stock distributions of another company (e.g. payment of a dividend in form of additional shares of another company (e.g. of a subsidiary))
- > Share splits (company's present shares are divided and therefore multiplied by a given factor)
- > Reverse splits (company's present shares are effectively merged)
- > Capital increases (such as issuing additional shares)
- > Share repurchases (a company offer its shareholders the option to sell their shares to a fixed price)
- > Spin-offs (the company splits its business activities into two or more entities and distributes new equity shares in the created entities to the shareholders of the former entity)
- > Mergers & Acquisitions (transaction in which the ownership of a company (or other business organizations) are transferred or consolidated with other entities, e.g. fusion of two or more separate companies into one entity)
- > Delistings (company's shares are no longer publicly traded at a stock exchange)



- > Nationalization of a company (effective control of a legal entity is taken over by a state)
- > Insolvency

4.4.1 RIGHTS ISSUE (CAPITAL INCREASE)

A RIGHTS ISSUE raises the MARKET CAPITALIZATION of a company, shareholders receive the right to pre-purchase newly issued shares for a pre-defined subscription price ("SP") on a pro rata basis, i.e., in accordance with their existing number of the company's shares.

The price adjustment factor ("PAF") for a RIGHTS ISSUE is calculated as follows:

$$PAF_{i,t+1} = \frac{p_{i,t}}{\left(\frac{1 * p_{i,t} + T * SP}{1 + T}\right)}$$

with:

PAF	price adjustment factor
$P_{i,t}$	Price of INDEX COMPONENT i on TRADING DAY t
T	issue terms
SP	subscription price

The theoretical close price after a RIGHTS ISSUE is calculated as follows:

$$ap_{i,t+1} = \frac{p_{i,t}}{PAF_{i,t+1}}$$

with:

ap	adjusted price
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The number of shares prior to the ex-date is increased with the PAF. Following that, a RIGHTS ISSUE does not affect the INDEX market capitalization and no divisor change is implemented.

$$ax_{i,t+1} = x_{i,t} * PAF_{i,t+1}$$

With:

ax	adjusted fraction of shares
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4.4.2 CAPITAL DECREASE

The opposite procedure to a RIGHTS ISSUE which increases capital is a CAPITAL DECREASE. A company may offer its shareholders the option to sell their shares at an agreed price.

The price adjustment factor ("**PAF**") for a CAPITAL DECREASE is calculated as follows:

$$PAF_{i,t+1} = \frac{p_{i,t}}{\left(\frac{1 * p_{i,t} - T * SP}{1 - T}\right)}$$

with:

<i>PAF</i>	price adjustment factor
<i>P_{i,t}</i>	price of INDEX COMPONENT <i>i</i> on TRADING DAY <i>t</i>
<i>T</i>	issue terms
<i>SP</i>	subscription price

The theoretical close price after a CAPITAL DECREASE is calculated as follows:

$$ap_{i,t+1} = \frac{p_{i,t}}{PAF_{i,t+1}}$$

with:

<i>ap</i>	adjusted price
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The number of shares prior to the ex-date is decreased with the PAF. Following that, a CAPITAL DECREASE does not affect the INDEX market capitalization and no divisor change is implemented.

$$ax_{i,t+1} = x_{i,t} * PAF_{i,t+1}$$

<i>ax</i>	adjusted fraction of shares
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4.5. RECALCULATION

SOLACTIVE makes the greatest possible efforts to accurately calculate and maintain its indices. However, errors in the determination process may occur from time to time for variety reasons (internal or external) and therefore, cannot be completely ruled out. SOLACTIVE endeavors to correct all errors that have been identified within a reasonable period of time. The understanding of "a reasonable period of time" as well as



the general measures to be taken are generally depending on the underlying and is specified in the Solactive Correction Policy, which is incorporated by reference and available on the SOLACTIVE website: <https://www.solactive.com/documents/correction-policy/>.

4.6. MARKET DISRUPTION

In periods of market stress SOLACTIVE calculates its indices following predefined and exhaustive arrangements as described in the Solactive Disruption Policy, which is incorporated by reference and available on the SOLACTIVE website: <https://www.solactive.com/documents/disruption-policy/>. Such market stress can arise due to a variety of reasons, but generally results in inaccurate or delayed prices for one or more INDEX COMPONENTS. The determination of the INDEX may be limited or impaired at times of illiquid or fragmented markets and market stress.



5. MISCELLANEOUS

5.1. DISCRETION

Any discretion which may need to be exercised in relation to the determination of the INDEX (for example the determination of the INDEX UNIVERSE (if applicable), the selection of the INDEX COMPONENTS (if applicable) or any other relevant decisions in relation to the INDEX) shall be made in accordance with strict rules regarding the exercise of discretion or expert judgement.

For the INDEX, a SELECTION PARTY is used. The determinations of the INDEX UNIVERSE and the INDEX COMPONENTS are subject to decisions of the SELECTION PARTY where the exercise of discretion is needed. The SELECTION PARTY has confirmed, that such discretionary decision is performed in accordance with the specifications established by the INDEX ADMINISTRATOR.

5.2. METHODOLOGY REVIEW

The methodology of the INDEX is subject to regular review, at least annually. In case a need of a change of the methodology has been identified within such review (e.g. if the underlying market or economic reality has changed since the launch of the INDEX, i.e. if the present methodology is based on obsolete assumptions and factors and no longer reflects the reality as accurately, reliably and appropriately as before), such change will be made in accordance with the Solactive Methodology Policy, which is incorporated by reference and available on the SOLACTIVE website: <https://www.solactive.com/documents/methodology-policy/>.

Such change in the methodology will be announced on the SOLACTIVE website under the Section "[Announcement](https://www.solactive.com/news/announcements/)", which is available at <https://www.solactive.com/news/announcements/>. The date of the last amendment of this INDEX is contained in this GUIDELINE.

5.3. CHANGES IN CALCULATION METHOD

The application by the INDEX ADMINISTRATOR of the method described in this document is final and binding. The INDEX ADMINISTRATOR shall apply the method described above for the composition and calculation of the INDEX. However, it cannot be excluded that the market environment, supervisory, legal and financial or tax reasons may require changes to be made to this method. The INDEX ADMINISTRATOR may also make changes to the terms and conditions of the INDEX and the method applied to calculate the INDEX that it deems to be necessary and desirable in order to prevent obvious or demonstrable error or to remedy, correct or supplement incorrect terms and conditions. The INDEX ADMINISTRATOR is not obliged to provide information on any such modifications or changes. Despite the modifications and changes, the INDEX ADMINISTRATOR will



take the appropriate steps to ensure a calculation method is applied that is consistent with the method described above.

5.4. TERMINATION

SOLACTIVE makes the greatest possible efforts to ensure the resilience and continued integrity of its indices over time. Where necessary, SOLACTIVE follows a clearly defined and transparent procedure to adapt Index methodologies to changing underlying markets (see Section 5.2 “Methodology Review”) in order to maintain continued reliability and comparability of the indices. Nevertheless, if no other options are available the orderly cessation of the INDEX may be indicated. This is usually the case when the underlying market or economic reality, which an index is set to measure or to reflect, changes substantially and in a way not foreseeable at the time of inception of the index, the index rules, and particularly the selection criteria, can no longer be applied coherently or the index is no longer used as the underlying value for financial instruments, investment funds and financial contracts.

SOLACTIVE has established and maintains clear guidelines on how to identify situations in which the cessation of an index is unavoidable, how stakeholders are to be informed and consulted and the procedures to be followed for a termination or the transition to an alternative index. Details are specified in the Solactive Termination Policy, which is incorporated by reference and available on the SOLACTIVE website: <https://www.solactive.com/documents/termination-policy/>.

5.5. OVERSIGHT

An oversight committee composed of staff from SOLACTIVE and its subsidiaries (the “**OVERSIGHT COMMITTEE**”) is responsible for decisions regarding any amendments to the rules of the INDEX. Any such amendment, which may result in an amendment of the GUIDELINE, must be submitted to the OVERSIGHT COMMITTEE for prior approval and will be made in compliance with the Methodology Policy, which is available on the SOLACTIVE website: <https://www.solactive.com/documents/methodology-policy/>.



6. DEFINITIONS

"ADJUSTMENT DAY" is the third Friday of each month other than February and August. If that day is not an BUSINESS DAY, the ADJUSTMENT DAY will be the following BUSINESS DAY.

"AVERAGE DAILY VALUE TRADED" means, in respect of an INDEX COMPONENT, the sum of DAILY VALUE TRADED over the specified period divided by the number of TRADING DAYS that fall in the specified period.

"BENCHMARK REGULATION" shall have the meaning as defined in Section "Introduction".

"BMR" shall have the meaning as defined in Section "Introduction".

"BUSINESS DAY" is a day on which New York Stock Exchange (NYSE), the London Stock Exchange, the Deutsche Börse XETRA and the Tokyo Stock Exchange are open for general business.

"CALCULATION DAY" is every weekday from Monday to Friday.

"CAPITAL DECREASE" shall have the meaning as defined in Section 3 of the Equity Index Methodology, which is available on the Solactive website: <https://www.solactive.com/documents/equity-index-methodology/>

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

The **"CLOSING PRICE"** in respect of an INDEX COMPONENT and a TRADING DAY is a security's final regular-hours TRADING PRICE published by the EXCHANGE and determined in accordance with the EXCHANGE regulations. If the EXCHANGE has no or has not published a CLOSING PRICE in accordance with the EXCHANGE rules for an INDEX COMPONENT, the last TRADING PRICE will be used.

"DAILY VALUE TRADED" means, in respect of an INDEX COMPONENT and a TRADING DAY, the product of (i) the CLOSING PRICE of such INDEX COMPONENT and (ii) the volume traded (measured as a number of shares) of such INDEX COMPONENT on the EXCHANGE during such TRADING DAY.

"DATA PROVIDER" is Sustainalytics. For more information, please visit: <https://www.sustainalytics.com/>. The ESG-related information, methodologies, data and opinions contained or reflected herein are not directed to or intended for use or distribution to India-based clients or users and their distribution to Indian resident individuals or entities is not permitted, and Morningstar Sustainalytics accepts no responsibility or liability whatsoever for the actions of third parties in this respect.

"EPIC PHOTONICS CLASSIFICATION" is the EPIC Photonics Categories & EPIC Photonics Applications classification system. For more information on the methodology, please visit: <http://www.epic-assoc.com/categories>

"ESG EXCLUSIONS ENHANCED INDEX" is the ESG Exclusions Enhanced Index. For more information on the methodology, please visit: <https://solactive.com/downloads/Guideline-Solactive-ESG-Exclusions-Enhanced-Index.pdf>

For more information on the current composition, please visit: https://www.solactive.com/wp-content/uploads/solactiveip/en/Factsheet_ESGEXCLUDEIDX.pdf



“EXCHANGE” is with respect to the INDEX and every INDEX COMPONENT, the respective exchange where the INDEX COMPONENT has its listing as determined in accordance with the rules in Section 2.

“FIXING DAY” is SELECTION DAY.

The **“FREE FLOAT”** is with regard to each of the securities fulfilling the INDEX COMPONENT REQUIREMENTS on a SELECTION DAY the share class-specific fraction of the total number of shares of such share class issued that are available for trading by market participants and not locked-in by long term holders, as sourced from data vendors.

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

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

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

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

“INDEX COMPONENT” is each security reflected in the INDEX.

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

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

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

“INDUSTRY CLASSIFICATION REVIEW DAY” is the first weekday (Monday to Friday) in June.

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

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

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

“PHOTONICS” is the physical science and application of light generation, detection, and manipulation through emission, transmission, modulation, signal processing, switching, amplification, and sensing. Photonics represent a growing opportunity for designing and manufacturing devices, systems and integrated circuits for applications in high-speed data communications, advanced sensing, and imaging. Photonics applications are ubiquitous. Included are all areas from everyday life to the most advanced science, e.g. light detection (sensors), telecommunications, information processing, photonic computing, lighting, metrology, spectroscopy, holography, medicine (surgery, vision correction, endoscopy, health monitoring), biophotonics, touch-screens, 3D printers, military technology, laser material processing, art diagnostics (involving InfraRed Reflectography, Xrays, UltraViolet fluorescence, XRF), agriculture, and robotics.

“REBALANCE DAY” is the third Friday in February and August. If that day is not an BUSINESS DAY the REBALANCE DAY will be the immediately following BUSINESS DAY.



"REVIEW DAY" is 10 BUSINESS DAYS before the scheduled ADJUSTMENT DAY, disregarding any potential change of the ADJUSTMENT DAY.

"RIGHTS ISSUE" shall have the meaning as defined in Section 3 of the Equity Index Methodology, which is available on the Solactive website: <https://www.solactive.com/documents/equity-index-methodology/>

"SELECTION DAY" is 10 BUSINESS DAYS before the scheduled REBALANCE DAY, disregarding any potential change of the REBALANCE DAY.

"SELECTION PARTY" is EPIC (European Photonics Industry Consortium). For more information, please visit: <https://epic-assoc.com/>

"SOLACTIVE" shall have the meaning as defined in Section "Introduction".

"START DATE" shall have the meaning as defined in Section 1.3.

"TRADING DAY" is with respect to an INDEX COMPONENT included in the INDEX at the REBALANCE DAY/ADJUSTMENT DAY and every INDEX COMPONENT included in the INDEX at the CALCULATION DAY immediately following the REBALANCE DAY/ADJUSTMENT DAY (for clarification: this provision is intended to capture the TRADING DAYS for the securities to be included in the INDEX as new INDEX COMPONENTS with close of trading on the relevant EXCHANGE on the REBALANCE DAY) a day on which the relevant EXCHANGE is open for trading (or a day that would have been such a day if a market disruption had not occurred), excluding days on which trading may be ceased prior to the scheduled EXCHANGE closing time and days on which the EXCHANGE is open for a scheduled shortened period. The INDEX ADMINISTRATOR is ultimately responsible as to whether a certain day is a TRADING DAY.

The **"TRADING PRICE"** in respect of an INDEX COMPONENT and a TRADING DAY is the most recent published price at which the INDEX COMPONENT was traded on the respective EXCHANGE.

"WM / REFINITIV RATE" shall have the meaning as defined in Section 1.4.



7. HISTORY OF INDEX CHANGES

Version	Date	Description
1.0	06 May 2022	Index Guideline creation (<i>initial version</i>)
1.1	18 May 2023	Addition of 4.4.1 Rights Issue (Capital Increase) and 4.4.2 Capital decrease definitions



APPENDIX A

List of eligible exchanges:

No.	Exchange Code	Exchange
1	NA	Equity Euronext Amsterdam Netherlands
2	FP	Equity Euronext Paris France
3	FH	Equity Helsinki Stock Exchange Finland
4	HK	Equity Hong Kong Stock Exchange China
5	KP	Equity Korea Stock Exchange Korea
6	KQ	Equity Kosdaq Stock Exchange Korea
7	LN	Equity London Stock Exchange United Kingdom
8	UQ	Equity Nasdaq Global Market United States
9	UW	Equity Nasdaq Global Select Market United States
10	UN	Equity New York Stock Exchange United States
11	NO	Equity Oslo Norway
12	SE	Equity SIX Swiss Exchange Switzerland
13	SS	Equity Stockholm Stock Exchange Sweden
14	SF	Equity First North Stockholm Sweden
15	TT	Equity Taiwan Stock Exchange Taiwan
16	JT	Equity Tokyo Stock Exchange Japan
17	CT	Equity Toronto Stock Exchange Canada
18	GY	Equity Xetra Germany
19	LI	Equity London International Exchange
20	AT	Equity Australian Securities Exchange Australia
21	AV	Equity Vienna Stock Exchange Austria
22	NZ	Equity New Zealand Exchange
23	ID	Equity Irish Stock Exchange Ireland
24	DC	Equity NASDAQ OMX Copenhagen Denmark
25	SM	Equity Madrid Stock Exchange Spain
26	SQ	Equity Sociedad de Bolsas Spain
27	IM	Equity Borsa Italiana Italy
28	PL	Equity Euronext Lisbon Portugal
29	SP	Equity Singapore Exchange Singapore
30	BB	Equity Euronext Brussels Belgium
31	UR	Equity NASDAQ CM



APPENDIX B

As of March 2022, the following inclusion criteria for the indicated categories below are applicable.

Please refer to the most recent available document under the URL as provided in section 2.1 Index Universe Requirements above for the most recent applicable categories and inclusion criteria.

Categories	Inclusion criterion
Established norms around Environment, Human Rights, Corruption and Labour Rights Controversy	Non-Compliance with the UNGC
Tobacco	(5% Production <OR> 5% Retail <OR> 5% Related Products/Services)*
Defense – Weapons	(5% Military Contracting Weapons <OR> 5% Military Contracting Weapons – Related Products/Services)*
Defense – Controversial Weapons	Any direct Involvement or any indirect Involvement through corporate ownership
Small Arms	(5% Civilian customers (Assault and non-assault weapons) <OR> 5% Key Components <OR> 5% Military/law enforcement customers <OR> 5% Retail/Distribution)*
Coal	(5% Thermal Coal Extraction <OR> 5% Power Generation <OR> 5% Supporting Products/Services <OR> Power Generation Capacity Increase)*
Conventional Oil & Gas	(5% Generation <OR> 5% Production <OR> 5% Supporting Products/Services <OR> Capacity Increase) *
Unconventional Oil & Gas	(5% Oil Sands Extraction <OR> 5% Artic Oil & Gas Exploration/Extraction <OR> 5% Shale Energy Extraction <OR> Capacity Increase)*
Nuclear Power	(5% Production <OR> 5% Distribution <OR> 5% Supporting Products <OR> Capacity Increase)*
Alcohol	(5% Production <OR> 5% Retail <OR> 5% Related Products/Services)*
Gambling	(5% Operations <OR> 5% Specialized Equipment <OR> 5% Supporting Products/Services)*



Adult Entertainment	(5% Production <OR> 5% Distribution)*
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Note:

- % figures refer to revenue threshold (for degree of involvement). The criterion is fulfilled if involvement is equal to or above such threshold.
- Capacity increase refers to any increase in capacity from the immediately preceding SELECTION DAY of the INDEX
- The terminology used in the table above is specific to the DATA PROVIDER and may change from time to time.

*this includes significant corporate ownership (were a company holds a stake greater than 50% in an involved company, the revenues of the involved company are attributed to the company).

Any company included in the INDEX UNIVERSE which fulfills any of the criteria set out above shall be a component of the ESG EXCLUSIONS ENHANCED INDEX. The primary listing for each company is selected as INDEX COMPONENT.

For the avoidance of doubt, any company for which an evaluation of the criteria is not possible due to the non-availability of relevant data from the DATA PROVIDER, shall be a component of the ESG EXCLUSIONS ENHANCED INDEX.



APPENDIX C

List of ETFs used to determine the total asset under management tracking the INDEX:

No.	ISIN	Exchange
1	IE000QNJAOX1	L&G Optical Technology & Photonics ESG Exclusions UCITS ETF

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