

# Guide to the DAX Equity Indices

Formerly known as Guide to the Equity  
Indices of Deutsche Börse AG

Version 10.3.4

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## General Information

With effect to August 2019 Deutsche Börse AG has transferred the administration of the DAX Equity Indices formerly known as the Equity Indices of Deutsche Börse AG to its affiliate STOXX Ltd.

STOXX Ltd. develops, creates and publishes Indices for certain uses, e.g., the issuance of Financial Instruments. In general, an Index is any figure published or made available to the public that is regularly determined by the application of a formula (or any other method of calculation, or by an assessment) on the basis of the value of one or more underlying assets or prices, including estimated prices, actual or estimated interest rates, quotes and committed quotes, or other values or survey.

All DAX Equity Indices are governed by the respective index methodology applicable to the respective index or index family. Purpose of this Guide to the DAX Equity Indices (“Guide”) is to provide for a comprehensible index methodology in continuity of the former Guide to the Equity Indices of Deutsche Börse AG as last amended with effect from 26 June 2019 (version 9.2.4).

In order to ensure the highest quality of each of its indices, STOXX Ltd. exercises the greatest care when compiling and calculating equity indices on the basis of the rules set out in this Guide.

However, STOXX Ltd. cannot guarantee that the various indices, or the various ratios that are required for index compilation and computation purposes, as set out in this Guide, are always calculated free of errors. STOXX Ltd. accepts no liability for any direct or indirect losses arising from any incorrect calculation of such indices or ratios.

The DAX Equity Indices in no way represent a recommendation for investment. In particular, the compilation and calculation of the various indices shall not be construed as a recommendation of STOXX Ltd. to buy or sell individual securities, or the basket of securities underlying a given index.

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### History of Amendments to the Rules and Regulations

All amendments listed with effect prior to July 2019 are amendments to the Rules and Regulations of the former Equity Indices of Deutsche Börse AG.

Amendments listed as of August 2019 are amendments to the Rules and Regulations of STOXX Ltd in continuation of the Rules and Regulations of the former Equity Indices of Deutsche Börse AG.

Effective 23/11/2020	<ul style="list-style-type: none"> <li>- Creation of Version 10.3.4</li> <li>- Introduction of Net Return versions of CDAX and Prime All Share indices</li> </ul>
Effective 09/11/2020	<ul style="list-style-type: none"> <li>- Creation of Version 10.3.3</li> <li>- Introduction of the DAX 50 ESG Daily Settlement index</li> </ul>
Effective 09/10/2020	<ul style="list-style-type: none"> <li>- Creation of Version 10.3.2</li> <li>- Clarification: Rule 5.1.5 Determination of Deletion Price</li> </ul>
Effective 19/08/2020	<ul style="list-style-type: none"> <li>- Creation of Version 10.3.1</li> <li>- Rule change: Addition of Section 5.3.1 Insolvency of Companies</li> </ul>
Effective 19/08/2020	<ul style="list-style-type: none"> <li>- Creation of Version 10.3</li> <li>- Rule change: Section 5.1.1 Insolvency of Companies</li> </ul>
Effective 03/08/2020	<ul style="list-style-type: none"> <li>- Creation of Version 10.2.12</li> <li>- Decommissioning of selected DAXsupersector, DAXsector, DAXsubsector and DAXsubsector All indices</li> </ul>
Effective 08/07/2020	<ul style="list-style-type: none"> <li>- Creation of Version 10.2.11</li> <li>- Clarification of Wording in Chapter 2.6</li> <li>- Adjustment of Chapter 4.2.1/ 4.3.1</li> </ul>
Effective 26/06/2020	<ul style="list-style-type: none"> <li>- Creation of Version 10.2.10</li> <li>- Introduction of CZK variant of DAX</li> </ul>
Effective 20/06/2020	<ul style="list-style-type: none"> <li>- Creation of Version 10.2.9</li> <li>- Clarification of Section 5.1.1 Insolvency of Companies</li> </ul>
Effective 15/06/2020	<ul style="list-style-type: none"> <li>- Creation of Version 10.2.8</li> <li>- Governance update, Clarification of Sections 1.3, 1.4, 9</li> <li>- Correction of Wording in chapter 4.1.7.4 "Fast Exit Rule"</li> </ul>
Effective 20/04/2020	<ul style="list-style-type: none"> <li>- Creation of Version 10.2.7</li> <li>- Rule Enhancement chapter 5.1.4: Adjustment for market cap-neutral free float changes</li> <li>- Rule Clarification chapter 4.1.1.2: Aggregation of turnover in case of a merger</li> </ul>
Effective	<ul style="list-style-type: none"> <li>- Creation of Version 10.2.6</li> </ul>

20/03/2020	<ul style="list-style-type: none"> <li>- Updated meeting schedule for Advisory Board</li> <li>- Correction of improper translation from former German version in section 2.11</li> </ul>
Effective 05/03/2020	<ul style="list-style-type: none"> <li>- Creation of Version 10.2.5</li> <li>- Clarification of section 5.1.7</li> </ul>
Effective 04/03/2020	<ul style="list-style-type: none"> <li>- Creation of Version 10.2.4</li> <li>- Launch of DAX<sup>®</sup> 50 ESG Index</li> </ul>
Effective 10/02/2020	<ul style="list-style-type: none"> <li>- Creation of Version 10.2.3</li> <li>- Correction of improper wording in sections 4.1.1.1 and 4.1.1.3</li> </ul>
Effective 17/01/2020	<ul style="list-style-type: none"> <li>- Creation of Version 10.2.2</li> <li>- Alignment of the usage of Xetra<sup>®</sup> and FWB<sup>®</sup> Frankfurt Stock Exchange throughout the rulebook</li> </ul>
Effective 16/10/2019	<ul style="list-style-type: none"> <li>- Creation of Version 10.2.1:</li> <li>- Adjustment of the sector classification changes treatment for DAX ex Financials and DAX ex Financials 30 (section 4.1.4 and 4.1.5)</li> </ul>
Effective 02/10/2019	<ul style="list-style-type: none"> <li>- Creation of Version 10.2</li> <li>- Clarifications relating to changes in the EONIA rate determination</li> </ul>
Effective for index calculation as of September 2019	<ul style="list-style-type: none"> <li>- Creation of version 10.1.1</li> <li>- Clarifications relating to EU Benchmark Regulation of former version 9.3.0 on calculation amendment to Volatility Criteria (section 5.1.3) that cease to apply as of 23/09/2019</li> </ul>
effective 16/08/2019	<ul style="list-style-type: none"> <li>- Creation of Version 10.1</li> <li>- Clarifications relating to EU Benchmark Regulation of former version 9.2.4</li> <li>- Changes relating to the transfer of index administration to STOXX Ltd.</li> <li>- Inclusion of the ÖkoDAX into Equity Guide in Chapter 4.1.6</li> </ul>
effective 26/06/2019	<ul style="list-style-type: none"> <li>- Creation of version 9.2.4:</li> <li>- Adoption of chapter 8.4 Spin-offs to consider “multiple spin-offs”</li> <li>- Adjustment of references concerning family ownership in chapter 2.3 Free Float due to the new Market Abuse Regulation (MAR)</li> </ul>
effective for index calculation as of December 2018	<ul style="list-style-type: none"> <li>- Creation of version 9.2.3:</li> <li>- Removal of 2-months Euribor from calculation of X-indices</li> </ul>
effective 23/10/2018	<ul style="list-style-type: none"> <li>- Creation Version 9.2.2:</li> <li>- Change of the logic for timing of the advisory board meeting</li> <li>- Include cut-off time at cut-off date for creation of the ranking list</li> <li>- Rule Clarification chapter 4.1.1.2: Inclusion in the Ranking List in the event of several share classes</li> <li>- Deletion of chapter 4.1.1.4 “Transition Rule” and deletion of note about the relevance of the Index Guide/ Transition rules</li> <li>- Reintegration of the sequential production of the ranking list</li> <li>- Correction of wording for X-Indices</li> </ul>

	- Clarification of chaining for equally weighted indices
effective 24/09/2018	- Creation of version 9.2.1: - Termination of calculation and dissemination of Midcap Market Index
effective 31/08/2018	- Creation of version 9.2.0: - Addition of note about the relevance of the Index Guide / transition rules - Addition of chapter 4.1.1.4: Transition rules
effective 05/06/2018	- Creation of version 9.1.0: - Launch of DAX Net Return CHF Index - Chapter 9.6: Inclusion of DAX Currency Variants
effective for index calculation as of September rebalancing 2018	- Creation of Version 9.0.0 - Change of index methodology for MDAX, SDAX, TecDAX and derived indices (e.g. HDAX): Elimination of the separation between Tech and Classic in selection criteria for MDAX and SDAX, inclusion of specific DAX-companies in TecDAX - Increase in number of components from 50 to 60 for MDAX and from 50 to 70 for SDAX
effective 28/05/2018	- Creation of version 8.6.0: - Chapter 4.1.1.3 1): Adjustment of Fast Exit Rule
effective 16/05/2018	- Creation of version 8.5.0: - Launch of DAX <sup>®</sup> ex Financials 30 Net Return Index
effective 07/02/2018	- Creation of version 8.4.0: - Launch of Scale 30 Index
effective 29/12/2017	- Creation of version 8.3.0: - Adjustment of selection criteria for ex Financials indices 4.1.3 & 4.1.5
effective 08/05/2017	- Creation of version 8.2.1: - Adaption of contact details
effective 15/03/2017	- Creation of version 8.2.0: - Discontinuation of Entry All Share Index and Entry Standard Index - Change of index methodology for all indices that are based on the Entry Standard Segment: Scale All Share replaces Entry All Share Index
effective 01/03/2017	- Creation of version 8.1.0: - Chapter 4.1.1.2: Introduction sequential creation of the ranking list in order to make changes in DAX <sup>®</sup> transparent on MDAX <sup>®</sup> , SDAX <sup>®</sup> , TecDAX <sup>®</sup> ranking lists - Chapter 5.1.6: Adjustment: requirements for conversion into tendered shares
effective 30/11/2016	- Creation of version 8.0.2: - Chapter 4.1.1.1: Correction of wording in chapter 4.1.1.2



	<ul style="list-style-type: none"> <li>- Chapter 4.1.1.1: Shifting of the basic criteria minimum reference since first listing in 4.1.1.2</li> <li>- Chapter 6.3.4: Concretion of the DAX<sup>®</sup>-opening criteria, Introduction of net return versions for DAX<sup>®</sup>, MDAX<sup>®</sup>, SDAX<sup>®</sup>, TecDAX<sup>®</sup></li> <li>- Chapter 3.5.1: Introduction of XDAXDAX<sup>®</sup> Index</li> </ul>
effective 05/09/2016	<ul style="list-style-type: none"> <li>- Creation of version 8.0.1:</li> <li>- Change only applicable to English version of the Guide to the Equity Indices of Deutsche Börse - 4.1.1.3:</li> <li>- Correction of wording within Regular Exit rule</li> </ul>
effective 05/09/2016	<ul style="list-style-type: none"> <li>- Creation of version 8.0:</li> <li>- Chapter 4.1.1: Introduction of entirely quantitative rules for index composition of MDAX<sup>®</sup>, SDAX<sup>®</sup> and TecDAX<sup>®</sup> after model of DAX<sup>®</sup></li> </ul>
effective 31/05/2016	<ul style="list-style-type: none"> <li>- Creation of version 7.2:</li> <li>- Chapter 4.1.1.1: Correction of paragraph "Expanded basic criteria for foreign companies"</li> </ul>
effective 26/04/2016	<ul style="list-style-type: none"> <li>- Creation of version 7.1:</li> <li>- Chapter 3: Correction of typo in table 'General Index Information' falsely displaying the General Standard Index as FF-MCAP when it is actually MCAP weighted</li> <li>- Chapter 6.3.6: Edit of wording for the index-specific deviation threshold from one index tick to another</li> </ul>
effective 18/01/2016	<ul style="list-style-type: none"> <li>- Chapter 6.3: Shift of the DAX<sup>®</sup> opening criterion from 9:03 a.m. to 9:06 a.m.</li> </ul>
effective 15/12/2015	<ul style="list-style-type: none"> <li>- Version 7.0: Restructuring of Guidebook</li> </ul>

CDAX<sup>®</sup>, Classic All Share<sup>®</sup>, DAX<sup>®</sup>, FDAX<sup>®</sup>, HDAX<sup>®</sup>, MDAX<sup>®</sup>, ODAX<sup>®</sup>, SDAX<sup>®</sup>, TecDAX<sup>®</sup>, X-DAX<sup>®</sup>, X-MDAX<sup>®</sup>, X-TecDAX<sup>®</sup> are registered trademarks of Qontigo Index GmbH.

Eurex<sup>®</sup>, FWB<sup>®</sup> Frankfurt Stock Exchange, Xetra<sup>®</sup> and XTF<sup>®</sup> Exchange Traded Funds are registered trademarks of Deutsche Börse AG.

## 1 Introduction

### 1.1 Principles for Index Calculation

The DAX Equity Indices are calculated based on the following principles wherever possible:

- Representative: The indices aim to best represent the performance of the target market
- Tradeable: Index components are tradeable in relation to the size of the companies and the target market
- Replicable: Performance of indices can be tracked by an actual portfolio
- Stable: High degree of index continuity
- Rules-based: Index calculation and changes to the index composition follow transparent rules
- Predictable: Changes to index rules are publicly announced with a reasonable notice period (generally at least 2 trading days), and are never implemented retroactively
- Transparent: Decisions are based on public information

### 1.2 Advisory Body

The Advisory Board for Equity Indices (“Arbeitskreis Aktienindizes”) provides advice on topics related to indices administered by STOXX Ltd and referenced in this guide. It acts as an advisory body based on the basic principles mentioned and the rules of these guidelines. The Advisory Board does not take binding decisions on behalf of STOXX Ltd.

The Advisory Board for Equity Indices consists of employees appointed by STOXX Ltd. and representatives of leading national and international financial institutions. The Advisory Board's meetings usually take place not later than the sixth trading day in March and September. Extraordinary meetings may also be convened.

### 1.3 Discretion

Save for the cases expressly described in this Guide, the index methodology is entirely rule-based and automatic. Discretion only applies if expressly stated and must be exercised as provided for in this Guide.

#### 1.3.1 Exercise of Discretion

Discretion may only be exercised by STOXX Committee(s) (as defined hereafter) with a view to resolve issues arising in maintaining the prevailing index methodology in response to events, with an overarching aim to accurately and reliably measure the market or economic realities as defined in this Guide.

Discretion shall be exercised in line with the following principles:

- The body or person(s) exercising discretion must not be affected by a conflict of interest;
- The body or person(s) exercising discretion must have the requisite skills, knowledge and experience to exercise such discretion;
- All facts and circumstances relevant for the exercise of discretion must have been established and properly documented prior to the exercise of discretion;
- The exercise of discretion must comply with all applicable laws and regulations;
- The body or person(s) exercising discretion must act on the basis of the relevant facts and circumstances only, must give proper weight to the various considerations and ignore irrelevant facts and circumstances;
- The body or person(s) exercising discretion must act with a view to maintain the integrity of the market or economic reality by aiming to ensure that indices remain representative and can be replicated, taking into account, inter alia, some, or all of the following:
  - Relevance of the event to the DAX indices
  - Trading accessibility of the affected market
  - Availability of alternative markets
  - Ability of market participants to replicate the index or, where applicable, the results of the index review
  - Public information related to the events and their development in the foreseeable future
- 
- The body or person(s) exercising discretion must act honestly, reasonably, impartially and in good faith.

As part of the decision-making process, STOXX may consult with external stakeholders.

**Discretionary Rule:** *Any exercise of discretion must take into account the rationale of the index, the purpose of the rules with regard to which discretion is exercised, the objective to preserve market integrity and reliability of the index calculation to avoid undue market impact, the technical feasibility and economic reasonability, and the interest of licensees or investors.*

The cases in which STOXX Ltd. may exercise discretion regarding the index methodology and its application are noted in the respective rules of this Guide.

The following bodies (hereafter each of them separately also referred to as “STOXX Committee”) are involved in the decision-making process relevant for the indices governed by this Guide:

- Product Initiation Committee (PIC),
- Product Approval Committee (PAC),
- Index Operations Committee (IOC),
- Index Management Committee (IMC),
- Index Governance Committee (IGC),
- Oversight Committee (OC),

- Management Board (MB).

The following table summarizes the cases in which STOXX Committee(s) may exercise discretion regarding the index methodology and its application

Case	Responsible STOXX Committee
Index Termination and Transition	IGC
Sector Affiliation	IGC
Exclusion from Rankings	IGC
Deviation from Fast Exit/Fast Entry rules and Regular Exit/Regular Entry rules in exceptional cases	IGC
Procedure in case of a breach of the Basic Criteria	IGC
Determination of expected price to new shares in case of Subscription Rights on Other Share Classes	IGC
Procedure for Subscription Rights on Instruments with Embedded Options	IGC
Limitations	IGC
Review and approve treatment of Calculation Errors. Non-rule-based Correction.	IOC, IGC
Annual methodology review schedule	IGC
Initiation of ad hoc methodology reviews	IMC
Determination regarding materiality of changes to the index methodology	IMC,
Deviation from standard consultation period in case of material changes of the index methodology	IGC
Deviations from notification procedure in case of non-material changes of the index methodology	IMC
Extreme or exceptional market conditions or analogous extraordinary situations to be addressed in a fast track way (e.g, Pandemic)	IGC

Periodic review of current index methodologies (e.g. matching of underlying interest) including initiation of ad-hoc reviews of benchmarks or benchmark families and clarification of methodologies (if required).	IGC
(Annual) Review of the control framework (including identification of operational risks and definition of measures that address operational risks).	IOC, IMC
Review and approve reports on monitoring of outsourced service providers, contributors, risks and incidents reporting (Art. 10 BMR relevant)	IGC
Consideration and follow-up on the implementation of remedial actions based on results of internal and external audits.	IGC
Monitoring of input data (including input data from contributors).	IOC, IGC, OC
Review and approval of special cases identified during index review	IOC, IMC, IGC
Review and approval of complex corporate actions (disagreement on treatment of corp. action or application of rules)	IOC, IMC, IGC
Decisions with respect to complaints.	IGC
Review and approve periodic reporting requirements under the Periodic Review Policy.	IGC
Review and approve changes in case thresholds of significant or critical benchmarks exceeded and notify competent authority	IGC
Approval of introduction of new internal or strategic projects for new product ideas.	PIC
Responsibilities for clients requests: Decision to proceed or not or further analysis required.	PIC
Approval of launch of new products, including checks on suitability based on Positioning Paper .(including Regulatory Checklist, financial products that will be used and confirmation that any maintenance tool will be delivered by the launch date).	PAC, IGC
Responsibilities for clients, strategic or internal requests:  -Final estimation of costs and revenues and final launch date  -Final Positioning Paper (including Regulatory Checklist, financial products that will be used and confirmation that any maintenance tool will be delivered by the launch date).	PAC, IGC

## 1.4 Index Termination Policy

For termination of an index or an index family that underlie financial products issued on the market, to the knowledge of STOXX Ltd., a market consultation will be conducted by STOXX Ltd. in advance of the termination in line with STOXX Transition Policy and STOXX Consultation Policy (publicly available on STOXX website). The length of the consultation period will be defined in advance based on the specific issues of each proposed termination subject to STOXX Benchmark Transition Policy (Discretionary Rule, see Section 1.3). During the consultation period, clients and third parties will have the chance to share their concerns regarding the termination of the index or index family. Based on the collected feedback, STOXX Ltd. may rethink its decision to terminate an index or an index family (Discretionary Rule, see Section 1.3). At the end of the consultation period, STOXX Ltd. will publicly announce its final decision about the termination. A transition period will be granted in the event of termination (Discretionary Rule, see Section 1.3).

For termination of an index or an index family that do not underlie financial products issued on the market, no market consultation will be conducted.

## 2 Determination of Index Parameters

### 2.1 Ex-Date

The ex-date is the date as of which securities are traded without a specific capital measure, e.g. spin-off, or without a specific right, e.g. dividend claim or subscription right.

### 2.2 Fixed Holdings

The shares of a company that are not assigned to the free float are considered fixed holdings. By definition, these shares cannot be freely traded.

### 2.3 Free Float

1. Free float refers to the freely tradeable shares of a company that are not held in fixed ownership. The following rules apply to determine the free float: All shareholdings of an owner which, on an accumulated basis, account for at least 5 percent of a company's share capital attributed to a class of shares are considered to be non-free float.

Shareholdings of an owner also include shareholdings

- held by the family of the owner as defined by section 19 of the Market Abuse Regulation (MAR),
- for which a pooling has been arranged in which the owner has an interest,

- managed or kept in safe custody by a third party for the account of the owner,
- held by a company which the owner controls as defined by section 290 (2) of the German Commercial Code (HGB),
- subject to a statutory or contractual qualifying period of at least six months.

This does not include shareholdings of

- asset managers and trust companies,
- funds and pension funds,
- investment companies or foreign investment companies in their respective special fund assets

insofar as they are held as part of short-term investment strategies and the size of a shareholding does not exceed 25 percent of a company's share capital. This does not apply to shareholdings held by venture capital companies, government funds or shareholdings held by their financial agencies, or supranational funds.

In this context, shares for which the acquirer has at the time of purchase clearly and publicly stated that strategic goals are being pursued and that the intention is to influence the company policies and ongoing business of the company in the long-term are not considered a short-term investment. In addition, shares having been acquired through a public purchase offer will not be considered a short-term investment.

2. Shares of an owner that are subject to a statutory or contractual qualifying period of at least six months with regard to their disposal and shares held by the issuing company (treasury shares) are – irrespective of the size of a shareholding – always considered fixed holdings.

3. In case of an ongoing takeover, shares that are under the control of the overtaking companies via derivatives will also be considered for the determination of the stock's free float. The derivatives need to be subject to registration and correspondingly registered according to legislation in Securities Trading Act (WpHG) and Securities Acquisition and Takeover Act (WpÜG).

The various criteria laid down in numbers 1 to 3 are also fully applied to classes of shares that are subject to restrictions of ownership. For the purpose of the determination of the free float as described above, each ISIN under which shares are traded is considered a separate share class.

If STOXX Ltd. determines and publishes company's free float within the framework of a scheduled chaining, this free float factor will only be changed or corrected at the next scheduled chaining date. This is also the case if STOXX Ltd. learns of facts or circumstances following the determination of the free float that would have resulted in the determination of a different free float factor had they been known at the time of the determination.

## 2.4 Free Float Market Capitalisation

Free float market capitalisation is the product of market capitalisation and the free float factor.

## 2.5 Share Capital

The share capital is the number of all outstanding shares in a company.

## 2.6 Main Focus of Trade on FWB<sup>®</sup> Frankfurt Stock Exchange

A company's share class focuses its trading volume on FWB<sup>®</sup> Frankfurt Stock Exchange if at least 33% of its total turnover within the EU and the EFTA has been transacted via Xetra<sup>®</sup> and Börse Frankfurt over the last 12 months. The total turnover includes the turnover of all stock listings of the company's share class that arise due to trading on regulated exchanges and multilateral trading facilities (MTF<sup>1</sup>) inside the EU/EFTA.

## 2.7 Legal Headquarters

The operating centre (head office) of commercial companies is termed the legal headquarters. It is generally specified in the articles of association.

## 2.8 Operating Headquarters

The operational headquarters is the location of (part of) the executive management or (part of) the administrative management.

## 2.9 Market Capitalisation

The product of the number of outstanding shares of a company's share class and the price of the respective share class is defined as the market capitalisation of a company's share class.

## 2.10 Order Book Volume

The sum of the turnover determined on Xetra<sup>®</sup> and Börse Frankfurt for the respective share classes of a company is defined as the order book volume.

The period, over which the turnover is calculated, is stipulated individually for each index type and will be applied pursuant to the specific provisions for the respective index type.

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<sup>1</sup> according to classification by ESMA



## 2.11 Sector Affiliation

For the purpose of Sector Indices as described in Section 3.3 companies are assigned to the sectors according to the sector classification (under Section 0). Sector assignment is dependent upon the respective company's sales focus. The sector assignment of all Prime Standard listed companies will be assessed on a regular basis in August each year, effective the following month in September.

The following rule shall apply for investment companies: Investment companies are initially allocated to the Financial Services/Private Equity & Venture Capital sector. If the activities of a company extend to several industrial areas, the company is allocated to the "Industrial/Industrial Diversified" sector (Discretionary Rule, see Section 1.3). Investment companies with a clear focus on a certain sector are allocated to that sector. The adjustment of sector classifications is described in Section 4.3.

## 2.12 XLM – Xetra<sup>®</sup> Liquidity Measure

The Xetra<sup>®</sup> Liquidity Measure (XLM)<sup>2</sup> is given in basis points (100 basis points = 1 percent) and relates to the relevant market impact costs of the so-called "roundtrip" (simultaneous purchase and sale of a position) for a given order volume. Since July 2002, the measure has been calculated over the entire trading day for all shares in continuous trading on Xetra<sup>®</sup>. An XLM of 10 basis points and an order volume of €25,000, for example, mean that the market impact costs for the purchase and sale of this share totalled €25. The lower the XLM, the lower the market impact costs for the trading of a share and the higher the liquidity of a share and its trading efficiency.

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<sup>2</sup> <https://www.xetra.com/xetra-en/trading/market-quality/xlm-xetra-liquidity-measure>

### 3 General Index Information

	Index	No. companies	Calc. Basis	Base date	Sector	Segment	Weighting	Cap limit <sup>3</sup>	Trading Form	Calc. <sup>4</sup> interval
Selection indices	DAX®	30	1000	30.12.1987	Tech & Classic	Prime	FF-MCap	10 %	Continuous	1 Sec.
	MDAX®	60	1000	30.12.1987	Tech & Classic	Prime	FF-MCap	10 %	Continuous	1 Sec.
	SDAX®	70	1000	30.12.1987	Tech & Classic	Prime	FF-MCap	10 %	Continuous	60 Sec.
	TecDAX®	30	1000	30.12.1997	Tech	Prime	FF-MCap	10 %	Continuous	1 Sec.
	HDAX®	Variable	500	30.12.1987	Tech & Classic	Prime	FF-MCap	10 %	Continuous	60 Sec.
	ÖkoDAX	10	100	21.03.2003	Tech	Prime	FF-MCap	-	Continuous	60 Sec.
	General Standard Index	200	1000	21.03.2003	-	General	MCap	-	Continuous & One-auction	60 Sec.
	Scale 30	30	1000	17.03.2017	-	Scale	MCap	10 %	Continuous	60 Sec.
	DAX® ex Financials	Variable	1000	02.12.2002	-	Prime	FF-MCap	-	Continuous	1 Sec.
	DAX® ex Financials 30	30	1000	30.12.2003	-	Prime	FF-MCap	10 %	Continuous	1 Sec.
International	DAX® International 100	100	1000	20.03.2008	Tech & Classic	Prime, General & Scale	MCap	15 %	Continuous	60 Sec.
	DAX® International Mid	100	1000	20.03.2008	Tech & Classic	Prime, General & Scale	MCap	15 %	Continuous & One-auction	60 Sec.
All Share-Indices	Prime AS	Variable	1000	21.03.2003	Tech & Classic	Prime	FF-MCap	-	Continuous & One-auction	60 Sec.
	CDAX®	Variable	100	30.12.1987	Tech & Classic	Prime & General	FF-MCap	-	Continuous & One-auction	60 Sec.
	Tech AS	Variable	1000	30.12.1997	Tech	Prime	FF-MCap	-	Continuous & One-auction	60 Sec.

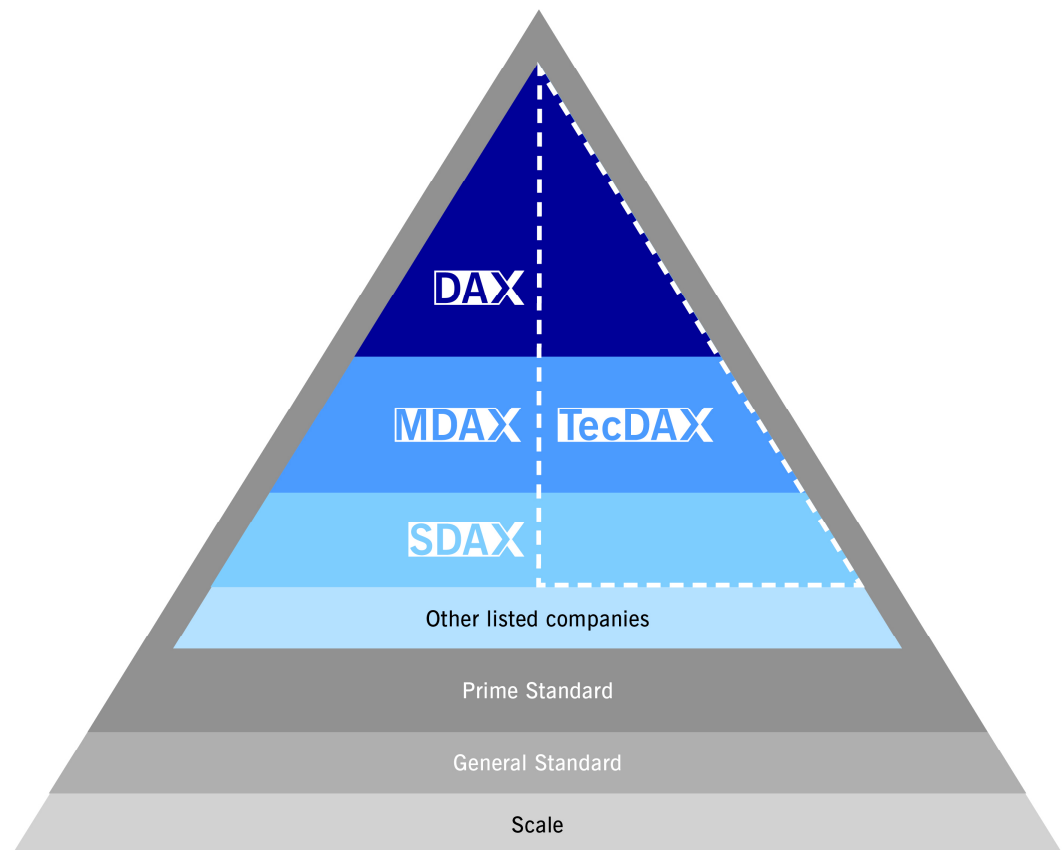
<sup>3</sup> As of the chaining day in September 2006 the cap limit was lowered to 10 percent.

<sup>4</sup> DAX, MDAX and TecDAX are calculated once a second since 1 January 2006.

	Index	No. companies	Calc. Basis	Base date	Sector	Segment	Weighting	Cap limit <sup>3</sup>	Trading Form	Calc. <sup>4</sup> interval
	Classic AS	Variable	1000	21.03.2003	Classic	Prime	FF-MCap	-	Continuous & One-auction	60 Sec.
	General AS	Variable	1000	21.03.2003	-	General	MCap	-	Continuous & One-auction	60 Sec.
	Scale AS	Variable	1000	28.02.2017	-	Scale	Equal-weighted	-	Continuous & One-auction	60 Sec.
Sector-Indices	DAXsupersector	Variable	100	21.03.2003	Tech & Classic	Prime	FF-MCap/GG	10%	Continuous & One-auction	60 Sec.
	DAXsector	Variable	100	30.12.1987	Tech & Classic	Prime	FF-MCap	-	Continuous & One-auction	60 Sec.
	DAXsubsector	Variable	100	21.03.2003	Tech & Classic	Prime	FF-MCap	-	Continuous & One-auction	Once a day
	DAXsector All	Variable	100	20.03.2008	-	Prime, General & Scale	MCap	-	Continuous & One-auction	60 Sec.
	DAXsubsector All	Variable	100	20.03.2008	-	Prime, General & Scale	MCap	-	Continuous & One-auction	Once a day

### 3.1 Selection Indices

The Selection Indices represent the largest companies with the highest turnovers in their segment. The diagram below provides an overview of the most important selection indices:



**DAX<sup>®</sup>**

The DAX<sup>®</sup> Index tracks the segment of blue chips listed in Prime Standard. It includes the 30 largest companies with the highest turnover on the FWB<sup>®</sup> Frankfurt Stock Exchange. The detailed admission criteria are given in section 4.1.

The DAX<sup>®</sup> price index has continued the Börsen-Zeitung index, which historically extends back to 1959, since its introduction.

**MDAX<sup>®</sup>**

MDAX<sup>®</sup> includes the 60 companies which follow after DAX<sup>®</sup> companies in terms of market capitalisation and turnover. The detailed admission criteria are given in section 4.1.

**SDAX<sup>®</sup>**

SDAX<sup>®</sup> includes the 70 companies which follow after MDAX<sup>®</sup> companies in terms of market capitalisation and turnover. The detailed admission criteria are given in section 4.1.

**TecDAX<sup>®</sup>**

The TecDAX<sup>®</sup> Index includes the 30 largest and most liquid tech companies in terms of market capitalisation and turnover. Tech is hereby defined according to the sector classification in section 0. The detailed admission criteria are given in section 4.1. TecDAX<sup>®</sup> has continued NEMAX<sup>®</sup> 50's historical index data since the latter's discontinuation.

**HDAX<sup>®</sup>**

Together, the 30 companies from DAX<sup>®</sup> Index, the 60 companies from MDAX<sup>®</sup> Index and the 30 companies from TecDAX<sup>®</sup> index form HDAX<sup>®</sup>'s index portfolio. Hereby, companies that are included in both TecDAX and DAX or MDAX are considered only once. As a result, this index includes the large and medium-sized companies in Prime Standard without any sector restriction.

**General Standard Index**

The General Standard Index includes the 200 companies with the highest turnovers (in the preceding twelve months) from the General Standard segment. To prevent the largest companies measured by market capitalisation from dominating the General Standard segment, only companies with a market capitalisation of less than €5 billion are considered.

**Scale 30 Index**

The Scale 30 Index selects the most liquid companies from the Scale segment. It covers the 30 most liquid companies by 12-months Turnover that are traded on Xetra<sup>®</sup>. Companies that are traded on Börse Frankfurt only are not eligible. Similar to the methodology of the DAX family, trading value from Börse Frankfurt as well as Xetra<sup>®</sup> are considered. The Scale 30 Index offers a liquid alternative for qualified investors who are able to evaluate the opportunities and risks in a market segment with low transparency standards.

### **DAX<sup>®</sup> ex Financials Index**

DAX<sup>®</sup> ex Financials Index corresponds to the composition of the DAX<sup>®</sup> Index excluding the FIRE super sector (Finance, Insurance and Real Estate). It therefore tracks the blue-chips permitted in Prime Standard, but which are not part of the FIRE super sector. It thus includes a variable number of companies which tends to be lower than 30. The detailed admission criteria are given in section 4.1.4.

### **DAX<sup>®</sup> ex Financials 30 Index**

The DAX<sup>®</sup> ex Financials 30 Index tracks the blue chips permitted in Prime Standard which do not belong to the FIRE super sector (Finance, Insurance and Real Estate). Unlike DAX<sup>®</sup> ex Financials, it always has 30 companies. These are selected according to market capitalisation and turnover. The detailed admission criteria are given in section 4.1.5.

### **ÖkoDAX**

The ÖkoDAX Index selects the 10 largest stocks from the DAX Renewable Energy Sector by free-float market capitalisation, applying an equal weighting of index constituents. The detailed criteria of constituent selection are given in section 4.1.6.

### **DAX<sup>®</sup> 50 ESG**

The DAX<sup>®</sup> 50 ESG tracks the performance of the 50 largest, most liquid stocks listed in Prime Standard that have comparably good performance based on their Environmental, Social and Governance criteria. Further, the stocks must have passed standardized ESG screens related to Global Compact Principles, as well as the involvement in controversial weapons, tobacco production, thermal coal, nuclear power and military contracting. The base universe of the index is the HDAX. The detailed criteria of constituent selection are given in section 4.1.7.

## **3.2 All Share Indices**

### **Prime All Share**

Each of the companies listed on FWB<sup>®</sup> Frankfurt Stock Exchange can decide whether to apply to be listed in General, Prime or Scale Segment. Inclusion in Prime Standard results in higher post-admission obligations regarding transparency. With Prime All Share, STOXX Ltd. administers an index that measures the overall performance of all the companies in this segment.

### **Technology All Share**

All Prime Standard companies below the DAX<sup>®</sup> Index assigned to technological sectors are summarised in the Technology All Share Index. The restriction to companies below DAX is

there to prevent DAX<sup>®</sup> companies from dominating. The Technology All Share Index has continued NEMAX<sup>®</sup> All Share's historical index data since the latter's discontinuation.

#### **Classic All Share<sup>®</sup>**

All Prime Standard companies below the DAX<sup>®</sup> Index assigned to traditional sectors are summarised in the Classic All Share<sup>®</sup> Index. The restriction to companies below DAX<sup>®</sup> is there to prevent DAX<sup>®</sup> companies from dominating.

#### **CDAX**

The CDAX<sup>®</sup> Index includes all German companies in the Prime Standard and General Standard segments. CDAX therefore measures the performance of the entire German stock market and is ideal for analysis purposes.

#### **General All Share**

Similar to Prime All Share, the General All Share Index includes all companies listed in the General Standard segment and outlines the performance of this segment.

#### **Scale All Share Index**

The Scale All Share Index includes all companies in the Scale segment. It therefore describes the overall performance of all companies in the Scale segment. The Scale All Share is geared primarily towards qualified investors who are able to evaluate the opportunities and risks in a market segment with low transparency standards.

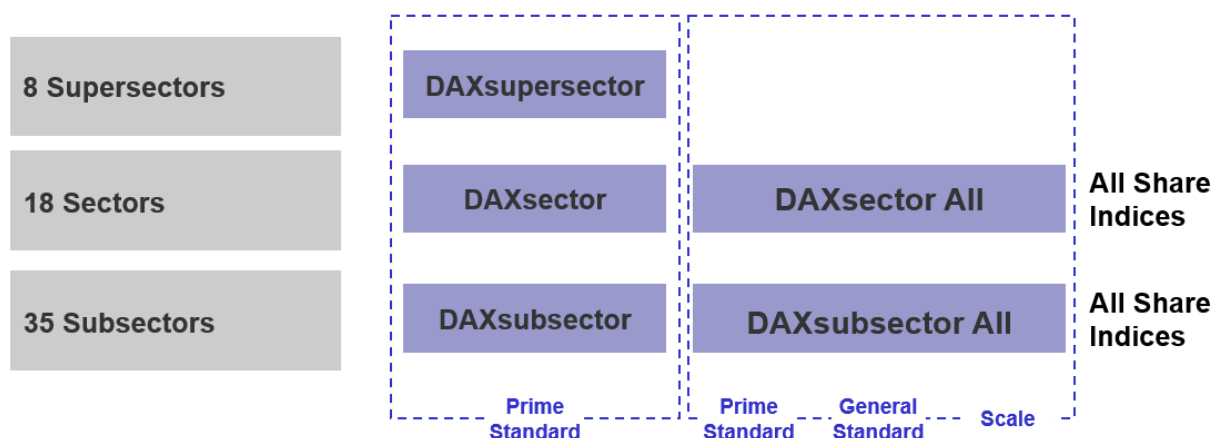
### **3.3 Sector Indices**

STOXX Ltd. calculates sector indices for the Prime Standard segment as well as for a larger representative portfolio comprising all companies listed in Prime Standard, General Standard and Scale segment.

For both the Prime segment as well as the larger portfolio, 18 sector indices and 35 subsector indices are provided. In addition, eight super sector indices are calculated for the Prime segment. Sector and subsector indices are designed as All Share indices, whereas only companies with an ADTV<sup>5</sup> of at least €1 million qualify for the super sector indices. The various Prime sectors have been based on the historical index data of the CDAX<sup>®</sup> sector indices since April 1999. In the appendix a table shows the different super sectors, sectors and subsectors (section 0). The classification of companies into the respective traditional or technology sectors is done on the basis of the subsectors (section 0). The diagram below provides an overview of the sector indices:

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<sup>5</sup> ADTV = average daily trading volume



### 3.4 International Indices

In order to provide a visibility platform for all German and foreign companies listed on the FWB<sup>®</sup> Frankfurt Stock Exchange, STOXX Ltd. calculates international indices that each contain 100 German and 100 foreign companies. These 200 companies listed in either Prime Standard, General Standard or Scale segment are selected on the basis of their order book volumes on Xetra<sup>®</sup> over the last three months. The DAX International 100 comprises the first 100 companies based on the previous three months' turnover and the subsequent 100 companies by the same criterion from the portfolio of DAX International Mid 100.

### 3.5 Index-Based Calculation Products

#### 3.5.1 X-Indices

The X-indices X-DAX<sup>®</sup>, X-MDAX<sup>®</sup> and X-TecDAX<sup>®</sup> are calculated on the basis of events and distributed from 8:00 am until 9:00 am (X-DAX<sup>®</sup>: until DAX-opening<sup>6</sup>) and from 5:30 pm until 10:15 pm. The calculation of the X-DAX Index is based on the daily comparison of the DAX<sup>®</sup> index values with the respective future. The calculation of the X-MDAX and the X-TecDAX is based on "cost of carry"-adjusted MDAX<sup>®</sup> and TecDAX<sup>®</sup> futures prices. The X-indices act as indicators for market development outside Xetra<sup>®</sup> trading hours.

The longer computation time of X-indices covers the entire trading time of US stock exchanges.

XDAXDAX<sup>®</sup> is calculated and distributed as a combination of X-DAX<sup>®</sup> and DAX<sup>®</sup>. This serves the need of market participants to monitor the price change of DAX<sup>®</sup> during the trading day including pre and post DAX<sup>®</sup> indicators in one time series. With XDAXDAX<sup>®</sup> DAX<sup>®</sup> and X-DAX<sup>®</sup> are merged and distributed using one ISIN.

<sup>6</sup> Valid as of 8 February 2010.



### 3.5.2 Late/Early Indices

Outside Xetra<sup>®</sup> trading hours, STOXX Ltd. calculates the indices L/E-DAX, L/E-MDAX, L/E-SDAX and L/E-TecDAX every 60 seconds using prices traded on Börse Frankfurt . These indices correspond in composition to the respective DAX<sup>®</sup>, MDAX<sup>®</sup>, SDAX<sup>®</sup> and TecDAX<sup>®</sup> indices. They serve as an indicator of market development outside the regular Xetra<sup>®</sup> trading period for investors. All L/E indices are calculated as performance indices only.

## 4 Regular Index Review

Depending on the concept of composition, indices are either designed to be All Share indices (including Sector indices) or Selection indices.

### 4.1 Selection Indices

The Selection Indices represent the largest companies with the highest turnovers in their segments. These are selected according to market capitalisation and order book volume. The indices are DAX®, MDAX®, SDAX®, TecDAX®, HDAX®, General Standard Index, Scale 30 Index, DAX® ex Financials Index, DAX® ex Financials 30 Index and ÖkoDAX.

The DAX 50 ESG represent the largest companies with the highest turnovers that have comparable good performance based on their Environmental, Social and Governance criteria. These are selected according to market capitalisation, order book volume and Sustainalytics' ESG score.

#### 4.1.1 DAX, MDAX, SDAX and TecDAX

##### 4.1.1.1 Basic Criteria

The basic criteria for including companies in DAX®, MDAX®, SDAX® and TecDAX are:

- An existing listing in the Prime Standard segment (i.e. there is no public information on the existence of an application for revocation pursuant to section 46 of the Exchange Rules for the FWB®)
- Continuous trading on Xetra®
- Minimum free float of 10%
- Legal headquarters or operating headquarters in Germany

Expanded basic criteria for foreign companies:

Foreign companies must

- have a headquarter in Germany. Other than the legal headquarter this can also be an operating headquarter
- or
- have their focus of trading volume on FWB® Frankfurt Stock Exchange (see section 2.6) and their Legal headquarters in an EU or EFTA country

##### 4.1.1.2 Equity Index Rankings

The selection of companies in the DAX®, MDAX®, SDAX® and TecDAX® indices is based on the quantitative criteria of order book volume and free float market capitalisation. The

reporting date for collecting data is the last trading day of the month for which the ranking list is created. The ranking list is created and published monthly by STOXX Ltd.

### **Creating the Ranking List**

To create the ranking list, the parameters relevant for the allocation of a rank – order book volume and free float market capitalisation – are recorded and the basic criteria are checked on the recording date (last trading day of the month).

The following applies to free float market capitalisation:

A volume-weighted average price over 20-trading days (20-trading day VWAP) is used to calculate the free float market capitalisation. This is calculated for each share class as the average value of daily volume-weighted average prices based on Xetra<sup>®</sup> prices (VWAP) of the last 20 trading days. The 20-trading day VWAP on the last trading day of a month is used to create the ranking list.

The following applies to the order book volume:

The order book volume is the sum of the daily turnover of a class over a period of 12 months. The following special provisions apply:

- If the order book volumes of a company are not available for the whole twelve-month period due to the time of its commencement of trading or its initial listing on one of the transparency standards, the order book volumes of the first 20 trading days are ignored, and the remainder of the relevant data is linearly extrapolated to twelve months. This procedure, however, is only applicable to companies which have been traded for at least 30 days as per the reporting date, taking order book volumes of at least ten days into account for extrapolation purposes.
- If the transparency standard is changed (Scale segment, General and Prime Standard), the order book volumes from the original transparency standard are considered.

In case the shares of a newly listed company result from conversion of the shares tendered for exchange of two or more companies that cease to exist (i.e. Merger of companies), the order book volumes of the companies are aggregated, provided that they were listed on the FWB<sup>®</sup> Frankfurt Stock Exchange, in one of the transparency standards, prior to the merger. A requirement for aggregating order book volumes is that the companies that no longer exist are delisted from active trading status on any stock exchange. The order book volumes are aggregated retroactively at this point for the allocation of a rank.

### Inclusion in the Ranking List

There are two different Ranking Lists, one for DAX<sup>®</sup>, MDAX<sup>®</sup>, SDAX<sup>®</sup> and one for TecDAX<sup>®</sup>, where ranks start with 1 in each part.

All of the share classes listed on Prime Standard of FWB<sup>®</sup> Frankfurt Stock Exchange are listed on the ranking list for DAX<sup>®</sup>, MDAX<sup>®</sup>, SDAX<sup>®</sup>. A ranking is given to the share classes that meet the basic criteria according to section 4.1.1.1. Companies that are first listed at FWB<sup>®</sup> Frankfurt Stock Exchange have additionally to be listed for a minimum of at least 30 trading days. Classes that do not meet the criteria given in section 4.1.1.1 are listed on the ranking list but do not receive a rank. Each ISIN under which shares in a company are traded is considered a separate class in this regard. If a company has several share classes, only the largest and most liquid share class is given a ranking, as measured by a combined metric of market capitalisation and order book turnover. If the share classes are evaluated equally based on the metric created above, the most liquid one gets a rank.

If subscription rights issued as part of a capital increase are of value on the date of creating the ranking list, the market capitalisation shown on the ranking list will be determined in consideration of the capital increase. In this case, an acceptance ratio of 100% is assumed. If the share capital at the end of the subscription period differs from this, the market capitalisation will be adjusted accordingly.

The ranking list for TecDAX<sup>®</sup> exclusively contains companies that are defined within chapter 0 as "Tech". It is created in the same way as described above for DAX<sup>®</sup>, MDAX<sup>®</sup> and SDAX<sup>®</sup>.

### Exclusion from Ranking

- 1) If a foreign company does not meet the criteria of main focus of trade on FWB<sup>®</sup> Frankfurt Stock Exchange (see section 2.6) on the monthly ranking list, the company will not be ranked. A foreign company will only be ranked once it meets the criteria of main focus of trade on FWB<sup>®</sup> Frankfurt Stock Exchange.
- 2) To ensure that the composition of the indices reflects the market and/or economic reality which the indices aim to represent and to avoid that the application of the stated rules leads, in certain unforeseeable circumstances, to misrepresenting results, STOXX Ltd. reserves the right to exclude certain companies from being ranked on the ranking list (Discretionary Rule, see Section 1.3). An appropriate reason for such an exclusion may be, for example, the fact that it is a foreign company with the holding's headquarters in Germany but the focus of its business activity abroad (Discretionary Rule, see Section 1.3).

#### 4.1.1.3 DAX<sup>®</sup>, MDAX<sup>®</sup>, SDAX<sup>®</sup>, TecDAX<sup>®</sup>: Application of the selection criteria

The index composition of DAX<sup>®</sup>, MDAX<sup>®</sup>, SDAX<sup>®</sup> and TecDAX<sup>®</sup> is reviewed quarterly based on the Fast Exit and Fast Entry rules. The index composition of DAX<sup>®</sup> is reviewed every September based on the Regular Exit and Regular Entry rules, while the index composition of MDAX<sup>®</sup>, SDAX<sup>®</sup> and TecDAX<sup>®</sup> is reviewed semi-annually based on the Regular Exit and Regular Entry rules.

The purpose of the review on the basis of the Fast Exit and Fast Entry rules is to account for significant changes in rankings. These changes may occur when companies no longer possess the required size (free float market capitalisation) or liquidity (order book volume), which may arise due to large issues (e.g. major changes in the free float or a steep price drop) and should be taken into consideration promptly in the index.

The “Overview of rules” table shows when and how the rules detailed below apply.

##### Overview of rules<sup>9</sup>

<u>DAX<sup>®</sup></u>	Candidate rank FF MCap <sup>7</sup> /OB volume <sup>8</sup>	Alternate candidate rank FF MCap/OB volume	Mar	Jun	Sep	Dec
Fast Exit	45/45	35/35; 35/40; 35/45	X	X	X	X
Fast Entry	25/25	35/35	X	X	X	X
Regular Exit	40/40	35/35			X	
Regular Entry	30/30	35/35			X	
<u>MDAX<sup>®</sup></u>	Candidate rank FF MCap/OB volume	Alternate candidate rank FF MCap/OB volume	Mar	Jun	Sep	Dec
Fast Exit	105/105	95/95; 95/100; 95/105	X	X	X	X
Fast Entry	85/85	95/95	X	X	X	X
Regular Exit	100/100	95/95	X		X	
Regular Entry	90/90	95/95	X		X	
<u>SDAX<sup>®</sup></u>	Candidate rank FF MCap/OB volume	Alternate candidate rank FF MCap/OB volume	Mar	Jun	Sep	Dec
Fast Exit	175/175	165/165; 165/170; 165/175	X	X	X	X
Fast Entry	155/155	165/165	X	X	X	X
Regular Exit	170/170	165/165	X		X	
Regular Entry	160/160	165/165	X		X	

<sup>7</sup> FF MCap: free float market capitalisation

<sup>8</sup> OB volume: Order book volume

<sup>9</sup> The “Overview of rules” table provides a simplified overview of the application of selection criteria. The precise application of the rankings can be seen in rules 1-4.

<u>TecDAX®</u>	Candidate rank FF MCap/OB volume	Alternate candidate rank FF MCap/OB volume	Mar	Jun	Sep	Dec
Fast Exit	45/45	35/35; 35/40; 35/45	X	X	X	X
Fast Entry	25/25	35/35	X	X	X	X
Regular Exit	40/40	35/35	X		X	
Regular Entry	30/30	35/35	X		X	

The selection of companies in the DAX®, MDAX®, SDAX® and TecDAX® indices is based on the quantitative criteria of free float market capitalisation and order book volume. The currently valid ranking list always forms the basis for the application of the rules outlined below. The four rules are applied successively.

- 1) **Fast Exit:** A company in the selection index is replaced if it has a lesser rank than the 'candidate rank' in one of the two criteria of free float market capitalisation or order book volume (see the "Overview of rules" table; for example, greater than 45 in the free float market capitalisation criterion or greater than 45 in the order book volume criterion in the DAX® ranks). It is replaced by the company with the highest free float market capitalisation that has the corresponding ranking positions for both criteria in the 'alternate candidate rank' stated in the "Overview of rules" table for the respective selection index (e.g. smaller than or equal to 35 in the DAX® ranks). If there are no companies that meet these conditions, the successor is determined by relaxing the order book volume criterion twice gradually, each time by five ranks (e.g. 35/40, then 35/45 in the DAX ranks). If there is still no company that meets the criteria, the company with a free-float market capitalization rank of equal to or less than the rank shown in the column 'alternate candidate rank' (e.g. less than or equal to 35 in DAX®) which has the highest turnover (in the preceding twelve months) is determined as the successor.
- 2) **Fast Entry:** A company is included in the selection index if it has the same or better rank than the 'candidate rank' in both the free float market capitalisation and order book volume criteria (e.g. smaller than or equal to rank 25 for the free float market capitalisation criterion and smaller than or equal to rank 25 in the order book volume criterion in the DAX® ranks). The company with the lowest free float market capitalisation that is ranked worse than the 'alternate candidate rank' in one of the criteria is excluded (e.g. greater than 35 in one of the two criteria in the DAX® ranks). If there are no companies in the selection index that meet these criteria, the company with the lowest free float market capitalisation is removed from the selection index.

- 3) **Regular Exit:** A company in the selection index will be replaced if it has a worse rank than the 'candidate rank' in one of the two criteria of free float market capitalisation or order book volume (for example, greater than 40 in the free float market capitalisation criterion or greater than 40 in the order book volume criterion in the DAX<sup>®</sup> ranks). It will be replaced by the company with the highest free float market capitalisation that has the corresponding ranking positions for both criteria in the 'alternate candidate rank' stated in the "Overview of rules" table for the respective selection index (e.g. smaller than or equal to 35 in the DAX<sup>®</sup> ranks). Notwithstanding the previous sentences, if no successor can be determined, no change takes place.
- 4) **Regular Entry:** A company will be included in the selection index if it has the same or better rank than the 'candidate rank' in both the free float market capitalisation and order book volume criteria (e.g. smaller than or equal to rank 30 for the free float market capitalisation criterion and smaller than or equal to rank 30 in the order book volume criterion in the DAX<sup>®</sup> ranks). The company with the lowest free float market capitalisation that is ranked worse than the 'alternate candidate rank' in one of the criteria will be excluded (e.g. greater than 35 in one of the two criteria in the DAX<sup>®</sup> ranks). Notwithstanding the previous sentences, if no alternate candidate can be determined, no exchange takes place.

In principle, the following applies to all four rules: If there are several companies that fulfil the criteria, the best/worst candidate in terms of free float market capitalisation is included/replaced.

In exceptional cases, for example, takeovers announced at short notice or significant changes in the free float, STOXX Ltd. may deviate from rules 1–4 mentioned above (Discretionary Rule, see Section 1.3).

Decisions regarding changes to the composition of the selection index are published after 10 p.m. CET on the third trading day in March, June, September and December in a press release and online at <http://www.dax-indices.com>.

#### **Actions in case of shortfalls or surpluses in the Selection Indices**

It may be the case that there is a shortfall in the selection index during the index review. This may occur when a company no longer meets the basic criteria (see 4.1.1.1). An example would be a company publicly announcing the discontinuation of the Prime Standard listing. Remaining in the selection index is, therefore, no longer justified, however this will only take effect in the next regular review. In this case, the company would be removed during the

regular review before the application of the four rules above. Consequently, there would be a shortfall in the selection index.

If there is a shortfall during the regular review before the four rules of the selection indices are applied, a check is performed to see whether there is a relegation candidate from a superior index (e.g. a shortfall may occur in the SDAX<sup>®</sup> due to an exit from MDAX<sup>®</sup>, where the company is not added to SDAX but left without index membership, and the simultaneous promotion of an SDAX<sup>®</sup> company to MDAX). In this case, a review using the Regular Exit rule for the respective selection index will be performed for the exit candidate, reviewing the eligibility for acceptance into the subordinate selection index.

- a. If the company does not contravene the Regular Exit rule, the relegation candidate is directly accepted into the selection index in which the shortfall occurred.
- b. If the Regular Exit rule contravenes, the relegation candidate is not accepted directly into the selection index with the shortfall.
- c. If there are no other relegation candidates and a shortfall continues to exist in the selection index, this shortfall in the selection index is treated as a Fast Exit. Consequently, the Fast Exit rule of the respective selection index with the shortfall is applied. In this case, the company which caused the shortfall is considered the Fast Exit candidate. A company that, in turn, could be accepted into the selection index with the shortfall is found using the Fast Exit rule.

There is still a possibility for a surplus in the selection index. This may occur when a company that so far had not been included in a selection index as it failed to meet the base criteria (see 4.1.1.1) qualifies for the new index composition and replaces a company. An example of this would be if a company has only recently been listed (IPO). If two companies are exchanged and the example above or a similar situation applies, this may lead to a surplus in the subordinate selection index. If, for example, a recently listed company qualifies directly for the MDAX<sup>®</sup>, the replaced company could be included into the SDAX<sup>®</sup> and cause a surplus there.

If a company changes from a selection index into a subordinate selection index without a security from the subordinated selection index being promoted at the same time, this may lead to a surplus of companies (e.g. a recently listed company is promoted to the MDAX<sup>®</sup> following the regular review. At first the composition of the MDAX<sup>®</sup> is finalised. As soon as the review of the MDAX<sup>®</sup> is complete, the review of the exchanged candidate for acceptance into the SDAX<sup>®</sup> is carried out using the Regular Exit rule). In this case, a check using the Regular Exit rule for the respective selection index is performed for the exit candidate, reviewing the eligibility for acceptance into the subordinated selection index.



- a. If the company does not contravene the Regular Exit rule, the relegation candidate is directly accepted into the subordinated selection index.
- b. If the company contravenes the Regular Exit rule, the relegation candidate is not accepted directly into the subordinated selection index.
- c. If there are no other relegation candidates and there is still a surplus in the selection index, this surplus is treated as a Fast Entry. Consequently, the Fast Entry rule of the respective selection index is applied. In this case, the company that caused the surplus is considered as the Fast Entry candidate. A company that, in turn, could be removed from the selection index with the surplus is found using the Fast Entry rule.

The selection index is restored to the fixed number of companies before the four rules for the relevant selection index are applied (Fast Exit, Fast Entry, Regular Exit and Regular Entry). The aim of this is to ensure that the relevant selection index contains the designated number of companies before the review of the index is performed.

#### 4.1.2 General Standard Index

The companies that are included in the General Standard Index must be listed in the General Standard of FWB<sup>®</sup> Frankfurt Stock Exchange. If this fundamental prerequisite is met, the 200 most liquid companies listed on FWB<sup>®</sup> Frankfurt Stock Exchange are selected by order book volume on Xetra<sup>®</sup> and Börse Frankfurt (in the preceding twelve months). Only Companies with a market capitalisation of less than €5 billion are selected.

To ensure the continuity of the index, companies which have been taken off the index because they have a market capitalisation of more than €5 billion shall only be included in the list again when they have a market capitalisation of less than €5 billion. In the case of new inclusions on the index, the companies must have been listed in the General Standard segment for at least 30 days.

#### 4.1.3 Scale 30 Index

The companies that are included in the Scale 30 Index must be listed in the Scale segment and trading on Xetra<sup>®</sup>. If this fundamental prerequisite is met, the 30 most liquid companies by order book volume on Xetra<sup>®</sup> and Börse Frankfurt (in the preceding twelve months) are selected.

To prevent the largest companies from dominating the index, a 10% cap per component is applied. In the case of new inclusions to the index, the companies must have been listed in the Scale segment for at least 30 days (does not apply in case of change in transparency standard).

#### 4.1.4 DAX ex Financials Index

DAX<sup>®</sup> ex Financials Index corresponds to the composition of the DAX<sup>®</sup> Index excluding the FIRE super sector (Finance, Insurance or Real Estate). It therefore contains the largest

companies with the highest turnover from the Prime Standard segment of FWB<sup>®</sup> Frankfurt Stock Exchange (in the preceding twelve months) that do not belong to the FIRE super sector.

The DAX<sup>®</sup> Index rules are crucial for inclusion in the index.

After determination of the composition of the DAX<sup>®</sup> Index, companies in the FIRE super sector are excluded. In addition, those companies that are classified under “section K” (Financials and Insurance) according to the Customer Classification of Deutsche Bundesbank as provided by WM Datenservice of WM Gruppe will be excluded from the provision of ranks. The composition of the index is reviewed on a quarterly basis, based on the changes to the DAX<sup>®</sup> Index. Changes to the sector classification that are leading to the affiliation of a company with “section K” are considered a breach of the basic criteria for this index and the affected company is therefore removed from the index. STOXX Ltd. communicates this decision and removes the relevant company, usually two full trading days after the announcement (Discretionary Rule, see Section 1.3).

#### 4.1.5 DAX ex Financials 30 Index

The DAX<sup>®</sup> ex Financials 30 Index is based on the DAX<sup>®</sup> Index ranking list and shows the blue chips permitted in Prime Standard which are not classified as Finance, Insurance or Real Estate (FIRE). It therefore includes the 30 largest companies with the highest turnover on Xetra<sup>®</sup> and Börse Frankfurt (in the preceding twelve months) that do not belong to the FIRE super sector. The DAX<sup>®</sup> Index rules are crucial for inclusion in the index.

The DAX<sup>®</sup> ex Financials 30 Index ranking list is taken as a basis for the ordinary adjustment. It is created in the same way as the DAX<sup>®</sup> ranking list, applying the basis criteria listed in section 4.1.1.1, but excluding companies that belong to the FIRE super sector. In addition, those companies that are classified under “section K” (Financials and Insurance) according to the Customer Classification of Deutsche Bundesbank as provided by WM Datenservice of WM Gruppe will be excluded from the provision of ranks. The 30 companies are then selected according to section 4.1.1.3, based on the quantitative criteria of order book volume and free float market capitalisation. Changes to the sector classification that are leading to the affiliation of a company with “section K” are considered as a breach of the basic criteria for this index and the affected company is therefore removed from the index. For the DAX<sup>®</sup> ex Financials 30 Index, the replacement is determined based on the Fast Exit rule. STOXX Ltd. communicates this decision and replaces the relevant company, usually two full trading days after the announcement (Discretionary Rule, see Section 1.3).

	Candidate rank FF MCap/OB volume	Alternate candidate rank FF MCap/OB volume	Mar	Jun	Sep	Dec
Fast Exit	45/45	35/35; 35/40; 35/45	X	X	X	X
Fast Entry	25/25	35/35	X	X	X	X
Regular Exit	40/40	35/35			X	
Regular Entry	30/30	35/35			X	

#### 4.1.6 ÖkoDAX

The ÖkoDAX Index aims to measure the performance of the ten largest stocks by free-float market capitalization from the prime segment of the DAX Renewable Energy Subsector, (index code I1NF in Section 11.4). The equities chosen are included in the index portfolio with equal weighting factors. If an existing stock is declassified it will be replaced with the next highest free-float market capitalization stock from the same subsector which will then be included with the same weighting factor as the stock which left. Should less than ten component equities meet the aforementioned criteria, then the index portfolio will be equally weighted amongst those abiding members.

STOXX Ltd. reserves the right to adapt the concept of ÖkoDAX to changing market conditions. The Index is calculated according to the formula set out in Section 6.1.1 which deals with free-float market capitalization weighed indices, the index is published rounded to two decimal places. The index is subject to quarterly chaining as described in Sections 7.

#### 4.1.7 DAX 50 ESG

##### 4.1.7.1 Basic Criteria

Only companies of the HDAX are eligible for inclusion in the DAX 50 ESG. This means that the basic criteria of section 4.1.1.1 are satisfied.

##### 4.1.7.2 ESG Exclusion Criteria

The ESG exclusion criteria for excluding companies from the eligible universe are:

###### Global Standards Screening:

STOXX will exclude companies that are non-compliant based on the Sustainalytics Global Standards Screening assessment. Global Standards Screening identifies companies that violate or are at risk of violating commonly accepted international norms and standards, enshrined in the United Nations Global Compact (UNGC) Principles, the Organisation for Economic Co-operation and Development (OECD) Guidelines for Multinational Enterprises, the UN Guiding Principles on Business and Human Rights (UNGPs), and their underlying conventions.

###### Controversial Weapons:

STOXX will exclude the companies that Sustainalytics identifies to be involved with controversial weapons. The following weapons are considered controversial: anti-personnel

mines, biological and chemical weapons, cluster weapons, depleted uranium, nuclear weapons and white phosphorus weapons.

The criteria for involvement are:

- Internal production or sale of controversial weapons
- The ultimate holding company owns >10% of voting rights of an involved company
- >10% of voting rights of a company is owned by the involved company

#### **Tobacco:**

STOXX will exclude companies that Sustainalytics identifies to have:

- >0% revenues from manufacturing tobacco products

#### **Thermal Coal:**

STOXX will exclude companies that Sustainalytics identifies to have:

- >5% revenues from thermal coal extraction (including thermal coal mining and exploration)
- >5% power generation capacity: coal-fired electricity, heat or steam generation capacity / thermal coal electricity production (including utilities that own/operates coal-fired power plants).

#### **Nuclear Power:**

STOXX will exclude companies that Sustainalytics identifies as having:

- >5% revenues from nuclear power production:
  - Utilities that own/operate nuclear power generators
  - Note: in this category Sustainalytics tracks the percentage of a company's generating capacity that is based on nuclear power
- >5% revenues from nuclear power supporting products / services, including:
  - Design and construction of nuclear power plants
  - Design and manufacture of specialized parts for use in nuclear power plants, including steam generators, control rod drive mechanisms, reactor vessels, cooling systems, containment structures, fuel assemblies, and digital instrumentation and controls
  - Special services, such as the transport of nuclear power materials, and nuclear plant maintenance;
  - Uranium mining and exploration, including companies that mine uranium and convert, enrich, and fabricate

- >5% revenues from nuclear power distribution, including:
  - The resale or distribution of electricity generated from nuclear power;
  - This applies to distributors, resellers and utilities that distribute nuclear power as a part of their energy mix

Note: In this category Sustainalytics tracks the percentage of a company's energy mix that is generated from nuclear power

#### **Military Contracting:**

STOXX will exclude companies that Sustainalytics identifies to have:

- >5% revenues from manufacturing military weapons systems and/or integral, tailor made components of these weapons
- >5% revenues from tailor made products and/or services that support military weapons

#### **4.1.7.3 Equity Index Rankings for DAX 50 ESG**

The selection of companies in the DAX<sup>®</sup> 50 ESG Index is based on the quantitative criteria of the order book volume<sup>10</sup>, free float market capitalisation<sup>11</sup> and ESG performance<sup>12</sup>. The reporting date for the collection data is the last trading day of the month for which the ranking list is created. The DAX<sup>®</sup> 50 ESG Index ranking list will be created for the eligible securities and published monthly by STOXX Ltd.

#### **Creating the Ranking List**

To create the ranking list, the parameters relevant for the allocation of rank – order book volume and free float market capitalisation, ESG scores – are recorded and the basis criteria<sup>13</sup> are checked on the recording date (last trading day of the month).

The free float market capitalisation as well as the orderbook volume are determined in the same way as for the DAX Selection Indices, see 4.1.1.2 for details. The following applies to ESG score:

- In case of a missing ESG score for a company, an ESG score of zero is assigned to it.
- In case of missing Product Involvement data for a company, the company is not eligible

<sup>10</sup> Order book volume as specified in the DAX Equity Guide, section 4.1.1.2

<sup>11</sup> Free float market capitalisation as specified in the DAX Equity Guide, section 4.1.1.2

<sup>12</sup> In case of two companies having same ESG Score, priority is given to the one with the highest FF MCap

<sup>13</sup> As specified in the DAX Equity guide, section 4.1.1.1

#### 4.1.7.4 DAX<sup>®</sup> 50 ESG: Application of the selection criteria

Like DAX Index, the index composition of DAX<sup>®</sup> 50 ESG Index is reviewed quarterly based on the Fast Exit and Fast Entry rules, and reviewed every September based on the Regular Exit and Regular Entry rules.

The “Overview of rules” table shows when and how the rules detailed below apply.

##### Overview of rules<sup>16</sup>

<u>DAX<sup>®</sup> 50 ESG</u>	<u>Candidate rank</u> FF MCap <sup>14</sup> /OB volume <sup>15</sup> /ESG	<u>Alternate candidate rank</u> FF MCap/OB volume/ESG	<u>Mar</u>	<u>Jun</u>	<u>Sep</u>	<u>Dec</u>
<b>Fast Exit</b>	75/75/75	60/60/60; 60/65/65; 60/70/70	X	X	X	X
<b>Fast Entry</b>	40/40/40	60/60/60	X	X	X	X
<b>Regular Exit</b>	70/70/70	60/60/60			X	
<b>Regular Entry</b>	50/50/50	60/60/60			X	

The selection of companies in the DAX<sup>®</sup> 50 ESG is based on the quantitative criteria of free float market capitalisation and order book volume and ESG Score. The currently valid ranking list for DAX 50 ESG always forms the basis for the application of the rules outlined below. The four rules are applied successively.

**Fast Exit:** A company in the selection index is replaced if it has a lesser rank than the ‘candidate rank’ in one of the three criteria of free float market capitalisation or order book volume or ESG score (see the “Overview of rules” table; for example, greater than 75 in the free float market capitalisation criterion or greater than 75 in the order book volume criterion or greater than 75 in ESG criterion in the DAX<sup>®</sup> 50 ESG ranks). It is replaced by the company with the highest free float market capitalisation that has the corresponding ranking positions for all three criteria in the ‘alternate candidate rank’ stated in the “Overview of rules” table for the respective selection index (e.g. smaller than or equal to 60 in the DAX<sup>®</sup> 50 ESG ranks). If there are no companies that meet these conditions, the successor is determined by relaxing the order book volume and ESG score criterion twice gradually, each time by five ranks (e.g. 60/65/65, then 60/70/70 in the DAX 50 ESG ranks). If there is still no company that meets the criteria, the company with an ESG rank of equal to or less than 60 which has the highest free float market capitalization is determined as the successor.

<sup>14</sup> FF MCap: free float market capitalisation

<sup>15</sup> OB volume: Order book volume

<sup>16</sup> The “Overview of rules” table provides a simplified overview of the application of selection criteria. The precise application of the rankings can be seen in rules 1-4.

**Fast Entry:** A company is included in the selection index if it has the same or better rank than the 'candidate rank' in the three criteria: free float market capitalisation, order book volume and ESG (e.g. smaller than or equal to rank 40 for the free float market capitalisation criterion, smaller than or equal to rank 40 in the order book volume criterion and smaller than or equal to rank 40 in ESG criterion in the DAX® 50 ESG ranks). The company with the lowest free float market capitalisation that is ranked worse than the 'alternate candidate rank' in one of the criteria is excluded (e.g. greater than 60 in one of the three criteria in the DAX® 50 ESG ranks). If there are no companies in the selection index that meet these criteria, the company with the lowest free float market capitalisation is removed from the selection index.

**Regular Exit:** A company in the selection index will be replaced if it has a worse rank than the 'candidate rank' in one of the three criteria of free float market capitalisation or order book volume or ESG (for example, greater than 70 in the free float market capitalisation criterion or greater than 70 in the order book volume criterion or greater than 70 in the ESG criterion in the DAX® 50 ESG ranks). It will be replaced by the company with the highest free float market capitalisation that has the corresponding ranking positions for all three criteria in the 'alternate candidate rank' stated in the "Overview of rules" table for the respective selection index (e.g. smaller than or equal to 60 in the DAX® 50 ESG ranks). Notwithstanding the previous sentences, if no successor can be determined, no change takes place.

**Regular Entry:** A company will be included in the selection index if it has the same or better rank than the 'candidate rank' in the three criteria: free float market capitalisation, order book volume and ESG score criteria (e.g. smaller than or equal to rank 50 for the free float market capitalisation criterion and smaller than or equal to rank 50 in the order book volume criterion and smaller than or equal to rank 50 in the order ESG criterion in the DAX® 50 ESG ranks). The company with the lowest free float market capitalisation that is ranked worse than the 'alternate candidate rank' in one of the three criteria will be excluded (e.g. greater than 60 in one of the three criteria in the DAX® 50 ESG ranks).

Notwithstanding the previous sentences, if no alternate candidate can be determined, no exchange takes place.

Decisions regarding changes to the composition of the DAX 50 ESG index are published after 10 p.m. CET on the fourth trading day in March, June, September and December at <http://www.dax-indices.com>.

#### **Actions in case of shortfalls in the DAX 50 ESG**

It may be the case that there is a shortfall in the DAX 50 ESG index during the index review. This may occur when a company is no longer part of the HDAX. An example would be a company been deleted from the HDAX in the upcoming review. Remaining in the selection index is, therefore, no longer justified, however this will only take effect in the next regular review. In this case, the company would be removed during the regular review before the

application of the four rules above. Consequently, there would be a shortfall in the selection index.

In this case a review using the Regular Exit rule will be performed for the company which caused the shortfall and the following process is applied in order to review the eligibility for acceptance of the alternate candidate into the index.

- a) If the company does not contravene the Regular Exit rule, the alternate candidate is directly accepted into the selection index.
- b) If the Regular Exit rule contravenes, the alternate candidate is not accepted directly into the selection index.
- c) If there are no other alternate candidates and a shortfall continues to exist in the selection index, this shortfall in the selection index is treated as a Fast Exit. Consequently, the Fast Exit rule of the selection index with the shortfall is applied. In this case, the company which caused the shortfall is considered the Fast Exit candidate. A company that, in turn, could be accepted into the selection index with the shortfall is found using the Fast Exit rule.

The index is restored to the fixed number of companies before the four rules for the relevant selection index are applied (Fast Exit, Fast Entry, Regular Exit and Regular Entry). The aim of this is to ensure that the relevant selection index contains the designated number of companies before the review of the index is performed.

A surplus in the DAX 50 ESG index is not possible.

## 4.2 All Share Indices

All Share Indices include all companies listed in the market segment in question. These are Prime All Share, Technology All Share, Classic All Share<sup>®</sup>, General All Share, Scale All Share and CDAX<sup>®</sup>.

### 4.2.1 Addition

A new share class included in the Prime Standard, General Standard or Scale segments of FWB<sup>®</sup> Frankfurt Stock Exchange is included in the corresponding All Share Index. A distinction is made between two cases:

- a) A share class is listed on FWB<sup>®</sup> Frankfurt Stock Exchange for the first time. In this case, the company will be included on the index on the day after it is first listed.
- b) A share class comes from another segment of FWB<sup>®</sup> Frankfurt Stock Exchange. The share class is included in the index on the day of the first quotation in the new segment.



#### 4.2.2 Deletion

Deletions from the All Share indices are performed after the close of trading at the company's last listing day in the segment.

### 4.3 Sector Indices

Sector indices include all companies listed in the respective sector. In general, index adjustments take place in sector indices in the event of a sector change.

Changes in the sector assignment based on the regular review of Prime Standard listed companies will be reflected for the first time on the August ranking list (published as of the third trading day in September). If a company's sector classification as described in Section 2.11 changes due to a change of the company's sales focus (respectively investment focus in case of an investment company) the company will be reclassified on the next chaining date.

#### 4.3.1 Addition

A new share class included in the Prime Standard, General Standard or Scale segments of the FWB<sup>®</sup> Frankfurt Stock Exchange is included in the corresponding All Share Index. A distinction is made between two cases:

- a) A share class is listed on the FWB<sup>®</sup> Frankfurt Stock Exchange for the first time. In this case, the company will be included on the index on the day after it is first listed.
- b) A share class comes from another segment of the FWB<sup>®</sup> Frankfurt Stock Exchange. The share class is included in the index on the day of the first quotation in the new segment.

#### 4.3.2 Deletion

Deletions from the segment indices are performed after the close of the market on the day on which the company was last listed in the segment.

## 5 Extraordinary Index Review

### 5.1 Selection Indices

Notwithstanding the rules outlined in section 4.1 on ordinary adjustment, extraordinary changes to the composition must be made if the events described below take place.

A successor is selected based on the currently applicable, i.e. most recently published, ranking list and the rules for an ordinary adjustment in section 4.1.1. The changes in principle take place after the announcement with a notice period of two trading days.

#### 5.1.1 Insolvency of Companies

“Insolvency Proceeding” shall refer to any applicable insolvency, bankruptcy, dissolution, liquidation or winding up proceedings or similar proceedings in relation to the assets of such Constituent. An “Insolvency Event” in relation to a company which is a constituent of an equity index (“Constituent”) shall be deemed to have occurred if STOXX has been informed by the Constituent, or a national competent authority, or a court in writing or through public announcement (other than by entry into a register) that

- (i) Insolvency Proceedings over the assets of the Constituent will be filed or have been filed for, or
- (ii) that Insolvency Proceedings have been opened in relation to the Constituent, or
- (iii) the Constituent seeks or becomes subject to the appointment of an administrator, receiver, trustee, custodian or other similar official for it or for all or substantially all its assets, or
- (iv) the Insolvency Proceedings are rejected due to a lack of assets, or
- (v) Constituent is in liquidation, be it as a result of Insolvency Proceedings or a shareholders’ decision or otherwise.

For the avoidance of doubt, a resolution and/or restructuring measures under the European Bank Recovery and Resolution Directive (or comparable third country legislation which stipulate that banks shall be subject to an extraordinary restructuring proceeding) shall not be considered as Insolvency Events.

If an Insolvency Event occurred in relation to a Constituent, the securities of the Constituent shall be deleted from the index based on the traded stock price on its primary market, if available; if the last price is not available, the Constituent will be deleted at market close in local currency of 0.001.

The Constituent shall be extraordinarily replaced in the Indices. Such replacement shall be announced at 22:00 CET on the day STOXX became aware of the Insolvency Event based on publicly available information. The change shall be implemented two (2) trading days after the calendar day of the announcement by STOXX and shall become effective the next trading

day after implementation. In case such security has already been announced as a new index constituent or replacement for a current index constituent, the announcement will be revoked, and a new constituent implemented with two (2) trading days' notice. This may lead to an index with less constituents than required by the index methodology until a replacement is effective.

The securities of a Constituent for which an Insolvency Event occurred are not eligible as an index constituent or replacement index constituent for any future selection, with immediate effect at the date of STOXX' announcement. The respective securities will be kept on the monthly index ranking list without receiving a rank.

The respective securities may receive a rank again once the proceedings in relation to the Insolvency Event have been concluded resulting in the continuance of the business operated by the issuer of the security, but not earlier than one (1) calendar year after exclusion became effective.

#### 5.1.2 Breach of the Basic Criteria

Companies no longer meeting the basic criteria necessary in order to remain in the index as described in 4.1.1.1, e.g. regarding the minimum free float, a Scale segment, General or Prime Standard listing or continuous trading are removed from the index insofar as STOXX Ltd. becomes aware of this. For DAX, MDAX, SDAX and TecDAX and DAX 50 ESG this is done based on the Fast Exit rule. In all other selection indices, the replacement is determined based on the criteria described in Section 4.1. STOXX Ltd. communicates this decision and replaces the relevant company, usually two full trading days after the announcement (Discretionary Rule, see Section 1.3). In justified cases (e.g. in the event of the inclusion of the acquiring company in the index), the replacement can be delayed by up to ten trading days (Discretionary Rule, see Section 1.3). Where non-compliance with these rules on a future date is already certain, the relevant company may be replaced as early as on the next chaining date (Discretionary Rule, see Section 1.3).

Companies that no longer meet the additional requirements for foreign companies described in 4.1.1.1 will not be immediately removed from the index but will be reviewed during the next quarterly review.

#### 5.1.3 Conversion of Preferred Shares into Ordinary Shares

a) Ordinary shares are already included in the index

No chaining is carried out. The number of shares remains unchanged until the next chaining date.

b) Preferred shares are already included in the index

The ordinary shares are included in the index, taking the place of the preferred shares. The number of ordinary shares and the free float factor are adopted from the class of the preferred

shares and are subject to adjustment only on the next regular chaining date. If the conversion occurs in the ratio 1:1, no further amendments will be carried out. In all other cases the mathematical price difference will be balanced by the ci factor.

#### 5.1.4 Extraordinary Free Float Adjustments

If the free float factor of a company included in a selection index changes by more than 10 percentage points during the period between two regular chaining dates due to a corporate action (e.g. subscription right or changes in share capital), the free float factor will be updated extraordinarily. The rule does not apply to cases where the absolute change of free float-adjusted number of shares ( $ff_{IT} \times q_{IT}$ ) before the ex-date of the corporate action is less than or equal to 10%, i.e. the corporate action is deemed market cap neutral. STOXX Ltd. will announce the new free float factor at least two trading days before the change becomes effective.

Free float adjustments resulting from ongoing acquisitions (acquisitions as defined by the German Securities Acquisition and Takeover Act (WpÜG)) will be made extraordinarily in the respective index after the initial announcement and the final announcement at the end of each offer period. Index changes will be announced two trading days before the change becomes effective. Shares held in fixed ownership will remain unchanged until further information, i.e. according to the WPHG or other official sources, is available.

The extraordinary adjustment in each case will be carried out as described in section 7.1.1, with the only difference that the index composition will not be changed and only the free float factor of the affected company will be updated.

#### 5.1.5 Adjustments in the Case of Mergers and Acquisitions

Two possible scenarios must be distinguished in this context:

- a) The absorbing or emerging company meets the basic criteria for inclusion in the index

As soon as the free float of the absorbed company falls below 10 percent, the company is removed from the index. The absorbed company is replaced by the absorbing or emerging company on the same date.

Generally, the absorbed company is deleted at the last traded price of the company. If the absorbed company is not trading anymore (delisted or suspended before its deletion), a new artificial price based on the acquisition/merger terms is calculated and the absorbed company is kept/deleted with this price instead of the last traded one. For the calculation of the artificial price only ordinary cash and stock terms will be used. Other instruments such as Contingent Value Rights will not be considered.

Payment Type	Artificial Price
Cash	Deletion Price = Cash term

Stock	Deletion Price = Close price acquirer*Stock term
Cash and Stock	Deletion Price = Cash term + Close price acquirer*Stock term
Cash or Stock	Deletion Price = Cash term

b) The absorbing company is already included in the index or does not meet the basic criteria for inclusion in the index

As soon as the free float of the absorbed company falls below 10 percent, the company is removed from the index. On the same date the absorbed company is replaced by a new company. According to rules outlined in 5.1.2.

#### 5.1.6 Conversion into Tendered Shares

During the period of a takeover bid or mandatory offer the target company shares tendered for exchange shall be treated as follows:

Where the target company is a component of one of the selection indices and the acceptance rate as shown in the notification pursuant to § 23 I WpÜG is greater than 50% ("acceptance threshold") then the shares in a target company included in an index shall be replaced by the shares tendered for conversion without chaining, if the following requirements are met:

- It can be assumed on the basis of the information publicly available at the time the acceptance threshold is exceeded, that the shares into which the target company shares tendered for exchange would be converted in the event of a successful takeover, satisfy the criteria for obtain a ranking, as described in Chapter 4.1.1.2. In this respect, for the purposes of making the required predictive decision it is irrelevant whether the bidder's shares (into which the target company shares tendered for exchange could be converted in the event of a successful takeover) already exist prior to the conclusion of the takeover offer, still need to be created, or are already traded on Xetra®.
- The bidder resp. the company resulting from the takeover is not already included in a selection index.

The shares tendered for exchange and the other shares not tendered for exchange each form a separate class of shares. If the aforementioned conditions are met, then the number of shares and the free-float factor of the class to be replaced shall be adopted and modified only when the next regular chaining takes place.

If the takeover bid or mandatory offer fails, then the shares tendered for exchange shall be removed from the index without chaining and replaced by the shares that were previously included in the index.

### 5.1.7 Breach of Severe ESG Controversy Rating

In case a company which is an index constituent increases in its ESG Controversy Rating to Category 5 and becomes non-compliant based on the Sustainalytics Global Standards Screening assessment, the respective constituent will be deleted from the DAX<sup>®</sup> 50 ESG. The deletion will take place two dissemination days after the announcement, i.e. at the open of the 3<sup>rd</sup> dissemination day. A successor will be selected based on the Fast Exit rule. The replacement will be based on the most recently published DAX<sup>®</sup> 50 ESG ranking list.

## 5.2 All Share Indices

Mergers of companies result in an extraordinary adjustment to the All Share indices. The acquired companies are deleted if they are no longer listed on the stock exchange and chaining takes place. If the new company is not created from the continuation of the listing of an old company, it is included on the index as a completely new company.

## 5.3 International Indices

### 5.3.1 Insolvency of Companies

Constituents subject to Insolvency Events are deleted and replaced pursuant to the provisions in section 5.1.1 of the Guide to the DAX Equity Indices.

## 6 Calculation

### 6.1 Index Formulas

#### 6.1.1 Index Formula for free-float market capitalisation weighted indices

The selection indices of the DAX<sup>®</sup> family are capital-weighted. Only the shares in the free float are considered when calculating the capitalisation. The indices are each calculated as price and performance indices.

The indices in the DAX<sup>®</sup> family use the Laspeyres index formula and are calculated as follows:

$$\text{Index}_t = K_T \cdot \frac{\sum p_{it} \cdot ff_{iT} \cdot q_{iT} \cdot c_{it}}{\sum p_{i0} \cdot q_{i0}} \cdot \text{Base}$$

whereby:

$c_{it}$	=	Adjustment factor of company i at time t
$ff_{iT}$	=	Free float factor of share class i at time T
$n$	=	Number of shares in the index
$p_{i0}$	=	Closing price of share i on the trading day before the first inclusion in the index
$p_{it}$	=	Price of share i at time t
$q_{i0}$	=	Number of shares of company i on the trading day before the first inclusion in the index
$q_{iT}$	=	Number of shares of company i at time T
$t$	=	calculation time of the index
$K_T$	=	Index-specific chaining factor valid as of chaining date T
$T$	=	Date of the last chaining
Base	=	value of the index at base date

The formula set out below is equivalent in analytic terms, but designed to achieve relative weightings:

$$\text{Index}_t = \frac{\sum_{i=1}^n p_{it} \cdot \left( K_T \cdot \frac{ff_{iT} \cdot q_{iT}}{\sum_{i=1}^n q_{i0}} \cdot 100 \cdot c_{it} \right)}{\sum_{i=1}^n p_{i0} \cdot \frac{q_{i0}}{\sum_{i=1}^n q_{i0}} \cdot 100} \cdot \text{Basis} = \frac{\sum_{i=1}^n p_{it} \cdot F_i}{A} \cdot \text{Basis}$$

whereby: 
$$A = \sum_{i=1}^n p_{i0} \cdot \frac{q_{i0}}{\sum_{i=1}^n q_{i0}} \cdot 100$$

and: 
$$F_i = K_T \cdot \frac{ff_{iT} \cdot q_{iT}}{\sum_{i=1}^n q_{i0}} \cdot 100 \cdot c_{it}$$

The index calculation can be reproduced in simplified terms by using the expression  $F_i$ :

- Multiply the current price by the respective  $F_i$  weighting factor;
- Take the sum of these products; and
- Divide this by the base value (A), which remains constant until the index composition is modified.

The  $F_i$  factors provide information on the number of shares required from each company to track the underlying index portfolio.

### 6.1.2 Index Formula for Market Cap-Weighted Indices

The same index formula as described under 6.1.1 is used for indices that are not weighted by free float market capitalisation, but by full market capitalisation, with the difference that:

$$ff_{iT} = 1$$

### 6.1.3 Index Formula for Equally Weighted Indices

The same index formula as described under 6.1.1 is used for equally weighted indices, such as the Scale All Share, with the difference that:

$$ff_{iT} = 1$$

$$q_{i0} = \text{Weighting factor of company } i \text{ on the trading day before the first inclusion in the Scale All Share Index}$$

$$q_{iT} = \text{Weighting factor of company } i \text{ at time } T$$



#### 6.1.4 Specifics of Derived Indices

Indices for which another index forms the base universe, e.g. Dax<sup>®</sup> ex Financials, are designated as derived indices. Companies are selected from this base universe using a certain selection algorithm. As the selection algorithm should represent the only difference from the main index, the index weighting and the capping are not newly defined but are adopted from the parameters of the main index. For that reason, the capping factors of the main index are used unchanged for the derived index.

## 6.2 Index Formula for X-Indices

### 6.2.1 Calculation of X-DAX

The factor applied to discount the DAX<sup>®</sup> future (FDAX) will be deducted from the daily deviation of the index future from its underlying index (DAX<sup>®</sup>).

The X-DAX<sup>®</sup> is calculated as follows:

$$\text{Index}_t = \frac{1}{D_t} \text{FDAX}_t$$

Where:

$$D_t = \frac{\sum_{i=1}^N \frac{\text{FDAX}_i}{\text{DAX}_i}}{N}$$

Here,  $\sum_{i=1}^N \frac{\text{FDAX}_i}{\text{DAX}_i}$  is the sum of all ratios  $i=1$  to  $N$  of the future and index values measured on a given index calculation date  $t$  between the start of the DAX<sup>®</sup> and 5:15 pm CET.

To prevent distortions due to outliers, the lower and upper deciles of the ratios  $\frac{\text{FDAX}_i}{\text{DAX}_i}$  are not considered in the following calculations and  $N$  is reduced accordingly.

$D_t$  is then used to calculate the X-DAX<sup>®</sup> between 5:30 pm CET and 10:15 pm CET on date  $t$ .

To calculate the X-DAX<sup>®</sup> between 8:00 am CET and the start of the DAX<sup>®</sup> on the next calculation date ( $t+1$ ), the discount factor ( $D_t$ ) is adjusted downwards to take account of the decrease in the time to maturity.

With  $T_t$  being the time to maturity on date  $t$  and  $r_t$  an implicit interest rate, the X-DAX<sup>®</sup> calculation between 8:00 am CET and the start of the DAX<sup>®</sup> on date  $t+1$  is carried out as follows:

$$D_{t+1} = 1 + r_t \frac{T_{t+1}}{360}, \text{ with } r_t = (D_t - 1) \frac{360}{T_t}$$

$$\text{Index}_t = \frac{1}{D_{t+1}} \text{FDAX}_t$$

### 6.2.2 Calculation of X-MDAX and X-TecDAX

X-MDAX<sup>®</sup> and X-TecDAX<sup>®</sup> are calculated based on F2MX and FTDX future prices as follows:

$$\text{Index}_t^j = \frac{1}{1 + r_t \cdot \frac{T_{F,t}}{360}} \cdot \text{Futures}_t^F$$

Where:

- $j$  = Index  $j$  stands for the respective index, X-MDAX<sup>®</sup> or X-TecDAX<sup>®</sup>
- $\text{Futures}_t^F$  = Last price of future  $F$  (F2MX or FTDX) on index  $j$  with the shortest time to maturity
- $T_{F,t}$  = Number of days to maturity of future  $F$  at time  $t$
- $r_t$  = Risk-free interest rate at time  $t$
- $t$  = Time of calculation

The risk-free interest rate is derived by interpolation from the rates for unsecured money market transactions (Eonia<sup>17,18</sup>, Euribor) as described below:

$$r_t = r_k \frac{T_{k+1} - T_{F,t}}{T_{k+1} - T_k} + r_{k+1} \frac{T_{F,t} - T_k}{T_{k+1} - T_k}, \text{ where } T_k \leq T_{F,t} \leq T_{k+1}$$

Where:

- $T_k, T_{k+1}$  = Number of days in the respective class
- $T_{F,t}$  = Number of days to maturity of future  $F$  at time  $t$
- $k$  = Classes (Eonia, 1-, 3-, 6-months Euribor)
- $t$  = Time of calculation

The number of days to the maturity of the respective future  $F$  ( $T_{F,t}$ ) is determined daily after close of calculation of the indices. It is calculated as the difference between the maturity date and the current date. It is constant for the entire trading day.

## 6.3 Calculation Details

### 6.3.1 Basis of Calculation

The equity indices use prices from most recent transactions from Xetra<sup>®</sup> for all DAX indices wherever possible. For any deviations of this principle such as in the case of incidents where

<sup>17</sup> Calculated as the European short-term rate (€STR) + 8.5 bps

<sup>18</sup> Interpolation uses the latest available Eonia value

it is not possible to obtain observable bona fide, arms-length, transactions for a specific index (e.g. in case of market disruptions) the governance process outlined in Section 1.3 should be followed for approval of such deviations.

### 6.3.2 Daily Settlement Indices

For DAX<sup>®</sup>, MDAX<sup>®</sup>, TecDAX<sup>®</sup> and DAX<sup>®</sup> 50 ESG an option settlement index is calculated once a day, using the prices determined in the course of the midday intra-day auction on Xetra<sup>®</sup>. If no price results from the midday intra-day auction for a company, the next price available is used. In the event that a current price is not available by the end of the calculation period, the last price available is used for calculation.

On chaining days, a future settlement index is calculated analogously.

### 6.3.3 Currency Conversion

The indices are available in the currencies set forth in the Vendor Code Sheet which is available on the DAX website [www.dax-indices.com/resources](http://www.dax-indices.com/resources). Selected indices (DAX<sup>®</sup>, HDAX<sup>®</sup> and DAX<sup>®</sup> 50 ESG) are calculated in non-EUR currencies. The intraday currency conversion is based on the spot rates provided by Refinitiv, previously Financial and Risk business of Thomson Reuters. The WM/Reuters currency fixing rates from 5:00 pm CET are used to calculate the indices' closing values.

### 6.3.4 Prices Used, Calculation Frequency and Start

Index calculation is performed on every trading day of FWB<sup>®</sup> Frankfurt Stock Exchange, using prices traded on Deutsche Börse's electronic trading systems Xetra<sup>®</sup> or Börse Frankfurt whereby the last determined prices are used.

The various performance indices are calculated continuously during the day, whereas computation of the price indices is carried out once a day, at the close of trading.

The price index of the General Standard Index is calculated continuously every 60 seconds, while the performance index and subsector indices are calculated once at the close of trading.

A daily settlement price is calculated once a day for each index involved (on the basis of intra-day midday auction prices) as soon as all prices for the component issues of the respective index are available.

The selection indices (calculated once a second or once a minute) are published as soon as current prices are available for a minimum number of companies belonging to the respective indices. The calculation of the blue-chip index DAX<sup>®</sup> starts as soon as prices for all companies are available that are currently in the index, latest at 9:06 am. If no opening prices for individual companies are available, the respective closing prices of the previous day are used instead to calculate the indices. The minimum number required for the calculation of the respective indices can be found in the following table.

	Minimum Number of Companies/ Start Time	Total Number of Companies	Calculation of Daily Settlement
DAX <sup>®19</sup>	30 / 9:06 am	30	Yes
MDAX <sup>®</sup>	45	60	Yes
SDAX <sup>®</sup>	55	70	No
TecDAX <sup>®</sup>	20	30	Yes
HDAX <sup>®</sup>	75	Variable	No
DAX <sup>®</sup> ex Financials <sup>19</sup>	- / 9:06 am	Variable	Yes
DAX <sup>®</sup> ex Financials 30	30 / 9:06 am	30	Yes
General Standard Index	- / 9:00 am	200	No

In the event of a suspension during trading hours, the last price determined before such a suspension is used for all subsequent computations. If such suspension occurs before the start of trading, the closing price of the previous day is used instead. The closing index level is calculated using the respective closing prices (or last prices) established on Xetra<sup>®</sup> or Börse Frankfurt

### 6.3.5 Computational Accuracy

The  $K_t$  chaining factors are used and published as figures rounded to seven decimal places.

The  $c_{it}$  adjustment factors are included in the index formula, expressed in six decimal places. In the event of several adjustment events coinciding, such as “ex-dividend” and “ex subscription right” markdowns on the same day, only one single adjustment factor (six decimal places) is computed using the total markdown. Where several adjustment events are required for a single share but at different times, the factors rounded in such a way are multiplied by each other, and the product is rounded to six decimal places again.

When determining the  $c_{it}$  adjustment factor for subscription rights, the rights value is used rounded to two decimal places. Only in the case of a capital increase using company reserves will such a rights value not be rounded. If a dividend disadvantage has to be prorated (e.g. for three months), the value of such a disadvantage used for index calculation is rounded to two decimal places.

The free float factors are used as figures rounded to four decimal places.

The indices are rounded to two decimal places and published accordingly. The  $F_i$  factors are rounded to five decimal places and published accordingly, changing with each share-specific adjustment.

<sup>19</sup> The actual number depends on the current number of companies in the index. Hence opening prices need to be available for all companies that are currently included in the index.

If a dividend disadvantage has to be prorated, the value of such a disadvantage used for index calculation is rounded to two decimal places.

### 6.3.6 Index Flags and Corrections

An index is published with the label "A" ("amtlich") once the opening criteria are fulfilled. Where the opening criteria have not been met for an index on a certain trading day, an index value is derived from the last available prices at the end of the calculation period. Accordingly, this index is labelled "I" (indicative). If the number of corresponding securities is between the minimum number and the total number shown in the table, the indices are also labelled "R" (representative).

Subsequent index ticks are continuously checked for its deviation. Once an index specific threshold is breached, the corresponding index ticks are disseminated with an index supplement "U" (for unchecked, instead of "A" for amtlich) and an immediate operational check is triggered. If the deviation was justified (e.g. due to market conditions), the index will manually be switched back to "A", i.e. labelled in line with its corresponding status.

## 6.4 Calculation Correction

This section outlines the rules and procedures applicable in case of a calculation error, meaning the provision of index values, usage of index constituents or other elements or the application of weightings, capping, or other aspects of the index methodology in a manner that is not in line with this index methodology, e.g. due to a mistake, incorrect input data, etc.

### 6.4.1 Rule-based Correction

STOXX Ltd. corrects a Calculation Error without delay on the dissemination day it occurred, provided that STOXX Ltd. becomes aware of such Calculation Error before 15:30 CET of that dissemination day and insofar as technically and operationally feasible. STOXX Ltd. does not change intraday index composition of an index.

If STOXX Ltd. became aware of a Calculation Error at or after 15:30 CET, STOXX Ltd. aims at correcting the Calculation Errors as of the end of the next dissemination day, including corrections to index constituents.

STOXX Ltd. amends without undue delay previous incorrect index values or input data only if they are required for the subsequent index values calculation. Incorrect real-time index values disseminated before the effective time of the correction are not restated.

### 6.4.2 Non-rule-based Correction

If the above-outlined rule-based error correction cannot be applied, the relevant STOXX Committee assesses without undue delay:

- if and how the Calculation Error should be corrected, including if the index shall be restated, and/or
- if the dissemination of index values shall be suspended (Discretionary Rule, see Section 1.3).

An index should be restated, when the performance of the index (other than Selection Indices) can no longer be replicated. A suspension of index dissemination is triggered when the relevant STOXX Committee decides that the correction will take significant time during which misleading index values could lead to financial, legal and reputational risks (Discretionary Rule, see Section 1.3).

STOXX Ltd. suspends the dissemination of an index at the latest at the end of the dissemination day after it became aware of a Calculation Error, if the Calculation Error has not been corrected by then.

STOXX Ltd. will resume the dissemination of the index as soon as the correct index calculation is feasible, and the correct historical values are available.

### 6.4.3 Notifications

In general, notifications take the form of an announcement on the DAX website (<http://www.dax-indices.com>). Announcements can (but need not, depending on the decision of STOXX Ltd.) be published via relevant financial media.

With regard to Calculation Errors, STOXX Ltd. issues notifications in accordance with the following rules:

- STOXX Ltd. will publish a notification before correcting a Calculation Error. Notifications are effective immediately following their issuance, unless otherwise specified in the notification.
- The notification will specify if a Calculation Error will be corrected retrospectively. In case of retrospective correction, STOXX Ltd. will publish the notification using the new end of day closing price.
- If STOXX Ltd. decides under Section 6.4.2 that index dissemination is suspended until the Calculation Error is corrected, a resume notification is published specifying the point in time when index dissemination is resumed and the correction will take place.

STOXX Ltd. will refrain from the issuance of a notification if it reaches the view that the issuance of a notification is not in line with the applicable laws and may decide to issue such notification at a later point in time when such reasons have lapsed (Discretionary Rule, see Section 1.3). By reason of force majeure or other events beyond the control of STOXX Ltd. it might become impossible for STOXX Ltd. to issue a notification in due time or by the means set out herein. In such cases STOXX Ltd. may exceptionally issue the notification

either subsequently immediately following such event or in any case by other means (Discretionary Rule, see Section 1.3).

## 7 Chaining

Quarterly chaining is carried out on the respective third Friday in March, June, September and December. The index is calculated on this day using the weights applicable up to that point for the last time. The new weights will apply from the next trading day. Xetra<sup>®</sup> or Börse Frankfurt closing prices on the chaining date form the basis for the chaining.

### 7.1 Chaining for Free Float Market Cap-Weighted Indices

The portion of share capital attributable to each share class that is deemed free float (see section 2.3) is used for weighting free float market cap-weighted indices. The number of shares comprising the share capital and the free float factor are updated quarterly during the regular chaining process.

#### 7.1.1 Regular Chaining

The quarterly chaining procedure is carried out quarterly and encompasses (with the exception of the Scale All Share Index) the following measures:

- Regular changes to the composition of the various indices are implemented.
- The number of shares and the respective free float factors are updated in accordance with the capital changes carried out.
- The accumulated income from distributions and capital changes is allocated to the index component issues according to the respective new weights. For this purpose, the individual  $c_{it}$  adjustment factors are set to 1.
- A chaining factor is calculated to avoid a gap in the respective index.

Chaining is carried out in three steps:

a) Calculation of the index value on the chaining date according to the old weighting scheme

The following applies accordingly:

$$\text{Index}_t = K_T \cdot \frac{\sum_{i=1}^n p_{it} \cdot ff_{iT} \cdot q_{iT} \cdot c_{it}}{\sum_{i=1}^n p_{i0} \cdot q_{i0}} \cdot \text{Base}$$

This value corresponds to the closing index published on the date of chaining and is used with two decimal places (as published) for all subsequent calculations.

#### b) Computation of an interim value

The interim value is computed using the number of shares valid on the chaining date ( $q_{i,T+1}$ ) and the current free float factors ( $ff_{i,T+1}$ ). The  $c_{it}$  adjustment factors are set to 1.

The following applies accordingly:

$$\text{Interim value} = \frac{\sum_{i=1}^n p_{it} \cdot ff_{i,T+1} \cdot q_{i,T+1}}{\sum_{i=1}^n p_{i0} \cdot q_{i0}} \cdot \text{Base}$$

The interim value is used as an exact figure for subsequent calculations.

#### c) Calculation of the new chaining factor

The following applies accordingly:

$$K_{T+1} = \frac{\text{Index}_t}{\text{Interim value}}$$

After chaining, the index is computed on the basis of the new chaining factor ( $K_{T+1}$ ).

After calculation of the chaining factor, capital changes and dividend payments due on the date of chaining are considered via the  $c_{it}$  factor.

The  $F_i$  weighting factors of the index formula based on relative weights are calculated as follows:

$$F_i = K_{T+1} \cdot \frac{ff_{i,T+1} \cdot q_{i,T+1} \cdot c_{it}}{\sum_{i=1}^n q_{i0}} \cdot 100$$

### 7.1.2 Unscheduled Chaining

If the composition of the index is extraordinarily adjusted as described in section 5, an unscheduled chaining takes place. The chaining takes place as described in section 7.1.1, but without an adjustment of the parameters: Number of shares, free float and correction factors ( $c_{it}$ ). Newly included companies are considered using the current parameters from Prime All Share. The factors from CDAX<sup>®</sup> are adopted in the case of an unscheduled segment change from General Standard to Prime Standard. The interim value is calculated on the basis of the companies included in the new index portfolio.



$$\text{Interim value} = \frac{\sum_{i=1}^n p_{it} \cdot ff_{iT} \cdot q_{iT} \cdot c_{it}}{\sum_{i=1}^n p_{i0} \cdot q_{i0}} \cdot \text{Base}$$

With the new chaining factor to result as:

$$K_{T+1} = \frac{\text{Index}_t}{\text{Interim value}}$$

### 7.1.3 Adjustment during Unscheduled Chaining

Distributions will be adjusted by unscheduled chaining as described in section 8.1.3. Calculation of the interim value is based on the adjusted price and correction factors:

$$\text{Interim value} = \frac{\sum_{i=1}^n p_{it} \cdot ff_{iT} \cdot q_{iT} \cdot c_{it}}{\sum_{i=1}^n p_{i0} \cdot q_{i0}} \cdot \text{Base}$$

In this case, the adjusted price and the newly calculated  $c_{it}$  correction factor are applied for the distributing company  $i$ .

With the new chaining factor to result as:

$$K_{T+1} = \frac{\text{Index}_t}{\text{Interim value}}$$

## 7.2 Chaining for Market Cap-Weighted Indices

For indices that are not weighted according to free float market capitalisation but rather on the basis of pure market capitalisation, the chaining takes place as outlined in section 7.1.1, but with the following difference:

$$ff_{iT} = 1$$

## 7.3 Chaining for Equally Weighted Indices

For chaining in equally weighted indices, such as the Scale All Share Index, the weighting factor  $q_{i,T+1}$  of every company will be adjusted during each scheduled and unscheduled chaining in order to ensure that every company has the same weighting in the index.

The following applies accordingly:

$$q_{i,t+1} = \frac{1}{p_{it} \cdot n} \cdot c$$

Where:

t = Time of last trading on the day of scheduled or unscheduled chaining

n = Number of shares in index

p<sub>it</sub> = Price of company i at time t

q<sub>it+1</sub> = Weighting factor of company i at time t+1

c = Scaling factor ( 1 000 000 ·  $\sum_{i=1}^n p_{it}$  )

Weighting factors are rounded to the nearest integer.

## 7.4 Capping

For some indices, the maximum index weighting that a company can adopt is limited. This maximum index weighting is known as the capping limit and is defined for each specific index. That means that in these cases, the total free float market capitalisation of a company is used to calculate the index weight. The following formula is used to calculate the free float market capitalisation based on sections 2.4 and 6.1.1:

$$FF-MCap = p_{it} \cdot ff_{iT} \cdot q_{iT}$$

Where:

t = Last trading time on the day of the scheduled or unscheduled chaining

T = Two trading days before the chaining day, e.g. T = Wednesday if the chaining day falls on a Friday

A reduction of this parameter is made at the index chaining if the index weighting of the company exceeds the capping limit specified in the index, by reducing the number of shares (q<sub>iT</sub>) of a company.

The procedure used, called capping, is described below and is performed on each chaining day:

Initially, the index weightings are calculated with the entire free float market capitalisation. In a second step, it is checked whether the capping limit has been exceeded. In this case, the number of shares of the affected company is reduced until the weighting is below the capping limit. The implied reduction of the overall index capitalisation (sum of the free float

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market capitalisation of all companies in the index) may result in another company exceeding the capping limit. Capping is an iterative process which is performed until no company exceeds the capping limit.

If the capped portion of a company rises above 10 percent in the course of a quarter, it is lowered back to the capping limit only on the following chaining date, where applicable.

## 8 Adjustments – Corporate Actions

The total return indices are adjusted for exogenous influences (e.g. price-relevant capital changes) by means of certain correction factors, assuming a reinvestment according to the “opération blanche”.

The indices are simultaneously adjusted for systematic price changes using ex-ante calculations of the correction factor. The prerequisite for this is to calculate the correction factor on an ex-ante basis.

Consequently, the first “ex” price can be adequately included for index calculation purposes. The ex-ante incorporation of adjustments presupposes a general acceptance of the computation formula as well as a general availability of the parameters used.

The calculated adjustment factor and a synthetic price accordingly adjusted for this factor are used in the index from the ex-date of a share as long as no “ex” price is available.

### 8.1 Distributions

#### 8.1.1 Cash Dividends and Other Distributions

Cash dividends and bonus distributions are only corrected in performance and net return indices. Special distributions are taken account of in all performance, net return and price indices.

Within the framework of index calculation, the share price is thus modified by the amount of the respective cash distribution, as defined of Section 2.1.

The cash dividend and other distributions are determined according to publicly available data such as issuers, financial regulators’ announcements.

The  $c_{it}$  adjustment factors for cash dividends, bonuses and special distributions are calculated as follows:

$$c_{it} = \frac{p_{i,t-1}}{p_{i,t-1} - D_{i,t}(1-\tau)} \cdot c_{it-1}$$

Where:

$p_{i,t-1}$  = Closing price of the relevant share on the day before the ex-dividend date

$D_{i,t}$  = Cash dividend, bonus or special distribution on day t

$\tau$  = withholding tax, only for net return indices, otherwise  $\tau = 0$

The withholding tax used to calculate the net return indices can be found on [www.stoxx.com](http://www.stoxx.com).

### 8.1.2 Stock Dividends

The issue of shares instead of the distribution of cash to provide dividends is treated in the same way as bonus shares or nominal value changes and is accounted for in both performance and price indices. If the holder is granted the right to choose between cash dividends and stock dividends, it shall be assumed that cash dividends will be drawn.

### 8.1.3 Distributions > 10 Percent of Market Capitalisation

If the absolute amount of the accumulated distributions (dividends, bonus and special distributions, spin-offs or subscription rights on other share classes) between two regular chaining dates accounts for more than 10 percent of the market capitalisation of the distributing company on the day before the first distribution, the part of the distribution exceeding the 10 percent will not be reinvested in a single stock but in the overall index portfolio by means of unscheduled chaining.

In such a case, the ci adjustment factor for the distribution amount on 10 percent of the distribution will be calculated according to the formulas described in sections 8.1.1 and 8.1.2. The remaining distribution amount will be implemented at the same time as the adjustment of the chaining factor as described in section 7.1.

Example 1 – Dividend distribution of 25 percent

Company A, which is included in the index with a current share price of €100 and current adjustment factor of 1, pays a special dividend of €25 to shareholders on the ex-dividend date t. An adjustment factor of 1.11111 will be calculated according to section 8.1.1 for the part of the distribution which accounts for 10 percent of the overall capital (€10). The remaining markdown of €15 will be adjusted by conducting an extraordinary chaining as described in section 7.1.3.

Example 2 – Dividend distribution of 5 percent on day t, spin-off of 10 percent on the next day

Company B, which is included in the index with a current share price of €10 and current adjustment factor of 2, pays a special dividend of €0.50 on the ex-dividend date t. The special dividend will be adjusted by the adjustment factor as described in section 8.1.1. The new adjustment factor is correspondingly calculated as 2.105263. On the next day company C will be spun-off from company B. Firstly, company C will be included in the index and removed on the next day with a closing price of €1 as described in section 8.4, resulting in a markdown of €1 or 10 percent based on the capitalisation before the first distribution. The accumulated markdown is 15 percent of the market value. Up to and including 10 percent of the markdown - in this case €0.5 - will be adjusted by the ci factor in accordance with section 8.1.1. The remaining markdown of €0.5 will be adjusted conducting an extraordinary chaining as described in section 7.1.3.

## 8.2 Changes in Share Capital

### 8.2.1 Capital Increases

The  $c_{it}$  adjustment factors for capital increases (against cash contributions, or using company reserves) are determined as follows:

$$c_{it} = \frac{p_{i,t-1}}{p_{i,t-1} - BR_{i,t-1}} \cdot c_{it-1}$$

Where:

$$BR_{i,t-1} = \frac{p_{i,t-1} - p_B - DN}{BV + 1}$$

and:

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

$BR_{i,t-1}$  = Theoretical value of subscription rights

$p_B$  = Subscription price

$BV$  = Subscription ratio

$DN$  = Dividend disadvantage

For capital increases using company reserves:  $p_B = 0$

The dividend disadvantage is equivalent to the last dividend paid or the proposed dividend published by financial data providers. For issues on which options are traded at Eurex, this procedure is coordinated with Eurex, taking account of the respective rights markdown to adjust the basis prices of the various equity options.

### 8.2.2 Capital Reductions

The following formula is used to calculate the  $c_{it}$  adjustment factor in the case of a simplified capital reduction:

$$c_{it} = \frac{1}{V_{it}} \cdot c_{it-1}$$

Where:

$V_{it}$  = Reduction ratio of company i valid at time t

In the event of a capital reduction and subsequent capital increase against additional contributions, the introduction of a new class of shares is handled as follows:

The old classes are removed, and the new class is included with the corresponding computation of a chaining factor. In this context, two assumptions are made: firstly, that the last traded price could have been achieved, and secondly that the released capital will be invested in the new class on the subsequent day. The new class is included in the index based on the respective opening price on the first day of the new quotation.

### 8.3 Nominal Value Changes and Share Splits

In the case of nominal value changes (or share splits), it is assumed that the respective price changes occur in proportion to the related nominal value (or number of shares). The adjustment factor reflects this assumption accordingly:

$$c_{it} = \frac{N_{i,t-1}}{N_{i,t}} \cdot c_{it-1}$$

Where:

$N_{i,t-1}$  = Previous nominal value of share class i (or new number of shares)

$N_{i,t}$  = New nominal value of share class i (or previous number of shares)

### 8.4 Spin-offs

Where a company, A, spins off one of its divisions into new, independent companies, the adjustment is carried out as described below.

A theoretical markdown cannot be calculated on an ex-ante basis since there is no closing price for the shares of the new companies. The spun-off entities are additionally included in the index at a price of 0 on the ex-date to avoid any index tracking errors. For a spin-off affecting the DAX®, for instance, this implies that the index is calculated based on more than 30 issues for at least one day. After close of trading on their first trading day the spun-off companies are removed from the index. At the same time, the  $c_i$  factor of company A is adjusted as follows:

$$c_{i,t}^A = \left( 1 + \sum_{j=B}^N \frac{c_{i,t-1}^j \cdot p_{i,t-1}^j}{c_{i,t-1}^A \cdot p_{i,t-1}^A \cdot BV_j} \right) \cdot c_{i,t-1}^A$$

Where:

$p_{i,t-1}^A$  = Closing price of "A" shares on t-1

$p_{i,t-1}^j$  = Closing price of spun-off company j on t-1

$BV_j$	=	Subscription ratio of spun-off company j
$t-1$	=	First trading day of spun-off company j
$t$	=	point in time in which the spun-off companies are removed from the index

## 8.5 Subscription Rights on Equity

### 8.5.1 Subscription Rights on Other Share Classes

Where shareholders of a company (class A) are granted subscription rights to shares of another class (class B) of the same company, two different scenarios must be distinguished:

#### A The shares to which a subscription right exists are already listed

The  $c_{it}$  adjustment factor is computed analogously to a capital increase of class A shares:

$$C_{it} = \frac{p_{it-1}^A}{p_{it-1}^A - BR_{it-1}}$$

Where:

$$BR_{it-1} = \frac{p_{it-1}^B - p_B - DN}{BV+1}$$

And:

$BR_{it-1}$  = Theoretical value of subscription rights

$p_{it-1}^A$  = Closing price of class A shares on the day before the ex-date

$p_{it-1}^B$  = Closing price of class B shares on the day before the ex-date

$p_B$  = Subscription price

$BV$  = Subscription ratio

$DN$  = Dividend disadvantage of class B

#### B New issue of shares to which a subscription right exists

In this case, the exact theoretical value of subscription rights cannot be calculated on an ex-ante basis since there is no closing price for the new class. Therefore, the index is corrected as follows:

The expected price for the new shares is determined on the basis of the price difference between ordinary and preference shares of comparable companies (Discretionary Rule, see



Section 1.3). This price is used in line with the procedure described above to compute the respective subscription right.

## 8.6 Subscription Rights on Fixed-Income Instruments and Instruments with Embedded Options

A valuation of the respective fixed-income instrument on the basis of the net present value method is necessary to determine the value of subscription rights. Future revenues are estimated without deducting capital gains tax and are first discounted on the date on which payment of the subscription price becomes due.

No adjustment is required if subscription rights are not traded (in the event that terms are issued in line with prevailing market conditions).

### 8.6.1 Subscription Rights on Profit-Participation Certificates

The  $c_{it}$  adjustment factor for subscription rights related to profit-participation certificates is calculated in the following way:

$$c_{it} = \frac{p_{i,t-1}}{p_{i,t-1} - BR_{i,t-1}} \cdot c_{it-1}$$

Where:

$p_{i,t-1}$  = Closing price of share  $i$  on the day before the ex-date

$BR_{i,t-1}$  = Theoretical value of subscription rights

Discounting is carried out using the actual/actual method.

With the purchase price being considered, the capital value at the time of payment is obtained according to the following equation:

$$KW_{t-1} = -P + K_1 \cdot q^{\left(\frac{-t}{365}\right)} + K_2 \cdot q^{\left(\frac{-t}{365}\right)} \cdot q^{-1} + \dots + (T + K_n) \cdot q^{\left(\frac{-t}{365}\right)} \cdot q^{-n+1}$$

Where:

$KW_{t-1}$  = Capital value of the participation certificate on the day before the ex-date

$q$  =  $1 + r$

$r$  = Discount rate

$t$  = Period from the date of issue to the first interest due date (in days)

$P$  = Purchase price of the profit-participation certificate

$K_i$	=	Coupon payment in year $i$
$T$	=	Redemption
$n$	=	Term of the participation certificate (in years)

The discount rate applied here is equivalent to the yield of a zero bond with the same maturity, plus a risk add-on determined on the basis of comparable instruments. The capital value is rounded to two decimal places.

Assuming that profit-participation certificates are offered at a ratio of  $z:1$ , the value of subscription rights ( $BR_{i,t-1}$ ) per share is thus

$$BR_{i,t-1} = \frac{KW_{t-1}}{z}$$

### 8.6.2 Subscription Rights on Bonds

The procedure is in line with that described in section 8.6.1, with the respective bond being valued by means of the net present value method<sup>20</sup>. The subscription ratio is subsequently considered, and the correction factor established.

### 8.6.3 Subscription Rights on Instruments with Embedded Options

The procedure for subscription rights that involve instruments vesting an option right also facilitates the computation of the various correction factors on an ex-ante basis (Discretionary Rule, see Section 1.3).

### 8.6.4 Subscription Rights on Profit-Participation Certificates with Warrants

The  $c_{it}$  adjustment factor for subscription rights on profit-participation certificates with warrants is determined according to the following:

- 1) Valuation of the fixed-interest component of the profit-participation certificates with warrants
- 2) Valuation of warrants
- 3) Calculation of the value of subscription rights
- 4) Computation of the adjustment factor

on 1) Valuation of the fixed-interest component of profit-participation certificates with warrants

<sup>20</sup> "Capital budgeting technique used to determine the benefits offered by investment projects. The net present value is calculated by discounting all inflows and outflows at the reference date." [Gabler Wirtschaftslexikon; as at May 2015]

The valuation of the fixed-interest component of profit-participation certificates with warrants ( $KW_{t-1}$ ) corresponds to the valuation of profit-participation certificates set out above.

on 2) Valuation of warrants

Warrants are valued using the binomial options pricing model, which permits dividend payments to be considered in the computation. The dividend used is the average of the last three dividends paid. Where a dividend has already been announced, then the aggregate of this value and the two preceding dividend payments is taken for averaging purposes. The volatility used is the annualised 250-day volatility of the underlying instrument. The interest rate applied here is equivalent to the yield of a zero bond with a maturity corresponding to the option's lifetime. The option is valued at the time of issue of the respective profit-participation certificates with warrants, irrespective of its exercise period. The option value is rounded to two decimal places.

The dilution effect is considered as follows:

$$O = \frac{O_B \cdot N}{N+n}$$

Where:

O = Option value

$O_B$  = Value of the option right without the dilution effect

N = Number of shares prior to the exercise of option rights

n = Potential number of shares ensuing from the exercise of option rights

on 3) Calculation of the value of subscription rights

The capital value of the profit-participation certificate and the option value are aggregated to form the total value of a profit-participation certificate with warrants.

Assuming that profit-participation certificates with warrants are offered at a ratio of z:1, the value of subscription rights ( $BR_{i,t-1}$ ) per share is

$$BR_{it} = \frac{KW_{t-1} + O}{z}$$

on 4) Computation of the adjustment factor

The adjustment factor is computed as follows:

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$$C_{it} = \frac{p_{i,t-1}}{p_{i,t-1} - BR_{i,t-1}} \cdot C_{it-1}$$

#### 8.6.5 Subscription Rights on Bonds with Warrants or Convertible Bonds

Computation is in line with the procedure described in section 8.6.4 above. The fixed-interest and option components are valued separately and then aggregated. The dilution effect and subscription ratio are subsequently considered, and the adjustment factor is determined.

## 9 Limitations

This section applies in the event of Limitations that occur due to:

- insufficient rules, meaning the absence of a methodology rule, provision or procedure which leads to a failure when determining the respective index value or which leads to an index value that does not properly reflect the concept / nature of the index, e.g.:
  - performance of the index can no longer be physically replicated;
  - insufficiently available index constituents to fulfil the requirements of the Index Methodology;
- unclear rules, meaning a situation in which the rules leave multiple possible interpretations on how a certain rule shall be applied to a specific situation;
- data insufficiency, meaning a scenario in which the calculation of an index is no longer possible due to insufficient data quantity or quality;
- failure to produce index values as intended;  
  
market disruption which results in the performance of the index being unable to be tracked,
- events with a market impact that by their nature could reasonably not be foreseen, or events whose impact on an index or the economic reality the index intends to represent, cannot be determined in advance. Events covered in this section include, but are not limited to, events of natural, social, political, economic nature that may negatively impact regional or global societies or economies. Examples may be, but are not limited to, the following: (i) change to currency convertibility or restriction on capital flows announced by a country; (ii) market disruption, e.g. an event that materially negatively influences the aggregated liquidity, capitalization or tradability of an entire market; (iii) exchange closure, (iv) government intervention, (v) pandemic, (vi) natural catastrophe.

If a Limitation has occurred, the IGC shall decide if and how the Limitation shall be rectified (Discretionary Rule, see Section 1.3). Any such rectification may comprise deviations from the index methodology which may apply as long as the Limitation persists (Discretionary Rule, see Section 1.3).

In this context, STOXX may also decide to cancel an index review.

If a Limitation that could justify the cancellation of an index review occurs two or fewer dissemination days before the scheduled review implementation day, the review will be performed as planned, if reasonably possible. This aims to avoid last minute changes and not undermine the trading activity that may have already been performed.

If a review is cancelled, STOXX aims to perform it at the next scheduled review of the index or at the next quarterly review date (3<sup>rd</sup> Friday of March, June, September and December), whichever comes first and subject to the then prevailing market conditions.

If a decision to deviate from the index methodology is taken, it will be communicated as soon as possible in form of an Announcement or Press Release. STOXX Ltd. will refrain from the issuance of a notification if it reaches the view that the issuance of a notification is not in line with applicable laws and may decide to issue such notification at a later point in time when such reasons have lapsed (Discretionary Rule, see Section 1.3). By reason of force majeure or other events beyond the control of STOXX Ltd. it might become impossible for STOXX Ltd. to issue a notification in due time or by the means set out herein. In such cases STOXX Ltd. may exceptionally issue the notification either subsequently immediately following such event or in any case by other means.

Any measures will be implemented two dissemination days later and will enter into effect the next dissemination day after implementation, unless a different effective date is specified in the notification.

## 10 Methodology Review

The purpose of the methodology review is to maintain integrity of the index, i.e. that the index methodology remains executable and results in an accurate and reliable representation of the market / economic realities the index seeks to measure.

### 10.1 Frequency of Review

In order to ensure the index integrity is maintained, the methodology is reviewed annually and ad hoc if a Limitation has occurred. If a Limitation cannot be addressed with by a methodology review, this may give rise to an index cessation or index transition. STOXX Ltd. shall not be liable for any losses arising from any decisions taken as part of a methodology review.

### 10.2 Review Procedure

#### 10.2.1 Initiation of Methodology Review

The IMC proposes an annual methodology review schedule for approval by the IGC (Discretionary Rule, see Section 1.3).

The IMC is in charge of initiating ad hoc methodology reviews in case of a Limitation or based on recommendations to initiate a Methodology Review by other STOXX. Committee (Discretionary Rule, see Section 1.3).

### 10.2.2 Decision and Escalation

The following STOXX Committees are responsible for making the decisions on amendments to an index methodology:

The IMC decides on changes to the index methodology, unless

- a) a material change to the index methodology is proposed (see Section 10.3 below),
- b) the change is triggered by an Unclear Rule or Insufficient Rule (as part of a Limitation, Section 9), or
- c) it relates to a request for a market consultation
- d) financial products relating to the index have a notional value/notional amount of more than EUR 100 mn.

If any of the conditions a) to d) above is met, the decision is taken by IGC.

### 10.3 Material Changes with Consultation

As described in the STOXX Changes to Methodology Policy and in STOXX Consultation Policy (publicly available on STOXX website), prior to proposed material changes to the index methodology, a consultation will be performed.

A change to an index methodology shall be considered material in the event of:

- a) a substantial change in the index objective or market/economic reality the index aims to represent (e.g. market leader components vs. mid cap companies), or
- b) a substantial change of the index methodology in aspects such as, but not limited to, the ones listed below and that would result in altering the overall concept or the nature of the index:
  - i. calculation methods or formulas with a substantial impact on the index performance, or
  - ii. rules regarding the determination of index constituents by application of the index methodology, or
  - iii. rules regarding the determination of the weights of index constituents by application of the index methodology,
  - iv. rules regarding the treatment of corporate actions.

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On the contrary, index methodology updates resulting from the application of existing methodology principles or minor clarifications of existing rules or corrections without altering the overall concept or the nature of the index are generally considered non-material.

The IMC determines whether an amendment is material as defined above. In case such determination is not possible, the proposed amendment shall be treated as material.

(Discretionary Rule, see Section 1.3).

In case of Changes to Methodology as described in STOXX Changes to Methodology Policy a STOXX consults with reasonably affected stakeholders (“Stakeholders”) prior to take decision.

Stakeholders mean (a) persons or entities who have an index license with STOXX regarding a benchmark administered by STOXX (Subscriber) and/or as far as STOXX is reasonable aware (b) persons or entities and/or third parties who own contracts or financial instruments that reference a benchmark administered by STOXX (Investors)

Taking into account the Principle of Proportionality, STOXX informs affected Stakeholders as follows:

- either via public consultation open to the entire market and performed via STOXX website;
- or, when the relevant Stakeholders are known, on a restricted basis directly on the Stakeholders e-mail address.

STOXX shall inform in writing the Stakeholders on:

- the key elements of the proposed relevant changes
- the rationale for any proposed relevant changes
- the specific questions to be answered
- the deadline for receiving feedback
- the timeline of implementation of the Relevant Changes
- contact details where to provide feedback
- relevant definitions

The consultation shall enable Stakeholders to submit comments.

The standard consultation period shall be 1 month with the option to shorten or extend this period.



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The IGC may decide to shorten the 1-month period in the following cases:

- in extreme or exceptional market conditions or analogous extraordinary situations
- in urgent cases, such as a situation in which the Index cannot be replicated anymore;
- in situations where there is no known Stakeholders impact or only a limited number of Stakeholders;
- in order to align the effective date of a proposed change with Index Maintenance; e.g. an Equity/Bond Index Rebalancing, Index Review, and Corporate Action Adjustment, or
- any other similar cases applying the principle of proportionality.

The IGC s will consider the feedback received and decide whether the relevant changes shall become effective.

The IGC is not bound by any feedback received. Moreover, if the received feedback is ambiguous, or if no Stakeholders participated, the IGC may decide to conduct another consultation, which again will not be binding.

If the IGC decides that relevant changes shall become effective, STOXX will communicate a timeline on the implementation of the relevant changes, if not already communicated in the consultation material.

STOXX will after the consultation make available the Stakeholders feedback received in the consultation and STOXX's summary response to those comments, except where confidentiality has been requested by the respective Stakeholders.

The decision will be communicated as soon as possible in the form of an Announcement or Press Release.

STOXX Ltd. will refrain from issuance of a notification if it reaches the view that the issuance of a notification is not in line with applicable laws and may decide to issue such notification at a later point in time when such reasons have lapsed.

By reason of force majeure or other events beyond the control of STOXX Ltd. it might become impossible for STOXX Ltd. to issue a notification in due time or by the means set out herein. In such cases STOXX Ltd. may exceptionally issue the notification either subsequently immediately following such event or in any case by other means.

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At the end of each consultation STOXX Ltd. will make available the feedback received from Stakeholders in the consultation together with a summary of its response to that feedback, except where confidentiality has been requested by the respective Stakeholders.

(Discretionary Rule, see Section 1.3).

#### **10.4 Non-Material Changes without Consultation**

Non-material changes of the index methodology, including a description of the impact and the rationale, will be announced via Announcement or Press Release, effective immediately following publication, unless otherwise specified in the notification (Discretionary Rule, see Section 1.3). STOXX Ltd. will refrain from the issuance of a notification if it reaches the view that the issuance of a notification is not in line with applicable laws and may decide to issue such notification at a later point in time when such reasons have lapsed (Discretionary Rule, see Section 1.3). By reason of force majeure or other events beyond the control of STOXX Ltd. it might become impossible for STOXX Ltd. to issue a notification in due time or by the means set out herein. In such cases STOXX Ltd. may exceptionally issue the notification either subsequently immediately following such event or in any case by other means.

## 10.5 Publication of the methodology change

The effective date for benchmark methodology changes is aligned, where feasible, with the periodic benchmark reviews dates when the benchmark composition is changed, and a rebalancing is triggered to avoid extra ordinary impact for clients. Material methodology changes should generally be publicly announced 3 months prior to implementation. IGC may decide to shorten the notice period:

- a. In exceptional or urgent cases such as extreme or exceptional market conditions or analogous extraordinary situations
- b. in situations where there is no Stakeholder impact and where it has been agreed that the notice period has to be shortened but immediate communication is not possible. A case that requires urgent action is for example a situation in which the investor's ability to replicate the index benchmark performance with his or her portfolio is no longer ensured. In such cases, changes or amendments to the published index methodology must be made on the same day the new rule or change is implemented.
- c. to align with the period benchmark review dates and the rebalancing of the benchmarks.
- d. In case of any proposed material change in its methodology, STOXX shall share its view on the key elements of the methodology that will be impacted by a proposed material change. Furthermore, STOXX Ltd. shall include an assessment as to whether the representativeness of the benchmark and its appropriateness for its intended use are put at risk in case the proposed material change is not put in place. In case of any changes or amendments to the present Index Guide, Operations and Product will work together to ensure both the public and subscribers are provided with detailed information about the nature and rationale of the change as well as the implications and terms for the new methodology to enter into force.

## 11 Appendix

### 11.1 Historical Data

Index histories exist for all indices at least from the respective baseline date:

The DAX<sup>®</sup> price index continues the Börsen-Zeitung index, which historically extends back to October 1959. However, historical index levels of the DAX<sup>®</sup> performance index are only available since its baseline date in December 1987.

For the CDAX<sup>®</sup> price index there is a timeline which extends back to 1970. However, the history of the CDAX<sup>®</sup> performance index is only available since its baseline date in December 1987.

All histories up to and including 18 June 1999 are based on the prices of the floor trading on the FWB<sup>®</sup> Frankfurt Stock Exchange. Xetra<sup>®</sup> and Börse Frankfurt prices have been used to calculate the indices since 21 June 1999.

## 11.2 Calendar of Publications

Event	Point in Time
Publication Equity Index Rankings	3 <sup>rd</sup> trading day of the month before 9 a.m. CET (except in March, June, September, December)
Publication Equity Index Rankings (March, June, September, December)	3 <sup>rd</sup> trading day of the month after 10 p.m. CET
Publication additions/ deletions	3 <sup>rd</sup> trading day in March, June, September, December after 10 p.m. CET
Publication DAX 50 ESG Index Rankings	4 <sup>th</sup> trading day of the month after 10 p.m. CET
Publication DAX 50 ESG Index additions/ deletions	4 <sup>th</sup> trading day in March, June, September, December after 10 p.m. CET
Publication Business Forecast	One trading day (before 9 a.m. CET) before chaining date in March, June, September, December
Chaining date	3 <sup>rd</sup> Friday in March, June, September, December
Cut-off date for creation of ranking list	Last trading day of the month (at 5:30 p.m. CET) for which the ranking list will be created, e.g. May 31 <sup>st</sup> for May ranking list
Meeting Advisory Board for Equity Indices	not later than the 6 <sup>th</sup> trading day in March and September
Annual sector classification review	annually in August with publication in September

### 11.3 Sector classification

Super sector	Sector	Subsector	Classic/ Tech <sup>21</sup>	Description
Consumer Goods	Automobile	Auto Parts & Equipment	Classic	Producers of parts and accessories for motor vehicles and motorcycles (including tyres and batteries)
	Automobile	Automobile Manufacturers	Classic	Companies primarily active in the production of passenger vehicles, small lorries and motorcycles
	Consumer	Clothing & Footwear	Classic	Companies producing mainly textile goods and shoes, including related cleaning services
	Consumer	Consumer Electronics	Classic	Companies producing mainly consumer electronics goods (such as TV sets, VCRs/camcorders HiFi equipment, etc.) (This excludes producers focusing on computers and telecommunications equipment.)
	Consumer	Home Construction & Furnishings	Classic	Producers of prefabricated homes, DIY products and furnishings (such as furniture or lighting)
	Consumer	Household Appliances & Housewares	Classic	Producers of household and garden products (such as cutlery, dishes or cleaning products), or of household appliances ("white goods")
	Consumer	Leisure Goods & Services	Classic	Producers of leisure goods (such as sports equipment, toys, bicycles), as well as restaurant, hotel or casino operators
	Consumer	Personal Products	Classic	Producers of cosmetics and personal care products
	Food & Beverages	Beverages	Classic	Producers of beverages of all kinds
	Food & Beverages	Food	Classic	Producers of food and tobacco products of all kinds
FIRE <sup>22</sup>	Banks	Credit Banks	Classic	Commercial and universal banks which do not fall into the categories of Mortgage Banks or Financial Services Providers
	Banks	Mortgage Banks	Classic	Specialist banks exclusively (or predominantly) extending long-term loans against liens on real property, or communal loans
	Financial Services	Diversified Financial	Classic	Financial services providers that do not have universal bank status, but who distribute a range of financial services
	Financial Services	Private Equity & Venture Capital	Classic	Holding companies investing in diversified business areas
	Financial Services	Real Estate	Classic	Companies investing in property/real estate (directly or indirectly)
	Financial Services	Securities Brokers	Classic	Companies active in the securities business, such as brokers, online banks, exchanges, etc.
	Insurance	Insurance	Classic	Companies mainly underwriting policies for life, accident, health or home contents cover
	Insurance	Re-Insurance	Classic	Companies mainly underwriting reinsurance cover

<sup>21</sup> The classification of Subsectors into Classic and Tech indicates whether a company is listed additionally to the TecDAX ranking list or only to the DAX/MDAX/ SDAX ranking list.

<sup>22</sup> FIRE = Finance, Insurance and Real Estate

Basic Materials	Basic Resources	Forest & Paper Products	Classic	Producers of wood or basic wood products, and paper producers
	Basic Resources	Mining	Classic	Companies extracting commodities such as iron ore, minerals, aluminium, coal, diamonds or similar substances
	Basic Resources	Oil & Gas	Classic	Companies drilling for oil and gas, which do not fall under the Oil & Gas Distribution category
	Basic Resources	Steel & Other Metals	Classic	Producers of steel or related in-process products; producers of iron, non-iron metals or precious metals
	Chemicals	Chemicals, Commodity	Classic	Producers of simple, standardised chemical products
	Chemicals	Chemicals, Specialty	Classic	Producers of non-standard, specialty chemical products
	Chemicals	Industrial Gases	Classic	Producers of industrial gases
Industrials	Construction	Building Materials	Classic	Producers of basic construction materials, such as cement, flooring, doors, windows, etc.
	Construction	Construction & Engineering	Classic	Companies active in the development and construction of buildings and infrastructure projects (e.g. roads) (excluding prefabricated homes)
	Industrial	Advanced Industrial Equipment	Tech	Companies using sophisticated technology or providing engineering for the production of high-tech industrial goods (for example, producers of lasers, robots or optical storage media)
	Industrial	Containers & Packaging	Classic	Companies specialising in all kinds of packaging
	Industrial	Heavy Machinery	Classic	Producers of large but mobile machinery, such as heavy goods vehicles, ships, agricultural machines, etc.
	Industrial	Industrial Machinery	Classic	Producers of industrial machinery or related components, such as machine tools, compressors, printing machines, etc.
	Industrial	Industrial, Diversified	Classic	Companies with activities across various industrial sectors (including holding companies investing in different sectors)
	Industrial	Renewable Energies	Tech	Companies developing equipment for alternative and/or renewable energy generation, such as solar technology or wind-powered turbines
	Industrial	Industrial Products & Services	Classic	Producers/providers of other industrial products or services (e.g. market research, human resources, industrial wholesalers, waste disposal)
	Transportation & Logistics	Airlines	Classic	Aviation companies mainly carrying passengers
	Transportation & Logistics	Logistics	Classic	Providers of industrial transport services (land transport/ aviation cargo/ freight shipping)
	Transportation & Logistics	Transportation Services	Classic	Providers of infrastructural or other specialised transport services (including airport operators, road or rail networks, tour operators, etc.)
Consumer Services	Media	Advertising	Classic	Companies offering advertising, marketing and/or public relations services
	Media	Broadcasting	Classic	Providers of cable and satellite transmission services, and radio/television broadcasters
	Media	Movies & Entertainment	Classic	Companies producing (or trading in) entertainment products and services, including producers, distributors and broadcasters of feature films and television shows, music producers and distributors, theatre operators and sports teams

Consumer Services	Media	Publishing & Printing	Classic	Publishers of newspapers, magazines and books, and providers of printed or electronic information; including providers of related services (including educational institutions)
	Retail	Retail, Catalogue	Classic	Retailers selling mainly by mail order, which are not categorised under Retail, Internet
	Retail	Retail, Food & Drug	Classic	Owners/operators of food stores, pharmacies and drugstores (wholesale and retail)
	Retail	Retail, Internet	Classic	Retailers selling their goods or services mainly over the Internet
	Retail	Retail, Multiline	Classic	Retail companies with a broad product range (department stores)
	Retail	Retail, Specialty	Classic	Retail companies with a very specific product range (such as fashion, electronics, etc.)
Pharma & Healthcare	Pharma & Healthcare	Pharmaceuticals	Classic	Companies researching, developing or producing pharmaceuticals (including veterinary products)
	Pharma & Healthcare	Healthcare	Classic	Owners/operators of healthcare institutions (such as hospitals or nursing homes), providers of healthcare services (e.g. dialysis) and providers of medical material (such as syringes, swabs, etc.)
	Pharma & Healthcare	Biotechnology	Tech	Companies mainly active in developing, producing, marketing or licensing products based on biotechnological research
	Pharma & Healthcare	Medical Technology	Tech	Producers of technological products and devices used in healthcare, such as pacemakers, dialysis equipment or UV therapy systems
Information Technology	Software	Internet	Tech	Companies providing and developing Internet infrastructure (Internet access, portals, software, etc.)
	Software	IT-Services	Tech	Companies active in IT consulting, IT operations, systems integration, etc.
	Software	Software	Tech	Companies focused on the development of standard or specialised software solutions
	Technology	Communications Technology	Tech	Companies developing telecommunications technology and/or products (such as user devices or network components)
	Technology	Electronic Components & Hardware	Tech	Producers of electronic components (printed circuit boards, integrated circuits, smart cards) or computer hardware (PCs, monitors, etc.)
	Technology	Semiconductors	Tech	Producers and developers of semiconductors or similar products
Tele-communication	Telecommunication	Fixed-Line Telecommunication	Tech	Telecommunications carriers mainly providing fixed-line local and long-distance services
	Telecommunication	Wireless Telecommunication	Tech	Telecommunications carriers mainly providing wireless/mobile services
	Telecommunication	Telecommunication Services	Tech	Providers of ancillary or specialised telecommunications services
Utilities	Utilities	Electricity	Classic	Companies generating and/or distributing electricity (including operators of power stations)
	Utilities	Water	Classic	Providers of water to end-users (this segment includes operators of purification plants)
	Utilities	Oil & Gas (Distribution)	Classic	Utilities mainly providing energy in the form of oil and gas
	Utilities	Multi-Utilities	Classic	Companies active across various energy sectors

## 11.4 Reference data

Index	Alpha (Perf.)	ISIN (Perf.)	Alpha (Price)	ISIN (Price)	Alpha (Net)	ISIN (Net)	Sector
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## Selection Indices

DAX®	DAX	DE0008469008	DAXK	DE0008467440	DAXN	DE000A1A4D00	Tech & Classic
TecDAX®	TDXP	DE0007203275	TDKX	DE0007203283	2D0P	DE000A0Z3NF1	Tech
MDAX®	MDAX	DE0008467416	MKDX	DE0008467531	2D0M	DE000A0Z3ND6	Classic
SDAX®	SDXP	DE0009653386	SDXK	DE0009653394	2D0N	DE000A0Z3NE4	Classic
HDAX®	HDAX	DE0008469016	HKDX	DE0008469974	-	-	Tech & Classic
ÖkoDAX	XEG3	DE000A0MEU42	XEG4	DE000A0MEU59	-	-	Tech
General Standard Index	D1AP	DE000A0C4B83	D1AQ	DE000A0C4B91	-	-	-
Scale 30	OK7H	DE000A2GYJT2	0Q5C	DE000A2JOPW5	-	-	-
DAX® ex Financials Index	2DYP	DE000A0Z3ME6	2DYN	DE000A0Z3MD8	-	-	-
DAX® ex Financials 30 Index	2DWJ	DE000A0Z3K84	2DWI	DE000A0Z3K76	7400	DE000A2L0407	-
DAX® 50 ESG	2DOK	DE000A0Z3NB0	3BVV	DE000A0S3E04	3BVX	DE000A0S3E20	Tech & Classic

## DAX Currency Variants

DAX® USD	2747	DE000A1EXLZ4	2748	DE000A1EXL07	DAXU	DE000A1A4D18	Tech & Classic
DAX® GBP	OK5L	DE000A2GYHN9	OK5M	DE000A2GYHP4	OK5N	DE000A2GYHQ2	Tech & Classic
DAX® CHF	OJEY	DE000A161DY4	OJEX	DE000A161DX6	OWZ7	DE000A2LONR6	Tech & Classic
DAX® JPY	OJET	DE000A161DT4	OJES	DE000A161DS6	-	-	Tech & Classic
DAX® AUD	OJER	DE000A161DR8	OJEQ	DE000A161DQ0	-	-	Tech & Classic
DAX® CZK	4JOV	DE000A3CK363	4JOT	DE000A3CK348	4JOU	DE000A3CK355	Tech & Classic
DAX® 50 ESG USD	3BVZ	DE000A0S3E46	3BV1	DE000A0S3E61	3BV3	DE000A0S3E87	Tech & Classic



Index	Alpha (Perf.)	ISIN (Perf.)	Alpha (Price)	ISIN (Price)	Sector
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**X-Indices**

X-DAX®	D1AR	DE000A0C4CA0	N.V.	N.V.	-
X-MDAX®	3BSJ	DE000A0S3BG3	N.V.	N.V.	-
X-TecDAX®	3BSL	DE000A0S3BJ7	N.V.	N.V.	-
XDAXDAX	3XJN	DE000A169S86	N.V.	N.V.	-

**L/E-Indices**

L/E-DAX®	DAXL	DE0001717049	N.V.	N.V.	Tech & Classic
L/E-TecDAX®	TDXL	DE0001717072	N.V.	N.V.	Tech
L/E-MDAX®	MDXL	DE0001717056	N.V.	N.V.	Classic
L/E-SDAX®	SDXL	DE0001717064	N.V.	N.V.	Classic

**DAX International Indices**

DAX® International 100	3BTC	DE000A0S3CB2	3BTB	DE000A0S3CA4	-
DAX® International Mid 100	3BTI	DE000A0S3CH9	3BTH	DE000A0S3CG1	-

Index	Alpha (Perf.)	ISIN (Perf.)	Alpha (Price)	ISIN (Price)	Alpha (Net)	ISIN (Net)	Sector
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**All Share-Indices**

Prime All Share	PXAP	DE0007203325	PXAK	DE0007203333	4JC2	DE000A3CK6D7	Tech & Classic
CDAX®	CDAX	DE0008469602	CXKX	DE0008469800	4JC1	DE000A3CK6C9	Tech & Classic
Technology All Share	NMDP	DE0008468943	NMDK	DE0008468968	-	-	Tech
Classic All Share	CLXP	DE0007203341	CLXK	DE0007203358	-	-	Classic
General All Share	3BTU	DE000A0S3CV0	3BTT	DE000A0S3CU2	-	-	-
Scale All Share	007N	DE000A2BLGY6	007M	DE000A2BLGX8	-	-	-

Index	Alpha (Perf.)	ISIN (Perf.)	Alpha (Price)	ISIN (Price)	Sector
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**DAXsupersector Indices**

DAXsupersector Basic Materials	4NAF	DE000A0SM9Z7	4N7A	DE000A0SM718	Classic
DAXsupersector Consumer Goods	4NAG	DE000A0SNAA3	4N7B	DE000A0SM726	Classic
DAXsupersector Consumer Services	4NAH	DE000A0SNAB1	4N7C	DE000A0SM734	Classic
DAXsupersector FIRE	4NAI	DE000A0SNAC9	4N7D	DE000A0SM742	Classic
DAXsupersector Industrials	4NAJ	DE000A0SNAD7	4N7E	DE000A0SM759	Tech & Classic
DAXsupersector Information Technology	4NAK	DE000A0SNAE5	4N7F	DE000A0SM767	Tech
DAXsupersector Pharma & Healthcare	4NAL	DE000A0SNAF2	4N7G	DE000A0SM775	Tech & Classic
DAXsupersector Utilities	4NAN	DE000A0SNAH8	4N7I	DE000A0SM791	Classic

Index	Alpha (Perf.)	ISIN (Perf.)	Alpha (Price)	ISIN (Price)	Sector
<b>DAXsector Indices</b>					
DAXsector Automobile	CXPA	DE0009660084	CXKA	DE0009660092	Classic
DAXsector Banks	CXPB	DE0009660100	CXKB	DE0009660118	Classic
DAXsector Chemicals	CXPC	DE0009660126	CXKC	DE0009660134	Classic
DAXsector Consumer	CXPY	DE0009660449	CXKY	DE0009660456	Classic
DAXsector Financial Services	CXPV	DE0009660423	CXKV	DE0009660431	Classic
DAXsector Industrial	CXPN	DE0009660282	CXKN	DE0009660290	Tech & Classic
DAXsector Insurance	CXPI	DE0009660225	CXKI	DE0009660233	Classic
DAXsector Media	CXPD	DE0009660142	CXKD	DE0009660159	Classic
DAXsector Pharma & Healthcare	CXPP	DE0009660324	CXKP	DE0009660332	Tech & Classic
DAXsector Retail	CXPR	DE0009660340	CXKR	DE0009660357	Classic
DAXsector Software	CXPS	DE0009660365	CXKS	DE0009660373	Tech
DAXsector Technology	CXPH	DE0009660209	CXKH	DE0009660217	Tech
DAXsector Transportation & Logistics	CXPL	DE0009660241	CXKL	DE0009660258	Classic
DAXsector Utilities	CXPU	DE0009660407	CXKU	DE0009660415	Classic

**DAXsubsector Indices**

DAXsubsector Auto Parts & Equipment	I1AA	DE0007203366	I2AA	DE0007203374	Classic
DAXsubsector Automobile Manufacturers	I1AB	DE0007203382	I2AB	DE0007203390	Classic
DAXsubsector Chemicals, Specialty	I1CB	DE0007203564	I2CB	DE0007203572	Classic
DAXsubsector Clothing & Footwear	I1YA	DE0007203655	I2YA	DE0007203663	Classic
DAXsubsector Diversified Financial	I1VA	DE0007203788	I2VA	DE0007203796	Classic
DAXsubsector Real Estate	I1VB	DE0007203812	I2VB	DE0007203820	Classic
DAXsubsector Advanced Industrial Equipment	I1NA	DE0007203895	I2NA	DE0007203911	Tech
DAXsubsector Industrial Machinery	I1ND	DE0007203960	I2ND	DE0007203978	Classic
DAXsubsector Industrial, Diversified	I1NE	DE0007203986	I2NE	DE0007203994	Classic
DAXsubsector Renewable Energies	I1NF	DE0007237802	I2NF	DE0007237810	Tech
DAXsubsector Industrial Products & Services	I1NG	DE0007237828	I2NG	DE0007237836	Classic
DAXsubsector Pharmaceuticals	I1PA	DE0007237968	I2PA	DE0007237976	Classic
DAXsubsector Health Care	I1PB	DE0007237984	I2PB	DE0007237992	Classic
DAXsubsector Biotechnology	I1PC	DE0007238008	I2PC	DE0007238016	Tech
DAXsubsector Medical Technology	I1PD	DE0007238024	I2PD	DE0007238032	Tech
DAXsubsector Retail, Internet	I1RC	DE0007238081	I2RC	DE0007238099	Classic
DAXsubsector Retail, Specialty	I1RE	DE0007238123	I2RE	DE0007238131	Classic
DAXsubsector Internet	I1SA	DE0007238149	I2SA	DE0007238156	Tech
DAXsubsector IT-Services	I1SB	DE0007238164	I2SB	DE0007238172	Tech
DAXsubsector Software	I1SC	DE0007238180	I2SC	DE0007238198	Tech
DAXsubsector Communications Technology	I1HA	DE0007238206	I2HA	DE0007238214	Tech
DAXsubsector Electronic Components & Hardware	I1HB	DE0007238222	I2HB	DE0007238230	Tech
DAXsubsector Semiconductors	I1HC	DE0007238248	I2HC	DE0007238255	Tech
DAXsubsector Transportation Services	I1LC	DE0007238362	I2LC	DE0007238370	Classic
DAXsubsector Oil & Gas (Distribution)	I1UC	DE0007238420	I2UC	DE0007238438	Classic
DAXsubsector Multi-Utilities	I1UD	DE0007238446	I2UD	DE0007238453	Classic

**DAXsector All Indices**

DAXsector All Automobile	3BV6	DE000A0S3FB5	3BV7	DE000A0S3FC3	Classic
DAXsector All Banks	3BV8	DE000A0S3FD1	3BV9	DE000A0S3FE9	Classic

Index	Alpha (Perf.)	ISIN (Perf.)	Alpha (Price)	ISIN (Price)	Sector
DAXsector All Basic Resources	3BWA	DE000A0S3FF6	3BWB	DE000A0S3FG4	Classic
DAXsector All Chemicals	3BWC	DE000A0S3FH2	3BWD	DE000A0S3FJ8	Classic
DAXsector All Construction	4N7V	DE000A0SM7M9	4N50	DE000A0SM403	Classic
DAXsector All Consumer	4N7W	DE000A0SM7N7	4N51	DE000A0SM411	Classic
DAXsector All Financial Services	4N7X	DE000A0SM7P2	4N52	DE000A0SM429	Classic
DAXsector All Food & Beverages	4N7Y	DE000A0SM7Q0	4N53	DE000A0SM437	Classic
DAXsector All Industrial	4N7Z	DE000A0SM7R8	4N54	DE000A0SM445	Tech & Classic
DAXsector All Insurance	4N80	DE000A0SM7S6	4N55	DE000A0SM452	Classic
DAXsector All Media	4N81	DE000A0SM7T4	4N56	DE000A0SM460	Classic
DAXsector All Pharma & Healthcare	4N82	DE000A0SM7U2	4N57	DE000A0SM478	Tech & Classic
DAXsector All Retail	4N83	DE000A0SM7V0	4N58	DE000A0SM486	Classic
DAXsector All Software	4N84	DE000A0SM7W8	4N59	DE000A0SM494	Tech
DAXsector All Technology	4N85	DE000A0SM7X6	4N5A	DE000A0SM4Z8	Tech
DAXsector All Telecommunication	4N86	DE000A0SM7Y4	4N5B	DE000A0SM502	Tech
DAXsector All Transportation & Logistics	4N87	DE000A0SM7Z1	4N5C	DE000A0SM510	Classic
DAXsector All Utilities	4N88	DE000A0SM809	4N5D	DE000A0SM528	Classic

**DAXsubsector All Indices**

DAXsubsector All Advanced Industrial Equipment	4N89	DE000A0SM817	4N5E	DE000A0SM536	Tech
DAXsubsector All Advertising	4N8A	DE000A0SM825	4N5F	DE000A0SM544	Classic
DAXsubsector All Auto Parts & Equipment	4N8C	DE000A0SM841	4N5H	DE000A0SM569	Classic
DAXsubsector All Automobile Manufacturers	4N8D	DE000A0SM858	4N8E	DE000A0SM866	Classic
DAXsubsector All Biotechnology	4N8F	DE000A0SM874	4N5K	DE000A0SM593	Tech
DAXsubsector All Chemicals, Specialty	4N8J	DE000A0SM8B0	4N5P	DE000A0SM5D2	Classic
DAXsubsector All Clothing & Footwear	4N8K	DE000A0SM8C8	4N5Q	DE000A0SM5E0	Classic
DAXsubsector All Communications Technology	4N8L	DE000A0SM8D6	4N5R	DE000A0SM5F7	Tech
DAXsubsector All Construction & Engineering	4N8M	DE000A0SM8E4	4N5S	DE000A0SM5G5	Classic
DAXsubsector All Credit Banks	4N8Q	DE000A0SM8H7	4N5V	DE000A0SM5K7	Classic
DAXsubsector All Diversified Financial	4N8R	DE000A0SM8J3	4N5W	DE000A0SM5L5	Classic
DAXsubsector All Electronic Components & Hardware	4N8T	DE000A0SM8L9	4N5Y	DE000A0SM5N1	Tech
DAXsubsector All Health Care	4N8X	DE000A0SM8Q8	4N62	DE000A0SM5S0	Classic
DAXsubsector All Heavy Machinery	4N8Y	DE000A0SM8R6	4N63	DE000A0SM5T8	Classic
DAXsubsector All Home Construction & Furnishings	4N8Z	DE000A0SM8S4	4N64	DE000A0SM5U6	Classic
DAXsubsector All Household Appliances & Housewares	4N90	DE000A0SM8T2	4N65	DE000A0SM5V4	Classic
DAXsubsector All Industrial Machinery	4N92	DE000A0SM8V8	4N67	DE000A0SM5X0	Classic
DAXsubsector All Industrial Products & Services	4N93	DE000A0SM8W6	4N68	DE000A0SM5Y8	Classic
DAXsubsector All Industrial, Diversified	4N94	DE000A0SM8X4	4N69	DE000A0SM5Z5	Classic
DAXsubsector All Internet	4N6B	DE000A0SM619	4N96	DE000A0SM8Z9	Tech
DAXsubsector All IT-Services	4N97	DE000A0SM908	4N6C	DE000A0SM627	Tech
DAXsubsector All Medical Technology	4N9A	DE000A0SM932	4N6F	DE000A0SM650	Tech
DAXsubsector All Movies & Entertainment	4N9D	DE000A0SM965	4N6I	DE000A0SM684	Classic
DAXsubsector All Multi-Utilities	4N9E	DE000A0SM973	4N6J	DE000A0SM692	Classic
DAXsubsector All Pharmaceuticals	4N9J	DE000A0SM9C6	4N6P	DE000A0SM6E8	Classic

Index	Alpha (Perf.)	ISIN (Perf.)	Alpha (Price)	ISIN (Price)	Sector
DAXsubsector All Private Equity & Venture Capital	4N9K	DE000A0SM9D4	4N6Q	DE000A0SM6F5	Classic
DAXsubsector All Real Estate	4N9M	DE000A0SM9F9	4N6S	DE000A0SM6H1	Classic
DAXsubsector All Renewable Energies	4N9Q	DE000A0SM9J1	4N6V	DE000A0SM6L3	Tech
DAXsubsector All Retail, Internet	4N9U	DE000A0SM9N3	4N6Z	DE000A0SM6Q2	Classic
DAXsubsector All Retail, Specialty	4N9W	DE000A0SM9Q6	4N71	DE000A0SM6S8	Classic
DAXsubsector All Securities Brokers	4N9X	DE000A0SM9R4	4N72	DE000A0SM6T6	Classic
DAXsubsector All Semiconductors	4N9Y	DE000A0SM9S2	4N73	DE000A0SM6U4	Tech
DAXsubsector All Software	4N9Z	DE000A0SM9T0	4N74	DE000A0SM6V2	Tech
DAXsubsector All Transportation Services	4NAC	DE000A0SM9W4	4N77	DE000A0SM6Y6	Classic

## 11.5 History of Amendments to the Rules and Regulations

All amendments listed below are amendments to the Rules and Regulations of the former Equity Indices of Deutsche Börse AG.

15 Dec. 2015	<ul style="list-style-type: none"> <li>- Clarification of the rules underlying index component selection</li> <li>- Modification of the rules upon inclusion of the tendered share class (this does not apply to takeovers by companies already included in the index)</li> <li>- No use of recent turnover data in the case of a change in quotation board in one of the transparency standards</li> <li>- Addition to the fast exit rule that, if no opposing candidate can be found, the best candidate by market capitalisation is included</li> </ul>
29 Jun. 2015	<ul style="list-style-type: none"> <li>- Change in calculation times for X-indices</li> </ul>
10 Jun. 2015	<ul style="list-style-type: none"> <li>- Clarification of rules underlying the component selection for selection indices and clarification of aggregation of turnover in case of mergers</li> </ul>
13 Nov. 2014	<ul style="list-style-type: none"> <li>- Clarification of the rulebook according to IOSCO principles</li> </ul>
17 Oct. 2014	<ul style="list-style-type: none"> <li>- Introduction of chapter 4.10 "Adjustment of index parameter"</li> </ul>
20 Aug. 2014	<ul style="list-style-type: none"> <li>- Introduction of DAX and HDAX in USD</li> </ul>
04 Jun. 2014	<ul style="list-style-type: none"> <li>- Change of buffer rule regarding major turnover criteria, chapter 2.10 and 3.2.1.1, valid from August 2014</li> </ul>
06 Mar. 2014	<ul style="list-style-type: none"> <li>- Concretion: major turnover on FWB® Frankfurt Stock Exchange, including Xetra®, chapter 3.2.1.1</li> </ul>
06 Dec. 2013	<ul style="list-style-type: none"> <li>- Addition of chapter 5.1.3: Conversion into tendered shares</li> <li>- Enhancement of chapter 5.1.4 for treatment of blockholders</li> </ul>
25 Nov. 2013	<ul style="list-style-type: none"> <li>- X-MDAX and X-TecDAX methodology change</li> </ul>
16 Aug. 2013	<ul style="list-style-type: none"> <li>- X-Indices methodology change</li> </ul>
16 Aug. 2013	<ul style="list-style-type: none"> <li>- Update of contact details (appendix)</li> </ul>
25 Jul. 2013	<ul style="list-style-type: none"> <li>- Ordinary adjustment MDAX, SDAX, TecDAX</li> </ul>
07 Jun. 2013	<ul style="list-style-type: none"> <li>- Treatment of government ownership chapter 1.9</li> <li>- Sector classification of venture capital companies</li> </ul>
30 Jan. 2013	<ul style="list-style-type: none"> <li>- Concretion: major turnover on FWB® Frankfurt Stock Exchange, including Xetra®</li> </ul>
02 April 2012	<ul style="list-style-type: none"> <li>- Introduction of DAX® ex Financials Index</li> </ul>
17 Jan. 2011	<ul style="list-style-type: none"> <li>- Treatment of index corrections</li> </ul>
28 Jun. 2010	<ul style="list-style-type: none"> <li>- Amendment conversion of Preferred Shares into Ordinary Shares</li> </ul>
20 Jan. 2010	<ul style="list-style-type: none"> <li>- Amended fast exit rule</li> </ul>

	- Amended opening criteria for the start of DAX <sup>®</sup> calculation
25 Aug. 2009	- Change in publication calendar of business forecasts - Concretion: treatment of stock dividends
06 Apr. 2009	- Clarification of treatment of alternative share classes for index changes
20 Mar. 2009	- Calculation of X-DAX <sup>®</sup> based on Eurepo rates
23 Jan. 2009	- Amended fast exit rule
22 Dec. 2008	- Free float minimum threshold changed to 10% - Extraordinary free float adjustment in connection with corporate events - Consideration of notifiable options in ongoing acquisitions - Detailing of free float rules in respect of fund holdings - Concretion exception handling in acquisitions
3 Nov. 2008	- Detailing of exclusion criterion for volatile shares
25 Mar. 2008	- Extension and renaming of the sector indices - Launch of DAXsupersector indices - Launch of DAX <sup>®</sup> International 100, DAX <sup>®</sup> International Mid 100 - Launch of General All Share index
31 Jan. 2008	- Further concretion of admission criteria for selection indices
3 Dec. 2007	- Launch of X-MDAX <sup>®</sup> and X-TecDAX <sup>®</sup>
1 Nov. 2007	- Coming into effect of "FRUG" (Markets in Financial Instruments Directive Implementation Law)
19 Mar. 2007	- Launch New Prime Industry Group indices
18 Dec. 2006	- Amended adjustment of distributions - Concretion of admission criteria for selection indices
1 Oct. 2006	- Changes in the admission criteria for DAX <sup>®</sup> , MDAX <sup>®</sup> , SDAX <sup>®</sup> and TecDAX <sup>®</sup>
1 Jul. 2006	- New Cap Limit for DAX <sup>®</sup> (10%)
2 May 2006	- Launch of General Standard Index
10 Apr. 2006	- Launch of Entry All Share Index on 5 Apr. 2006, X-DAX <sup>®</sup> on 10 Apr. 2006
1 Jan. 2006	- Calculation frequency of DAX <sup>®</sup> , MDAX <sup>®</sup> and TecDAX <sup>®</sup> once a second
25 Oct. 2005	- Launch of Entry Standard Index
15 Jun. 2005	- Amended free float rules
31 Dec. 2004	- End of calculation of NEMAX50 <sup>®</sup>

18 Oct. 2004	- Introduction of opening criteria for the start of index calculation
1 Aug. 2004	- Changes in the DAX <sup>®</sup> Index composition purely rules based
24 Mar. 2003	- New set of indices based on the Prime Standard segment - Launch of TecDAX <sup>®</sup> Index - Downsizing of MDAX <sup>®</sup> Index - Revised sector systematic
13 Aug. 2002	- Introduction of fast exit rules for DAX <sup>®</sup> and MDAX <sup>®</sup>
24 Jun. 2002	- Index weighting on a free float basis - Free-float minimum threshold set to 5% - Separation of ordinary and preferred shares in the selection indices - Downsizing of SDAX <sup>®</sup> Index to 50 companies
4 Mar. 2002	- Takeover code no longer requirement for index inclusion
1 Jan. 2001	- Mandatory quarterly reports and analysts' conferences (DAX <sup>®</sup> and MDAX <sup>®</sup> )
17 Jun. 2000	- Adjustment of NEMAX50 <sup>®</sup> Index on a quarterly basis - Introduction of a cap limit for the DAX <sup>®</sup> 100 Index
15 May 2000	- Introduction of sector indices for the Neuer Markt
21 Jul. 1999	- Introduction of a cap limit for the DAX <sup>®</sup>
1 Jul. 1999	- Launch of NEMAX50 <sup>®</sup> Index
21 Jun. 1999	- Launch of SDAX <sup>®</sup> Index - Equity indices exclusively calculated on the basis of Xetra <sup>®</sup> prices
30 Apr. 1999	- Reorganization of CDAX <sup>®</sup> sectors
26 Apr. 1999	- Launch of SMAX <sup>®</sup> All Share Index

## 11.6 Contact

- **Information on prices, index concepts and licenses**

*STOXX Ltd. – Customer Support*

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