



Deutsche Börse Frankfurt

eListing for Structured Products - Process and XML interface description

© Deutsche Börse AG 2022

All proprietary rights and interest in this publication shall be vested in Deutsche Börse AG and all other rights including, but without limitation to, patent, registered design, copyright, trademark, service mark, connected with this publication shall also be vested in Deutsche Börse AG. Whilst all reasonable care has been taken to ensure that the details contained in this publication are accurate and not misleading at the time of publication, no liability is accepted Deutsche Börse AG for the use of information contained herein in any circumstances connected with actual trading or otherwise. Neither Deutsche Börse, nor its servants nor agents, is responsible for any errors or omissions contained in this publication which is published for information only and shall not constitute an investment advice. This brochure is not intended for solicitation purposes but only for the use of general information. All descriptions, examples and calculations contained in this publication are for guidance purposes only and should not be treated as definitive. Deutsche Börse AG reserves the right to alter any of its rules or product specifications, and such an event may affect the validity of information contained in this publication.

Table of content

1	Introduction.....	4
2	Document objectives.....	5
3	Data format of dXXL version 2.1	6
3.1	Overview and caveats	6
3.2	Data structure	7
3.3	Status model and use cases	47
3.4	Non mutable data fields	51
4	Barrier Breach Knockout (KO) Message Submission.....	52
5	Delisting Request	53
5.1	DeleteListing Request.....	53
6	Cover instrument set up and activation	55
6.1	Cover instrument set up, activation timeline and messages	55
6.2	Monitoring of activation message.....	56
6.3	Update of instrument data	56
7	Validation rules	58
7.1	Business rules applicable for NewListing, UpdateListing and DeleteListing messages	58
7.2	Business rules applicable for KO-Barrier-Breach messages	81
7.3	Business rules applicable for Delisting Requests.....	82
7.4	Processing deadlines	83
8	Error messages for issuers	84
8.1	Error codes.....	86
9	Graphical User Interface (GUI)	92
9.1.1	Instrument Search.....	93
9.1.2	Instrument details	94
9.1.3	Upload Center	95
9.1.4	Validation result.....	96
9.1.5	Exposé Center	98
10	Unattended secured XML file transfer solution for issuers	100
11	Migration steps / how to become Börse Frankfurt eListing user.....	103

1 Introduction

Deutsche Börse Frankfurt (formerly Börse Frankfurt Zertifikate BFZ, formerly Scoach) supported an initiative in 2012, collaborating with market participants to create a standardized format for structured product listing applications and reference data. This resulted in the development of the derivate XXL (dXXL) format, an XML-based schema designed to streamline the listing process and enhance data management.

Key features of the dXXL format include:

- **XML-based:** Utilizing a W3C compliant XML schema (XSD).
- **Comprehensive:** Encompassing approximately 150 data fields, covering all instrument types, trading segments and trading models.
- **Versatile:** Supporting both single instrument and series listings.
- **Open and Free:** The specification is publicly available and free of charge.
- **Rich Data Content:** Containing reference data for trading, master data management, and regulatory reporting.

Driven by issuer demand, Deutsche Börse Frankfurt implemented dXXL 1.1 in 2012. However, to address evolving regulatory reporting requirements, subsequent versions (1.3, 1.4, 2.0) were introduced, culminating in the current dXXL 2.1. This latest version focuses on improved lifecycle management, though it is not backward compatible at Deutsche Börse Frankfurt with previous versions due to the renaming of the "DDV-category" field to "Product-category." Deutsche Börse Frankfurt now exclusively accepts dXXL 2.1 XML files and processes them on the eListing Structured Products (short eListing) platform.

Beyond listing applications, eListing utilizes the dXXL format for KO-Barrier-Breach and Delisting messages, detailed in **chapters 4 and 5** respectively. Other message types are not currently required and supported.

The dXXL format goes beyond basic listing information; it incorporates comprehensive reference and master data, such as bonus levels, barriers, and thresholds. This data is valuable for data vendors, information portals, and retail investors researching specific instruments. Deutsche Börse Frankfurt forwards received dXXL files to Ariva, its master data partner, and utilizes this data for regulatory reporting.

A core objective of the 2012 initiative was to enable Straight Through Processing (STP) via a backend-to-backend interface between issuers and Deutsche Börse Frankfurt. To facilitate this, Deutsche Börse Frankfurt offers secure file upload options through two existing platforms:

1. **eListing Web Frontend:** Separately also used for unstructured products on the Frankfurt Stock Exchange (FWB), this platform has been extended to support dXXL and excel uploads.

2. **Secure File Upload Platform:** Leveraging an existing platform used by Clearstream Luxembourg for back-office file transfers, this option supports multiple protocols.

Regardless of the chosen upload method, all dXXL applications undergo validation for accuracy, validity, and completeness within the eListing platform before being forwarded to the Market Operations Team for final processing.

2 Document objectives

This document is intended for issuers who are:

- Transitioning their listing applications to the dXXL XML format.
- Upgrading from a previous dXXL version to dXXL 2.1.
- Implementing dXXL for KO-Barrier-Breach and Delisting messages.
- Implementing the issuance of so-called Intraday Instruments (shell, cover, wrapper).

It provides detailed information on the dXXL XML format, validation procedures, data transport (interface), error handling, the eListing GUI, and other relevant aspects. The goal is to equip issuer-side business analysts, consultants, and developers with the necessary process, format, and interface specifications to ensure seamless integration with the eListing platform.

While this document covers technical specifications, it does *not* include migration planning details. Deutsche Börse Frankfurt encourages issuers to contact us early in their migration planning process. We strongly recommend establishing a joint migration project to collaboratively define milestones and coordinate testing activities. This collaborative approach also applies to the necessary configuration steps within the eListing production environments in Frankfurt, Prague and Luxembourg before go-live.

3 Data format of dXXL version 2.1

3.1 Overview and caveats

1. **Table Representation:** Chapter 3.2 provides a detailed table of all data fields, listed by tag where possible in order of appearance. Each entry includes the field's definition, data type, XML representation (cardinality, attribute/element usage), allowed values, mandatory/optional status, and validation rules.
2. **XML Schema Definition (XSD):** Two XSD files define the dXXL 2.1 format using the W3C XML Schema language. One file defines the dXXL structure, and the other contains custom type definitions.

Important: Use the most recent version of the XSD files. We frequently update the XSDs to accommodate new values (e.g., for MIC codes, EUSIPA or DDV categories). Contact us to request the latest version.

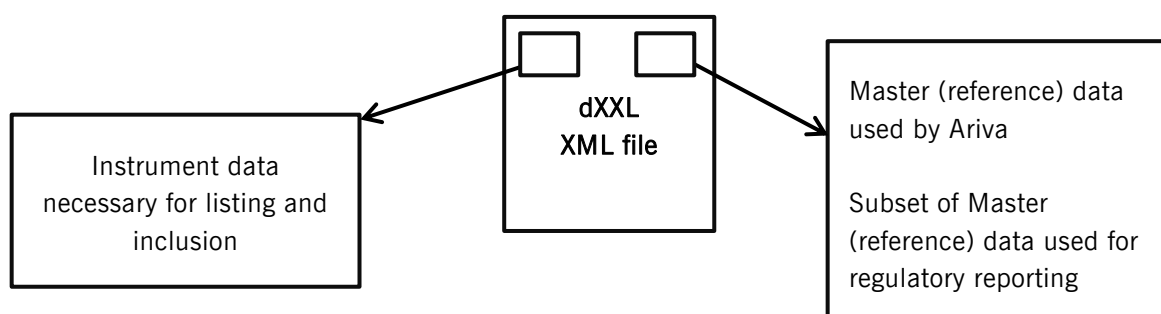
The dXXL 2.1 data format supports product structures defined within the XSD. These cover standard products conforming to common XML practices. While the standard focuses on these product types, you can submit applications for other product types in consultation with us. Note that such applications fall outside the dXXL standard and may only be accepted as listing applications for the Deutsche Börse Frankfurt market.

dXXL 2.1 supports lifecycle management. Allowed transitions are detailed in Chapter 3.3, and immutable data fields are listed in Chapter 3.4.

Note: While Börse Stuttgart and Deutsche Börse Frankfurt jointly developed the dXXL 2.1 format, expect some differences in XML data processing. This is due to:

- Independent technical implementation.
- Variations in validation rules based on individual recipient constraints.
- Unsynchronized release and rollout management between recipients.

A dXXL XML file comprises two logically distinct datasets (illustrated below). Chapter 3.2 details the XML format's structure. Validation rules, applicable to both datasets, are summarized in Chapter 7.1. For listing applications, Deutsche Börse Frankfurt focuses on the dataset necessary for listing and inclusion (left side of the figure below). Issuers are responsible for adhering to all relevant validation rules within this dataset.



3.2 Data structure

This chapter describes the structure and data fields of the dXXL 2.1 schema, providing a human-readable explanation of the XML format.

For clarity, the table below uses color-coding to indicate the hierarchical level of each element tag within the XML schema definition:

Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
------------	------------	------------	------------	------------	------------

This table, originally an Excel spreadsheet created by Börse Stuttgart and Deutsche Börse Frankfurt for dXXL 1.0, has been adapted by Deutsche Börse Frankfurt for dXXL 2.1.

Note: Each XML element in the table is assigned a unique number (shown in the first row). While not part of the XSD itself, these numbers are used throughout this document to identify specific data fields.

No.	English Term / TAG_ID ¹	Attribute Element ²	Definition in English	Format ³	Permitted values ⁴ (if applicable)	Mandatory ⁵ ?	Potential error codes ⁶
1	DELIVERY	E					
1.01	Date_of_delivery	A	Time and date stamp of when the data has been sent	DateTime		Yes	
1.02	Provider	A	Name of the provider or of the software used to create the interface/delivery	Char50		Yes	
1.03	Release	A	Version number of the interface format	Char10	1 1.3 1.4 2.0	Yes	

¹ The information given will only be of indicative use, please refer to the XSDs for ultimate reference

² The information given will only be of indicative use, please refer to the XSDs for ultimate reference

³ The information given will only be of indicative use, please refer to the XSDs for ultimate reference

⁴ The information given will only be of indicative use, please refer to the XSDs for ultimate reference

⁵ The information given will only be of indicative use because the XSD file and the validation rules will determine whether a field is mandatory or not.

⁶ All for Deutsche Börse Frankfurt eListing applicable error codes are detailed in chapter 4, the values in this column are just an indication of potential error codes

No.	English Term / TAG_ID ¹	Attribute Element ²	Definition in English	Format ³	Permitted values ⁴ (if applicable)	Mandatory ⁵ ?	Potential error codes ⁶
1.04	Message_Type	A	Type of delivery e.g. new delivery, adjustment etc.: - NewListing is used if instrument (ISIN) is used the first time within the listing application process - UpdateListing is used to update instrument reference data for previously submitted instruments (ISINs) or to activate a previously submitted cover instrument. For UpdateListing all data fields must be populated again (no delta update). This message type can be used for completion, correction or activation purposes. - DeleteListing is used to delete instrument reference data for previously submitted instruments (ISINs) within the listing application process.	Char30	NewListing UpdateListing DeleteListing	Yes	1) 8001 2) 8003 3) 8004 4) 8006

No.	English Term / TAG_ID ¹	Attribute Element ²	Definition in English	Format ³	Permitted values ⁴ (if applicable)	Mandatory ^{5?}	Potential error codes ⁶
1.05	Status	A	<p>Differentiate between a complete delivery or a notice in advance:</p> <ul style="list-style-type: none"> - "indicative" is used as notice in advance, for instance if instrument should be used as "intraday issuance" the day after or if reference data is missing (cover instruments). - "trade" is used if the instrument is tradeable on exchange but some data fields are missing, e.g. ISSUE_PRICE - "complete" is used if prerequisites for "trade" are fulfilled and if instruments reference data are complete - "revert" is only used to revoke BarrierBreachKO messages <p>N.b.: If instruments of type "standard" or "subscription" have been submitted in status "indicative" only, they will not be included, i.e. those instruments will not be tradeable. All instruments that should be included must be sent at least once with status "trade" or "complete". With T7 Release 9.1 an activation message for instruments of type "intraday" is required. Until then a NewListing message with status "indicative" are sufficient.</p>	Char10	<p>indicative trade complete revert</p>	Yes	<p>1) 8007</p> <p>2) 8008</p>

No.	English Term / TAG_ID ¹	Attribute Element ²	Definition in English	Format ³	Permitted values ⁴ (if applicable)	Mandatory ⁵ ?	Potential error codes ⁶
1.06	DELIVERY_TYPE	A	Defines the purpose of the message		"BarrierBreach" "BarrierBreachKO" "DelistingRequest" "ListingRequest" "UpdateCorporateAction" "UpdateFactorWarrant" "UpdateKOStrike" "ModificationRequest"	Y	

No.	English Term / TAG_ID ¹	Attribute Element ²	Definition in English	Format ³	Permitted values ⁴ (if applicable)	Mandatory ⁵ ?	Potential error codes ⁶
2	GENERAL_INFORMATION	E					
2.01	LISTING_APPLICATION	E	Listing application needed to list new instruments on an exchange	CDATA max. 1 MB		No	
2.02	TRANCHE_ID	E	An issuer's distinctive issuance identifier	Char30		Cond	
2.03	TRANCHE_INSTRUMENTS_TOTAL	E	The total number of instruments in the Tranche	Decimal (5,0)		Cond	
2.04	TERM_SHEET	E	The Term Sheet document	CDATA		No	
2.05	FINAL_TERMS_DOCUMENT	E	The Final Terms document	CDATA		No	

No.	English Term / TAG_ID ¹	Attribute Element ²	Definition in English	Format ³	Permitted values ⁴ (if applicable)	Mandatory ⁵ ?	Potential error codes ⁶
2.06	ADDITIONAL_INFORMATION	E					
3	SENDER	E					
3.01	SENDER_NO	E	Distinctive identification of the sender	Decimal (6,0)		Yes	
3.02	NAME	E	Name of the sender	Char100		Yes	
3.03	ADDRESS	E					
3.03.01	Name	A	Name of the person responsible on senders' site	Char100			
3.03.02	Department	A	department name of sender	Char100			
3.03.03	Zip	A	ZIP Code of the sender	Char12			
3.03.04	City	A	City of the sender	Char100			
3.03.05	Country	A	Country of the sender	Char3			
3.03.06	E-Mail	A	The senders' E-Mail address	eMail			
3.03.07	Telephone	A	A telephone number that should be used for inquiries or technical difficulties	Telephone		Yes	
3.03.08	URL	A	senders web site / URL	URL			

No.	English Term / TAG_ID ¹	Attribute Element ²	Definition in English	Format ³	Permitted values ⁴ (if applicable)	Mandatory ⁵ ?	Potential error codes ⁶
3.04	DBAG_INVOICE_RECEIPT_ID	E	Preferred billing account of sender. Payload must be senders' unique invoice recipient ID from SAP.	Char20			
4	ISSUER	E					
4.01	ISSUER_ID	E	An issuers distinctive ID (WM issuer I.D.)	Decimal (6,0)		Yes	
4.02	NAME	E	Name of the issuer	Char100		Yes	
4.03	ID_ISSUER_GROUP	E	Distinctive ID of the parent company. Should the parent company be the issuer then the Issuer ID of the parent company is to be used	Decimal (6,0)		Yes	
4.04	NAME_ISSUER_GROUP	E	Name of the issuers parent company. If the issuer is the parent company, then the name of the issuer shall be used once more	Char100		Yes	
4.06	LEI	E	Legal entity identifier of the issuer	Char20		No	
4.05	ADDRESS	E					

No.	English Term / TAG_ID ¹	Attribute Element ²	Definition in English	Format ³	Permitted values ⁴ (if applicable)	Mandatory ^{5?}	Potential error codes ⁶
4.05.1	Name	A	Issuers name	Char100		No	
4.05.2	Department	A	The issuing department	Char100		No	
4.05.3	Zip	A	ZIP Code of the issuer	Char100		No	
4.05.4	City	A	City of the issuer	Char100		No	
4.05.5	Country	A	Country of the issuer	Char100		No	
4.05.6	E_Mail	A	The issuer's E-Mail address	eMail		No	
4.05.7	Servicetelephone	A	Issuers telephone number for inquiries regarding the issuance	Telephone		No	
4.05.8	Url	A	URL of the issuer	URL		No	
5	PRODUCT	E	can occur more than once within the XML file				
5.01	STATIC_DAT	E					
	A						
5.01.1	IDS	E					
5.01.1.1	ISIN	E	Identification number of a Financial Instrument (International Securities Identification Number).	ISIN		Yes	1) 0079
5.01.1.2	WKN	E	Identification number of a Financial Instrument (German WKN).	WKN		Yes	

No.	English Term / TAG_ID ¹	Attribute Element ²	Definition in English	Format ³	Permitted values ⁴ (if applicable)	Mandatory ⁵ ?	Potential error codes ⁶
5.01.1.3	VALOR	E	Identification number of a Financial Instrument (Swiss Valor).	Char9		No	
5.01.1.4	COMMONCODE	E	Common Code of the instrument. This code is provided by Euroclear or Clearstream S.A.	Common Code		No	
5.01.2	DATES	E					
5.01.2.1	ISSUE_DATE	E	Date on which the Financial Instrument is issued.	Date		Yes	1) 0005
5.01.2.2	VALUE_DATE	E	Date on which the Financial Instrument, that was bought or sold, must be delivered. It indicates the beginning of the interest calculation period for a bond. Date on which the first possible settlement occurs	Date		Yes	1) 0006
5.01.2.3	MATURITY	E	The date on which the issuer effects payment (cash or shares) to the Clearing System which will in turn forward the designated payments to the investor's account.	Date		Cond	1) 0007 2) 0008 3) 0009

No.	English Term / TAG_ID ¹	Attribute Element ²	Definition in English	Format ³	Permitted values ⁴ (if applicable)	Mandatory ^{5?}	Potential error codes ⁶
5.01.2.4	PAYMENT_DATE	E	Payment date after or at maturity	Date		Cond	1) 0010
5.01.2.5	FINAL_VALUATION_DATE	E	Date on which the Underlying is finally evaluated to calculate the Cash Amount or on which the decision will be taken whether the Financial Instruments will be settled in cash or by physical delivery.	Date		Cond	
5.01.2.6	BARRIER_START_DATE	E	Begin of the barrier observation period	DateTime		Cond	

No.	English Term / TAG_ID ¹	Attribute Element ²	Definition in English	Format ³	Permitted values ⁴ (if applicable)	Mandatory ⁵ ?	Potential error codes ⁶
5.01.2.7	OTC	E					
5.01.2.7.1	FIRST_TRADING_DATE	E	First trading day of the Financial Instrument in the OTC Market	Date		Cond	1) 0054
5.01.2.7.2	LAST_TRADING_DATE	E	Last trading day of the Financial Instrument in the OTC Market	Date		Cond	1) 0055 2) 0056 3) 0057
5.01.2.7.3	TRADING_HOURS_START	E	Beginning of trading time for an instrument in the OTC Market	Time		Cond	1) 0059 2) 0060

No.	English Term / TAG_ID ¹	Attribute Element ²	Definition in English	Format ³	Permitted values ⁴ (if applicable)	Mandatory ⁵ ?	Potential error codes ⁶
5.01.2.7.4	TRADING_HOURS_END	E	End of trading time for an instrument in the OTC Market	Time		Cond	1) 0061 2) 0062
5.01.3	FURTHER_INFORMATION	E					
5.01.3.1	NAME	E	Name of the instrument	Char256		No	
5.01.3.2	NAME_SHORT	E	Abbreviation of the instruments name according to the issuer	Char256		Yes	1) 0085
5.01.3.16	FISN	E	Financial Instrument short name according to ISO 18774	Char35		No	
5.01.3.17	CFI_CODE	E	Classification of financial instrument code	Char6		No	
5.01.3.3	QUOTATION	E	Type of quotation	Char7	Unit Percent Percent flat X-Flat	Yes	
5.01.3.4	BOND_PRICING	E	Type of pricing used for bonds	Char5	Clean Dirty	Cond	
5.01.3.5	PRIVATE_PLACEMENT	E	Identifier for a private placement	Char1	Y N	Yes	

No.	English Term / TAG_ID ¹	Attribute Element ²	Definition in English	Format ³	Permitted values ⁴ (if applicable)	Mandatory ^{5?}	Potential error codes ⁶
5.01.3.6	UNLIMITED	E	Identifier for an Open-Ended Instrument with no maturity	Char1	Y N	Yes	
5.01.3.7	QUANTO	E	A special form of currency hedging where a (foreign) currency is converted into the issue currency of the Financial Instrument at a predetermined rate (usually at a 1:1 ratio).	Char1	Y N	Yes	
5.01.3.8	EXERCISE_RIGHT	E	Option type	Char4	Call Put	Cond	
5.01.3.9	EXERCISE_STYLE	E	Indicates whether the Warrant can be exercised throughout its entire lifetime (American), or only on the Exercise Date (European) or at fixed dates determined in the Terms and Conditions of the Financial Instrument (Bermudan).	Char8	european american bermudan	Cond	
5.01.3.10	ISSUE_PRICE	E	Initial offering price of the Financial Instrument.	Decimal (20.5)		No	

No.	English Term / TAG_ID ¹	Attribute Element ²	Definition in English	Format ³	Permitted values ⁴ (if applicable)	Mandatory ⁵ ?	Potential error codes ⁶
5.01.3.11	ISSUE_VOLUME	E	Issuance-amount of the Financial Instrument	Decimal (20.5)		Yes	
5.01.3.12	PRODUCT_CATEGORY_NAME	E	Name of the DDV category in which the instrument is classified	Char40	Strukturierte Anleihen Kapitalschutz-Zertifikate Discount-Zertifikate Aktieranleihen Express-Zertifikate Bonus-Zertifikate Index-/Partizipations-zertifikate weitere Anlageprodukte ohne Kapitalschutz Optionsscheine Knock-Out Produkte Faktor-Optionsscheine	Yes	

No.	English Term / TAG_ID ¹	Attribute Element ²	Definition in English	Format ³	Permitted values ⁴ (if applicable)	Mandatory ^{5?}	Potential error codes ⁶
5.01.3.13	EUSIPA_ID	E	EUSIPA Code: an instrument's derivative category according to the EUSIPA Derivative Map	Char4	1100 1110 1120 1130 1140 1199 1200 1210 1220 1230 1240 1250 1260 1299 1300 1310 1320 1330 1340 1399 2100 2110 2199	Cond	

No.	English Term / TAG_ID ¹	Attribute Element ²	Definition in English	Format ³	Permitted values ⁴ (if applicable)	Mandatory ⁵ ?	Potential error codes ⁶
					2200 2205 2210 2230 2299 2300 2399		

No.	English Term / TAG_ID ¹	Attribute Element ²	Definition in English	Format ³	Permitted values ⁴ (if applicable)	Mandatory ^{5?}	Potential error codes ⁶
5.01.3.14	EUSIPA_NAME	E	Name of the EUSIPA derivative category according to the EUSIPA Derivative Map	Char50	Kapitalschutz Zertifikate Wandel Zertifikate Capped Kapitalschutz Zertifikate Kapitalschutz Zertifikate mit Knockout Strukturierte Anleihen Weitere Anlageprodukte mit Kapitalschutz Discount Zertifikate Aktienanleihen Protect Anleihen Sprint Zertifikate Capped Bonus Zertifikate Express Zertifikate Weitere Renditeoptimierungszertifikate Index / Partizipations Zertifikate Outperformance Zertifikate Bonus Zertifikate Outperformance Bonus Zertifikate Twin Win Zertifikate Weitere Anlageprodukte	Cond	

No.	English Term / TAG_ID ¹	Attribute Element ²	Definition in English	Format ³	Permitted values ⁴ (if applicable)	Mandatory ^{5?}	Potential error codes ⁶
					ohne Kapitalschutz Optionsscheine Spread Optionsscheine Weitere Hebelprodukte ohne Knock-Out Open-End Knock-Out Produkte Knock-Out Produkte Mini Futures Inline Optionsscheine Weitere Hebelprodukte mit Knock-Out Faktor-Optionsscheine Weitere Produkte mit konstantem Hebel"		
5.01.3.15	SETTLEMEN T_METHOD	E	The Settlement Method is either a cash settlement, physical settlement or both	Char8	Cash Physical Both	Yes	
5.01.3.20	EMISSION_T YPE	E	Declaring the issue type in terms of intraday or other	Char20	Standard Intraday Subscription	Yes	

No.	English Term / TAG_ID ¹	Attribute Element ²	Definition in English	Format ³	Permitted values ⁴ (if applicable)	Mandatory ^{5?}	Potential error codes ⁶
5.01.3.21	ACTIVATION_TIME	E	Date and time on which the intraday issuance is activated	DateTime		No	
5.01.03.22	DXXL_CLASSIFICATION	E	Classification key which describes the structural attributes of all instruments	Char8	According to xsd_types	No	
5.01.3.23	PARTICIPATION_FACTOR	E		Decimal (5.2)		No	
5.01.3.24	UF	E		Logical		No	
5.01.3.25	US871M_FACTOR	E		Decimal (5.2)		No	
5.01.3.26	AGIO	E		Decimal (5.2)		No	
5.01.4	PAYMENTS	E					
5.01.4.1	INTEREST	E					
5.01.4.1.1	INTEREST_RATE	E	Interest Rate p. a. is the interest rate, expressed in percent, for a one-year period on the notes. The calculation of interest is made based on the respective day count fraction.	Decimal (8.5)	>= 0	Cond	

No.	English Term / TAG_ID ¹	Attribute Element ²	Definition in English	Format ³	Permitted values ⁴ (if applicable)	Mandatory ^{5?}	Potential error codes ⁶
5.01.4.1.2	FIXED_AMOUNT	E	If a fixed amount per note is payable, then such amount will be paid on the dates specified in the terms and conditions regardless of the time elapsed.	Decimal (20.5)	>0	Cond	
5.01.4.2	REDEMPTION	E					
5.01.4.2.1	CASH_AMOUNT	E					
5.01.4.2.1.1	VALUE	E	Amount paid by the Issuer at Maturity.	Decimal (20.5)	>= 0	No	
5.01.4.2.1.2	CURRENCY	E	Currency of the amount paid by the Issuer at Maturity.	Char3 (ISO-Currency)		No	
5.01.4.2.2	MAXIMUM_AMOUNT	E					
5.01.4.2.2.1	VALUE	E	Maximum amount payable at Maturity	Decimal (20.5)	>= 0	No	
5.01.4.2.2.2	CURRENCY	E	Currency of the maximum amount payable by the Issuer at Maturity.	Char3 (ISO-Currency)		No	

No.	English Term / TAG_ID ¹	Attribute Element ²	Definition in English	Format ³	Permitted values ⁴ (if applicable)	Mandatory ^{5?}	Potential error codes ⁶
5.01.4.2.3	BONUS_AMO UNT	E					
5.01.4.2.1.1	VALUE	E	Amount payable to the investor (i) if the Barrier Level was not touched during the Observation Period and (ii) if the price of the Underlying, on the Valuation Date, is below the Bonus Level.	Decimal (20.5)	>= 0	Cond	
5.01.4.2.1.2	CURRENCY	E	Currency of bonus amount payable by the Issuer at Maturity.	Char3 (ISO-Currency)		No	
5.01.04.03	INTEREST_CALC_TYPE	E	The method of calculating the interest payment	Char 8	30/360 ACT/360 ACT/365 ACT/ACT Other	No	
5.01.5	TERMINATION_RIGHTS	E					
5.01.5.1	OBLIGOR_TERMINATION_RIGHTS	E	Should the obligor termination right exist, then yes	Char1	Y N	No	
5.01.5.2	CREDITOR_TERMINATION_RIGHTS	E	Should the creditor termination right exist, then yes	Char1	Y N	No	

No.	English Term / TAG_ID ¹	Attribute Element ²	Definition in English	Format ³	Permitted values ⁴ (if applicable)	Mandatory ⁵ ?	Potential error codes ⁶
5.01.5.3	EXTRAORDINARY_TERMINATION_RIGHTS	E	Should an extraordinary termination right exist, then yes	Char1	Y N	No	
5.01.6	DOCUMENTATION	E	Occurrence changed to unbounded				
5.01.6.1	DESCRIPTION	E	Free text: e.g. description of a trade restriction, a specific product type from the issuer or of the calculation method used for the redemption amount	Char400 0		No	
5.01.6.2	URL	E	Internet address	URL		No	
5.01.06.03	DOCTYPE	E	Type of document provided for the instrument	Char (100)	TERMSHEET FINALTERMS DESCRIPTION PIB	No	
5.01.06.04	LANGUAGE	E	Language of the documentation	Char 2	DE EN FR ES	No	

No.	English Term / TAG_ID ¹	Attribute Element ²	Definition in English	Format ³	Permitted values ⁴ (if applicable)	Mandatory ^{5?}	Potential error codes ⁶
5.01.7	UNDERLYING	E	An underlying asset is the basis of the Financial Instrument (investment or leveraged product) which can consist of equity, market indices, currencies, futures contracts or baskets of instruments and which determines the price of the Financial Instrument.		May occur more than one time. This TAG has no payload but serves as bracket.		
5.01.7.1	UL_IDS	E					
5.01.7.1.1	ISIN	E	ISIN of the Underlying	ISIN		Yes	
5.01.7.1.2	NAME	E	Name/description/marketing name of the Underlying	Char256		Yes	1) 0086
5.01.7.1.3	TYPE	E	Type of Underlying	Char11	Basket Index Fonds Futures Simple Combination	Yes	

No.	English Term / TAG_ID ¹	Attribute Element ²	Definition in English	Format ³	Permitted values ⁴ (if applicable)	Mandatory ^{5?}	Potential error codes ⁶
5.01.7.1.4	ASSET_CLASSES	E	Asset class of the Underlying	Char14	Shares Commodities FX Interest Rates Other	No	
5.01.7.1.5	COUNTRY	E	The country ISO-Code of the reference exchange	Char3	All country Codes available in xsd_Types	No	
5.01.7.1.6	CURRENCY	E	The ISO-Code of the currency used in the price quotation on the reference exchange (Strike currency)	Char3 (ISO-Currency)	All country Codes available in xsd_Types	Yes	
5.01.7.1.7	MIC_EXCHANGE	E	The Market Identifier Code (MIC) of the exchange where the Underlying is traded, and quotes are provided	Char4	All country Codes available in xsd_Types	No	

No.	English Term / TAG_ID ¹	Attribute Element ²	Definition in English	Format ³	Permitted values ⁴ (if applicable)	Mandatory ⁵ ?	Potential error codes ⁶
5.01.7.1.8	MULTIPLIER	E	The Multiplier of a Financial Instrument indicates the number of units of the Underlying to which the Financial Instrument refers (e.g., in case of a Multiplier of 0.1, a warrant linked to a share refers to one tenth of that share, i. e. upon exercise, the securityholder will receive one tenth of the difference between the market price and the Strike).	Decimal (20.10)	>0	Cond	
5.01.7.1.9	REFERENCE_PRICE_AT_ISSUE	E	The price of the Underlying on one or more Valuation Dates, which is used to calculate the Cash Amount.	Decimal (20.5)		No	
5.01.7.2	BARRIER	E	It is defined by barrier type and value. Per instrument more than one barrier definition is possible. Each barrier type must occur only one time			No	

No.	English Term / TAG_ID ¹	Attribute Element ²	Definition in English	Format ³	Permitted values ⁴ (if applicable)	Mandatory ^{5?}	Potential error codes ⁶
5.01.7.2.1	BARRIER_TY PE	E	Type of Barrier/threshold BO (Bonus Schwelle) GA (Garantie Schwelle) PA (Partizipation Schwelle) CA (Cap Schwelle) LI (Lock-In Schwelle) KO (Knock-Out Schwelle) BT (Bottom Schwelle) TP (Top Schwelle) SP (Basispreis (Strike Price)) SE (Sicherheitslevel) SL (Startlevel, daraus lässt sich Reverse Level ableiten) TL (Tilgungsschwelle) RL RE Reset-Level/Schwelle RS CP Schwelle = Level	Char2	BO GA PA CA LI KO BT TP SP SE SL TL RL RE RS CP	Cond	

No.	English Term / TAG_ID ¹	Attribute Element ²	Definition in English	Format ³	Permitted values ⁴ (if applicable)	Mandatory ⁵ ?	Potential error codes ⁶
5.01.7.2.2	VALUE	E	Some of the equity-linked Reverse Convertible Notes may have an additional Barrier below the Strike. If the price of the Underlying does not touch the Barrier during the lifetime of the Notes or during an observation period, determined in the Terms and Conditions, the Notes are redeemed at Maturity at their Nominal Amount.	Decimal (20.10)	>0	Cond	
5.02	LISTING	E	Must occur at least on time, may occur many times			Yes	

No.	English Term / TAG_ID ¹	Attribute Element ²	Definition in English	Format ³	Permitted values ⁴ (if applicable)	Mandatory ⁵ ?	Potential error codes ⁶
5.02.1	MIC_EXCHANGE	E	Market Identifier Code (MIC) of the exchange where the instrument is to be listed	Char4	XSTU XFRA XFRB FRAA FRAB STUA STUB XSC1 XSC2 XSC3 XSTF STUC STUD XBRN SCTS STUH MUND	Yes	1) 8009
5.02.2	MARKET_SEGMENT	E	Market segment that is designated in the listing application	Char17	Regulierter Markt Freiverkehr	Yes	1) 8015
5.02.3	TRADING_SEGMENT	E	Trading segment that is designated in the listing application	Char40	Boerse Frankfurt Zertifikate Standard Boerse Frankfurt Zertifikate Premium Frankfurt Warrants Asia	Yes	1) 8012

No.	English Term / TAG_ID ¹	Attribute Element ²	Definition in English	Format ³	Permitted values ⁴ (if applicable)	Mandatory ⁵ ?	Potential error codes ⁶
					Frankfurt Warrants Premium Asia Scoach Standard Scoach Premium Scoach Asia Scoach Premium Asia Euwax Kein Handelssegment BXSP BXAC ESYEWX CDXRG1 CDXRG2 CDXRG3		

No.	English Term / TAG_ID ¹	Attribute Element ²	Definition in English	Format ³	Permitted values ⁴ (if applicable)	Mandatory ⁵ ?	Potential error codes ⁶
5.02.4	TRADING_MODEL	E	<p>Basic principle for the price determination</p> <p>Börse Frankfurt: Emittentenmodell = continuous auction with issuer Spezialistenmodell = continuous auction with specialist</p> <p>Börse Stuttgart A = liquidity is free of choice B = issuers liquidity above QLP-liquidity C = no liquidity provided by QLP allowed Z = instruments not listed in Euwax-Segment 0 (Null) = no trading model</p>	Char40	Emittentenmodell Spezialistenmodell A B C Z 0 Market Maker-Modell	Yes	1) 8011
5.02.5	FIRST_TRADING_DATE	E	First trading day on the exchange	Date		Yes	1) 0054

No.	English Term / TAG_ID ¹	Attribute Element ²	Definition in English	Format ³	Permitted values ⁴ (if applicable)	Mandatory ⁵ ?	Potential error codes ⁶
5.02.6	LAST_TRADING_DATE	E	Last trading day of the Financial Instrument on the exchange	Date		Cond	1) 0055 2) 0056 3) 0057
5.02.7	DELISTING_DATE	E	Date on which the instrument is delisted from the exchange	DateTime		No	
5.02.8	TRADING_HOURS_START	E	The beginning of the trading time for an instrument on the respective exchange	Time		Cond	1) 0059 2) 0060
5.02.9	TRADING_HOURS_END	E	Time at which trading of the instrument on the respective exchange stops	Time		Cond	1) 0061 2) 0062

No.	English Term / TAG_ID ¹	Attribute Element ²	Definition in English	Format ³	Permitted values ⁴ (if applicable)	Mandatory ^{5?}	Potential error codes ⁶
5.02.10	TRADING_CURRENCY	E	Currency of the traded instrument on the respective exchange	Char3	EUR CHF USD SEK HKD CZK HUF PLN GBP DKK AUD CAD SGD NOK JPY	Yes	1) 0063
5.02.11	MIN_ORDER_VALUE_CURRENCY	E	The minimum order value represented in the instruments trading currency	Decimal (20.5)		Cond	
5.02.12	MIN_ORDER_VALUE_QUANTITY	E	The quantity of the minimum order value represented in units	Decimal (20.5)		Cond	
5.02.13	MIN_TRADING_UNIT	E	Minimum tradable size per unit	Decimal (20.5)		Yes	

No.	English Term / TAG_ID ¹	Attribute Element ²	Definition in English	Format ³	Permitted values ⁴ (if applicable)	Mandatory ⁵ ?	Potential error codes ⁶
5.02.14	MAX_SPREAD_CURRENCY	E	Maximum Spread represented in the trading currency	Decimal (20.5)		Cond	
5.02.15	MAX_SPREAD_PERCENT	E	Maximum Spread represented in percent	Decimal (20.5)		Cond	
5.02.17	STATE_BONDS	E	Admission to the regulated market through the act of law in accordance with Article 37 of the Stock Exchange Rules	Char1	Y N	Cond	1) 0068
5.02.18	INCLUSION_REGULATED_MARKET	E	Inclusion into the regulated market in accordance with Article 33 I of the Stock Exchange Act	Char1	Y N	Cond	1) 0069
5.02.19	DATE_REGISTRATION_APPROVAL_REGULATED_MARKET	E	Date on which the registration for the inclusion into regulated market was approved	Date		Cond	
5.02.20	FURTHER_EXCHANGE	E	Indication that the instrument is already listed on another exchange	Char1	Y N	Cond	1) 0071

No.	English Term / TAG_ID ¹	Attribute Element ²	Definition in English	Format ³	Permitted values ⁴ (if applicable)	Mandatory ⁵ ?	Potential error codes ⁶
5.02.21	MIC_FURTHER_EXCHANGE	E	Declaring of the other exchange(s) where this instrument is already listed	Char4	all MIC-Codes, refer to xsd_types	Cond	
5.02.22	BASE_PROSPECTUS	E	Date on which the base prospectus was deposited	Date		Cond	
5.02.23	DATE_FINAL_TERMS	E	Date on which the final terms of the issuance was deposited with BaFin and published in accordance with Article 14 (2) of the securities law	Date		Cond	
5.02.24	FINAL_TERMS	E	Location where final terms are deposited	Char500		Cond	
5.02.25	EXPOSE	E	Has the Exposé been submitted?	Char1	Y N	Cond	1) 0076
5.02.26	PROSPECTUS_SUBMITTED	E	Has the prospectus been submitted?	Char1	Y N	Cond	1) 0077

No.	English Term / TAG_ID ¹	Attribute Element ²	Definition in English	Format ³	Permitted values ⁴ (if applicable)	Mandatory ⁵ ?	Potential error codes ⁶
5.02.27	PROSPECTUS_ADMITTED	E	Indicates if the prospectus is officially recognized by a regulatory- or supervisory authority	Char1	Y N	Cond	1) 0078 1) 0080
5.02.28	QUOTE_OBLIGOR	E	Name of the institution responsible for providing quotes	Char(100)	Please provide WM issuer ID, see 4.01	Yes	1) 8010
5.02.29	XETRA_ID_QUOTE_OBLIGOR	E	Xetra ID of the institution responsible for providing quotes	Char5	All Xetra Member IDs registered at Market Operations	Yes	1) 0087

No.	English Term / TAG_ID ¹	Attribute Element ²	Definition in English	Format ³	Permitted values ⁴ (if applicable)	Mandatory ^{5?}	Potential error codes ⁶
5.02.30	XETRA_SUB GROUP_ID_Q UOTE_OBLIG OR	E	Xetra Subgroup ID of the institution responsible for providing quotes	Char3	QPR, QP0, QP1, QP2, QP3, QP4, QP5, QP6, QP7, QP8, QP9, QPA, QPB, QPC, QPD, QPE, QPF, QPG, , QPH, QPI, QPJ, QPK, QPL, QPM, QPN, QPO, QPQ, QPS, QPT, QPU, QPV, QPW, QPX, QPY or QPZ	Yes	1) 0088
5.02.31	SPECIALIST_KV_ID	E	A specialists' KV I.D.	Char4	All KV numbers registered at Market Operations	Yes	1) 0089
5.02.32	QUOTATION_TYPE	E	Indicates whether a Market-Maker provides a single price or the continuous price determination. The permitted values have the following meanings: 1= Single Auction 2= Continuous Auction 3= Continuous Auction 4= not used Because there is no cash quotation / price at Börse Frankfurt anymore, QUOTATION_TYPE is used to indicate single auctions ("Einzelauktion").	Char1	1 2 3 4	Yes	

No.	English Term / TAG_ID ¹	Attribute Element ²	Definition in English	Format ³	Permitted values ⁴ (if applicable)	Mandatory ^{5?}	Potential error codes ⁶
			<p>With single auctions, there will be only one price determination allowed between 11 a.m. – 1 p.m.</p> <p>If the instrument should be treated with the execution restriction “single auction” QUOTATION_TYPE must be “1”.</p> <p>In any other case, QUOTATION_TYPE must be “2” or “3”.</p>				
5.02.33	REQ_ADMISSION_OF_TRADING	E	Whether the issuer of the financial instrument has requested or approved the trading or admission to trading of their financial instruments on a trading venue.	Char1	Y N	No	
5.02.34	DATE_APPROVED_ADMISSION_OF_TRADING	E	Date and time the issuer has approved admission to trading or trading in its financial instruments on a trading venue.	DateTime		No	
5.02.35	SUBSCRIPTION_START	E	Date on which the Subscription period begins	DateTime		Cond	
5.02.36	SUBSCRIPTION_END	E	Date on which the Subscription period ends	DateTime		Cond	

No.	English Term / TAG_ID ¹	Attribute Element ²	Definition in English	Format ³	Permitted values ⁴ (if applicable)	Mandatory ^{5?}	Potential error codes ⁶
5.02.37	TECH_SUSP ENSION	E	Date of the Technical Suspension after the Subscription period and before the first trading day	Date		Cond	
5.02.38	SETTLEMENT _CURRENCY	E		Currency Type		No	
5.02.39	DELISTING_R EASON	E			Cancellation EarlyTermination OrdinaryDelisting Other		
5.03	SAFEKEEPIN G	E					
5.03.1	ACCOUNT_N O	E	The Clearstream Banking Frankfurt account number of the issuer	Decimal (12.0)		No	
5.03.2	TYPE_OF_DE ED	E	Type of certificate	Char13	Globalurkunde Rahmenurkunde	No	
5.03.3	SECURITIES_ ACCOUNT_N O	E	The issuers securities account number	Decimal (12.0)		No	
5.03.4	UP_TO_NOMI NAL	E	Maximum nominal amount of an issuance	Decimal (20.5)		No	
5.03.5	NOMINAL	E	Nominal of the Global Certificate	Decimal (20.5)		No	

No.	English Term / TAG_ID ¹	Attribute Element ²	Definition in English	Format ³	Permitted values ⁴ (if applicable)	Mandatory ⁵ ?	Potential error codes ⁶
5.03.6	TYPE_OF_CUSTODY	E	Indicates whether a collective safe custody is in place	Char1	Y N	Yes	
5.04	INTERNAL	E					
5.04.01	ITEM	E	May occur more than once. Payload of this element can carry internal content.	Char400 0		No	
5.04.01.1	KEY_ITEM	A	Identification key which classifies the ITEM content	Char50		Yes	
5.04.2	COMPLEX_ITEM	E	May occur more than once	CDATA		No	
5.04.2.01	KEY_ITEM	A	Identification key which classifies the COMPLEX_ITEM content	Char50		Yes	

3.3 Status model and use cases

The status can be "indicative," "trade," or "complete." The allowed message types are "NewListing," "UpdateListing," and "DeleteListing." While all status and message type combinations are permitted, specific restrictions apply when submitting an instrument (ISIN) multiple times via dXXL, as detailed in the table below.

Previous message type / status ⤴	New message type / status ⤵				
	UpdateListing / indicative	UpdateListing / trade	UpdateListing / complete	DeleteListing / *	NewListing / *
NewListing / indicative	Allowed	Allowed	Allowed	Allowed	
NewListing / trade		Allowed	Allowed	Allowed	
NewListing / complete			Allowed	Allowed	
UpdateListing / indicative	Allowed	Allowed	Allowed	Allowed	
UpdateListing / trade		Allowed	Allowed	Allowed	
UpdateListing / complete			Allowed	Allowed	
DeleteListing / *					

For newly listed instruments (new ISINs), the message type must be "NewListing." The status, selectable as "indicative," "trade," or "complete," depends on the issuer's assessment of the instrument data's completeness.

As of dXXL version 2.1, the status is linked to the message type and indicates the post-processing action. The table below details permissible status values ("indicative," "trade," "complete," or "revert") for each message and delivery type ("ListingRequest," "DelistingRequest," and "BarrierBreachKO").

Message Type	Status			
	indicative	trade	complete	revert
NewListing	ListingRequest	ListingRequest	ListingRequest	
UpdateListing	ListingRequest	ListingRequest BarrierBreachKO (DelistingRequest)*	ListingRequest BarrierBreachKO (DelistingRequest)*	BarrierBreachKO (DelistingRequest)
DeleteListing		ListingRequest (DelistingRequest)*	ListingRequest (DelistingRequest)* ⁷	

Important: A "DeleteListing" message (within a ListingRequest) withdraws the listing *application*, while a "DelistingRequest" delists an *already listed* instrument. **A DeleteListing request needs to be submitted with status "trade" or "complete".**

⁷ *DelistingRequest processing to be defined at a later stage

The following use cases for listing applications may occur and are allowed to be sent via dXXL:

#	Use case	Message Type	Delivery Type* ⁸	Status	Condition	Description / Processing
1	New standard listing application (non-intraday issuance)	NewListing	ListingRequest	complete	ISSUE_TYPE (5.01.3.20) must be "Standard"	This use case covers the standard listing process for a newly issued instrument with complete reference data. Upon approval by Market Operations Team, the instrument is listed and becomes tradable in the exchange trading system, starting no earlier than the next trading day.
2	New subscription listing application	NewListing	ListingRequest	complete	ISSUE_TYPE (5.01.3.20) must be "Subscription"	This use case covers the listing process for a newly issued instrument with complete reference data and an upfront subscription period. The instrument is registered for subscription and included to market after the end of the subscription period at the intended first trading day.
3	New intraday issuance listing application (can also be used for covers ("Hüllen"))	NewListing	ListingRequest	indicative	(ISSUE_TYPE (5.01.3.20) must be "Intraday"	This use case handles the listing application for "intraday issuances"—newly issued instruments with incomplete reference data intended for trading and to be activated within the first trading day or 6 months after set up. The instrument is temporarily held in a staging database. To enable trading, Use Case 5 (Activation of cover instruments) must be executed. Alternatively, the listing

⁸ * Only necessary for dXXL version 2.0

#	Use case	Message Type	Delivery Type* ⁸	Status	Condition	Description / Processing
						application can be withdrawn (Use Case 4).
4	Withdraw listing application before first trading date	DeleteListing	ListingRequest (DelistingRequest)	complete	FIRST_TRADING_DATE (5.01.2.7.1) must be in the future.	This use case allows for the withdrawal of a listing application before the instrument's first trading date. This may be necessary due to market movements rendering the instrument obsolete (e.g., a barrier level being breached) or to correct incorrect data.
5	Activation of cover instruments	UpdateListing	ListingRequest	complete	ACTIVATION_TIME (5.01.3.21) must equal the time of upload (plus max 5 minutes). ISSUE_TYPE (5.01.3.20) must be "Intraday"	After the instrument data has been transmitted to Market Operations, the instrument can be activated during the next trading day or within six months (short-/long-term cover) and changes to the instrument master data can be submitted. For further information on Cover Instruments refer to Chapter 6.
6	Correct incorrect data for listing application before first trading day (both standard and intraday)	UpdateListing	ListingRequest	complete	FIRST_TRADING_DATE (5.01.2.7.1) must be in the future.	Before the first trading date has been reached, it is possible to correct incorrect data with this use case until 15:30 on the day before the first trading date.
7	Delisting of a listed instrument	UpdateListing	DelistingRequest	Complete		This use case allows for delisting of already listed instruments. For further information please refer to Chapter 5
8	Barrier Breach KO	UpdateListing	BarrierBreachKO	Complete		This use case allows for submission of a KO barrier breach. For

#	Use case	Message Type	Delivery Type* ⁸	Status	Condition	Description / Processing
						further information please refer to Chapter 4

Example: For a new “intraday issuance” (first trading date > issuance date) the issuer categorizes the instrument as “indicative” but not yet tradable, e.g. strike price and exercise right are missing. Message type and status would then be “NewListing” and “indicative”. The instrument would be listed, included, and set-up in T7. On the first trading day the missing data of this instrument (e.g. Underlying, strike price...) would then be determined by the issuer. The issuer would then send the instrument data a second time via dXXL but now with message type and status being “UpdateListing” and “complete” as well as with the activation time field filled. Message type “NewListing” and status “indicative” would not have been allowed for the second transmission.

All listing data that is received in XML format will be validated for correct status and message type combinations: First, their payload must comply with the permitted values, second, the transition of message type and status combinations must be allowed.

3.4 Non mutable data fields

The following XML elements / attributes must not be changed by the issuer during the listing application life cycle:

- 1.02, Provider
- 1.03, Release
- 2.02, TRANCHE_ID
- 3. Sender Information fields (3.01 and 3.02)
- 3.03 Address Information fields (3.03.01 to 3.03.08)
- 5.01.1.1, ISIN
- 5.01.1.2, WKN
- 5.01.1.3, VALOR
- 5.01.1.4, Common Code

Nota bene: If e.g. VALOR will not be set with a value in first place (with NewListing) it cannot be updated later

4 Barrier Breach Knockout (KO) Message Submission

Knockout event information can be submitted via SFTP using an XML-formatted BarrierBreachKO message. Due to performance and time constraints, uploading via the web frontend is not recommended. Submission via the Excel application form is unavailable. While email submission remains possible, it is no longer preferred. Accidental Barrier messages can be revoked by sending an update with the status "revert."

Börse Frankfurt Zertifikate processes only messages for knockout events. Other barrier-related information is neither required nor processed.

Supported Message Type:

- BarrierBreachKO

Unsupported/Unrequired Message Types:

- BarrierBreach
- UpdateCorporateAction
- UpdateFactorWarrant
- UpdateKOStrike

The picture below shows an example for a KO-Barrier-Breach Message.

```
1 <?xml version="1.0" encoding="UTF-8" ?>
2 <DERIVATEXXL xmlns="http://www.derivatexxl.de/derivatexxl/v2.0"
3   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
4   xsi:schemaLocation="http://www.derivatexxl.de/derivatexxl/v2.0 derivatexxl_200_Lifecycle.xsd"
5   <DELIVERY Date_of_delivery="2019-05-22T16:12:55" Delivery_Type="BarrierBreachKO" Message_Type="UpdateListing" Provider="token" Release="2.0" Status="complete"/>
6   <GENERAL_INFORMATION>
7     <ADDITIONAL_INFORMATION>The following knock-out warrant has reached its knock-out level and hence is expired and has to be delisted.</ADDITIONAL_INFORMATION>
8   </GENERAL_INFORMATION>
9   <SENDER>
10    <SENDER_NO>000000</ER_NO>
11    <NAME>BEISPIEL AG</NAME>
12    <ADDRESS Name="XXXXXXXX" Department="XXXXXXXX" Zip="XXXXXX" City="XXXXXXXX" Country="XXXXX" E-Mail="XXXXXXXX" Telephone="XXXXXXXX" Url="XXXXXXXX" />
13  </SENDER>
14  <ISSUER>
15    <ISSUER_ID>000000</ER_ID>
16    <NAME>BEISPIEL AG</NAME>
17    <ID_ISSUER_GROUP>000000</ID_ISSUER_GROUP>
18    <NAME_ISSUER_GROUP>BEISPIEL AG</NAME_ISSUER_GROUP>
19    <LEI>XXXXXXXXXXXXXXXXXXXX</LEI>
20    <ADDRESS E-Mail="XXXXXXXX" Servicetelephone="XXXXXXXX" Url="XXXXXXXX" Department="XXXXXXXX" Zip="XXXXXX" City="XXXXXXXX" Country="XXXXXXXX" />
21  </ISSUER>
22  <PRODUCT>
23    <STATIC_DATA>
24      <IDS>XXXXXXXXXX
25        <ISIN>XXXXXXXXXXXXXXXX</ISIN>
26        <WKN>XXXXXXXX</WKN>
27      </IDS>
28      <DATES>
29        <REPAYMENT_DATE>2019-05-23</REPAYMENT_DATE>
30        <BARRIER_BREACH_DATE_TIME>2019-05-16T16:42:44</BARRIER_BREACH_DATE_TIME>
31      </DATES>
32      <FURTHER_INFORMATION>
33        <BID_ONLY>Y</BID_ONLY>
34      </FURTHER_INFORMATION>
35      <PAYMENTS>
36        <REDEMPTION>
37          <EARLY_REPAYMENT>
38            <VALUE>0.29</VALUE>
39            <CURRENCY>EUR</CURRENCY>
40          </EARLY_REPAYMENT>
41        </REDEMPTION>
42      </PAYMENTS>
43      <UNDERLYING>
44        <UL_IDS>
45          <ISIN>XXXXXXXXXXXXXXXX</ISIN>
46        </UL_IDS>
47      </UNDERLYING>
48    </STATIC_DATA>
49    <LISTING>
50      <MIC_EXCHANGE>FRAB</MIC_EXCHANGE>
51      <DELISTING_DATE>2019-05-27</DELISTING_DATE>
52    </LISTING>
53  </PRODUCT>
54 </DERIVATEXXL>
```

5 Delisting Request

A Delisting Request is identified by Message Type (1.04) "UpdateListing," Status (1.05) "complete," and Delivery Type (1.06) "DelistingRequest." The instrument or Intraday/cover instrument must already be listed on the exchange.

We accept three types of delisting requests:

1. **Ordinary Cancellation:** Processed after a mandatory 6-week cancellation period, regardless of outstanding volume. The delisting occurs at the end of the trading day specified in the DELISTING_DATE field.
 - **Required Fields:**
 - Field 5.02.39 (DELISTING_REASON): "Cancellation"
 - Field 5.02.7 (DELISTING_DATE): 42 days (6 weeks) in the future.
2. **Extraordinary Cancellation (Covered by Product Terms and Conditions):** Granted per the product's terms and conditions. No statement regarding outstanding volume or a 6-week cancellation period is required. The delisting occurs at the end of the trading day specified in the DELISTING_DATE field.
 - **Required Fields:**
 - Field 5.02.39 (DELISTING_REASON): "EarlyTermination"
 - Field 5.02.7 (DELISTING_DATE): Date of delisting.
3. **Extraordinary Cancellation (Not Covered by Product Terms and Conditions):** Requires the issuer to confirm no outstanding volume for immediate cancellation. This also covers expired instruments or unused Intraday/Cover instruments ("Hüllen"). The delisting is processed immediately upon application receipt.
 - **Required Fields:**
 - Field 5.02.39 (DELISTING_REASON): "OrdinaryDelisting" or "Other"
 - Field 2.06 (ADDITIONAL_INFORMATION): "No outstanding volume"
 - Field 5.02.7 (DELISTING_DATE): Current date.

To withdraw a listing application *before* the first trading day, submit a "DeleteListing" request (see Section 5.1).

5.1 DeleteListing Request

A DeleteListing request withdraws a listing application. It applies to any instrument type until 23:59:59 on the day *before* the first trading day (or subscription start date for subscription instruments). It also applies to non-activated/unused Intraday Instruments (covers, shells, wrappers). Since these are only set up on the trading platform and not considered "included to

market" until activated, a withdrawal of the listing request is sufficient.

The DeleteListing message must contain the original Listing application's information and be submitted with Status "complete." The initial application form can be reused by replacing "NewListing" with "DeleteListing" and "indicative" with "complete." This will remove the unused Intraday instrument from the trading system.

Remark: A non-activated Intraday Instrument can also be delisted using an extraordinary delisting request of type 3 (see Section 5).

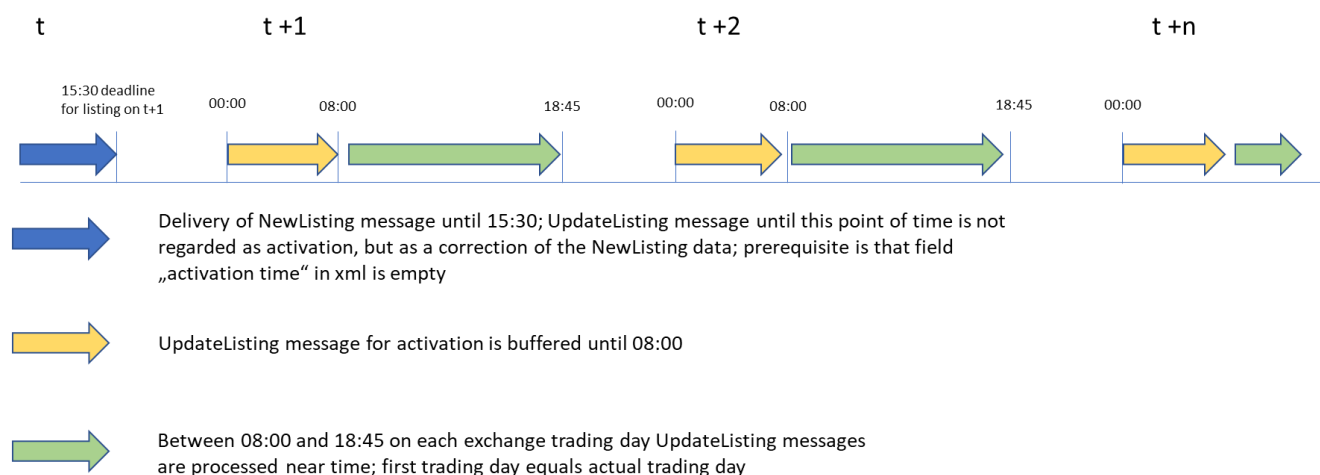
6 Cover instrument set up and activation

Cover instruments (“Hüllen” or “intraday instruments”) are instruments that are listed with a minimum set of instrument data. They are inactive at the point of inclusion to the market but are activated upon request of the issuer when the final set of instrument data is fixed. The cover can remain inactive on the trading system up to 6 months waiting for the final definition and activation. The cover instrument is to be delisted by the issuer after that period if it is not activated.

Cover instruments are identified by the value “Intraday” in the field `ISSUE_TYPE` (5.01.3.20).

6.1 Cover instrument set up, activation timeline and messages

The picture below shows the timeline for cover instrument set up and activation time frames.



t , $t+1$, $t+2$, $t+n$ = exchange trading days; weekends or holidays are regarded as buffer time

Set-up and correction

The instrument is set up by a NewListing message of STATUS (1.05) “indicative”, the field `ACTIVATION_TIME` (5.01.3.21) is left empty. The message needs to be delivered on a trading day until 15:30 (CE(S)T) to ensure the set up for the next trading day.

A correction of data is possible until the 15:30 (CE(S)T) deadline and can be submitted via an UpdateListing message of STATUS (1.05) “indicative” leaving the field `ACTIVATION_TIME` (5.01.3.21) empty.

Activation

The instrument can be activated on the next trading day after reception of the NewListing message for set up. The activation will either be buffered or executed immediately depending on the submission point of time. Every message sent on a trading day between 08:00 (CE(S)T) and 18:45 (CE(S)T) is executed near time. Every message sent outside this time frame is going to be buffered until the next possible activation time frame.

To trigger the activation, the UpdateListing message needs to be of STATUS (1.05) “trade” or

“complete” and the field ACTIVATION_TIME (5.01.3.21) needs to be filled.

In case of limited cover products, the activation can be triggered until the end of the LAST_TRADING_DATE (5.02.6) named in the initial set up message. An activation after the LAST_TRADING_DATE (5.02.6) is passed is no longer possible.

UpdateListing messages of STATUS (1.05) “indicative” or “revert” are going to be declined.

The ACTIVATION_TIME (5.01.3.21) needs to be actual and should not carry a time stamp with more than 30 minutes in the future. If so, it is going to be declined. During a trading day between 08:00 (CE(S)T) and 18:45 (CE(S)T) the activation is not buffered or postponed, it is executed near time.

An ACTIVATION_TIME (5.01.3.21) in the past is accepted and will be treated according to the time frame it was received in - execution between 08:00 (CE(S)T) and 18:45 (CE(S)T) or buffering otherwise.

The FIRST_TRADING_DATE (5.02.5) needs to be updated and filled correctly. For activations submitted after 18:45 the FTD needs to be the next trading date.

Withdrawal or Delisting of not activated covers

Withdrawal of listing applications for covers or delisting of set up but not activated covers is possible via a DeleteListing message of STATUS (1.05) “complete”/”trade”. The message may just repeat the initial NewListing message.

6.2 Monitoring of activation message

eListing will return an error file in any case. The error file is empty if the message is accepted. In relation to the UpdateListing message submitted for activation of the cover instrument, it means that the instrument is going to be activated at the next possible point in time. To ensure an activation, please use the feedback file for monitoring potential rejections. In case of a rejection the instrument will not be activated in the trading system and potentially submitted quotes are going to be rejected.

6.3 Update of instrument data

The business rules under chapter 7 are applied to the UpdateListing message for activation. The instrument data needs to pass these checks otherwise the message is going to be rejected.

After passing the checks, the instrument data delivered in the UpdateListing message is forwarded to the trading system together with the activation trigger itself.

The fields in the table below (if available and depending on the instrument type) are going to be overwritten in the trading system and are distributed via different data dissemination channels in case they differ from the initial dataset.

Please note that an updated coupon rate is disseminated within the activation data set. However, the adjustment of the coupon rate is only effective for interest calculation on t+2 after the activation date. This needs to be considered when setting up and activating the instrument.

Business Name	eListing field number	dXXL field name in xsd
Description	5.01.3.1 or if empty 5.01.3.2	NAME or if empty NAME_SHORT
Underlying	5.01.7.1.1 or if empty 5.01.7.1.2	Underlying: ISIN or if empty NAME
Maturity Date	5.01.2.3	MATURITY
Strike Price	5.01.7.2.2	Barrier: VALUE
Coupon Rate	5.01.4.1.1	INTEREST_RATE
First Trading Date	5.02.5	FIRST_TRADING_DATE
Last Trading Date	5.02.6	LAST_TRADING_DATE
Start of Quoting Period	5.02.8	TRADING_HOURS_START
End of Quoting Period	5.02.9	TRADING_HOURS_END

Please note that information like the Trading segment (Premium / Standard) or the Quote Provider ID cannot be overwritten by the activation message.

7 Validation rules

This chapter details the validation rules enforced by the Börse Frankfurt eListing platform after an issuer uploads an XML file. Validation failures can lead to rejection of the listing application or other message types.

Validation Process:

The eListing platform performs the following validations:

1. **Implicit XSD Validation:** The uploaded XML file is automatically validated against the provided XSD (XML Schema Definition) and custom data types.
2. **Explicit Rule Validation:** All validation rules described below must evaluate to TRUE for successful processing. A FALSE result triggers an error handled by the eListing platform as described (see "Action on FALSE" for each rule). Only error-free data is stored, processed further, and potentially included on Xetra.

Validation Rule Scope:

- **File-Level Rules:** Certain validation rules, if violated, lead to rejection of the entire XML file.
- **Instrument-Level Rules:** Most rules apply to individual instruments within the XML file. Failure of an instrument-level rule results in the rejection of only that specific instrument.

Error Handling:

Each rejected instrument is accompanied by a detailed error message explaining the reason for rejection, including a unique error code. The error message format is described in Chapter 8.

7.1 Business rules applicable for NewListing, UpdateListing and DeleteListing messages

Rule #	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
1.	-	-	Is XML file valid and complies with XSD?	1. Raise error 8000 (XML file is invalid / does not comply with XSD), 2. Stop processing XML file
2.	1. message type (1.04) = "NewListing"	(1.04), (5.01.1.1)	ISIN (5.01.1.1) not yet listed at Börse Frankfurt? 1. Cross check with instrument reference database 2. Query eListing database, check that ISIN has not been sent with message type "NewListing" before	1. Raise error 8001, (ISIN already in use) 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
3.	1. message type (1.04) = "UpdateListing" 2. Activation time (5.01.3.21) = ""	(1.04), (5.02.5)	1. ISIN (5.01.1.1) has already been applied for listing at Börse Frankfurt? Cross check with eListing database, if ISIN can be found with message type = "NewListing" previously received. 2. Previous message was sent (Exclude unsuccessful messages, which have been rejected due to validation errors) and is not "DeleteListing".	1. Raise error 8003 (instrument unknown or knocked out), 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
4.	message type (1.04) = "DeleteListing"	(1.04), (5.02.5)	1. ISIN (5.01.01.01) has already been applied for listing? ISIN can be found with last received message type = "NewListing", "UpdateListing" previously received. AND Not (FIRST_TRADING_DATE (5.02.05) <= current date AND Activated Cover OR Standard or Subscription)	1. Raise error 8004 (withdraw listing application is not or no longer possible), 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
5.	1. Message type (1.04) = "UpdateListing" and 2. status (1.05) = "indicative"	(1.04), (1.05), (5.02.5)	1. Instrument has not been sent with status (1.05) = "complete" or "trade" before? (Cross check with eListing database.)	1. Raise error 8007 (status model violation, status already higher than indicative - UpdateListing with status "indicative" not possible because instrument has been sent with status "complete" or "trade" before),

Rule #	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
				2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
6.	1. Message type (1.04) = "UpdateListing" and 2. status (1.05) = "trade"	(1.04), (1.05), (5.02.5)	1. Instrument has not been sent with status (1.05) = "complete" before? (Cross check with eListing database.)	1. Raise error 8008 (status model violation, status already higher than trade - UpdateListing with status "trade" not possible because instrument has been sent with status "complete" before), 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
7.	-	(5.02.1), (5.01.1.1)	1. ISIN (5.01.1.1) delivered has an associated Frankfurt / Börse Frankfurt MIC code, i.e. MIC_EXCHANGE (5.02.1) IN (XFRA, FRAB) 2. There is exactly one Frankfurt / Börse Frankfurt MIC code (XFRA,FRAB) per ISIN N.b.: Expected behavior will be that there is one XML element (5.02) LISTING for each exchange! Therefore, there should only be an error raised in case there is no LISTING (5.02) XML tag with Frankfurt / Börse Frankfurt MIC codes at all.	1. Raise error 8009, 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
8.	1. Rule #7 (i.e.: only process data under 5.02 that was positively validated by this rule) 2. message type (1.04)	(5.02.28)	(Quote Provider) QUOTE_OBLIGOR (5.02.28) <> ""	1. Raise error 8010, 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)

Rule #	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
	= "NewListing" or "UpdateListing"			
9.	1. Rule #8 2. message type (1.04) = "NewListing" or "UpdateListing"	(5.02.29)	(Quote Provider Member ID) XETRA_ID_QUOTE_OBLIGOR (5.02.29) registered at Market Operations for eListing	1. Raise error 0087, (Invalid Quote Provider Member ID / XETRA_ID_QUOTE_OBLIGOR (5.02.29)) 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
10.	1. Rule #8 2. message type (1.04) = "NewListing" or "UpdateListing"	(5.02.30)	(Quote Provider Subgroup ID) XETRA_SUBGROUP_ID_QUOTE_OBLIGOR (5.02.30) IN (QPR, QPO, QP1, QP2, QP3, QP4, QP5, QP6, QP7, QP8, QP9, QPA, QPB, QPC, QPD, QPE, QPF, QPG, QPH, QPI, QPJ, QPK, QPL, QPM, QPN, QPO, QPQ, QPS, QPT, QPU, QPV, QPW, QPX, QPY, QPZ)	1. Raise error 0088, (Invalid Quote Provider Subgroup ID / XETRA_SUBGROUP_ID_QUOTE_OBLIGOR (5.02.30)) 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
11.	1 Rule #8 2. message type (1.04) = "NewListing" or "UpdateListing" 3. TRADING_MODEL (5.02.4) = "Spezialistenmodell"	(5.02.31), (5.02.4)	1. (Specialist KV-Number) SPECIALIST_KV_ID (5.02.31) <> ""	1. Raise error 0089, (KV number is empty) 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
12.	1 Rule #8 2. message type (1.04) = "NewListing" or "UpdateListing"	(5.02.31), (5.02.4)	1. (Specialist KV-Number) SPECIALIST_KV_ID (5.02.31) registered at Market Operations for eListing and combination of issuer/specialist	1. Raise error 8013, (No valid Frankfurt KV number) 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)

Rule #	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
	3. TRADING_MODEL (5.02.4) = "Spezialistenmodell"			
13.	1. Rule #8 2. message type (1.04) = "NewListing" or "UpdateListing"	(5.02.4)	1. TRADING_MODEL (5.02.4) IN "Spezialistenmodell" AND "Emittentenmodell"	1. Raise error 8011, (invalid trading model) 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
14.	1. Rule #7 2. message type (1.04) = "NewListing" or "UpdateListing" 3. MARKET_SEGMENT (5.02.2) = "Freiverkehr"	(5.02.2), (5.02.20)	1. FURTHER_EXCHANGE (5.02.20) IN (Y, N)	1. Raise error 0071, (Invalid FURTHER_EXCHANGE (5.02.20)) 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
15.	1 Rule #8 2. Message type (1.04) = "NewListing" or "UpdateListing" 3. MARKET_SEGMENT (5.02.2) = "Freiverkehr"	(5.02.2), (5.02.25)	1. EXPOSE (5.02.25) IN (Y, N)	1. Raise error 0076, 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
16.	1. Rule #8 2. Message type (1.04) = "NewListing" or "UpdateListing" 3. MARKET_SEGMENT (5.02.2) = "Freiverkehr"	(5.02.2), (5.02.25)	If EXPOSE=Y, then associated Issuer LEI / Sender Member ID combination must have a valid expose license in Expose Center.	1. Raise error 8088, (LEI must be associated with a valid expose license. Please visit the Expose Center in in eListing Structured Products to cross-check your license(s).) 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)

Rule #	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
	4. EXPOSE (5.02.25) =Y			
17.	1. Rule #8 2. Message type (1.04) = "NewListing" or "UpdateListing" 3. MARKET_SEGMENT (5.02.2) ="Freiverkehr"	(5.02.2), (5.02.26)	1. PROSPECTUS_SUBMITTED (5.02.26) IN (Y, N)	1. Raise error 0077, 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
18.	1. Rule #8 2. message type (1.04) = "NewListing" or "UpdateListing" 3. MARKET_SEGMENT (5.02.2) ="Freiverkehr"	(5.02.2), (5.02.27), (5.02.20)	1. PROSPECTUS_ADMITTED (5.02.27) IN (Y, N)	1. Raise error 0078 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
19.	1. Rule #8 2. message type (1.04) = "NewListing" or "UpdateListing" 3. MARKET_SEGMENT (5.02.2) ="Freiverkehr"	(5.02.2), (5.02.20), (5.02.25), 5.02.26), (5.02.27)	1. EXPOSE (5.02.25) or PROSPECTUS_SUBMITTED (5.02.26) or FURTHER_EXCHANGE (5.02.20) or PROSPECTUS_ADMITTED (5.02.27) = "Y". (In other words: at least one of the four data fields must have "Y" as payload).	1. Raise error 8014 (expose, prospectus or further exchange missing) 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
20.	1. Rule #8 2. message type (1.04) = "NewListing" or "UpdateListing"	(5.02.3)	1. TRADING_SEGMENT (5.02.3) IN ("Börse Frankfurt Standard", "Börse Frankfurt Premium")	1. Raise error 8012 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)

Rule #	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
21.	1. Rule #8 2. message type (1.04) = "NewListing" or "UpdateListing"	(5.02.10)	1. TRADING_CURRENCY (5.02.10) IN (EUR, CHF, USD, SEK, HKD, CZK, HUF, PLN, GBP, DKK, AUD, CAD, SGD, NOK, TRY, RUB, NZD, CNY)	1. Raise error 0063 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
22.	1. Rule #8 2. message type (1.04) = "NewListing" or "UpdateListing"	(5.02.5), (5.01.2.1)	1. FIRST_TRADING_DATE (5.02.5) >= ISSUE_DATE (5.01.2.1)	1. Raise error 0054 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
23.	1. Rule #8 2. message type (1.04) = "NewListing" or "UpdateListing" 3. MATURITY (5.01.2.3) <> ""	(5.01.2.2), (5.01.2.3)	1. VALUE_DATE (5.01.2.2) <= MATURITY (5.01.2.3)	1. Raise error 0006 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
24.	-	(5.01.1.1)	1. ISIN (5.01.1.1) occurs only once in -XML file	1. Raise error 0079, 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
25.	-	(5.01.3.2)	1. NAME_SHORT (5.01.3.2) <> ""	1. Raise error 0085, 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
26.	1. message type (1.04) = "NewListing" or "UpdateListing"	(5.01.3.12)	1. PRODUCT_CATEGORY_NAME (5.01.3.12) IN (,"Strukturierte Anleihen"/> "Kapitalschutz-Zertifikate"/> "Discount-Zertifikate"/> "Aktienanleihen"/> "Express-Zertifikate"/>	1. Raise XSD/XLS Validation Error

Rule #	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
			"Bonus-Zertifikate"/> "Index- und Partizipationszertifikate"/> "Weitere Anlageprodukte ohne Kapitalschutz"/> "Optionsscheine"/> "Knock-out-Optionsscheine"/> "Faktor-Optionsscheine" /> "Index-/Partizipations-Zertifikate" "Outperformance-Zertifikate" "Sprint-Zertifikate" "Outperformance-/Sprint-Zertifikate" "Knock-Out Produkte" "Bonitätsanleihen" "Faktor-Zertifikate" "Bonitätsabhängige Schuldverschreibungen" "Weitere Anlageprodukte ohne Kapitalschutz")	
27.	1. Rule #8 2. message type (1.04) = "NewListing" or "UpdateListing" 3. (5.02.3) = "Boerse Frankfurt Zertifikate Standard" OR "Boerse Frankfurt Zertifikate Premium"	(5.02.3), (5.02.8)	1. TRADING_HOURS_START (5.02.8) < > ""	1. Raise error 0059 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)

Rule #	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
28.	1. Rule #8 2. message type (1.04) = "NewListing" or "UpdateListing" 3. TRADING_HOURS_START (5.02.8) <> ""	(5.02.8)	1. TRADING_HOURS_START (5.02.8) >= "08:00"	1. Raise error 0060 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
29.	1. Rule #8 2. message type (1.04) = "NewListing" or "UpdateListing" 3. (5.02.3) = "Boerse Frankfurt Zertifikate Premium"	(5.02.8)	1. TRADING_HOURS_START (5.02.8) either "09:00" or "08:00"	1. Raise error 8032 2. Stop processing product (5.x) within XML, i.e. continue with next
30.	1. Rule #8 2. message type (1.04) = "NewListing" or "UpdateListing" 3. (5.02.3) = "Boerse Frankfurt Zertifikate Standard" OR "Boerse Frankfurt Zertifikate Premium"	(5.02.3), (5.02.9)	1. TRADING_HOURS_END (5.02.9) <> ""	1. Raise error 0061 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)

Rule #	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
31.	1. Rule #8 2. message type (1.04) = "NewListing" or "UpdateListing" 3. TRADING_HOURS_END (5.02.9) <> ""	(5.02.9)	1. TRADING_HOURS_END (5.02.9) <= "22:00"	1. Raise error 0062 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
32.	1. Rule #8 2. message type (1.04) = "NewListing" or "UpdateListing" 3. (5.02.3) = "Boerse Frankfurt Zertifikate Premium"	(5.02.9)	1. TRADING_HOURS_END (5.02.9) either "20:00" or "22:00"	1. Raise error 8032 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
33.	1. message type (1.04) = "NewListing" or "UpdateListing" 2. UNLIMITED (5.01.3.6) = "N"	(5.01.2.3), (5.01.3.6)	1. MATURITY (5.01.2.3) <> ""	1. Raise error 0007 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
34.	1. message type (1.04) = "NewListing" or "UpdateListing" 2. UNLIMITED (5.01.3.6) = "Y"	(5.01.2.3), (5.01.3.6)	1. MATURITY (5.01.2.3) = ""	1. Raise error 0008 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)

Rule #	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
35.	1. message type (1.04) = "NewListing" or "UpdateListing" 2. MATURITY (5.01.2.3) <> "" 3. PAYMENT_DATE (5.01.2.4) <> ""	(5.01.2.3), (5.01.2.4)	1. MATURITY (5.01.2.3) <= PAYMENT_DATE (5.01.2.4)	1. Raise error 0009 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
36.	1. message type (1.04) = "NewListing" or "UpdateListing" 2. Rule #7 3. UNLIMITED (5.01.3.6) = "N"	(5.02.6), (5.01.3.6)	1. LAST_TRADING_DATE (5.02.6) <> ""	1. Raise error 0055 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
37.	1. message type (1.04) = "NewListing" or "UpdateListing" 2. Rule #7 3. LAST_TRADING_DATE (5.02.6) <> ""	(5.02.6), (5.01.2.3)	1. LAST_TRADING_DATE (5.02.6) <= MATURITY (5.01.2.3)	1. Raise error 0056 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
38.	1 Rule #8 2. message type (1.04) = "NewListing" or "UpdateListing" 3. LAST_TRADING_DATE (5.02.6) <> ""	(5.02.6), (5.02.5)	1. LAST_TRADING_DATE (5.02.6) >= FIRST_TRADING_DATE (5.02.5)	1. Raise error 0057 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)

Rule #	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
39.	1. message type (1.04) = "NewListing" or "UpdateListing"	(5.01.2.1), (5.01.2.2)	1. ISSUE_DATE (5.01.2.1) < = VALUE_DATE (5.01.2.2) (changed from "<" to "<=" September 2019)	1. Raise error 0005 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
40.	1 Rule #8	(5.02.2)	MARKET_SEGMENT (5.02.2) IN ("Freiverkehr")	1. Raise error 8015 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
41.	1. Rule #7 2. message type (1.04) = "NewListing" or "UpdateListing"	(5.02.18)	1. INCLUSION_REGULATED_MARKET (5.02.18) must always be "N"	1. Raise error 0069 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
42.	1. Rule #8 2. message type (1.04) = "NewListing" or "UpdateListing"	(5.02.17)	1. STATE_BONDS (5.02.17) must always be "N" or not existent	1. Raise error 0068 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
43.	-	-	1. Application server or its connections, e.g. data base connections, etc. of Börse Frankfurt eListing platform are in healthy condition and in fully operational mode?	1. Raise error 8999 (application error occurred), 2. Stop processing XML file
44.	1. Rule #8 2. message type (1.04) = "NewListing" or "UpdateListing" 3. TRADING_HOURS_START (5.02.8) <> ""	(1.04), (5.02.8), (5.02.9)	1. TRADING_HOURS_START (5.02.8) < TRADING_HOURS_END (5.02.9)	1. Raise error 8016 (trading hours end is before start), 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)

Rule #	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
	4. TRADING_HOURS_END (5.02.9) <> ""			
45.	1 Rule #8 2. message type (1.04) = "NewListing" or "UpdateListing" 3. LAST_TRADING_DATE (5.02.6) <> ""	(1.04), (5.02.6)	1. LAST_TRADING_DATE (5.02.6) >= Today (i.e. last trading date does not lie in the past)	1. Raise error 8017 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
46.	1. message type (1.04) = "UpdateListing" 2. instrument has already been exported to Market Supervision - final export (current date/time > original FIRST_TRADING_DATE - 1 / 15:30) 3. ACTIVATION_TIME (5.01.3.21) = ""	(1.04), (5.02.5), <i>Current time</i>	1. Query ELLI database, check that ISIN is known 2. No changes to data that is in the export file to Market Supervision , this applies for the following data fields: Emittent, Name_Sender, Name responsible person, City responsible person, E-Mail Sender, Tel_Sender,Antragsteller ISIN, Value date, Notierungsart Kassa, Kassa Einheit, Variabel, Variabel Einheit, InclusionAcc, FirstTradingDay, Last Trading Date, Handelszeiten, Subscription start, Subscription end, Subscription end time, Technical Suspension, Trading Currency, Xetra-Modell, Sub-Marktsegment, KvNr, Xetra ID, Subgroup, Quote Provider,	1. Raise error 8021 (updating data relevant for listing and inclusion no longer possible because application is already in progress at Market Supervision), 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)

Rule #	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
			<p>Date of admission, AdmissionByLaw, Base Prospectus, Date Final Terms, Final Terms Location, ProspectusApproved by BAFIN</p> <p>CollectiveSafeCustody 4.02, 5.02.3, 5.01.3.3, 5.02.32, 5.02.13, 5.02.13, 5.02.31, 5.02.29, 5.02.30, 5.02.4, 5.02.8, 5.02.9, 5.02.10, 5.02.5, 5.01.2.2, 3.02, 5.02.28, 5.02.19, 5.02.18, 5.02.17, 5.02.20, 5.02.21, 5.02.27, 5.02.26, 5.02.25, 5.03.6</p>	
47.	<p>1. message type (1.04) = "UpdateListing"</p> <p>2. instrument has already been exported to Market Supervision - final export (current date/time > original FIRST_TRADING_DATE - 1 / 15:30)</p> <p>3. Activation time (5.01.3.21) = "filled"</p>	(1.04), (5.02.5), <i>Current time</i> (5.01.3.21)	<p>1. Query ELLI database, check that ISIN is known</p> <p>2. No changes to data that is in the export file to Market Supervision, this applies for the following data fields: 4.02, 5.02.3, 5.01.3.3, 5.02.32, 5.02.13, 5.02.31, 5.02.29, 5.02.30, 5.02.4, 3.02, 5.02.28, 5.02.19, 5.02.18, 5.02.17, 5.02.20, 5.02.21, 5.02.27, 5.02.26, 5.02.25, 5.03.6</p> <p>Please note: Change of Trading hours/quoting periods and first trading date is allowed in case of an activation – so these fields are excluded when checking an activation UpdateListing message</p>	<p>1. Raise error 8053 (activation of cover does not allow for changes to market model, market segment or listing preconditions),</p> <p>2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)</p>
48.	<p>1. message type (1.04) = "NewListing" or "UpdateListing"</p>	(1.04), (3.02), (5.02.4), (5.02.29), (5.02.30), (5.02.31),	<p>1. Check if applicant, trading model, quote provider, subgroup and specialist KV number combinations are valid (according to the list of rule data, maintained by Market Supervision)</p>	<p>1. Raise error 8022 (applicant, trading model, quote provider, subgroup and specialist KV number combination is invalid. Please contact Market Supervision)</p>

Rule #	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
				2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
49.	1. message type (1.04) = "NewListing" or "UpdateListing"	(1.04), (5.02.3), (5.02.29)	Quote Provider (xml field 5.02.29) and "Boerse Frankfurt Zertifikate Premium" (xml field 5.02.3) should be checked with the master table. "Börse Frankfurt Zertifikate Premium" can only be used in field 5.02.3, if in the master table the column "Börse Frankfurt Zertifikate Premium" is marked with "yes" for the relevant quote provider.	1. Raise error 8024 ("Boerse Frankfurt Zertifikate Premium" may only be used for issuers flagged as Börse Frankfurt premium issuers. Please contact Market Supervision) 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
50.	1. message type (1.04) = "NewListing" or "UpdateListing"	(1.04), (5.02.3), (5.02.10)	Quote Provider (xml field 5.02.29) and settlement currency (xml field 5.02.10) should be checked against the master table. If "yes" is not marked for the relevant quote provider and currency, the sender should receive an error message. If the settlement currency is not "EUR", the market segment (5.02.2) must be "Freiverkehr". Foreign currencies may be used only for Market Segment "Open Market".	1. Raise error 8025 (You may have no permission to use the desired settlement currency, or you are using a foreign (non-EUR) currency in regulated market. Non-EUR currencies are only allowed in open market. Please change your listing application accordingly or contact Market Supervision). 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
51.	1. Message type (1.04) = "NewListing" or "UpdateListing".	(1.04) (5.01.3.20) (5.02.35)	Subscription must have Subscription Start, Subscription End and Technical Suspension fields filled.	1. Raise Error 8028 (Information on subscription period are missing).

Rule #	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
	2. Issue type (5.01.3.20) = "Subscription"	(5.02.36) (5.02.37)		2. Stop processing product within XML, i.e. continue with next product (if applicable)
52.	1. Message type (1.04) = "NewListing" or "UpdateListing". 2. Issue type (5.01.3.20) = "Subscription"	(1.04) (5.01.3.20) (5.02.35) (5.02.36)	Subscription End must be after Subscription Start and must happen either at 11:00,12:00 or 16:30	1. Raise Error 8029 (End of the Subscription period must be either at 11:00, 12:00 or 16:30 and must be after the Start of Subscription period) 2. Stop processing product within XML, i.e continue with the next product (if applicable)
53.	1. message type (1.04) = "NewListing" or "UpdateListing" 2. Subscription=y	(1.04)	Subscription End must be in the future	1. Raise Error 8062 (Subscription End must be in the future) 2. Stop processing product within Excel, i.e. continue with next product (if applicable)
54.	1. Message type (1.04) = "NewListing" or "UpdateListing". 2. Issue type (5.01.3.20) = "Standard" or "Intraday"	(1.04) (5.01.3.20) (5.02.35) (5.02.36) (5.02.37)	When Subscription fields (Subscription Start, Subscription End and Technical Suspension) are filled, issue type must be set to "Subscription"	1. Raise Error 8033 (Issue type "Subscription" is required) 2. Stop processing product within XML, i.e. continue with next product (if applicable)
55.	1. Message type (1.04) = "NewListing" or "UpdateListing".	(1.04) (5.01.3.20) (5.02.35) (5.02.36)	Subscription fields (Subscription Start, Subscription End and Technical Suspension) must be on an exchange trading day.	1. Raise Error 8031 (date correlation erroneous-sequential arrangement of Subscription start/end,

Rule #	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
	2. Issue type (5.01.3.20) = "Subscription"	(5.02.37)		TECHNICAL SUSPENSION and FIRST TRADING DATE do not fit or dates are not on exchange Trading Day 2. Stop processing product within XML, i.e. continue with the next product (if applicable)
56.	1. Message type (1.04) = "NewListing" or "UpdateListing". 2. Issue type (5.01.3.20) = "Subscription"	(1.04) (5.01.3.20) (5.02.35) (5.02.36) (5.02.37)	Technical Suspension must be the trading day before First Trading Day and after or at subscription End	1. Raise Error 8031 (date correlation erroneous-sequential arrangement of Subscription start/end, TECHNICAL SUSPENSION and FIRST TRADING DATE do not fit or dates are not on exchange Trading Day 2. Stop processing product within XML, i.e. continue with the next product (if applicable)
57.	1. Message type (1.04) = "NewListing" or "UpdateListing" or "DeleteListing". 2. Status (1.05) = "revert"	(1.04) (1.05)	Listing application is not allowed with status revert.	1. Raise error 8040 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)

Rule #	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
58.	1. message type (1.04) = "UpdateListing" 2. ISSUE_TYPE (5.01.3.20) = "Intraday" 3. Activation time (5.01.3.21) = "filled"	(1.04), (5.02.5), (5.01.3.21), (5.01.3.20)	Current day \leq first trading date (5.02.5) \leq next trading day Current day (00:00:00 until 18:45:00) = first trading date (5.02.5) Current day (18:45:01 until 23:59:59) < first trading date (5.02.5) = next trading day Activation with first trading date only on the current trading day or next trading day (during buffer times) possible – no activation for first trading dates in the future	Raise error 8049 – First trading date not appropriate
59.	1. message type (1.04) = "UpdateListing" 2. ISSUE_TYPE (5.01.3.20) = "Intraday" 3. Activation time (5.01.3.21) = "filled"	(1.04), (5.01.3.21), (5.01.3.20)	No activation before set up of the cover instrument on T7 (FTD of NewListing message)	Raise error 8050 – Activation not yet possible, cover still in listing process
60.	1. message type (1.04) = "NewListing" , "UpdateListing" 2. ISSUE_TYPE (5.01.3.20) = "Intraday" 3. Activation time (5.01.3.21) = "" or "filled"	(1.04), (5.01.3.21), (5.01.3.20), (5.02.32)	No intraday listing allowed for instruments traded in single auction: QUOTATION_TYPE (5.02.32) \neq "1"	Raise error 8051 – Intraday Instrument not allowed for single auction

Rule #	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
61.	1. message type (1.04) = "UpdateListing" 2. ISSUE_TYPE (5.01.3.20) = "Intraday" 3. Activation time (5.01.3.21) = "filled"	(1.04), (5.01.3.21), (5.01.3.20)	Activation time (5.01.03.21) \leq current time + 5minutes Shall prohibit that we receive activation messages with a timestamp in the future as we activate the cover directly upon receipt of the message or in buffer times at next possible time slot. We do not manage the activation during trading hours. A timestamp in the past shall be allowed – may occur after technical problems on the issuer side.	Raise error 8052 – no activation time in the future allowed
62.	1. message type (1.04) = "UpdateListing" 2. ISSUE_TYPE (5.01.3.20) = "Intraday" 3. Activation time (5.01.3.21) = "filled" 4. Activation message to T7 created and submitted	(1.04), (5.01.3.21), (5.01.3.20)	Check if activation message for ISIN already received and T7 message created and submitted – do not allow any further activation messages and reject UpdateListing message with Activation time filled in.	Raise error 8054 – Intraday instrument activation already processed; no further activation or update possible, pls. contact Market Operations
63.	message type (1.04) = "NewListing"		"1. NewListing Or UpdateListing was received in the past and more than 14 days ago (as otherwise validation ID.01 is triggered.) or DeleteListing was received more than 14days ago and exported. 3. REUSE_ENABLED in Options Management = Y. 4. Last trading date is before reuse date (reuse date = now - 14 days)	1. Raise error 8063 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)"

Rule #	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
64.	message type (1.04) = "DeleteListing"		Status (1.05) != indicative	1. Raise error 8068 (DeleteListing with status "indicative" not possible), 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
65.	1. message type (1.04) = "UpdateListing" 2. ISSUE_TYPE (5.01.03.20) = "Intraday" 3. Activation time (5.01.03.21) = "filled"		Cover activation only possible for cover in T7 Check if ISIN (1.04) is setup in T7 (T7_Instruments) AND if it is an unactivated cover (cover indicator in 1, 2). If ISIN is not in T7 then this check is not performed.	1. Raise error 8058 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
66.	1. message type (1.04) = "UpdateListing" 2. ISSUE_TYPE (5.01.03.20) = "Intraday" 3. Activation time (5.01.03.21) ""		Update after final export not possible, if not cover activation Status (1.05) != trade, complete	1. Raise error 8006 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)

Rule #	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
67.	1. message type (1.04) = "DeleteListing" 2. Issue type (5.01.03.20) = "Subscription"		Subscription cannot be deleted after start of subscription "If Subscription exist for next trading date, then DeleteListing must be sent before 15:30."	1. Raise Error 8067 2. Stop processing product within Excel, i.e. continue with next product (if applicable)
68.	1. Message type (1.04) = "NewListing" or "UpdateListing" 2. Underlying ISIN (5.01.7.1.1) is filled		Check, if Underlying ISIN (5.01.7.1.1) is permitted	1. Raise error (8064) 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
69.	1. Message type (1.04) = "NewListing" or "UpdateListing" 2. Underlying Name (5.01.7.1.2) is filled		Check, if Underlying Name (5.01.7.1.2) is permitted	1. Raise error (8060) 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)

Rule #	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
70.	1. message type (1.04) = "UpdateListing" 2. Issue_Type (5.01.03.20) = Intraday 3. Activation time (5.01.03.21) = "filled"		Interest rate may not be greater than 100 (This restriction is derived from T7)	1. Raise error 8057 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
71.	1. message type (1.04) = "NewListing" or "UpdateListing"		1. FIRST_TRADING_DATE (5.02.05) = Null	1. Raise Error 8059 (First trading date is missing.) 2. Stop processing product within XML, i.e. continue with the next product (if applicable)
72.	1. Message type (1.04) = "NewListing" or "UpdateListing".		FTD (5.02.05) and LTD (5.02.06) must be on an exchange trading day.	1. Raise Error 8082 (FIRST_TRADING_DATE and/or LAST_TRADING_DATE is not an exchange trading day.) 2. Stop processing product within XML, i.e. continue with the next product (if applicable)

Rule #	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
73.	1. Rule #8 passed 2. message type (1.04) ="NewListing" or "UpdateListing"		1. TRADING_CURRENCY (5.02.10) is permitted for Quote provider	1. Raise error 8025 (You may have no permission to use the desired currency. Please contact Market Supervision.) 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
74.	1. Rule #8 passed 2. message type (1.04) ="NewListing" or "UpdateListing"		MIN_TRADING_UNIT != Null	1. Raise error 8061 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)

7.2 Business rules applicable for KO-Barrier-Breach messages

Rule#	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
3.01	-		ISIN (5.01.1.1) listed at Börse Frankfurt at all? 1. Cross check with WSS database 2. Query eListing database	Error only shown in internal systems – no feedback file to issuer/sender
3.02			Check if ISIN is in market segment 80 or 81	Error only shown in internal systems – no feedback file to issuer/sender
3.03	1. Message type (1.04) = "NewListing" 2. Delivery_Type (1.06) = "BarrierBreachKO"	(1.04) (1.06)	NewListing application is not allowed with Delivery_Type BarrierBreachKO.	Error only shown in internal systems – no feedback file to issuer/sender
3.04	1. Message type (1.04) = "DeleteListing" 2. Delivery_Type (1.06) = "BarrierBreachKO"	(1.04) (1.06)	DeleteListing application is not allowed with Delivery_Type BarrierBreachKO.	Error only shown in internal systems – no feedback file to issuer/sender
3.05	1. Message type (1.04) = "UpdateListing" 2. Delivery_Type (1.06) = "BarrierBreachKO" 3. Status (1.05) = "indicative"	(1.04) (1.05) (1.06)	UpdateListing application is not allowed with the combination: Delivery_Type BarrierBreachKO and status indicative.	Error only shown in internal systems – no feedback file to issuer/sender

7.3 Business rules applicable for Delisting Requests

4.01	-	(5.01.1.1)	listed at Börse Frankfurt at all? 1. Cross check with WSS database 2. Query eListing database	1. Raise error, (ISIN not listed in Frankfurt) 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
4.02	-	(5.02.1), (5.01.1.1)	1. ISIN (5.01.1.1) delivered has an associated Frankfurt / Börse Frankfurt MIC code, i.e. MIC_EXCHANGE (5.02.1) IN (XFRA, XFRB, FRAA, FRAB) 2. There is exactly one Frankfurt / Börse Frankfurt MIC code (XFRA, XFRB, FRAA, FRAB) per ISIN	1. Raise error, 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
4.03	DELESTING_REASON = "Cancellation"	5.02.39 5.02.7	DELISTING_DATE must be 6 weeks in the future (DELISTING_DATE > t +42d	1. Raise error with error message: "Cancellation" has a 6 weeks cancellation period 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
4.04	1.) DELESTING_REASON = "OrdinaryDelisting" or "other" 2.) DELISTING_DATE = t	5.02.39 5.02.7 2.06	ADDITIONAL_INFORMATION must contain: "No outstanding volume"	1. Raise error, with error message: confirmation "no outstanding volume" mandatory for cancellation, early termination and other 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)

7.4 Processing deadlines

In general, 15:30 is the processing deadline for all applications for inclusion of instruments for the next trading day.

Activation messages of already set up covers for the current trading day can be submitted until 18:45. After 18:45 they need to carry the next trading day as date and are buffered until 08:00 the next trading day.

Processing deadlines are implicitly defined by the validation rules detailed above.

Issuers may submit "Delete Listing" (withdrawal of a listing application) requests until short before midnight (23:59:59) on the day before the intended first trading day. Note that "DeleteListing" signifies a complete withdrawal of the application and applies only to instruments not yet listed. Non-activated covers are regarded as not yet listed and can also be removed from the trading platform by a "DeleteListing" message.

Delisting requests, distinct from deleting a listing application, have no submission deadline. Processing occurs according to the request type: either intraday upon receipt during trading hours, at the end of the trading day, or after the applicable cancellation period. Delisting requests received outside of trading hours are processed on the next trading day.

KO Barrier-Breach messages can be submitted at any time during trading hours.

8 Error messages for issuers

For each submitted "Listing Request" or "Delisting Request" XML file as well as for a "Knock-out Barrier Breach" message, a corresponding error file is generated, detailing any validation errors. An empty error file is generated even if no errors are found (see Example 2).

Error files are formatted in XML according to the following structure:

Example 1: error.xml with Validation Errors

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ValidationResult>
  <Trancheld>105308</Trancheld>
  <ValidationError>
    <ISIN> DE000ABCD123</ISIN>
    <ErrorCode>61</ErrorCode>
    <ErrorMessage>TRADING_HOURS_END (5.02.9) is empty</ErrorMessage>
    <PathName>/DERIVATEXXL/PRODUCT/LISTING/TRADING_HOURS_END</PathName>
  </ValidationError>
  <ValidationError>
    <ISIN>DE000ABCE123</ISIN>
    <ErrorCode>8009</ErrorCode>
    <ErrorMessage>ISIN has no associated Börse Frankfurt MIC </ErrorMessage>
    <PathName>/DERIVATEXXL/PRODUCT/LISTING/MIC_EXCHANGE</PathName>
  </ValidationError>
</ValidationResult>
```

Example 2: error.xml with No Validation Errors

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ValidationResult>
  <Trancheld>105309</Trancheld>
</ValidationResult>
```

Each **<ValidationError>** element represents a specific error. The elements within **<ValidationError>** contain:

- **PathName (Optional):** An XPath-like expression indicating the error location within the input XML.
- **ErrorCode (Optional):** The error code (as defined in Chapter 6).
- **ErrorMessage (Optional):** A human-readable error description.
- **ISIN (Optional):** The ISIN (5.01.1.1).
- **Trancheld:** The **TRANCHE_ID** (2.02) from the dXXL input XML file.

Error files are returned via the same submission channel:

- **eListing GUI:** Errors are displayed directly within the Deutsche Börse Frankfurt eListing frontend.
- **Secure File Transfer:** Error files are placed in the issuer's outbound folder.

Error File Naming Convention:

The naming convention for error XML files is:

ValidationResult_YYYYMMDD_(IssuerName)_(TrancheID)_Original_XML_filename.xml

Where:

- **YYYYMMDD:** The current date (YYYYMMDD format).
- **(IssuerName):** The issuer's name (4.02).
- **(TrancheID):** The **TRANCHE_ID** (2.02).
- **Original_XML_filename:** The original filename (without extension).

Example: ValidationResult_20120604_Issuer_ABC_105308_ListingRequest.xml

Error Handling for XSD Inconsistencies:

If an XML file is rejected due to XSD inconsistencies, the **TRANCHE_ID** may not be retrievable. In such cases, the filename is simplified to:

ValidationResult_YYYYMMDD_Original_XML_filename.xml

This ensures the issuer can still identify the corresponding input file.

8.1 Error codes

ERR OR ID	ERROR_SHORT_CODE	DESCRIPTION_ENGLISH
5	ISSUE_DATE_AFTER_VALUE_DATE	ISSUE_DATE (5.01.2.1) is after VALUE_DATE (5.01.2.2)
6	VALUE_DATE_AFTER_MATURITY	Invalid VALUE_DATE (5.01.2.2), must not be after MATURITY (5.01.2.3)
7	NOT_UNLIMITED_BUT_MATURITY_EMPTY	MATURITY (5.01.2.3) is empty but UNLIMITED (5.01.3.6) is "N"
8	UNLIMITED_WITH_MATURITY	MATURITY (5.01.2.3) is not empty but UNLIMITED (5.01.3.6) is "Y"
9	MATURITY_AFTER_PAYMENT_DATE	MATURITY (5.01.2.3) is after PAYMENT_DATE (5.01.2.4)
10	VALUE_DATE_EMPTY	VALUE_DATE (5.01.2.2) is empty
54	FTD_BEFORE_ISSUE_DATE	Invalid FIRST_TRADING_DATE (5.02.5), must not be before ISSUE_DATE (5.01.2.1)
55	LTD_EMPTY	LAST_TRADING_DATE (5.02.6) is empty
56	LTD_AFTER_MATURITY	LAST_TRADING_DATE (5.02.6) is after MATURITY (5.01.2.3)
57	LTD_BEFORE_FTD	LAST_TRADING_DATE (5.02.6) is before FIRST_TRADING_DATE (5.02.5)
59	TRADING_HOURS_START_EMPTY	TRADING_HOURS_START (5.02.8) is empty
60	TRADING_HOURS_START_BEFORE_8	TRADING_HOURS_START (5.02.8) is before 8:00 a.m.
61	TRADING_HOURS_END_EMPTY	TRADING_HOURS_END (5.02.9) is empty
62	TRADING_HOURS_END_AFTER_22	TRADING_HOURS_END (5.02.9) is after 22:00
63	INVALID_TRADING_CURRENCY	Invalid TRADING_CURRENCY (5.02.10)
68	STATE_BONDS_NOT_VALID	STATE_BONDS (5.02.17) not possible! Please set value "N".
69	INCLUSION_RM_NOT_VALID	INCLUSION_REGULATED_MARKET (5.02.18) not possible! Please set value "N".
71	INVALID_FURTHER_EXCHANGE	Invalid FURTHER_EXCHANGE (5.02.20)
76	INVALID_EXPOSE	Invalid EXPOSE (5.02.25)

77	INVALID_PROSPECTUS_SUBMITTED	Invalid PROSPECTUS SUBMITTED (5.02.26)
78	INVALID_PROSPECTUS_ADMITTED	Invalid PROSPECTUS ADMITTED (5.02.27)
79	DUPLICATE_ISIN_IN_FILE	Rule violation: ISIN (5.01.1.1) occurs more than once in the uploaded file
80	INVALID_PROSPECTUS_ADMITTED	Invalid PROSPECTUS ADMITTED (5.02.27)
85	SHORT_NAME_EMPTY	NAME_SHORT (5.01.3.2) is empty
86	UNDERLYING_NAME_EMPTY	Underlying Name (5.01.7.1.2) is empty
87	XETRA_ID_QUOTE_OBLIGOR_INVALID	Invalid Quote Provider Member ID / XETRA_ID_QUOTE_OBLIGOR (5.02.29)
88	XETRA_SUBGROUP_INVALID	Invalid Quote Provider Subgroup ID / XETRA_SUBGROUP_ID_QUOTE_OBLIGOR (5.02.30)
89	SPECIALIST_KV_ID_EMPTY	KV number / SPECIALIST_KV_ID (5.02.31) is empty
90	INVALID_MESSAGE_TYPE_STATUS_FOR_INTRADAY	Invalid combination of MESSAGE_TYPE and STATUS for ISSUE_TYPE "Intraday" - NewListing for Intraday instruments allowed only with status "indicative"
8000	XML_INVALID_FORMAT	XML file is invalid, i.e. it does not comply with XSD. Could not process XML file
8001	ISIN_ALREADY_USED	ISIN already in use, instrument cannot be accepted as NewListing
8003	ISIN_NOT_FOUND_UPDATE_FAILED	UpdateListing failed because ISIN can not be found or has been knock out already
8004	ISIN_NOT_FOUND_WITHDRAW_FAILED	Withdrawing listing application failed because ISIN can not be found or FIRST_TRADING_DATE (5.02.5) already elapsed
8006	ACTIVATION_TIME_MISSING	Activation time missing - no update without activation possible
8007	INDICATIVE_AFTER_COMPLETE_TRADE	UpdateListing with status "indicative" not possible because instrument has been send with status "complete" or "trade" before
8008	TRADE_AFTER_COMPLETE	UpdateListing with status "trade" not possible because instrument has been send with status "complete" before
8009	NO_VALID_FRANKFURT_MIC	ISIN has no associated Frankfurt / Scoach MIC or MIC code for regulated market of Boerse Frankfurt (FRAA) is not allowed
8010	QUOTE_OBLIGOR_EMPTY	QUOTE_OBLIGOR (5.02.28) is empty
8011	INVALID_TRADING_MODEL	Invalid TRADING_MODEL (5.02.31)
8012	INVALID_TRADING_SEGMENT	Invalid TRADING_SEGMENT (5.02.3)
8013	INVALID_SPECIALIST_KV_ID	Invalid Specialist KV-Number / SPECIALIST_KV_ID (5.02.31)
8014	OPEN_MARKET_PREREQUISITES_REQUIRED	In Open market at least one of the three data fields must have "Y" as payload: EXPOSE (5.02.25) or PROSPECTUS_SUBMITTED (5.02.26) or FURTHER_EXCHANGE (5.02.20) or PROSPECTUS_ADMITTED (5.02.27)
8015	INVALID_MARKET_SEGMENT	Invalid MARKET_SEGMENT (5.02.2)

8016	TRADING_HOURS_END_BEFORE_START	Trading Hours End is before Trading Hours Start
8017	LTD_REACHED	LAST_TRADING_DATE already reached
8021	IN_PROCESSING_NO_UPDATE_POSSIBLE	Updating data relevant for listing and inclusion no longer possible because listing application is already in progress at Market Supervision
8022	INVALID_TRADING_MODEL_QP_COMBINATION	Applicant, trading model, quote provider, subgroup and specialist KV number combination is invalid. Please contact Market Supervision.
8024	BFZ_PREMIUM_ONLY_FOR_PREMIUM_ISSUERS	Boerse Frankfurt Zertifikate Premium may only be used for issuers registered for this segment. Please contact Market Supervision.
8025	NO_CURRENCY_PERMISSION	You may have no permission to use the desired currency. Please contact Market Supervision.
8028	SUBSCRIPTION_PERIOD_INFORMATION_MISSING	Information on Subscription period missing
8029	SUBSCRIPTION_END_INVALID	Subscription End must be either at 11:00, 12:00 or 16:30 and must be after Subscription Start.
8030	SUBSCRIPTION_FIELDS_WITHOUT_SUBSCRIPTION	Subscription field not set to 'Y' but subscription period fields filled
8031	SUBSCRIPTION_DETAIL_CORRELATION_INVALID	Date correlation erroneous - sequential arrangement of Subscription start/end, TECHNICAL_SUSPENSION and FIRST_TRADING_DATE does not fit or dates are not an exchange trading day
8032	INVALID_TRADING_HOURS_PREMIUM	Invalid TRADING_HOURS_START / TRADING_HOURS_END - Trading hours Start must be either 8:00 or 9:00, End must be either 20:00 or 22:00 for structured products included in Boerse Frankfurt Zertifikate Premium and Frankfurt Warrants Premium Asia
8033	SUBSCRIPTION_ISSUE_TYPE_REQUIRED	Issue type Subscription is required
8034	FTD_DIFFERS_BETWEEN_APPS	Invalid FIRST_TRADING_DATE, Data differs between applications
8035	ISSUE_VOLUME_EXCEEDED	Issue Volume exceeds allowed volume for commodities derivatives
8036	ASSET_CLASS_MANDATORY	Asset Class is mandatory for Underlyings in dXXL version 1.4
8037	DELIVERY_TYPE_NOT_PROCESSED	This delivery type is not processed - please make sure that KO information and delisting application is submitted via the alternative ways
8038	BARRIERBREACHKOWRONG_XML	BarrierBreachKO - XML is not according to convention
8039	BARRIERBREACHKOMANDATORY_MISSING	BarrierBreachKO - Mandatory fields are missing
8040	LISTING_AND_REVERT_INVALID	Listing application not allowed with status revert
8041	INVALID_MESSAGE_TYPE_STATUS_FOR_DELISTING	Delisting - Invalid Status and Message Type combination

8042	ISIN_NOT_LISTED	ISIN not listed in Frankfurt
8043	ISIN_NO_FRA_MIC OR_MULTIPLE	Delisting - ISIN has no or multiple associated Frankfurt / Borse Frankfurt MIC
8044	ORDINARY_DELISTING_6_W EELS_CANCEL	Delisting - "Cancellation" has a 6 weeks cancellation period
8045	NO_OUTSTANDING_VOLUM E_MANDATORY	Delisting - Confirmation "no outstanding volume" mandatory for OrdinaryDelisting and Other
8046	DELISTING_MANDATORY_FI ELDS_MISSING	Delisting - Mandatory fields are missing
8047	EARLY_TERMINATION_DELE STING_IN_PAST	Delisting - Early termination must not have delisting date in the past
8049	FTD_NOT_VALID	First trading date not appropriate
8050	ACTIVATION_NOT_POSSIBL E_IN_PROCESS	Activation not possible, cover still in listing process
8051	INTRADAY_NOT_ALLOWED_ FOR_SINGLE_AUCTION	Intraday instrument not allowed for single auction
8052	ACTIVATION_IN_FUTURE_IN VALID	No activation time in the future allowed
8053	NOT_PERMITTED_CHANGE_ IN_ACTIVATION	Activation of cover does not allow for changes to market model, market segment or listing preconditions
8054	ALREADY_ACTIVATED	Intraday instrument activation already processed; no further activation or update possible, pls. contact Market Operations
8055	SET_FTD_TO_NEXT_TRADIN G_DAY	Activation on the current day not possible – First trading day needs to be set to the next exchange trading day
8056	LTD_NOT_ALLOWED_FOR_L IMITED	Last trading day 9999-12-31 not allowed for limited product
8057	INTEREST_RATE_LIMIT	Interest rate limit is 100
8058	ACTIVATION_INVALID_FOR_ NON_COVER	ISIN is not cover. Activation is not allowed.
8059	FTD_MISSING	First trading date is missing.
8060	NON_PERMITTED_UNDERLY ING	Non permitted underlying.
8061	MIN_TRADING_UNIT_EMPTY	MIN_TRADING_UNIT is empty
8062	SUBSCRIPTION_END_MUST BE_IN_FUTURE	Subscription end date needs to be in the future
8063	NEWLISTING_FAILED_AS_D ELISTED	NewListing failed, because ISIN was delisted or knocked out previously
8064	UNDERLYING_SUSPENDED	Underlying suspended or removed from trading.

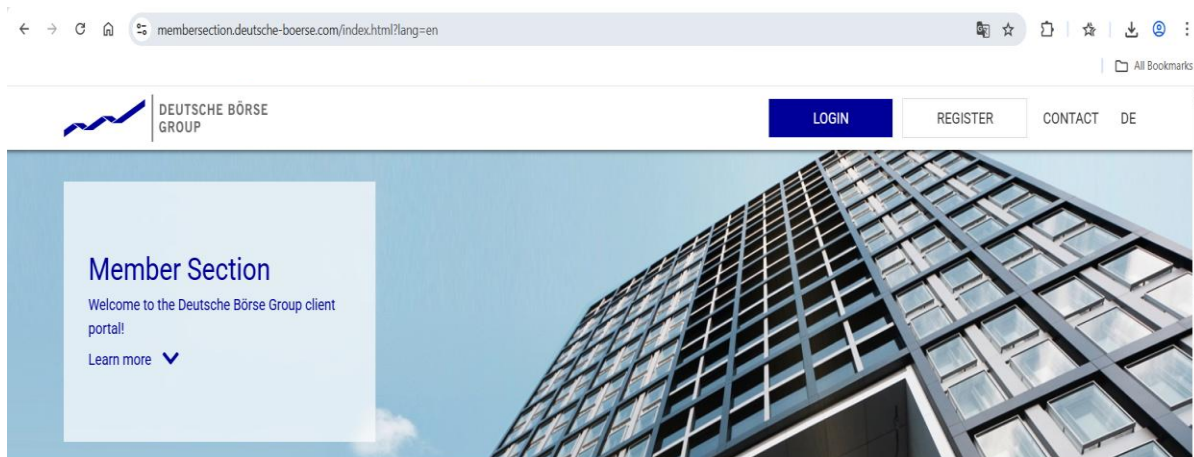
8065	UNSUPPORTED_DELIVERY_TYPE	Unsupported delivery type
8066	SUBSCRIPTION_START_DIFFERENCE	Invalid SUBSCRIPTION_START, Data differs between applications
8067	DELETE_APPLICATION_NOT_POSSIBLE	DeleteListing no longer possible, please contact Market Supervision ms.floor@deutsche-boerse.com
8068	INDICATIVE_DELETE_INVALID	DeleteListing with status "indicative" not possible
8069	KNOCKOUT_ISIN_NOT_LISTED	Knockout - ISIN not listed in Frankfurt
8070	DELISTING_DATE_MUST_BE_TRADING_DAY	Delisting date must be a trading day
8071	DELISTING_DATE_MUST_NOT_BE_IN_FUTURE	Ordinary Delisting and Other - must not have delisting date in the future
8072	ONLY_10_SPECIALIST_CHANGES_ALLOWED	Modification - Only 10 changes of Specialist per day are allowed. Please contact Cash Market Operations if you wish to change more ISINs.
8073	TRADING_MODEL_CHANGE_NOT_ALLOWED	Modification - Change of trading model not possible due to technical reasons. Please contact Cash Market Operations.
8074	NO_SUBSCRIPTION_WITHDRAW_AFTER_END	Modification - To withdraw a subscription, the end of the subscription period must not be in the past.
8075	FTD_MUST_BE_IN_FUTURE_FOR_WITHDRAWAL	Modification - To withdraw a subscription and cancel the listing, the First Trading Date must be in the future.
8076	NEW_FTD_MUST_BE_IN_FUTURE	Modification - New First Trading Day must be in the future and max. two days before Issue Date
8077	NEW_FTD_MUST_BE_AFTER_SUBSCRIPTION_END	Modification - New First Trading Day must be after Subscription end.
8078	SUBSCRIPTION_END_MUST_BE_TODAY_OR_FUTURE	Modification - Subscription End must be either today or in the future. If Subscription End is today, upload must happen before 12:00 or between 12:00 and 16:30.
8079	NO_FRANKFURT_MIC	Delisting without Boerse Frankfurt MIC (XFRA, FRAB)
8080	NOTHING_MODIFIED	Modification - No change necessary, because uploaded value already in the trading system.
8081	NEW_COMBINATION_CONTAINS_INVALID_SETTINGS	Modification - New combination does not match trading settings for listed instruments.
8082	FTD_LTD_NO_TRADING_DAYS	FIRST_TRADING_DATE and/or LAST_TRADING_DATE is not an exchange trading day.
8083	TRADING_SETTLEMENT_CURRENCY_MUST_MATCH	Modification - Both TRADING_CURRENCY and SETTLEMENT_CURRENCY must be the same.

8084	QUOTATION_TYPE_CHANGE_INVALID	Modification - Change of quotation type (unit to percentage, vice versa) not possible due to technical reasons. Please delist instrument first and apply for a new listing subsequently.
8085	RESUMPTION_ONLY_WITHIN_3_DAYS	Modification - Resumption of trading after incorrect Delisting/Termination only possible within 3 days after Delisting Event. Please apply for a new listing.
8086	ONLY_10_QP_CHANGES_ALLOWED	Modification - Only 10 changes of Quoteprovider per day are allowed. Please contact Cash Market Operations if you wish to change more ISINs.
8087	DELISTING_REASON_MISSING	Delisting - the DELISTING_REASON must not be empty. Chose from any of the subsequent options: [Cancellation, EarlyTermination, OrdinaryDelisting, other]
8088	EXPOSE_LICENSE_MISSING	LEI must be associated with a valid expose license. Please visit the Expose Center in in eListing Structured Products to cross-check your license(s).
8089	ISIN_NOT_STRUCTURED_PRODUCT	Delisting - ISIN is not a Structured Product. Please cross-check the provided ISIN.
8090	DELISTING_UPDATE_TOO_LATE	Delisting - Updates of Delisting application can only be made until 15:30 of current day.
8091	QUOTATION_TYPE_MUST_BE_VALID	QUOTATION_TYPE must be 1=single auction, 2 or 3= continuous auction
8092	MODIFICATION_UPDATE_TOO_LATE	Modification - Upload after 15:00 CET. The modification won't be processed today anymore.
8093	MODIFICATION_PARAMETER_ALREADY_SET	Modification - Uploaded parameter {insert parameter here} already set.
8999	APPLICATION_ERROR	eListing application error occurred

Greyed out error codes are not yet used – introduction is planned in the future.

9 Graphical User Interface (GUI)

The eListing Structured Products system is accessible through the Deutsche Börse Group Member Section ([Member Section - Deutsche Börse Group](#)). Users can login or register via the home page.

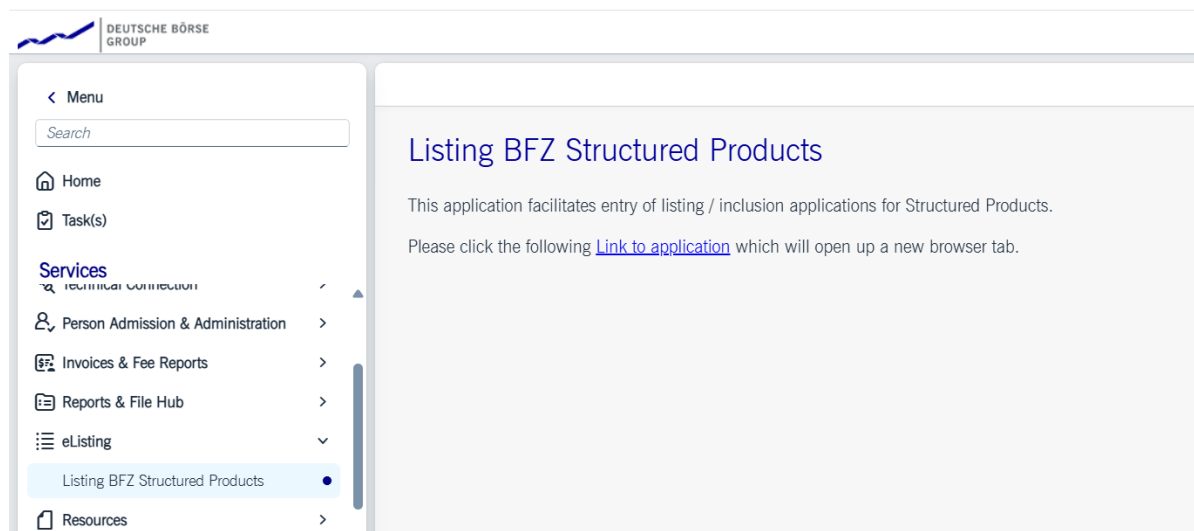


Registration and Login:

New users can request access to the Member Section and eListing Structured Products by clicking "Register." The application requires internal approval by the member's central coordinator. Upon approval, the user receives login credentials. Access to the Member Section utilizes two-factor authentication (via email or authenticator app).

Accessing eListing:

To access eListing, navigate to **Services > eListing > Listing BFZ Structured Products** and click the corresponding link.



Simulation Environment:

For access to the simulation environment, use the simulation Member Section (<http://member-test.deutsche-boerse.com/>). Issuers requiring access to eListing Simulation and the Test Member Section should contact Deutsche Börse Frankfurt, who will coordinate the access process.

The simulation Environment can be accessed after admission via:

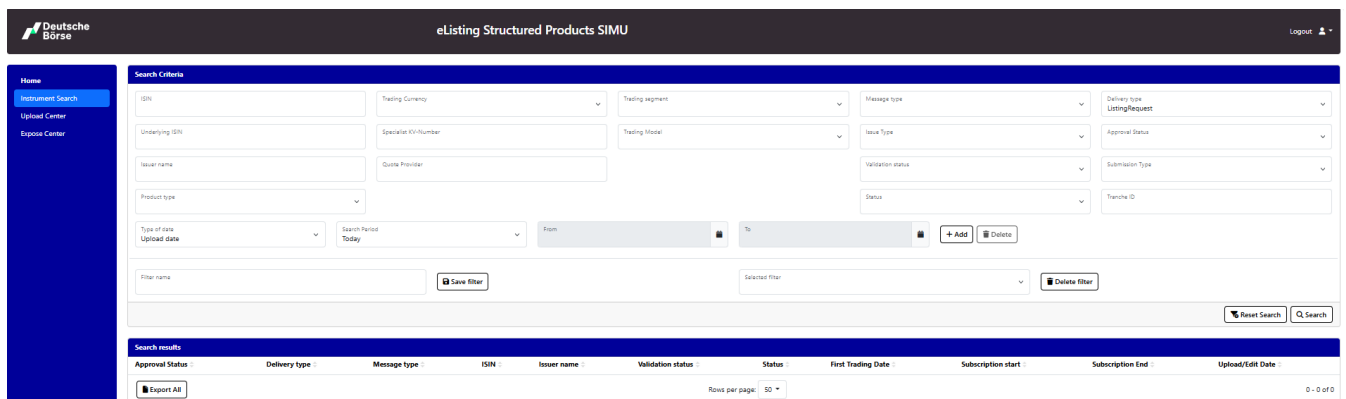
<https://elisting-scoach-simu.deutsche-boerse.com/elisting-scoach-acc/ext>

9.1 Instrument Information

9.1.1 Instrument Search

The search list displays all valid instrument filings for an applicant. Multiple entries per instrument may appear, reflecting different filing statuses and message types.

Filtering options are available at the top of the page. Users can sort the results by clicking on column headers (ascending, descending, or no sorting) and download the data as a CSV file using the "Export" button.

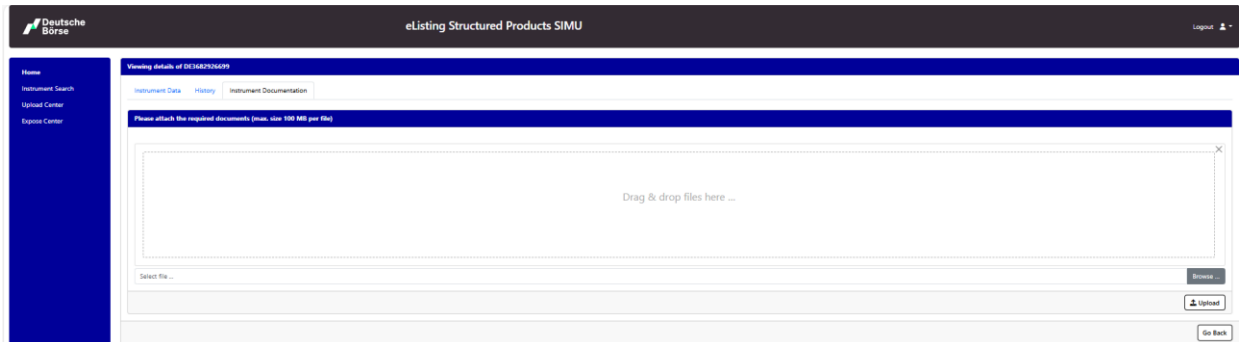


9.1.2 Instrument details

Clicking an ISIN in the search list displays detailed information for the corresponding entry. To view the processed data, select the latest *confirmed* entry for the ISIN.

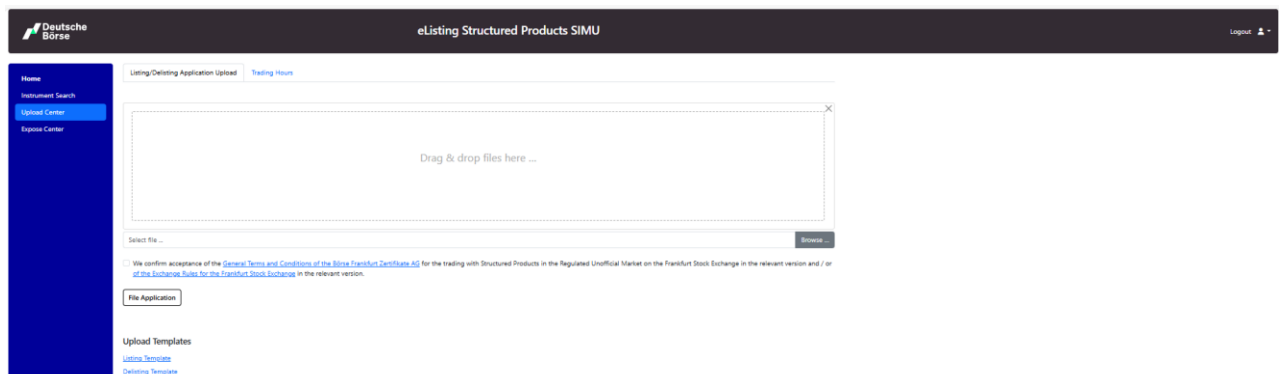
The **Instrument History** tab displays the status, message type, and upload date for each filed application. The original input file and any processed error files are available for download.

The **Instrument Documentation** tab is used to upload documents providing detailed product information. This documentation should only be uploaded upon request by Market Operations.



9.1.3 Upload Center

Listing and Delisting applications in XML format can be uploaded via drag&drop or by using system standard browsing functionality. After accepting the general terms and conditions the applicant can submit the application.

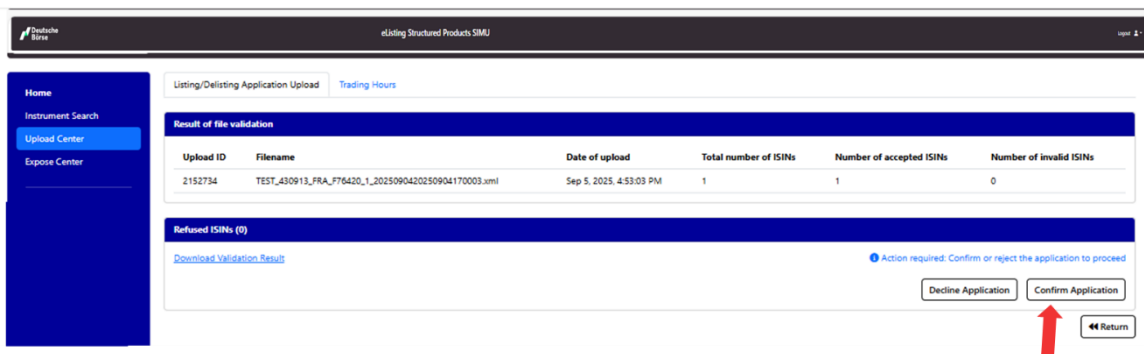


9.1.4 Validation result

Upon file upload, the system processes its content. If a critical error occurs (defined as any "Stop processing XML file" action triggered by the validation rules outlined in Chapter 7), processing halts, the application is declined, and an error message is displayed in a modal dialog.

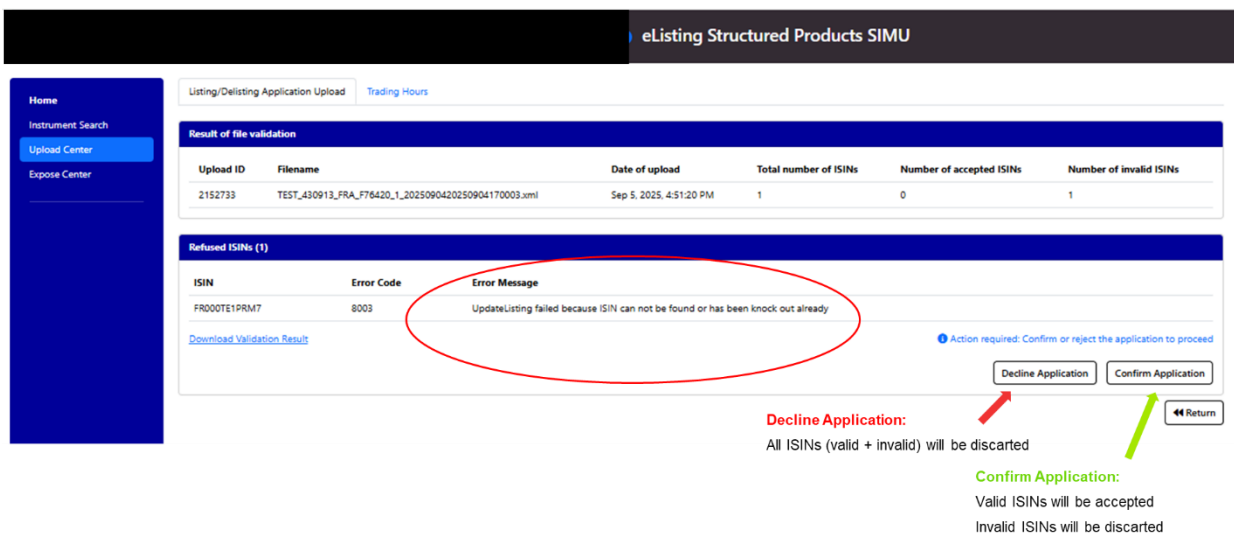
If no critical errors occur, the file validation results are displayed. These include the upload date, the total number of ISINs in the file, and the number of accepted ISINs. The Upload ID is generated *only* after the filing is confirmed.

Example 1: All ISINs valid



To proceed with processing, please confirm the application.

Example 2: Some ISINs Valid, Some Invalid



You have two options:

- **Confirm:** This processes the valid ISINs. You will need to upload a corrected file containing the invalid ISINs later.
- **Decline:** This stops all processing. You will need to upload a corrected file containing all ISINs.

After confirming the application, a confirmation message is displayed, and the validation results become available for download.

Result of file validation

Upload ID	Filename	Date of upload	Total number of ISINs	Number of accepted ISINs	Number of invalid ISINs
2152734	TEST_430913_FRA_F76420_1_2025090420250904170003.xml	Sep 5, 2025, 4:53:03 PM	1	1	0

Refused ISINs (0)

Application was confirmed. ✕

[Download Validation Result](#)

⏪ Return

9.1.5 Exposé Center

To be eligible for inclusion in the structured products market, you must meet one of the following prerequisites:

1. **Approved prospectus:** Your prospectus is approved by a competent authority within the EU.
2. **Existing Listing:** Your instrument is already listed on a recognized EU exchange.
3. **Exposé-License (required as of July 2025):** Submit a financial statement and a completed Exposé via the Exposé Center in the eListing front end.

The Exposé should provide information about the issuer and the product(s) to be included in the market. Our Market Operations team will review the submitted documentation. Upon approval, you will receive a one-year Exposé license, authorizing you to submit listing applications for structured products based upon an Exposé.

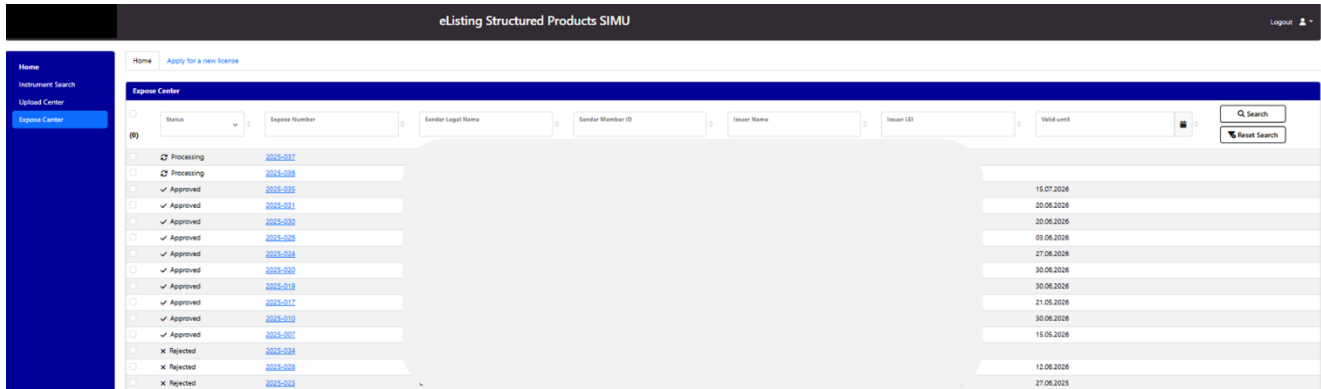
While detailed instrument information is no longer required for the initial listing application, please keep it readily available. You may be asked to provide it during the whole listing period of the instrument.

Important: Listing applications submitted without a valid Exposé license for the applicant-issuer combination will be automatically declined with error 8088. If your license has expired or you are applying for a new issuer, you must submit financial information and obtain an approved Exposé license before re-submitting your listing application.

The upload screen (shown below) allows you to enter issuer information and upload documents via drag & drop or browsing. While applicant information is pre-filled based on your login, you must enter the issuer-name and LEI (Legal Entity Identifier). Please ensure the accuracy of this information and use it consistently across all listing applications. You can apply for Exposé licenses for multiple applicant-issuer combinations.

The screenshot shows the 'Exposé Center' interface in the 'eListing Structured Products SIMU' system. The page title is 'eListing Structured Products SIMU' and the user is logged out. The interface includes a navigation menu on the left with 'Exposé Center' selected. The main content area has sections for 'Exposé details', 'Applicant', 'Issuer', and 'Uploads'. The 'Issuer' section has input fields for 'Issuer Name' and 'Issuer LEI'. The 'Uploads' section lists mandatory document types: 'Annual Financial Statement OR Consolidated Financial Statement OR Opening balance sheet' and 'Exposé Form'. A large blue callout box with a white border contains the text 'Please enter the name of the Issuer and it's associated LEI.' with green arrows pointing to the 'Issuer Name' and 'Issuer LEI' fields. Below this, a dashed box contains the text 'Please drag & drop files in this box and submit the documents after upload.' with a green arrow pointing to a 'Browse' button. The page title is 'eListing Structured Products SIMU' and the user is logged out.

Under the “home” tab you will see all your submitted exposé licenses with their respective status and their expiry date.



10 Unattended secured XML file transfer solution for issuers

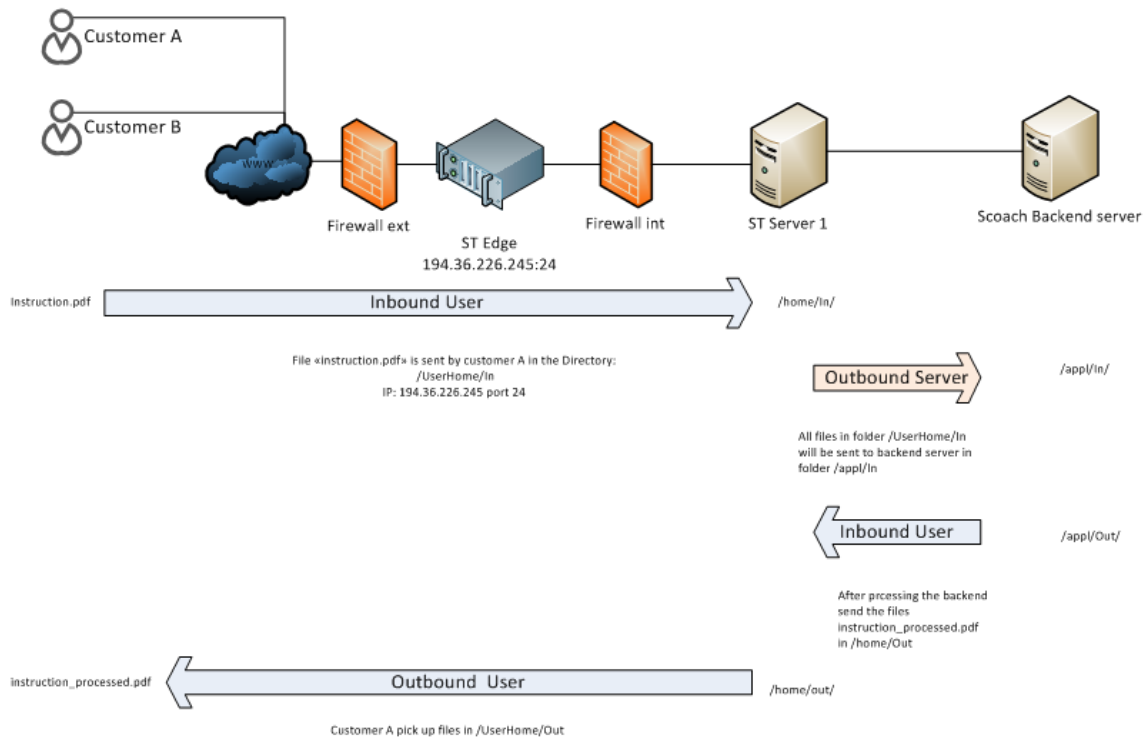
Issuers can submit listing and delisting application XML files as well as knock-out barrier breach messages (xml version 2.1) via a secure file transfer solution, integrated into their back-office systems for automated uploads and downloads to and from Deutsche Börse Frankfurt's eListing servers.

This solution leverages a secure file upload platform currently employed by Clearstream Luxembourg and supports the following protocol:

- **SSH-FTP (SSH File Transfer Protocol)** with mandatory public/private key authentication (SFTP/SCP also supported).

FTPS and HTTP are not currently supported due to their reliance on Certificate Authority (CA)-generated certificates.

Clearstream's servers (ST Edge) are internet-accessible but protected by a firewall. Post-processing of XML files occurs within a secure zone. Files are not permanently stored in the DMZ.



Two environments are available:

- **Production:** For live listing and delisting applications as well as knock-out barrier breach messages.
- **Simulation (Test):** For issuer testing. Issuers should contact Börse Frankfurt to confirm simulation environment availability before commencing testing.

The ST Edge server connection parameters are:

Environment	IP address : port	Supported protocols
Simulation (Test)	194.36.239.249:24	SSH-FTP
Production	194.36.239.250:24	SSH-FTP

Prerequisites for using the secure file transfer solution:

- Sign a "Terms of Use" agreement with Börse Frankfurt.
- Provide a 4096-bit RSA public key for each environment (production and simulation).
- Ensure filenames do not contain spaces.

Using keys with a 12-month validity period and replacing them regularly is recommended. However, key management, including timely renewal and secure handling, is the issuer's sole responsibility. Börse Frankfurt does not monitor key validity and is not liable for issues arising from mismanaged or corrupted keys.

Automated File Transfer Process:

1. **Connection:** The issuer establishes a connection to the ST Edge server using public/private key authentication (passwords are not permitted).
2. **Upload:** The issuer uploads XML file(s) to their designated inbound folder (/Issuers_root_directory/IN/).
3. **Acknowledgement:** Successful file transfer is confirmed by archiving the uploaded file(s) with a timestamp in a dedicated personal archive sub-folder.
4. **Verification:** Issuers can verify successful uploads by checking their archive folder (re-establish connection if necessary).
5. **Processing and Error Handling:** The eListing platform processes the XML file(s) and generates an **error.xml** file for each input file, placing it asynchronously in the issuer's designated outbound folder (/Issuers_root_directory/OUT/). (Filename details are described in Chapter 5).
6. **Download:** The issuer retrieves the **error.xml** file(s) (re-establish connection if necessary).

7. **Error Review:** The issuer processes the **error.xml** file(s) to address any reported errors.
8. **Housekeeping:** The issuer is responsible for managing transferred files, including deleting successfully processed files.

Important Considerations:

- **Resubmission:** The issuer is responsible for resubmitting corrected XML files if errors are encountered. Technical acceptance is confirmed only when the corresponding **error.xml** file indicates no errors (see Chapter 8).
- **Tracking:** Issuers must maintain records of all submitted XML files and their corresponding **error.xml** responses to ensure complete processing.

11 Migration steps / how to become Börse Frankfurt eListing user

To become Deutsche Börse Frankfurt eListing user, issuer's need to undertake certain migration steps (from the old listing application to Deutsche Börse Frankfurt eListing for supported product categories).

These activities should be organized in a mutual migration project between the issuer and Deutsche Börse Frankfurt.

The following milestones may apply as blueprint for these migration projects:

- Issuer informs Deutsche Börse Frankfurt that he wants to become Deutsche Börse Frankfurt eListing user
- Deutsche Börse Frankfurt and Issuer check together whether Issuer uses the most recent documents (XSDs and process and interface description)
- Joint project plan for migration project is established
- "Terms of use" document is signed by issuer and Deutsche Börse Frankfurt
- Deutsche Börse Frankfurt eListing users are set up (for both environments), including GUI and SFTP user(s)
- Successful SFTP connection and full processing test on both environments
- Issuer executes test cases on Deutsche Börse Frankfurt eListing testing environment
- XML format validity is testified by Deutsche Börse Frankfurt
- Listing application validity is testified by Deutsche Börse Frankfurt
- Joint declaration of successful testing
- Date for switching over to XML listing application delivery in production is fixed, issuer assures parallel creation and 'on demand' delivery of old format for ~4 weeks
- Issuer and Deutsche Börse Frankfurt are executing going live of XML listing applications and monitor eListing closely for about ~2 weeks after going live