



European Securities and
Markets Authority

Reporting Instructions

FIRDS Reference Data System



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Reference documents:

Ref	Title	Version	Author	Date
1	MiFIR - REGULATION (EU) No 600/2014 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 15 May 2014 (Article 27)	600/2014	European Parliament Council of Europe	15 May 2014
2	MAR - REGULATION (EU) No 596/2014 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 April 2014 (Article 4)	596/2014	European Parliament Council of Europe	16 April 2014
3	MiFIR RTS – REGULATION (EU) No 600/2014 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 14 July 2016	600/2014	European Parliament Council of Europe	14 July 2016

4	MAR RTS – COMMISSION DELEGATED REGULATION (EU) 2016/909 of 1 March 2016 supplementing Regulation (EU) No 596/2014 of the European Parliament and of the Council with regard to regulatory technical standards for the content of notifications to be submitted to competent authorities and the compilation, publication and maintenance of the list of notifications	909/2016	European Parliament Council of Europe	1 March 2016
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1 Introduction

1.1 Purpose and Intended Audience

The intended audience of this document is National Competent Authorities, Trading Venues Systematic Internalisers and Data Reporting Service Provider (including Approved Publication Arrangement and Consolidated Tape Providers), who are going to implement system interfaces for the uploading of data to the Financial Instruments Reference Data System.

1.2 Context description

The new requirements of the Markets in Financial Instruments Regulation (MiFIR) and the Market Abuse Regulation (MAR) oblige Trading venues and Systematic Internalisers to submit identifying reference data for the relevant financial instruments to their competent authorities¹ who are required to transmit it to ESMA for subsequent publication on its website. This is in particular required to support the scope of transaction reporting under MiFIR, as well as market abuse surveillance activities under MAR.

A Reference Data System has been developed and is currently in operation in ESMA. MiFIR Article 27 and MAR Article 4 impose further requirements upon the processing of financial instrument reference data, the following diagram is provided for high-level illustration. The reporting entities are common to both the MiFIR and the MAR requirements, except for Systematic Internalisers which will only report under MiFIR.

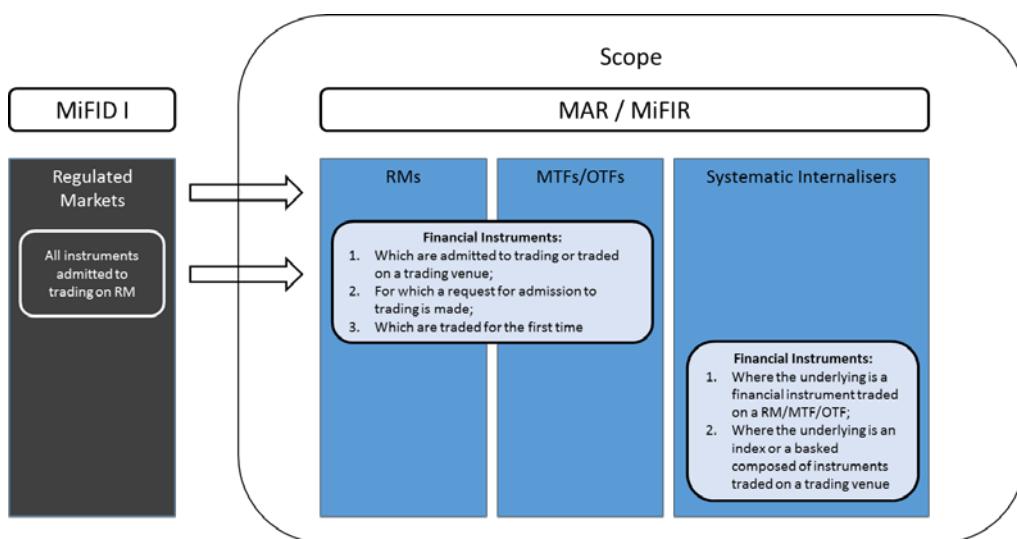


Figure 1 MiFID I and MAR/MiFIR – Scope of Instrument Reference Data

¹ Trading venues and Systematic Internalisers under the jurisdiction of National Competent Authorities which delegated on ESMA the task of data collection, will send this information directly to ESMA.

The Markets in Financial Instruments Directive (MiFID II) also expands the scope of financial instruments subject to suspension/restoration/warning/removal coordination, currently supported by the SARIS system.

The Board of Supervisors decided on 17 December 2014 to delegate tasks to ESMA and launched in particular the Financial Instruments Reference Data System project.

As per project presentation document (ESMA/2014/BS/192 Annex 2.1) the project covers requirements for reference data collection and publication, collection and processing of additional data to support the MiFIR transparency regime, and suspensions' coordination. Detailed scope is provided in the next section.

The system is also necessary for the correct routing of transaction reports among the ESMA Members.

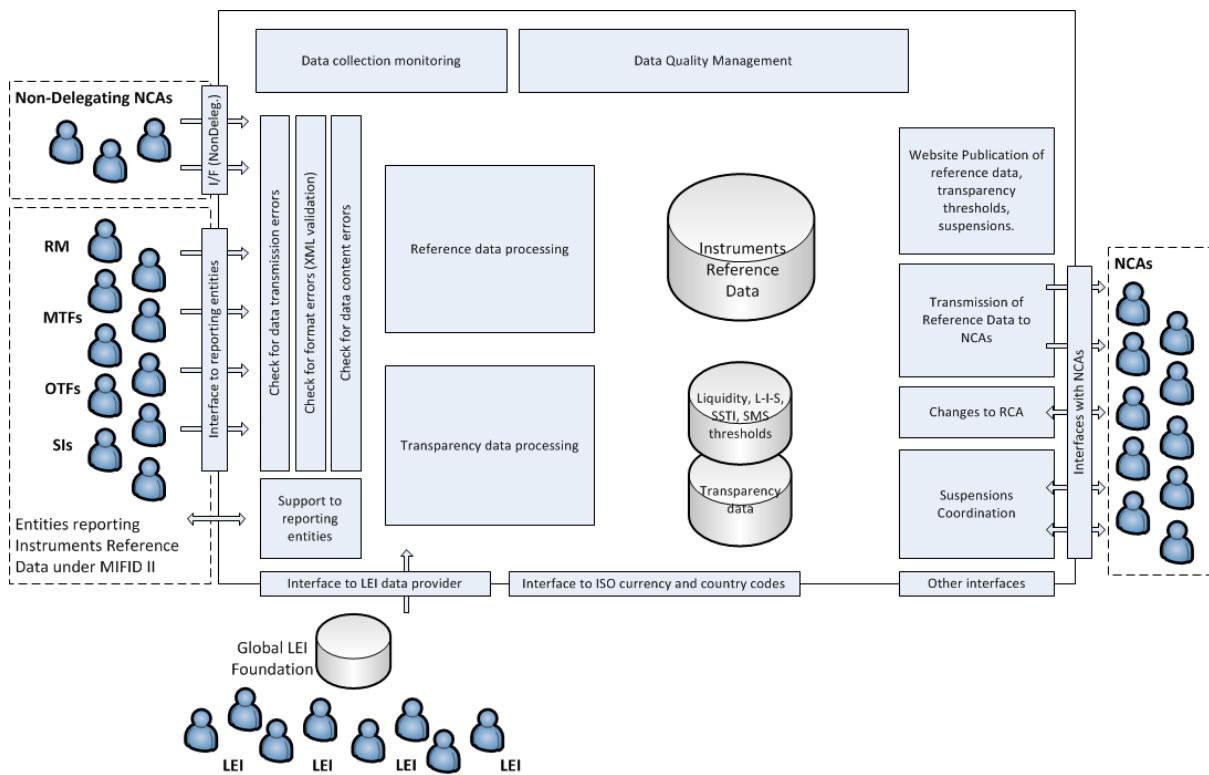


Figure 2 Overview of the system

1.3 Scope

This document aims to specify the exchange of Reference Data Information (RDI) between NCAs, Trading Venues, Systematic Internalisers and the Financial Instruments Reference System.

The **Reporting Instructions** define everything that should be known by Trading Venues, Systematic Internalisers and Competent Authorities to report instruments reference data to FIRDS and for NCA/TV/CTP to report non-working days to FIRDS.

As per MiFIR and MAR requirements,

1. Trading Venues and Systematic Internalisers shall provide reference data to their Competent Authority;
2. Competent Authorities provide that information to ESMA;
3. ESMA publishes that information on its website for public access and provides it to NCAs as downloadable files.

Some National Competent Authorities have delegated to ESMA the tasks of collecting data directly from Trading Venues and Systematic Internalisers on their behalf.

This document details the business functions and facilitates the technical design of the RDI. The functions detailed in this document are carried out by three types of entities:

- The Competent Authorities not delegating collection are responsible for collecting instrument reference data from their markets.
- The Trading Venues and Systematic Internalisers under the jurisdiction of delegating Competent Authorities are responsible for providing ESMA with the instrument reference data for all instruments admitted to trading or that were traded, through its system.
- ESMA is responsible for maintaining the ESMA Network and the FIRDS system.
- This document covers the collection of reference data covering the requirements of MiFIR Article 27 and MAR Article 4 from Trading Venues, Systematic Internalisers and Competent Authorities and of non-working days from Trading Venues, Systematic Internalisers, Approved Publication Arrangements (APAs), Consolidated Tape Providers (CTPs), and Competent Authorities.

1.4 Definitions

Acronym	Definition
APA	Approved Publication Arrangement
CTP	Consolidated Tape Provider
DRSP	Data Reporting Services Provider
ESMA	European Securities and Markets Authority
EAMFT	ESMA Managed File Transfer System interface that submitters can use to submit files (HUBDE / HUBEX)
HUBDE	Hub Delegated (for TV/SI)
HUBEX	Hub External (for NCA)
ITMG	IT Management and Governance group

FIRDS	Financial Instrument Reference Data System
ITS	Implementing Technical Standards
MTF	Multilateral Trading Facility
NCA	National Competent Authority
NCA delegating data collection	A National Competent Authority who has signed a Delegation Agreement with ESMA in order to delegate the task of collecting data directly from Trading Venues and Systematic Internalisers for the purpose of reference data provision and transparency calculations
Non-delegating NCA	A National Competent Authority who has not signed a Delegation Agreement with ESMA on the Instruments Reference Data Project
OTF	Organised Trading Facility
RCA	Relevant Competent Authority
RDI	Reference Data Information
RM	Regulated Market
RTS	Regulatory Technical Standards
SI	Systematic Internaliser
TV: Trading Venue	In the context of this document, in accordance with RTS on Article 27, "trading venue" must be interpreted as "Segment MIC for the trading venue or systematic internaliser, where available, otherwise operating MIC". This also applies to RMs, OTFs, and MTFs.
SWIFT	Society for Worldwide Interbank Financial Telecommunication

2 Instrument Reference Data

2.1 Overview of the system

The first part of the application is the upload interface. The Trading Venue (TV), Systematic Internalisers (SI) or the National Competent Authority (NCA) has in its possession a set of raw reference data. The TV, SI or NCA sends the data to FIRDS through the EAMFT system by uploading files on HUBDE /HUBEX. NCAs will use HUBEX while TV, SI will use HUBDE.

The FIRDS System will receive a set of reference data from the TVs, SIs and NCAs. TV, SI, NCAs will report the data using the same standardised ISO 20022 XML format. The system processes the data, checks its quality and updates the central database.

The FIRDS System will also receive a list of non-working days from TVs, SIs and NCAs.

The FIRDS System will also receive a set of cancelled reference data from TVs, SIs and NCAs. TV, SI, NCAs will report the data using the same standardised ISO 20022 XML format. The system processes the data, checks its quality and updates the central database.

The FIRDS will generate four types of files:

- **Full reference data file**, the full reference data received from NCAs, RMs, MTFs, OTFs and SIs before the applicable previous cut-off time, for all instruments that are still valid and that have been admitted to trading on RMs, including where a request for admission to trading has been made, or that are traded on a MTF, OTF, or SI. Given the expected high volume of data, the full file may be split in several files for technical reasons.
- **Delta reference data file**, containing all differences between the current day full file and the previous day full file, listing instruments additions, terminations, modifications and instruments terminated but reported late.
- **Invalid records reference data file**, which contains all records that are not part of the full file anymore. This includes instruments that are no longer valid, as well as out-of-date versions of records that have been modified over time. Given the expected high volume of data, the invalid records file may be split in several files for technical reasons.
- **Feedback files**, which provide the NCAs, TVs, SIs with feedback on the reference data they sent to ESMA as well as reminders.

All files are made available to NCAs through the HUBEX. NCAs will then download the files and load them into their local database.

2.2 File transfer flow

2.2.1 Overview

This chapter aims to specify the flow of files exchanged between ESMA and the Competent Authorities, Trading Venues and Systematic Internalisers.

It defines not only how, but also when the files will be exchanged.

2.2.2 Main principles

The focus of the proposed solution is based on compliance with industry standards, which ensure the reliability of the system that is to be built.

2.2.2.1 Upload interface

The upload interface should be used by Competent Authorities not delegating the collection of data, and by Trading Venues, Systematic Internalisers under the jurisdiction of Competent Authorities delegating collection.

The instruments reference data fields to be received for each instrument is specified in Annex 1: Scope of the reference data to be received.

The complete instrument reference data may be provided by the submitting entities in one or multiple files. Within a given file, no more than one record should be provided for each (ISIN-MIC) combination, otherwise the system will reject all duplicate (ISIN, MIC) records. For technical reasons, the system may limit the maximum size of a file. If a submitting entity has more than 500.000 instruments to report, it should split the data in files with a maximum of 500.000 records and submit several files.

Files must be submitted sequentially to the HUB file transfer application. When a submitting entity is uploading multiple files, it should check that the file transfer is finished before sending the next file.

In case reference data is provided in multiple files for the same (ISIN-MIC) combination, the system will only take into account the latest record received at ESMA submitted before the cut-off time from that venue.

2.2.2.2 Financial Instrument Reference Data system

The FIRDS system is run by ESMA to load the reference data files sent by each NCA, TV, SI.

The FIRDS system will gather files continuously, although file processing of files received after the relevant cut-off time will only occur once the data to be published on the next day is ready. The system will control all files received and send a feedback file to the submitting entity. The full file as well as reference data on a single instrument may be rejected. If there are no errors, a feedback file stating that it was fully accepted will be sent back to the submitting entity.

The FIRDS system will process all updates and new entries and make changes in the central database accordingly.

Once a day, it will extract the full set of valid instruments, calculate the delta file that captures all changes made to the database since the last execution and extract all invalid records.

Every day, at 8am CET at the latest, the three files (full, delta and invalid records) will be made available to NCAs.

2.2.2.3 Download interface

Since changes are expected every day, all Competent Authorities should download either the full instrument reference data file or the delta instrument reference data file and update their databases according to the changes.

If a national competent authority has a problem downloading a file, then it should contact ESMA support desk.

If the FIRDS system fails and no full or delta file is created, all authorities should continue to work with the reference data of the latest distributed day. ESMA will inform all authorities about the progress of the correction of the failure. In that case CAs should consider as a workaround to use the last published full /delta file.

2.3 Upload Interface

This chapter specifies the file content, the structure and the process that must be executed by Competent Authorities, Trading Venues and Systematic Internalisers to submit data to FIRDS.

The instrument reference data provided by submitting entities will cover both MiFIR and MAR requirements. Under MAR, submitting entities are only required to report instruments reference data as follows:

- When a request for admission to trading is made, or it is admitted to trading or traded for the first time;
- When the instrument ceases to be traded or to be admitted to trading.
- When the instrument needs to be cancelled due to a previously mistaken report.

Under MiFIR, reference data should be submitted every day a TV/SI is open for trading and must include all instruments admitted to trading or that were traded on that day.

2.3.1 Collection of Financial Instruments Reference Data on behalf of NCAs delegating data collection in their jurisdiction

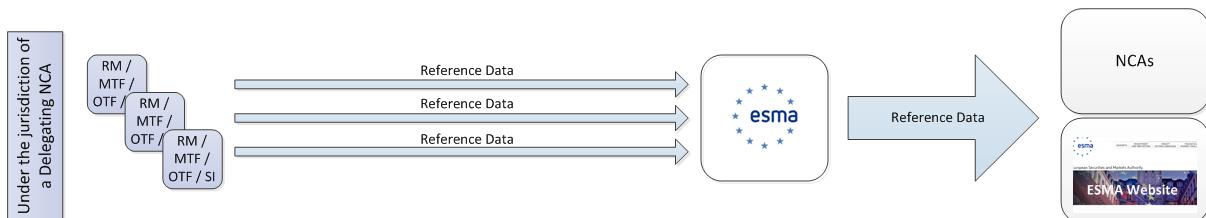


Figure 3 Reference Data flow for Trading Venues under the jurisdiction of a NCA delegating data collection

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Each day that a TV/SI under the jurisdiction of an NCA delegating data collection is open for trading, the ESMA system will expect from that TV/SI the complete identifying reference data for:

- all instruments admitted to trading on Regulated Markets that are still valid² or for which a request for admission to trading has been made;
- all instruments traded on a MTF or OTF, including where orders or quotes were placed between 18:00 CET on the previous day and 18:00 CET on that day on that MTF or OTF;
- all instruments traded on a Systematic Internaliser including where orders or quotes were placed between 18:00 CET on the previous day and 18:00 CET on that day on that Systematic Internaliser where the underlying: (i) is a financial instrument traded on a trading venue, (ii) is an index or a basket composed of financial instruments traded on a trading venue.

TV / SI will provide the full instrument reference data by 21:00 CET to ESMA.

If for any reason a TV/SI is unable to send a file before the cut-off time or during a certain number of trading days, it should submit all missing files as soon as possible.

The missing files should be submitted in chronological order, from the earliest to the latest and before the files relating to the current reporting day.

2.3.2 Collection of Financial Instruments Reference Data from NCAs not delegating data collection in their jurisdiction

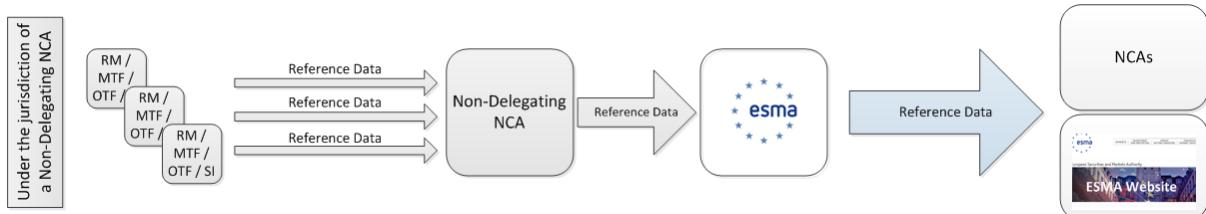


Figure 4 Reference Data flow for Trading Venues under the jurisdiction of a Non-Delegating NCA

Each day that a TV/SI under the jurisdiction of a Non-Delegating NCA is open for trading, the ESMA system will receive from the Non-Delegating NCA the complete identifying reference data for all TV/SI under the jurisdiction of the Non-delegating NCA on:

² An instrument is considered valid until its “termination date”. In case the “termination date” is initially left empty, the reporting entity is expected to fill it in when the instrument is going to be terminated. In case an instrument is terminated early, the RCA of the instrument is expected to update the value of the “termination date” accordingly, and the system shall take that new termination date into account.

The termination date is the last day when the instrument is still traded and the time should be set to 23:59. Therefore, where the last day of trading is 11 July, the ‘Termination Date Time’ is 11 July 23h59 (by using the appropriate date time format. The information should appear in the 12 July full file and in the 13 July delta/invalid file.

- all instruments admitted to trading on Regulated Markets that are still valid³ or for which a request for admission to trading has been made;
- all instruments traded on a MTF or OTF including where orders or quotes were placed between 18:00 CET on the previous day and 18:00 CET on that day on that MTF or OTF;
- all instruments traded on a Systematic Internaliser including where orders or quotes were placed between 18:00 CET on the previous day and 18:00 CET on that day on that Systematic Internaliser where the underlying: (i) is a financial instrument traded on a trading venue, (ii) is an index or a basket composed of financial instruments traded on a trading venue.

The reference data files transmitted by NCAs not delegating data collection will use the same standardised ISO 20022 XML format.

NCAs should not submit files received after TV/SI cut-off time (21:00 CET) ahead of the applicable NCA cut-off time for that day (21:30 CET to 23:59 CET).

The missing files should be submitted in chronological order, from the earliest to the latest and before the files relating to the current reporting day.

2.3.3 NCAs Delegating tasks to ESMA but not data collection

Where NCAs delegate tasks to ESMA but not data collection in their jurisdiction, the NCA shall continue to forward the files received until 21:00 CET as soon as they are received, and no later than 21:30 CET.

If for any reason a TV/SI or NCA is unable to send a file before the cut-off time or during a certain number of working days, it should submit all missing files as soon as possible.

The missing files should be submitted in chronological order, from the earliest to the latest and before the files relating to the current reporting day.

³ An instrument is considered valid until its “termination date”. In case the “termination date” is initially left empty, the reporting entity is expected to fill it in when the instrument is going to be terminated. In case an instrument is terminated early, the RCA of the instrument is expected to update the value of the “termination date” accordingly, and the system shall take that new termination date into account.

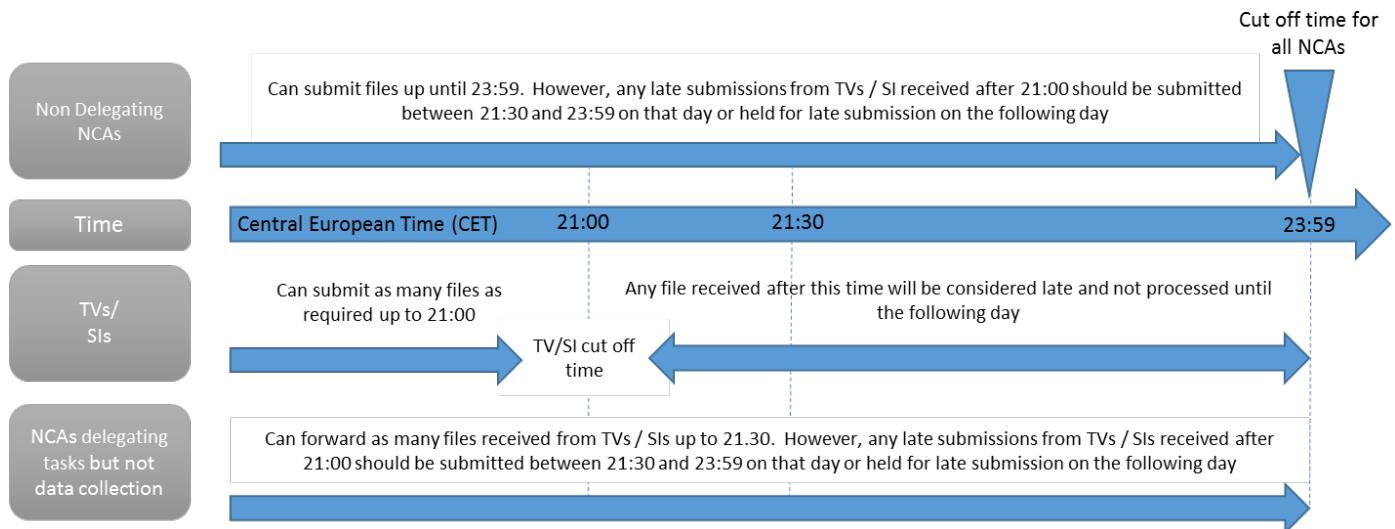


Figure 5 Cut-off times for NCAs/TVs & SIs

Examples:

- Assuming FCA is a NCA delegating tasks to ESMA but not data collection in their jurisdiction and receives a file from a Trading Venue under their jurisdiction by 21:15 CET it should not forward immediately to ESMA but wait at least until 21:31 CET to forward the file.
- Assuming KNF is a NCA not delegating any task to ESMA and receives a file from a Trading Venue under their jurisdiction by 21:20 CET it should not forward immediately to ESMA but wait at least until 00:01 am CET on next day to forward the file.
- Euronext Lisbon was unable to send files on 19 and 20 December 2018. On 21 December the files should be sent according to the following order:
 - Reference File for 19/12/2018
 - Reference File for 20/12/2018
 - Reference File for 21/12/2018

2.3.4 Business fields

2.3.4.1 Overview

This chapter defines the initial set of characteristic which will be sent to ESMA. The reference data files transmitted by TVs, SIs and NCAs will use the same standardised ISO 20022 XML format.

Each day, the ESMA system will receive from the Non-Delegating NCA the complete identifying reference data for all TV/SI under their jurisdiction which are open for trading on that day.

Each day that a TV/SI under the jurisdiction of an NCA delegating data collection is open for trading, the ESMA system will receive from that TV/SI the complete identifying reference data. **For each TV/SI operating under an Operating MIC and running different market segments, a file must be sent for each of the market segments.**

2.3.4.2 Description of business fields

The list of reference data fields to be received by the system is described in Tables 1, 2 and 3 of the Annex of the Regulatory Technical Standard on MiFIR Article 27.

As the XML schema should be used for the reception of reference data by ESMA and for ESMA publishing the merged reference data to the NCAs, some additional technical fields were added after the reference data fields.

In addition, NCAs not delegating data collection in their jurisdiction will have the possibility to append the date and time they received the record from the corresponding TV / SI. This field is optional. If not specified, the date and time of reception of the file by ESMA will be used. Changes to this field will not be recorded in the “invalid records file”.

Further to the below specified validation rules for each field, a set of CFI-based validations will be performed, based on the table of [Annex 5](#). This set of validations identifies for each instrument type which fields are mandatory, optional or not applicable.

The field descriptions below contain several sections:

- **Format:** Field format according to definitions of Table 1
- **RTS Field number:** Field number according to RTS 23 Table 3
- **XPath:** Location on XSD schema to report/distribute this element
- **Type of instrument:** The type of instrument for which the field is required
- **Definition:** Explain what the field should contain
- **Standard:** The standard to use in order to populate the field (if applicable)
- **Validation:** Specific validation rules to be applied to this field (if exists)
- **Note:** If additional clarification is needed, it is included in this field

For all business fields XPath is relative to the following prepended text
“Document/FinInstrmRptgRefDataRpt/RefData/

2.3.4.2.1 Instrument identification code

- **Format:** {ISIN}

- **RTS Field number:** 1
- **XPath:** “FinInstrmGnlAttrbts/Id”
- **Type of instrument:** All instruments.
- **Definition:** Code used to identify the financial instrument.
- **Standard:** ISIN code (ISO 6166 standard)
- **Validation:** The ISIN code must have the correct format (2 alpha – 9 alphanumeric – 1 digit) and the last digit (validation key) should be valid according to the algorithm of ISIN validation.

2.3.4.2.2 Instrument Full Name

- **Format:** {ALPHANUM-350}
- **RTS Field number:** 2
- **XPath:** “FinInstrmGnlAttrbts/FullNm”
- **Type of instrument:** All instruments
- **Definition:** The instrument name should give a good indication of the issuer and the particulars of each instrument – for example ‘Fiat s.p.a. 4.5% bond 2010’.
- **Standard:** The character set used should be UTF-8.
- **Note:** This is a free text field. There is no prescribed structure for the instrument name. It should be filled with the name for which the instrument is usually known.

2.3.4.2.3 Instrument classification

- **Format:** {CFI_CODE}
- **RTS Field number:** 3
- **XPath:** “FinInstrmGnlAttrbts/CssfctnTp”
- **Type of instrument:** All instruments
- **Definition:** This field defines the type of instrument (Bond, equity, option...) which is used in order to classify the instrument. The full (6 character) ISO 10962 CFI code must be used to identify each instrument admitted to trading on a regulated market. It must match a CFI construct within the CFI Based Validations matrix (Annex 5) otherwise it will be rejected.

- **Standard:** CFI code (ISO 10962 standard).
- **Validation:** The CFI code should match a CFI construct within the CFI Based Validations matrix (Annex 5) otherwise it will be rejected.

2.3.4.2.4 Commodities derivative indicator

- **Format:** Boolean - 'True', 'False'
- **RTS Field number:** 4
- **XPath:** "FinInstrmGnlAttrbts/CmmntyDerivInd"
- **Type of instrument:** All instruments
- **Definition:** Indication as to whether the financial instrument falls within the definition of commodities derivative under Article 2(1)(30) of Regulation (EU) No 600/2014.
- **Standard:** 'True', 'False'.

2.3.4.2.5 Issuer identifier

- **Format:** {LEI}
- **RTS Field number:** 5
- **XPath:** "Issr"
- **Type of instrument:** All instruments
- **Definition:** Legal entity identifier for the issuer of the instrument, as defined in ISO 17442.
- **Standard :** LEI code (ISO 17442 standard).
- **Validation:** The LEI code should be populated according to the latest LEI reference list published by Global LEI Foundation.
- **Note:** In general it should be populated with the LEI of the issuer. In certain cases, e.g. derivative instruments issued by the trading venue, this field would be populated with the Trading Venue Operator's LEI.

2.3.4.2.6 Trading Venue

- **Format:** {MIC}
- **RTS Field number:** 6

- **XPath:** “TradgVnRltdAttrbts/Id”
- **Type of instrument:** All instruments
- **Definition:** Segment MIC for the trading venue or systematic internaliser, where available, otherwise operating MIC, where the financial instrument was admitted to trading or was traded, including where orders or quotes were placed through its system.
- **Standard:** MIC code (ISO 10383 standard).
- **Validation:** A valid MIC Code should be populated according to the latest MIC reference list published by ISO⁴. If Trading Venue field is not populated with the MIC code of the TV / SI (or of its segment) which reports the data, or the MIC code of a TV / SI under the jurisdiction of the NCA which reports the data, it shall be rejected.
- **Note:** If an instrument is multi-listed a record for each segment MIC where the instrument is traded should be sent.

2.3.4.2.7 Instrument Short Name

- **Format:** {FISN}
- **RTS Field number:** 7
- **XPath:** “FinInstrmGnlAttrbts/ShrtNm”
- **Type of instrument:** All instruments
- **Definition:** Short name of financial instrument in accordance with ISO 18774(Financial Instrument Short Name).
- **Standard:** FISN code (ISO 18774 standard).
- **Validation:** A valid FISN Code should be populated.

2.3.4.2.8 Request for admission to trading by issuer

- **Format:** Boolean - ‘True’, ‘False’
- **RTS Field number:** 8
- **XPath:** “TradgVnRltdAttrbts/IssrReq”

⁴ <http://www.iso15022.org/mic/homepagemic.htm>

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- **Type of instrument:** All instruments

- **Definition:** 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.

- **Standard:** 'True', 'False'

2.3.4.2.9 Date of approval of the admission to trading

- **Format:** {DATE_TIME_FORMAT}

- **RTS Field number:** 9

- **XPath:** “TradgVnRltdAttrbts/AdmssnApprvldtBylssr”

- **Type of instrument:** All instruments

- **Definition:** Date and time the issuer has approved admission to trading or trading in its financial instruments on a trading venue.

- **Standard:** The date should be sent in the ISO 8601 date format standard YYYY-MM-DDThh:mm:ss.ddddddZ. Dates and times must be reported in UTC.

- **Validation:** Date of approval of the admission should be within sensible range (e.g. not earlier than “31-12-1899”).

Dates and times should be valid (e.g. 29 February 2015 is not an acceptable date).

2.3.4.2.10 Date of request for admission to trading

- **Format:** {DATE_TIME_FORMAT}

- **RTS Field number:** 10

- **XPath:** “TradgVnRltdAttrbts/ReqForAdmssnDt”

- **Type of instrument:** All instruments

- **Definition:** Date and time of the request for admission to trading on the trading venue.

- **Standard:** The date should be sent in the ISO 8601 date format standard YYYY-MM-DDThh:mm:ss.ddddddZ. Dates and times shall be reported in UTC.

- **Validation:** Date of request for admission to trading should be within sensible range (e.g. not earlier than “1900-01-01”).

Dates and times should be valid (e.g. 29 February 2015 is not an acceptable date).

2.3.4.2.11 Date of Admission to Trading or Date of First Trade

- **Format:** {DATE_TIME_FORMAT}
- **RTS Field number:** 11
- **XPath:** “TradgVnRltdAttrbts/FrstTradDt”
- **Type of instrument:** All instruments.
- **Definition:** Date and time of the admission to trading on the trading venue or the date and time when the instrument was first traded or an order or quote was first received by the trading venue.
- **Standard:** The date should be sent in the ISO 8601 date format standard YYYY-MM-DDThh:mm:ss.ddddddZ. Dates and times shall be reported in UTC.
- **Note:** For very old instruments where the information is not known an approximate date should be provided.

2.3.4.2.12 Termination date

- **Format:** {DATE_TIME_FORMAT}
- **RTS Field number:** 12
- **XPath:** “TradgVnRltdAttrbts/TermntnDt”
- **Type of instrument:** All instruments.
- **Definition:** Date and time when the financial instrument ceases to be traded or to be admitted to trading on the trading venue. Where this date and time is not yet known, the field shall not be populated. The field shall always be populated as soon as it is known, even if it is deemed redundant with “Maturity date” for bonds or “Expiry date” for derivatives. The day should indicate the last day when the instrument is still traded on the trading venue. The time can be either end of day, or end of the trading session.
- **Standard:** The date should be sent in the ISO 8601 date format standard YYYY-MM-DDThh:mm:ss.ddddddZ. Dates and times shall be reported in UTC.
- **Validation:** The Termination Date should be equal to or later than the “Date of admission to trading or date of first trade”.

Instruments which matured / expired on a previous day and for which “Termination date” is left unpopulated will be rejected.

2.3.4.2.13 Notional Currency 1

- **Format:** {CURRENCYCODE_3}
- **RTS Field number:** 13
- **XPath:** “FinInstrmGnlAttrbts/NtnlCcy”
- **Type of instrument:** All instruments
- **Definition:** Currency in which the notional is denominated. In the case of an interest rate or currency derivative contract, this will be the notional currency of leg 1 or the currency 1 of the pair. In the case of swaptions where the underlying swap is single-currency, this will be the notional currency of the underlying swap. For swaptions where the underlying is multi-currency, this will be the notional currency of leg 1 of the swap.
- **Standard:** 3 letter currency code (ISO 4217 standard).
- **Validation:** A valid Currency Code should be populated according to the latest Currency Code reference list published by ISO.

2.3.4.2.14 Total issued nominal amount

- **Format:** {DECIMAL-18/5}
- **RTS Field number:** 14
- **XPath:** “DebtInstrmAttrbts/TtlIssdNmnlAmt”
- **Type of instrument:** Bonds or other forms of securitised debt
- **Definition:** Total issued nominal amount in monetary value.
- **Standard:** Must be expressed in the currency reported under field 16

2.3.4.2.15 Maturity Date

- **Format:** {DATEFORMAT}
- **RTS Field number:** 15
- **XPath:** “DebtInstrmAttrbts/MtrtyDt”
- **Type of instrument:** Bonds or other forms of securitised debt

- **Definition:** The maturity date of a bond or other form of securitized debt. Field only applies to debt instruments with defined maturity.
- **Standard:** The format of this date should follow the ISO 8601 Date Format standard YYYY-MM-DD.
- **Validation:** The maturity date should be equal or later than the Date of admission to trading or date of first trade.

2.3.4.2.16 Currency of nominal value

- **Format:** {CURRENCYCODE_3}
- **RTS Field number:** 16
- **XPath:** “DebtInstrmAttrbts/TtlssdNmnlAmt/@Ccy” and “DebtInstrmAttrbts/NmnlValPerUnit/@Ccy”
- **Type of instrument:** Bonds or other forms of securitised debt
- **Definition:** Currency of the nominal value for debt instruments.
- **Standard:** 3 letter currency code (ISO 4217 standard).
- **Validation:** A valid Currency Code should be populated according to the latest Currency Code reference list published by ISO.

2.3.4.2.17 Nominal value per unit/minimum traded value

- **Format:** {DECIMAL-18/5}
- **RTS Field number:** 17
- **XPath:** “DebtInstrmAttrbts/NmnlValPerUnit”
- **Type of instrument:** Bonds or other forms of securitised debt
- **Definition:** Nominal value of each instrument. If not available, the minimum traded value shall be populated.
- **Standard:** Must be expressed in the currency reported under field 16

2.3.4.2.18 Fixed rate

- **Format:** {DECIMAL-11/10}
- **RTS Field number:** 18

- **XPath:** “DebtInstrmAttrbts/IntrstRate/Fxd”
- **Type of instrument:** Bonds or other forms of securitised debt
- **Definition:** The fixed rate percentage of return on a Debt instrument when held until maturity date, expressed as a percentage.
- **Note:** Expressed as a percentage (e.g. 7.0 means 7% and 0.3 means 0.3%).

2.3.4.2.19 Identifier of the index/benchmark of a floating rate bond

- **Format:** {ISIN}
- **RTS Field number:** 19
- **XPath:** “DebtInstrmAttrbts/IntrstRate/Fltg/RefRate/ISIN”
- **Type of instrument:** Bonds or other forms of securitised debt
- **Definition:** Identifier of the index or benchmark of a floating rate bond.
- **Standard:** ISIN code (ISO 6166 standard)
- **Validation:** The ISIN code must have the correct format (2 alpha – 9 alphanumeric – 1 digit) and the last digit (validation key) should be valid according to the algorithm of ISIN validation.
- **Note:** To be filled where an ISIN identifier exists.

2.3.4.2.20 Name of the index/benchmark of a floating rate bond

- **Format:** {INDEX} or {ALPHANUM-25}
- **RTS Field number:** 20
- **XPath:** “DebtInstrmAttrbts/IntrstRate/Fltg/RefRate/Indx” or “DebtInstrmAttrbts/IntrstRate/Fltg/RefRate/Nm”
- **Type of instrument:** Bonds or other forms of securitised debt
- **Definition:** Name of the index or benchmark of a floating rate bond.
- **Note:** To be filled where no ISIN identifier exists. If the index name is not included in the index list on Table 1 of the Annex of the Regulatory Technical Standard on MiFIR Article 27 (RTS 23), then a 25 character name should be used.

2.3.4.2.21 Term of the index/benchmark of a floating rate bond

- **Format:** {INTEGER-3}+'DAYS' or {INTEGER-3}+ 'WEEK' or {INTEGER-3}+'MNSTH' or {INTEGER-3}+'YEAR'
- **RTS Field number:** 21
- **XPath:** "DebtInstrmAttrbts/IntrstRate/Fltg/Term/Unit" and "DebtInstrmAttrbts/IntrstRate/Fltg/Term/Val"
- **Type of instrument:** Bonds or other forms of securitised debt
- **Definition:** Term of the index or benchmark of a floating rate bond.
- **Note:** The Term of the index is represented as a number of days, weeks, months or years. It is composed of a "Val" expressed in numeric value {INTEGER-3} and a "Unit" expressed in 'DAYS', 'WEEK', 'MNSTH', 'YEAR'.

2.3.4.2.22 Base Point Spread of the index/benchmark of a floating rate bond

- **Format:** {INTEGER-5}
- **RTS Field number:** 22
- **XPath:** "DebtInstrmAttrbts/IntrstRate/Fltg/BsisPtSprd"
- **Type of instrument:** Bonds or other forms of securitised debt
- **Definition:** Number of basis points above or below the index used to calculate a price.

2.3.4.2.23 Seniority of a bond

- **Format:** 'SNDB', 'MZZD', 'SBOD', 'JUND'
- **RTS Field number:** 23
- **XPath:** "DebtInstrmAttrbts/DebtSnrty"
- **Type of instrument:** Bonds or other forms of securitised debt
- **Definition:** Identify the type of bond: senior debt, mezzanine, subordinated debt or junior debt.

2.3.4.2.24 Expiry Date

- **Format:** {DATEFORMAT}
- **RTS Field number:** 24

- **XPath:** “DerivInstrmAttrbts/XpryDt”
- **Type of instrument:** Derivatives and Securitised Derivatives
- **Definition:** Expiry date of the financial instrument.
- **Standard:** The format of this date should follow the ISO 8601 Date Format standard YYYY-MM-DD.
- **Note:** Field only applies to derivatives with a defined expiry date.
- **Validation:** The expiry date should be equal or later than the Date of First Trade.

2.3.4.2.25 Price Multiplier

- **Format:** {DECIMAL-18/17}
- **RTS Field number:** 25
- **XPath:** “DerivInstrmAttrbts/PricMltplr”
- **Type of instrument:** Derivatives and Securitised Derivatives
- **Definition:** Number of units of the underlying instrument represented by a single derivative contract. For a future or option on an index, the amount per index point.

2.3.4.2.26 Underlying Instrument Code

- **Format:** {ISIN}
- **RTS Field number:** 26
- **XPath:** “DerivInstrmAttrbts/UndrlygInstrm/Sngl/ISIN” or
“DerivInstrmAttrbts/UndrlygInstrm/Bskt/ISIN” or
“DerivInstrmAttrbts/UndrlygInstrm/Sngl/Indx/ISIN”
- **Type of instrument:** Derivatives and Securitised Derivatives
- **Definition:** ISIN code of the underlying instrument.
- **Standard:** The ISO 6166 standard (ISIN) must be used as the instrument identifier
- **Validation:** The ISIN code must have the correct format (2 alpha – 9 alphanumeric – 1 digit) and the last digit (validation key) should be valid according to the algorithm of ISIN validation.

- Note: For ADRs, GDRs and similar instruments, the ISIN code of the financial instrument on which those instruments are based. For convertible bonds, the ISIN code of the instrument in which the bond can be converted.

For derivatives or other instruments which have an underlying, the underlying instrument ISIN code, when the underlying is admitted to trading, or traded on a trading venue. Where the underlying is a stock dividend, then the ISIN code of the related share entitling the underlying dividend shall be provided.

For Credit Default Swaps, the ISIN of the reference obligation shall be provided.

In the cases above, the ISIN should be populated under “DerivInstrmAttrbts/UndrlygInstrm/Sngl/ISIN”.

In case the underlying is an Index and has an ISIN, the ISIN code for that index should be populated under “DerivInstrmAttrbts/UndrlygInstrm/Sngl/Indx/ISIN”.

Where the underlying is a basket, the ISINs of each constituent of the basket that is admitted to trading or is traded on a trading venue should be populated under “DerivInstrmAttrbts/UndrlygInstrm/Bskt/ISIN”. This field and the Underlying Issuer shall be reported as many times as necessary to list all instruments in the basket.

2.3.4.2.27 Underlying Issuer

- Format:** {LEI}
- RTS Field number:** 27
- XPath:** “DerivInstrmAttrbts/UndrlygInstrm/Sngl/LEI” or “DerivInstrmAttrbts/UndrlygInstrm/Bskt/LEI”
- Type of instrument:** Derivatives and Securitised Derivatives
- Definition:** In case the instrument is referring to an issuer, rather than to one single instrument, the LEI code of the Issuer should be provided.
- Standard:** ISO 17442 LEI (Legal Entity Identifier) standard.
- Validation:** The LEI code should be populated according to the latest LEI reference list published by the Global LEI Foundation.

Where the underlying is a basket, include the LEIs of Issuers for each constituent of the basket that is referring to an Issuer. This field and the Underlying Instrument Code shall be reported as many times as necessary to list all instruments in the basket.

2.3.4.2.28 Underlying index name

- **Format:** {INDEX} or {ALPHANUM-25}
- **RTS Field number:** 28
- **XPath:** "DerivInstrmAttrbts/UndrlygInstrm/Sngl/Indx/Nm/RefRate/Indx" or "DerivInstrmAttrbts/UndrlygInstrm/Sngl/Indx/Nm/RefRate/Nm"
- **Type of instrument:** Derivatives and Securitised Derivatives
- **Definition:** In case the underlying is an Index, the name of the index.
- **Note:** To be filled when the underlying is an index. If the index name is not included in the index list on Table 1 of the Annex of the Regulatory Technical Standard on MiFIR Article 27 (RTS 23), then a 25 character name should be used.

2.3.4.2.29 Term of the underlying index

- **Format:** {INTEGER-3}+'DAYS' or {INTEGER-3}+ 'WEEK' or {INTEGER-3}+ 'MNTH' or {INTEGER-3}+ 'YEAR'
- **RTS Field number:** 29
- **XPath:** "DerivInstrmAttrbts/UndrlygInstrm/Sngl/Indx/Nm/Term/Unit" and "DerivInstrmAttrbts/UndrlygInstrm/Sngl/Indx/Nm/Term/Val"
- **Type of instrument:** Derivatives and Securitised Derivatives
- **Definition:** In case the underlying is an index, the term of the index.
- **Note:** The Term of the index is represented as a number of days, weeks, months or years. It is composed of a "Val" expressed in numeric value {INTEGER-3} and a "Unit" expressed in 'DAYS', 'WEEK', 'MNTH', 'YEAR'. This information is to be filled when the underlying is an index.

2.3.4.2.30 Option Type

- **Format:** 'PUTO', 'CALL', 'OTHR'
- **RTS Field number:** 30

- **XPath:** “DerivInstrmAttrbts/OptnTp”
 - **Type of instrument:** Options
 - **Definition:** Indication as to whether the derivative contract is a call (right to purchase a specific underlying asset) or a put (right to sell a specific underlying asset) or whether it cannot be determined whether it is a call or a put at the time of execution.
 - **Note:**
 - In case of swaptions it shall be:
 - “Put”, in case of receiver swaption, in which the buyer has the right to enter into a swap as a fixed-rate receiver.
 - “Call”, in case of payer swaption, in which the buyer has the right to enter into a swap as a fixed-rate payer.
 - In case of Caps and Floors it shall be:
 - “Put”, in case of a Floor.
 - “Call”, in case of a Cap. Field only applies to derivatives that are options or warrants.
- The system will perform validation checks INS-124 and INS-125.
- #### 2.3.4.2.31 Strike Price
- **Format:**
 - Price Monetary Value: {DECIMAL-18/13}
 - Price Percentage or Yield: {DECIMAL-11/10}
 - Price Basis Points: {DECIMAL-18/17}
 - No Price: ‘PDNG’
 - **RTS Field number:** 31
 - **XPath:**
 - “DerivInstrmAttrbts/StrkPric/Pric/MntryVal/Amt” or
 - “DerivInstrmAttrbts/StrkPric/Pric/Pctg” or
 - “DerivInstrmAttrbts/StrkPric/Pric/Yld” or
 - “DerivInstrmAttrbts/StrkPric/Pric/BsisPts” or
 - “DerivInstrmAttrbts/StrkPric/NoPric/Pdg”
 - **Type of instrument:** Options, Warrants, Spread Bet on an Option on an Equity and Contract for Difference on an Option on an Equity
 - **Definition:** Predetermined price at which the holder will have to buy or sell the underlying instrument, or an indication that the price cannot be determined at the time of execution.

- **Note:** In case the price is expressed as a monetary value, the component “Monetary Value/Amount” should be populated with a number up to 18 digits with possibility of decimal representation up to 3 digits.

In case the price is expressed as a percentage, the component “Percentage” should be populated with a number up to 11 digits with the possibility of decimal representation up to 10 digits.

In case the price is expressed as a yield, the component “Yield” should be populated with a number up to 11 digits with the possibility of decimal representation up to 10 digits.

Where price is currently not available and pending, the component “No Price” should have the value ‘PNDG’.

Where strike price is not applicable the field shall not be populated.

2.3.4.2.32 Strike Price Currency

- **Format:** {CURRENCYCODE_3}

- **RTS Field number:** 32

- **XPath:** “DerivInstrmAttrbts/StrkPric/Pric/MntryVal/Amt/@Ccy” or
“DerivInstrmAttrbts/StrkPric/NoPric/Ccy”

- **Type of instrument:** Options

- **Definition:** Currency of the nominal value for strike price.

- **Standard:** 3 letter currency code (ISO 4217 standard).

- **Validation:** A valid Currency Code should be populated according to the latest Currency Code reference list published by ISO.

- **Note:** In case the price is expressed as a monetary value, the component “Monetary Value/Currency Code” should be used.

Where the price is not known but the currency to be used is defined the “No Price/Currency” should be used.

2.3.4.2.33 Option Exercise Style

- **Format:** ‘EURO’, ‘AMER’, ‘ASIA’, ‘BERM’, ‘OTHR’

- **RTS Field number:** 33

- **XPath:** “DerivInstrmAttrbts/OptnExrcStyle”

- **Type of instrument:** Options, Warrants and Entitlement Certificates

- **Definition:** Indication as to whether the option may be exercised only at a fixed date (European, and Asian style), a series of pre-specified dates (Bermudan) or at any time during the life of the contract (American style).

2.3.4.2.34 Delivery Type

- **Format:** 'PHYS', 'CASH', 'OPTL'

- **RTS Field number:** 34

- **XPath:** "DerivInstrmAttrbts/DlvryTp"

- **Type of instrument:** Derivatives

- **Definition:** Indication as to whether the financial instrument is settled physically or in cash. Where delivery type cannot be determined at time of execution, the value shall be 'OPTL'.

2.3.4.2.35 Base Product

- **Format:** Base product for the underlying asset class as specified in table 2 in point [2.3.5](#) (classification of commodities derivatives)

- **RTS Field number:** 35

- **XPath:** "DerivInstrmAttrbts/AsstClssSpcfcAttrbts/Cmmnty/Pdct/<BaseProduct>/<SubProduct>/BasePdct"

- **Type of instrument:** Commodity Derivatives

- **Definition:** A code field identifying the base product for the underlying class.

- **Note:** Only values in the 'Base product' column of the classification of commodities derivatives table are allowed.

2.3.4.2.36 Sub Product

- **Format:** Sub product for the underlying asset class as specified in table 2 on point [2.3.5](#) (classification of commodities derivatives)

- **RTS Field number:** 36

- **XPath:** "DerivInstrmAttrbts/AsstClssSpcfcAttrbts/Cmmnty/Pdct/<BaseProduct>/<Sub Product>/SubPdct"

- **Type of instrument:** Commodity Derivatives
- **Definition:** A code field identifying the sub product for the underlying asset class.
- **Note:** This field requires that 'Base Product' field was filled. Only values in the 'Sub product' column of the classification of commodities derivatives table are allowed.

2.3.4.2.37 Further Sub Product

- **Format:** Further sub product for the underlying asset class as specified in table 2 in point [2.3.5](#) (classification of commodities derivatives)
- **RTS Field number:** 37
- **XPath:** "DerivInstrmAttrbts/AsstClssSpcfcAttrbts/Cmmnty/Pdct/<BaseProduct>/<Sub Product>/AddtlSubPdct"
- **Type of instrument:** Commodity Derivatives
- **Definition:** A code field identifying the base product for the underlying class
- **Note:** This field requires that 'Sub Product' field was filled. Only values in the 'Further Sub product' column of the classification of commodities derivatives table are allowed.

2.3.4.2.38 Transaction Type

- **Format:** 'FUTR', 'OPTN', 'TAPO', 'SWAP', 'MINI', 'OTCT', 'ORIT', 'CRCK', 'DIFF', 'OTHR'
- **RTS Field number:** 38
- **XPath:** "DerivInstrmAttrbts/AsstClssSpcfcAttrbts/Cmmnty/TxTp"
- **Type of instrument:** Commodity Derivatives
- **Definition:** A code field identifying the transaction type as specified by the trading venue (Futures, Options, TAPOS, Swaps, Minis, OTC, Outright, Crack, Differential).

2.3.4.2.39 Final Price Type

- **Format:** 'ARGM', 'BLTC', 'EXOF', 'GBCL', 'IHSM', 'PLAT', 'OTHR'
- **RTS Field number:** 39
- **XPath:** "DerivInstrmAttrbts/AsstClssSpcfcAttrbts/Cmmnty/FnlPricTp"

- **Type of instrument:** Commodity Derivatives

- **Definition:** A code field identifying the final price type as specified by the trading venue (Argus/McCloskey, Baltic, Exchange, GlobalCOAL, HIS McCloskey, Platts).

2.3.4.2.40 Reference Rate

- **Format:** {INDEX} or {ALPHANUM-25}

- **RTS Field number:** 40

- **XPath:** "DerivInstrmAttrbts/AsstClssSpcfcAttrbts/Intrst/IntrstRate/RefRate/Indx" or
"DerivInstrmAttrbts/AsstClssSpcfcAttrbts/Intrst/IntrstRate/RefRate/Nm"

- **Type of instrument:** Interest Rate Derivatives

- **Definition:** Name of the reference rate.

- **Note:** If the index name is not included in the index list on Table 1 of the Annex of the Regulatory Technical Standard on MiFIR Article 27 (RTS 23), then a name with up to 25 characters should be used.

This field is only to be populated for instruments that have a non-financial instrument of type interest rates as underlying.

2.3.4.2.41 IR Term of Contract

- **Format:** {INTEGER-3} +'DAYS' or {INTEGER-3} + 'WEEK' or {INTEGER-3} +'MNSTH'
or {INTEGER-3}+'YEAR'

- **RTS Field number:** 41

- **XPath:** "DerivInstrmAttrbts/AsstClssSpcfcAttrbts/Intrst/IntrstRate/Term/Unit" and
"DerivInstrmAttrbts/AsstClssSpcfcAttrbts/Intrst/IntrstRate/Term/Val"

Type of instrument: Interest Rate Derivatives

- **Definition:** Term of the contract for Interest Rate

- **Note:** The Term of the contract is represented as a number of days, weeks, months or years. It is composed of a "Val" expressed in numeric value {INTEGER-3} and a "Unit" expressed in 'DAYS', 'WEEK', 'MNSTH', 'YEAR'.

Only to be populated for instruments that have a non-financial instrument of type interest rates as underlying.

2.3.4.2.42 Notional Currency 2

- **Format:** {CURRENCYCODE_3}
- **RTS Field number:** 42
- **XPath:** "DerivInstrmAttrbts/AsstClssSpcfcAttrbts/Intrst/OthrNtnlCcy"
- **Type of instrument:** Interest Rate Derivatives
- **Definition:** In the case of multi-currency or cross-currency swaps the currency in which leg 2 of the contract is denominated. For swaptions where the underlying swap is multi-currency, the currency in which leg 2 of the swap is denominated
- **Standard:** 3 letter currency code (ISO 4217 standard).
- **Validation:** A valid Currency Code should be populated according to the latest Currency Code reference list published by ISO.
- **Note:** Only to be populated for instruments that have a non-financial instrument of type interest rates as underlying

2.3.4.2.43 Fixed rate of leg 1

- **Format:** {DECIMAL-11/10}
- **RTS Field number:** 43
- **XPath:** "DerivInstrmAttrbts/AsstClssSpcfcAttrbts/Intrst/FrstLegIntrstRate/Fxd"
- **Type of instrument:** Interest Rate Derivatives
- **Definition:** An indication of the fixed rate of leg 1 used, if applicable
- **Note:** Expressed as a percentage (e.g. 7.0 means 7% and 0.3 means 0.3%). Only to be populated for instruments that have a non-financial instrument of type interest rates as underlying

2.3.4.2.44 Fixed rate of leg 2

- **Format:** {DECIMAL-11/10}
- **RTS Field number:** 44
- **XPath:** "DerivInstrmAttrbts/AsstClssSpcfcAttrbts/Intrst/OthrLegIntrstRate/Fxd"
- **Type of instrument:** Interest Rate Derivatives

- **Definition:** An indication of the fixed rate of leg 2 used, if applicable
- **Note:** Expressed as a percentage (e.g. 7.0 means 7% and 0.3 means 0.3%). Only to be populated for instruments that have non-financial instrument of type interest rates

2.3.4.2.45 Floating rate of leg 2

- **Format:** {INDEX} or {ALPHANUM-25}
- **RTS Field number:** 45
- **XPath:** "DerivInstrmAttrbts/AsstClssSpcfcAttrbts/Intrst/OthrLegIntrstRate/Fltg/RefRate/Indx" or "DerivInstrmAttrbts/AsstClssSpcfcAttrbts/Intrst/OthrLegIntrstRate/Fltg/RefRate/Nm"
- **Type of instrument:** Interest Rate Derivatives
- **Definition:** An indication of the interest rate if applicable
- **Note:** If the index name is not included in the index list on Table 1 of the Annex of the Regulatory Technical Standard on MiFIR Article 27 (RTS 23), then a name with up to 25 characters should be used. Only to be populated for instruments that have non-financial instrument of type interest rates

2.3.4.2.46 IR Term of Contract of leg 2

- **Format:** {INTEGER-3}+'DAYS' or {INTEGER-3}+ 'WEEK' or {INTEGER-3}+'MNTH' or {INTEGER-3}+'YEAR'
- **RTS Field number:** 46
- **XPath:** "DerivInstrmAttrbts/AsstClssSpcfcAttrbts/Intrst/OthrLegIntrstRate/Fltg/Term/Unit" and "DerivInstrmAttrbts/AsstClssSpcfcAttrbts/Intrst/OthrLegIntrstRate/Fltg/Term/Val"
- **Type of instrument:** Interest Rate Derivatives
- **Definition:** An indication of the reference period of the interest rate, which is set at predetermined intervals by reference to a market reference rate.
- **Note:** The Term of the contract is represented as a number of days, weeks, months or years. It is composed of a "Val" expressed in numeric value {INTEGER-3} and a "Unit" expressed in 'DAYS', 'WEEK', 'MNTH', 'YEAR'.

Only to be populated for instruments that have non-financial instrument of type interest rates as underlying.

2.3.4.2.47 Notional Currency 2

- **Format:** {CURRENCYCODE_3}
- **RTS Field number:** 47
- **XPath:** “DerivInstrmAttrbts/AsstClssSpcfcAttrbts/FX/OthrNtnlCcy”
- **Type of instrument:** Foreign Exchange Derivatives
- **Definition:** Field to be populated with the underlying currency 2 of the currency pair (the currency one will be populated in the notional currency 1 field 13).
- **Standard:** 3 letter currency code (ISO 4217 standard).
- **Validation:** A valid Currency Code should be populated according to the latest Currency Code reference list published by ISO
- **Note:** Only to be populated for instruments that have non-financial instrument of type foreign exchange as underlying.

2.3.4.2.48 FX Type [Updated: 31/10/2018]

- **Format:** ‘FXCR’, ‘FXEM’, ‘FXMJ’
- **RTS Field number:** 48
- **XPath:** “DerivInstrmAttrbts/AsstClssSpcfcAttrbts/FX/FxTp”
- **Type of instrument:** Commodity Derivatives
- **Definition:** Type of undelying currency (FX Cross Rates, FX Emerging Markets, FX Majors)
- **Note:** Only to be populated for instruments that have non-financial instrument of type foreign exchange as underlying.

2.3.4.2.49 Technical Record Identification

- **Format:** {ALPHANUM-35}
- **RTS Field number:** None (Technical field)
- **XPath:** “TechRcrdId”

- **Type of instrument:** All instruments
- **Definition:** Should provide a unique identifier of the record to be used by FIRDS error management routine to identify any error related to it.
- **Notes:** This field should be populated by a unique identifier that makes sense for the reporting entity, in order to easily process the eventual error messages received from ESMA.

The reporting date, followed by a sequence number (YYYYMMDDxxxxxxxx) could be used.

2.3.4.2.50 Inconsistency Indicator

- **Format:** Boolean - 'True', 'False'
- **RTS Field number:** None (Technical field)
- **XPath:** "TechAttrbts /Incnssncylnd"
- **Type of instrument:** All instruments
- **Definition:** This field will be used by FIRDS system to flag an inconsistent record.
- **Notes:** This field will be used by ESMA and Competent Authorities only. It should not be populated by CAs, TVs or SIs. Its content will be ignored by FIRDS when processing received information.

2.3.4.2.51 Last Update

- **Format:** {DATE_TIME_FORMAT}
- **RTS Field number:** None (Technical field)
- **XPath:** "TechAttrbts/LstUpdt"
- **Type of instrument:** All instruments
- **Definition:** Defines the date and time when this instrument was last received by FIRDS.
- **Standard:** The date should be sent in the ISO 8601 date format standard YYYY-MM-DDThh:mm:ss.fffffffffZ. Dates and times shall be reported in UTC.
- **Notes:** This field shall never be populated by reporting entities as it should be used by FIRDS to identify the last received record for each instrument.

2.3.4.2.52 Submission Date Time

- **Format:** {DATE_TIME_FORMAT}
- **RTS Field number:** None (Technical field)
- **XPath:** "TechAttrbts/SubmissnDtTm"
- **Type of instrument:** All instruments
- **Definition:** Defines the date and time when this instrument was originally received at the submission destination. This field should be used only by Competent Authorities, to indicate the date and time they received the record from the corresponding TV / SI. Use of the field by Competent Authorities is optional.
- **Standard:** The date should be sent in the ISO 8601 date format standard YYYY-MM-DDThh:mm:ss.dddZ. Dates and times shall be reported in UTC.
- **Notes:** This field is only populated where a competent authority has aggregated a number of reports for transmission to ESMA and details on the reference data report are different across the originally received reports.

2.3.4.2.53 Relevant Competent Authority

- **Format:** {COUNTRYCODE_2}
- **RTS Field number:** None (Technical field)
- **XPath:** "TechAttrbts/RlvntCmptntAuthrty"
- **Type of instrument:** All instruments
- **Definition:** Identifies the relevant competent authority for the instrument.
- **Standard:** This field should be the 2-alpha ISO country code of a country of the EEA (ISO 3166).
- **Validation:** No validation will be applied as this field is only relevant when filled by FIRDS on the full, delta and provided to NCAs after processing all information received.
- **Notes:** This field should not be populated by NCAs, TVs or SIs. Its content will be ignored by FIRDS when processing received information.

2.3.4.2.54 Publication Period: From Date

- **Format:** {DATE_TIME_FORMAT}
- **RTS Field number:** None (Technical field)
- **XPath:** "TechAttrbts/PblctnPrd/FrDt"
- **Type of instrument:** All instruments
- **Definition:** The date from which the present details on the financial instrument were published.
- **Standard:** The format of this date should follow the ISO 8601 Date Format standard YYYY-MM-DD.
- **Notes:** This field should not be populated by CAs, TVs or SIs. Its content will be ignored by FIRDS when processing received information.

2.3.4.2.55 Publication Period: FromDateToDate

- **Format:** {DATE_TIME_FORMAT}
- **RTS Field number:** None (Technical field)
- **XPath:** "TechAttrbts/PblctnPrd/FrDtToDt/FrDt" and "TechAttrbts/PblctnPrd/FrDtToDt/ToDt"
- **Type of instrument:** All instruments
- **Definition:** The period the present details on the financial instrument were published.
- **Standard:** The format of this date should follow the ISO 8601 Date Format standard YYYY-MM-DD.
- **Notes:** This field is composed by a "From" and a "To" component and should not be populated by NCAs, TVs or SIs. Its content will be ignored by FIRDS when processing received information.

2.3.4.2.56 Never Published

- **Format:** Boolean - 'True', 'False'
- **RTS Field number:** None (Technical field)
- **XPath:** "TechAttrbts/NvrPblshd"

- **Type of instrument:** All instruments
- **Definition:** Identifies instruments that were only reported after their termination date and never published on the reference data files.
- **Standard:** ‘True’, ‘False’.
- **Notes:** This field shall never be populated by reporting entities and would be used by FIRDS to identify instruments that were reported late after their termination date.

[Updated: 31/10/2018 – Applicable to the major maintenance release planned Q1 2019]

2.3.4.2.57 Relevant Trading Venue

- **Format:** {MIC}
- **RTS Field number:** None (Technical field)
- **XPath:** “TechAttrbts/RlvntTradgVn”
- **Type of instrument:** All instruments
- **Definition:** Identifies the MIC of the Trading Venue that reported the record considered as the reference for the data published by ESMA (RCA record), and used as well to perform automated consistency checks on the data received (see paragraph 2.3.9.7).
- **Standard:** MIC code (ISO 10383 standard).
- **Notes:** This field is used in the files generated by the FIRDS system.

This field will only be supported from XML Schema 1.1.0.

2.3.5 Definitions and codes used on Description of Business Fields

Table 1

Definitions and Codes

SYMBOL	DATA TYPE	DEFINITION
{ALPHANUM-n}	Up to n alphanumerical characters	Free text field.
{CFI_CODE}	6 characters	ISO 10962 CFI code
{COUNTRYCODE_2}	2 alphanumerical characters	2 letter country code, as defined by ISO 3166-1 alpha-2 country code
{CURRENCYCODE_3}	3 alphanumerical characters	3 letter currency code, as defined by ISO 4217 currency codes
{DATE_TIME_FORMAT}	ISO 8601 date and time format	<ul style="list-style-type: none"> - Date and time in the following format: YYYY-MM-DDThh:mm:ss.ddddddZ. - 'YYYY' is the year; - 'MM' is the month; - 'DD' is the day; - 'T' – means that the letter 'T' shall be used - 'hh' is the hour; - 'mm' is the minute; - 'ss.ddddddd' is the second and its fraction of a second; - Z is UTC time. <p>Dates and times shall be reported in UTC.</p>
{DATEFORMAT}	ISO 8601 date format	Dates shall be formatted by the following format: YYYY-MM-DD.
{DECIMAL-n/m}	Decimal number of up to n digits in total of which up to m digits can be fraction digits	Numerical field for both positive and negative values. <ul style="list-style-type: none"> - decimal separator is '.' (full stop); - negative numbers are prefixed with '-' (minus); - values are rounded and not truncated.
{INDEX}	4 alphabetic characters	'EONA' – EONIA 'EONS' – EONIA SWAP 'EURI' – EURIBOR 'EUUS' – EURODOLLAR 'EUCH' – EuroSwiss 'GCFR' – GCF REPO 'ISDA' – ISDAFIX 'LIBI' – LIBID 'LIBO' – LIBOR 'MAAA' – Muni AAA 'PFAN' – Pfandbriefe 'TIBO' – TIBOR 'STBO' – STIBOR 'BBSW' – BBSW

		'JIBA' – JIBAR 'BUBO' – BUBOR 'CDOR' – CDOR 'CIBO' – CIBOR 'MOSP' – MOSPRIM 'NIBO' – NIBOR 'PRBO' – PRIBOR 'TLBO' – TELBOR 'WIBO' – WIBOR 'TREA' – Treasury 'SWAP' – SWAP 'FUSW' – Future SWAP
{INTEGER-n}	Integer number of up to n digits in total	Numerical field for both positive and negative integer values.
{ISIN}	12 alphanumerical characters	ISIN code, as defined in ISO 6166
{LEI}	20 alphanumerical characters	Legal entity identifier as defined in ISO 17442
{MIC}	4 alphanumerical characters	Market identifier as defined in ISO 10383
{FISN}	35 alphanumeric characters	FISN code as defined in ISO 18774

Table 2

Classification of commodity derivatives (Fields 35-37)

Base product	Sub product	Further sub product
'AGRI' –Agricultural	'GROS' - Grains Oil Seeds	'FWHT' -Feed Wheat 'SOYB' - Soybeans 'CORN' - Corn 'RPSD' – Rapeseed 'RICE' - Rice 'OTHR' -Other
	'SOFT' -Softs	'CCOA' - Cocoa 'ROBU' - Robusta Coffee 'WHSG' - White Sugar 'BRWN' -Brown Sugar 'OTHR' - Other
	'POTA' - Potato	
	'OOLI'-Olive oil	'LAMP' - Lampante'
	'DIRY'- Dairy	
	'FRST' – Forestry	
	'SEAF' – Seafood	
	'LSTK' –Livestock	

	'GRIN' – Grain	'MWHT' - Milling Wheat
'NRGY' –'Energy	'ELEC' –Electricity	'BSLD' -Base load 'FTR' - Financial Transmission Rights 'PKLD' - Peak load 'OFFP' - Off-peak 'OTHR' - Other
	'NGAS' - Natural Gas	'GASP' - GASPOOL 'LNGG' - LNG 'NBPG' - NBP 'NCGG' - NCG 'TTFG' - TTF
	'OILP' –Oil	'BAKK' - Bakken 'BDSL' - Biodiesel 'BRNT' - Brent 'BRNX' - Brent NX 'CNDA' - Canadian 'COND' - Condensate 'DSEL' - Diesel 'DUBA' - Dubai 'ESPO' - ESPO 'ETHA' - Ethanol 'FUEL' - Fuel 'FOIL' - Fuel Oil 'GOIL' - Gasoil 'GSLN' - Gasoline 'HEAT' - Heating Oil 'JTFL' - Jet Fuel 'KERO' - Kerosene 'LLSO' - Light Louisiana Sweet (LLS) 'MARS' - Mars 'NAPH' - Naptha 'NGLO' - NGL 'TAPI' - Tapis 'URAL' - Urals 'WTIO' - WTI
	'COAL' – Coal 'INRG' -Inter Energy 'RNNG' - Renewable energy 'LGHT' - Light ends 'DIST' – Distillates	
'ENVR' -Environmental	'EMIS' – Emissions	'CERE' - CER 'ERUE' - ERU 'EUAE' - EUA 'EUAA' – EUAA 'OTHR' - Other
	'WTHR' - Weather 'CRBR' - Carbon related'	
'FRGT' –'Freight'	'WETF' – Wet	'TNKR' - Tankers 'CSHP' - Containerships
	'DRYF' – Dry	'DBCR' -Dry bulk carriers

	'CSHP' - Containerships	
'FRTL' –'Fertilizer'	'AMMO' - Ammonia 'DAPH' -DAP (Diammonium Phosphate) 'PTSH' - Potash 'SLPH' -Sulphur 'UREA' -Urea 'UAAN' - UAN (urea and ammonium nitrate)	
'INDP' - Industrial products'	'CSTR' - Construction 'MFTG' – Manufacturing	
'METL' - Metals'	'NPRM' - Non Precious 'PRME' – Precious	'ALUM' - Aluminium 'ALUA' - Aluminium Alloy 'CBLT' - Cobalt 'COPR' - Copper 'IRON' - Iron ore 'LEAD' - Lead 'MOLY' - Molybdenum 'NASC' - NASAAC 'NICK' - Nickel 'STEL' - Steel 'TINN' - Tin 'ZINC' - Zinc 'OTHR' - Other
'MCEX' - Multi Commodity Exotic'		
'PAPR' - Paper'	'CBRD' - Containerboard 'NSPT' - Newsprint 'PULP' - Pulp 'RCVP' - Recovered paper	
'POLY' - Polypropylene'	'PLST' – Plastic	
'INFL' - Inflation'		
'OEST' - Official economic statistics'		
'OTHC' - Other C10 'as defined in Table 10.1 Section 10 of Annex III to [RTS 2 on transparency requirements in respect of bonds, structured finance products, emission allowances and derivatives]	'DLVR' – Deliverable 'NDLV' – Non-deliverable	
'OTHR' – Other		

2.3.6 End of trading of an instrument

As soon as the date when an instrument is no longer admitted to trading or traded is known, sender should populate the Termination Date field and from two calendar days after the termination date, the instrument will no longer appear on the list of valid instruments, will be marked as terminated on the delta file and included on the invalid records file.

The Termination Date field should indicate the last day when the instrument is still traded. As an example:

- Instrument A is last traded on 11 July 2018, so the Termination Date fields should be populated as “2018-07-11T23:59:59” depending on the closing time of the trading venue;
- Instrument A will appear on 12/July in full file and on 13/July in delta/invalid records file.

2.3.7 Cancellation of an instrument

Reporting entities can cancel an ISIN-MIC combination record, in case they have previously reported such a record by mistake. Reporting entities can also revoke a previously reported cancellation of an ISIN-MIC combination, by reporting again the same ISIN-MIC combination via a DATINS file.

Reporting entities, in order to report a cancellation, they should submit a CANINS file. The system, after processing this file, will send back a FDBCAN file. Both files xml schemas are described in [Annex6](#).

Required fields for reporting a cancellation of an instrument are:

2.3.7.1 Instrument identification code

- Format: {ISIN}
- RTS Field number: 1
- XPath: “Document/FinInstrmRptgCxlRpt/CxlData/FinInstrmGnlAttrbts/Id”
- Type of instrument: All instruments.
- Definition: Code used to identify the financial instrument.
- Standard: ISIN code (ISO 6166 standard)

2.3.7.2 Trading Venue

- Format: {MIC}
- RTS Field number: 6
- XPath: “Document/FinInstrmRptgCxlRpt/CxlData/TradgVnRltdAttrbts/Id”
- Type of instrument: All instruments
- Definition: Segment MIC for the trading venue or systematic internaliser, where available, otherwise operating MIC, where the financial instrument was admitted to trading or was traded, including where orders or quotes were placed through its system.

- Standard: MIC code (ISO 10383 standard).

2.3.7.3 Original Technical Record Identification

- Format: {ALPHANUM-35}
- XPath: "Document/FinInstrmRptgCxlRpt/CxlData/TechRcrdId"
- Definition: A unique identifier of the record to be used by FIRDS error management routine to identify any error related to it.
- Notes: This field will be populated by a value corresponding to the one provided by the reporting entity which should clearly identify the record where the error was spotted.

An additional validation rule is in place for cancellation, during processing of the respective file, in order to check the existance of ISIN-MIC combination in FIRDS DB and reject the submitted cancellation record if this combination doesn't exists.

ISIN and MIC fields are set as mandatory fields in the derived message and Technical Record Identification is set as optional.

Note : We are strongly advice the reporting entities to submit this field, Technical Record Identification, since it will be used to uniquely identify each submitted record and each respective feedback file. In case this field is not submitted by reporting entities, a concatenation of submitted ISIN-MIC will be inserted as Technical Record Identification by the system during the processing of the file.

2.3.8 File information

In addition to the business information described above, the sender will have to provide file information which contains characteristics describing the file itself. This information should be included on the Business Application Header and on the Message Header.

The Business Application Header, Message Header and Business fields will be encapsulated in a single XML file.

The field descriptions below contain several sections:

- **Format:** Field format according to definitions of table 1
- **XPath:** Location on XSD schema to report this element
- **Definition:** Explain what the field should contain
- **Standard:** The standard to use in order to populate the field (if applicable)
- **Validation:** Specific validation rules to be applied to this field (if exists)
- **Note:** If additional clarification is needed, it is included in this field

For the Business Application Header fields, Xpath is relative to the following prepended text “AppHdr/” – [Section 2.3.7.1](#).

For the message header fields, Xpath is relative to the following prepended text “Document/FinInstrmRptgRefDataRpt/RptHdr/” – [Section 2.3.7.2](#)

2.3.8.1 Business Application Header (BAH)

The information which needs to be filled on the BAH is:

2.3.8.1.1 From: Organisation Identification: Identification: Organisation Identification: Other

- **Format:** {ALPHANUM-35}

- **XPath:** “Fr/OrgId/Id/OrgId/Othr/Id”

- **Definition:** This field contains the MIC code of the Trading Venue or Systematic Internaliser which sends the information or the country code of the Competent Authority which submits the information.

- **Standard:** The trading venue should be identified by the ISO 10383 four character MIC code. The country code should be identified by the alpha 2 character 3166 ISO country code.

- **Note:** When a NCA acts as a router, receiving files from TV/SI under their jurisdiction and not performing any validation on them, the original sender (TV/SI) should fill this field.

2.3.8.1.2 To: Organisation Identification: Identification: Organisation Identification: Other

- **Format:** {ALPHANUM-35}

- **XPath:** “To/OrgId/Id/OrgId/Othr/Id”

- **Definition:** This field contains the identification of the receiving entity.

- **Standard:** The alpha 2 character 3166 ISO country code.

- **Validation:** It should be filled in with ‘EU’ as this corresponds to ESMA.

2.3.8.1.3 Business Message Identifier

- **Format:** {ALPHANUM-35}

- **XPath:** “BizMsgIdr”

- **Definition:** Unambiguously identifies the Business Message to the MessagingEndpoint that has created the Business Message.

- **Note:** It should be filled in with the “<Key1 >-<Key2>” part of the name of the file to be sent. When a NCA acts as a router, receiving files from TV/SI under their jurisdiction and not performing any validation on them this field should be filled in by the original sender (TV/SI) and not changed by the NCA.

2.3.8.1.4 Message Definition Identifier

- **Format:** {ALPHANUM-35}
- **XPath:** “MsgDefIdr”
- **Definition:** Contains the Message Identifier that defines the Business Message.
- **Validation:** It must contain a Message Identifier published on the ISO 20022 website.
- **Note:** It should be filled in with the message name as approved by ISO.

2.3.8.1.5 Creation Date

- **Format:** {DATE_TIME_FORMAT}
- **XPath:** “CreDt”
- **Definition:** Date and time when this message was created.
- **Standard:** The date should be sent in the ISO 8601 date format standard YYYY-MM-DDThh:mm:ss.ddddddZ. Dates and times must be reported in UTC.

2.3.8.2 Message Header

The information contained on the Message Header is:

2.3.8.2.1 Reporting Period: Date

- **Format:** {DATEFORMAT}
- **XPath:** “RptgPrd/Dt”
- **Definition:** The day on which the data is supposed to be reported.
- **Standard:** The format of this date should follow the ISO 8601 Date Format standard YYYY-MM-DD.
- **Note:** This field is not used by the system as per current specifications. The only reference for records order is the HUB timestamp.

2.3.8.2.2 Reporting Entity: National Competent Authorities

- **Format:** {COUNTRYCODE_2}

- **XPath:** "RptgNtty/NtlCmptntAuthrty"
- **Definition:** This field contains the country code of the Competent Authority which reports the information.
- **Standard:** Alpha 2 character 3166 ISO country code
- **Validation:** If the reporting entity is a NCA the field should be populated with a country code from one of the 31 ESMA Members.
- **Note:** When the Non Delegating NCA is submitting information, this field should be filled with the country code of the NCA.
 - When a NCA acts as a router, this field should not be populated.
 - When a TV/SI is submitting information, this field should not be populated.

2.3.8.2.3 Reporting Entity: Market Identification Code: Id

- **Format:** {MIC}
- **XPath:** "RptgNtty/MktIdCd/"
- **Definition:** This field contains the MIC identifier of the Trading Venue or Systematic Internaliser which reports the information.
- **Standard:** ISO 10383 MIC code
- **Validation:** If the original sender is a TV or SI, a valid MIC Code should be populated according to the latest MIC reference list published by the FIRDS system.
- **Note:** When the submitting entity is reporting information related to one of the Trading Venues operated by them, this field should be filled with the segment MIC of that Trading Venue.
 - When a NCA acts as a router, receiving files from TV/SI under their jurisdiction and not performing any validation on them, the original sender (TV/SI) should also fill this field with its own MIC code.
 - When the Non Delegating NCA is submitting information, this field should not be populated.

2.3.8.3 Business data submission file

The business data submission file is the file which encapsulated the Business Application Header (BAH), Message Header (MHD) and Business Fields (BF).

In this file the following Xpaths are prepended to the previously defined XPaths:

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- Business Application Header – “BizData/Hdr”
- Message Header – “BizData/Pyld”
- Business Fields - “BizData/Pyld”

[Updated: 31/10/2018 – Applicable to the major maintenance release planned Q1 2019]

For correct submission of the files the following namespaces need to be defined when creating the XML message (the example below is given for the message auth.017 and XML Schema 1.1.0 – replace the **references in yellow** by the appropriate XSD for other types of messages):

- <BizData xmlns="urn:iso:std:iso:20022:tech:xsd:head.003.001.01" xmlns:xsi="<http://www.w3.org/2001/XMLSchema-instance>" xsi:schemaLocation="urn:iso:std:iso:20022:tech:xsd:head.003.001.01 head.003.001.01.xsd">
- <AppHdr xmlns="urn:iso:std:iso:20022:tech:xsd:head.001.001.01" xmlns:xsi="<http://www.w3.org/2001/XMLSchema-instance>" xsi:schemaLocation="urn:iso:std:iso:20022:tech:xsd:head.001.001.01 head.001.001.01_ESMAUG_1.0.0.xsd">
- <Document xmlns="urn:iso:std:iso:20022:tech:xsd:auth.017.001.02" xmlns:xsi="<http://www.w3.org/2001/XMLSchema-instance>" xsi:schemaLocation="urn:iso:std:iso:20022:tech:xsd:auth.017.001.02 auth.017.001.02_ESMAUG_DATINS_1.1.0.xsd ">

For clarity of usage see the example on [Annex 6](#).

2.3.9 Naming Convention, compression and EAMFT

2.3.9.1 Principles

It has been decided that exchanged files will not be encrypted, nor signed, but just compressed. File level encryption is not required as the communication layer uses an encrypted protocol e.g. SFTP, FTPS, HTTPS. On top of this, the information in itself is not classified as confidential.

Instrument Reference Data files are sent to the FIRDS system which is managed by ESMA. Instrument Reference Data files may contain between 1 and 500.000 instruments. It will be the FIRDS system that runs at ESMA which will deal with all received files.

2.3.9.2 Naming convention

All files containing the instrument reference data list must use the following naming convention:

<Sender>_<FileType>_<Recipient>_<Key1>-<Key2>_<Year>.xml

1. <Sender> is a 5-character identifier of the sender of the data. Depending on the type of the submitting entity, the identifier can be one of the following:
 - In case of NCA, **NCA_{XX}** where XX is the ISO 3166 country code (2 alpha characters) (e.g. NCADE, NCAPL, ...) of the submitting NCA;
 - In case of TV, **T_{XXXX}** where XXXX is the MIC code (e.g. XPAR, XAMS, ...) of the submitting Trading Venue;
 - In case of SI, **S_{XXXX}** where XXXX is the MIC code of the submitting Systematic Internaliser.
2. <Filetype> is a 6-character field identifying the type of data contained in the file.
3. <Recipient> is a 5-character field that identifies the receiver of the file. It must be set to **FIRDS**.
4. <Key1> is a 5-letter character code which is reused by the system when generating a feedback file related to this file.
Key1 can be used as needed by the Submitting Entity. For example, a NCA may want to populate it with T<MIC code of a TV> or S<MIC code of a SI> referring to the TV/SI which originally submitted the file to the NCA; this way, the name of the ESMA feedback file will contain the identification of the TV/SI under its jurisdiction which is concerned by the feedback file. If not needed by the submitting entity, any 5-letter character code can be used.
5. <Key 2> is a unique sequence number using 6 digits. This attribute is completed with zeros to fit to 6 characters (e.g. 000157). This sequence number does not depend on the file type, recipient or any other characteristic. It can start again at 000001 after 999999. This number shall be incremented each time a sender sends a new file (if the same file is sent again, a new sequence number must be provided). This number identifies uniquely a file. Should a problem occur in the sending of the dataset, the sequence number will help identifying the file.
6. <Year> is a 2 digit field. It is the year when the file was sent. It facilitates archiving.

This naming convention is checked by the EAMFT. See the chapter 2.3.9 Upload Error Handling.

Examples:

- The Polish authority (K) sends a reference data file. The file should be named as:
`NCAPL_DATINS_FIRDS_NCAPL-000123_17.xml`
- Euronext Paris sends three reference data files corresponding to three Trading Venues operated by them. They should be named:
`TXPAR_DATINS_FIRDS_TXPAR-002123_17.xml`
`TXPAR_DATINS_FIRDS_TALXN-002124_17.xml`
`TXPAR_DATINS_FIRDS_TMON-002125_17.xml`

2.3.9.3 Compression

All files exchanged through the FIRDS system have to be compressed using a ZIP algorithm. The extension of the files would then become **.zip** before being exchanged through the EAMFT. The zip file contains only one compressed xml file. The zip file has the same filename as the xml file.

2.3.9.4 ESMA Managed File Transfer System (HUBEX/HUBDE)

Depending on the type of submitting entity they would need to establish connection to one of ESMA's production HUBs.

Competent Authorities will use HUBEX and Trading Venues will use HUBDE to send the files to ESMA. To do so, they will simply upload their instrument reference data files (DATINS) in the 'outgoing' folder of their area. The file will be then routed to FIRDS via HUBEX or HUBDE.

The file description and XML schema of the Upload message can be found in chapter 2.5.2.

2.3.10 Upload Error Handling

2.3.10.1 Overview

This chapter defines the error handling system in the Reference Data Interface. It deals with error handling between Authorities, Trading Venues and Systematic Internalisers and the instrument reference data system as well as with the transmission errors.

2.3.10.2 Overall dynamics

A feedback is produced by the instrument reference data system for each file received. The feedback file is made available through HUBDE/HUBEX to be retrieved by the Competent Authority or Trading Venue which has sent the instrument reference data file, or in case of transmission errors detected by HUBDE/HUBEX a protocol level error is reported and no feedback file is generated.

A feedback file facilitates controlling that the respective file has been received and provides information on errors if any. In the scheme above, feedback files can be generated either by the instrument reference data system (FIRDS) or the EAMFT (HUBEX) and sent back to the submitting entity.

Two cases can be observed when a competent authority or trading venue sends an instrument reference data file to FIRDS:

- File sent is correct (without any errors)
 - A feedback file with accepted status is sent back by the instrument reference data system to confirm that the file has been received and there are no errors
- File sent has errors
 - A feedback file is sent back by the instrument reference data system to inform that the file has been received and errors have been discovered.
 - The submitting competent authority or trading venue shall send corrections to the errors noticed previously.

Generated feedback messages could contain three types of information:

- Transmission errors: every error which could be detected by HUBDE/HUBEX as for example naming convention errors. These will be provided by a “permission denied” message error.
- File errors: errors detected by the instrument reference data system which prevents it reading files received. For example, compression, XML format etc... These will be provided by an instrument reference data feedback file.
- Content errors: errors concerning records on single instruments- as an example that may be a duplicate record or an incorrect ISIN code. These will be provided by an instrument reference data feedback file.

2.3.10.3 Error correction

There are three types of errors:

1. Transmission errors
2. File errors
3. Record content errors

From the point of view of the instrument reference data system:

- When transmission errors are detected, it generates a protocol error and does not load any records of the file. The application will use the last correct file received by the instrument reference data system.
- When file errors are detected, it generates a feedback file and does not load any records of the file. The application will use the last correct file received by the instrument reference data system.
- When content errors are detected, all records will be loaded except records in error. The reference data on instruments in error will be the reference data of the last correct file received by the instrument reference data system.

It is the responsibility of the submitting entity to ensure that all feedback files are analysed and all records are corrected:

- If a feedback regarding transmission errors is received, these must be corrected and the entire file resent.
- If a feedback containing file errors is received, these must be corrected and the entire file resent.
- If a feedback containing content errors is received, corrections should be made on the records. These records will then be resent within a regular file.

2.3.10.4 Check Transmission errors

First element of the chain is the EAMFT system. EAMFT will provide a message (HUBDE/HUBEX) if unable to route the submitted file. In this case, the file is not forwarded to the FIRDS system.

The HUBDE/HUBEX will create a protocol level message “Permission denied” and will sent it to TV, SI system which submitted the file.

2.3.10.5 File errors

This part deals with errors corresponding to the file and any other kind of error which implies that the file is unreadable or unreliable. These controls will be run by FIRDS system and the corresponding feedback file generated by FIRDS, and sent back to the sending authority or trading venue. In addition, once a file error has been discovered, even if the file is readable, the whole file is rejected and the system does not process any record.

Control executed by FIRDS	Error Reference	Error Message	Corrective Action
All files on the ESMA System are compressed in zip format. When treating a file, the first step is the decompression of the zip file. This error is returned by the system if the file cannot be decompressed.	FIL-101	The file cannot be decompressed.	Check your compression and correct the problem.
Once the file is decompressed, the ESMA system checks that the decompressed container zip file contains exactly one XML file. This error is returned by the system when no XML or more than one file is found.	FIL-102	The zip file should contain one and only one XML file.	Resend the files with only one XML file per Zip file
Once the file is decompressed and that exactly only one XML file is submitted, the ESMA System checks that the sender code, the file type code, Key1 code, Key2 code, the recipient code and the Year of the XML file and of the ZIP file are equal. This error is returned by the system when at least one of those fields is not equal.	FIL-103	The name of the XML file is not consistent with the name of its container ZIP file.	Resend the file with the same name for the XML and Zip.
The ISO 20022 Message Identifier in the BAH (*.xsd) is not valid.	FIL-104	The ISO 20022 Message Identifier in the BAH must refer to the latest schema approved	Correct the Message Identifier according to the latest XSD schema
Validate that the file sent fits to the corresponding XML schema. For information purposes, if there is an error in the validation, the error message produced by the XML parser is	FIL-105	The file structure does not correspond to the XML schema : [result of XML validation]	Check the result of the validation; they should correspond to formats defined in this document see <i>XML chapter</i> .

displayed in place of [result of XML validation].			
Validate the file as follows: 1) Extracts the Submitting entity identification associated to the Reporting entity identifier code in the Reporting header of the submitted file. 2) Checks that the Submitting entity identification extracted in step 1 is equal to the sender code of the submitted file.	FIL-106	The Reporting Entity is not registered at ESMA or the Submitting Entity shall not submit this data.	Check the submitting entity in the reporting header of the submitted file, make necessary correction and resubmit the file.
When a file is received, the system checks whether a file with the same sender code, file type code, Key 1, Key2, recipient code and Year of the XML has already been submitted to the ESMA system. The system rejects a file already existing in the reporting files table.	FIL-107	File <Filename> has already been submitted once	If the file has to be sent increase the sequence number and resend the file

The control associated with error code FIL-105 is really important as it checks the whole XML structure and format of all fields. If one field is not in the right format, the whole file is rejected. In order to avoid too many difficulties, it is strongly advised to use the XML schemas to generate files, validate the content, compress them and send them out after going through these steps.

The outcome of these errors is an unreliable file. If the instrument reference data system discovers one of these errors, it will not load the file. It will send a feedback file including the error details (see above). The sending entity must process this feedback file, correct the problem and send a correct file.

2.3.10.6 Content errors on a single instrument reference data

Even when all previous controls have been executed, errors may still be detected at this later stage. In which case, you should follow the same error handling procedure. These errors could be business or technical. The errors are simple semantic errors but not complex semantic errors.

Control executed by FIRDS	Error Reference	Error Message	Action
The value of “Instrument Classification” shall be a valid ISO 10962 code and shall be covered by at least one of the CFI constructs in the CFI-based validation matrix.	INS-101	The CFI code is not valid against the CFI based validation matrix.	Check the CFI code and correct it
Check that Mandatory fields are reported according to “CFI-based validations table”.	INS-102	The following mandatory fields are not reported: <i>“List of RTS23 number Id of missing fields”</i>	Report all mandatory fields
Check that Non Applicable fields (N/A) are not reported according to “CFI-based validations table”.	INS-103	The following Non Applicable fields are wrongly reported: <i>“List of RTS23 number Id of N/A field(s)”</i> .	Report the record with all Non Applicable fields not filled
The following checks are performed only in case both checks above are passed			
Check that a record (ISIN, MIC) is not reported twice in the same file.	INS-104	The following records are reported more than once in the same file.	Eliminate duplicate records.
The value of the “Trading Venue” field shall exist in the registers of Regulated Markets, MTF, OTF, or Systematic Internaliser	INS-105	The Trading Venue field contains an invalid MIC code.	Check the trading venue MIC code and correct it.
The Reporting entity identification associated to the MIC [field 6] in Reporting Flow view (TV / SI MIC) is equal to the Reporting Entity identifier in the header of the XML file.	INS-107	“Trading Venue” field is not registered at ESMA or is not reported by the right reporting entity.	Check the MIC code and correct it.
The Strike Price Currency Code shall exist as an active ISO 4217 Currency Code in the currency reference data table.	INS-108	The Strike Price Currency Code is incorrect.	Populate with the correct Strike Price Currency Code for the instrument

The Notional Currency 1 Code shall exist as an ISO 4217 Currency Code in the currency reference table (based on records which ValidityEndDate is NULL or PreEuroFlag is TRUE)..	INS-109	The Notional Currency 1 Code is incorrect.	Populate with the correct Notional Currency 1 Code for the instrument
The Notional Currency 2 Code shall exist as an ISO 4217 Currency Code in the currency reference table (based on records which ValidityEndDate is NULL or PreEuroFlag is TRUE).	INS-110	The Notional Currency 2 Code is incorrect.	Populate with the correct Notional Currency 2 Code for the instrument
The Currency of nominal value shall exist as an ISO 4217 Currency Code in the currency reference table (based on records which ValidityEndDate is NULL or PreEuroFlag is TRUE)..	INS-111	The Currency of nominal value is incorrect.	Populate with the correct Currency of Nominal Value for the instrument
The value of the “Issuer Identifier” shall exist in the LEI reference table with validityEnddate is NULL and with register status in {"Issued", "Lapsed", "Pending transfer", "Pending archival} (based on records with ValidityEndDate is NULL).	INS-112	The LEI provided for “Issuer Identifier” is invalid.	Populate with a valid LEI code
The value of the “Underlying Issuer” shall exist in the LEI reference table with ValidityEndDate is NULL and with register status in {"Issued", "Lapsed", "Pending transfer", "Pending archival} (based on records with ValidityEndDate is NULL).	INS-113	The LEI provided for “Direct Underlying Issuer” is invalid.	Populate with a valid LEI code
Check the last digit of the ISIN code of the “instrument identification code” according to the algorithm of ISIN validation ⁵ .	INS-114	The ISIN code of the instrument identification code is invalid.	Check the ISIN code of this field.

⁵ See http://en.wikipedia.org/wiki/International_Securities_Identifying_Number to validate this digit.

Check the last digit of the ISIN code of the “underlying instrument” should be valid according to the algorithm of ISIN validation. ⁶	INS-115	The ISIN code of the underlying is invalid.	Check the ISIN code of this field.
Check the last digit of the ISIN code of the Identifier of the “Index/Benchmark of a floating rate Bond” should be valid according to the algorithm of ISIN validation. ⁷	INS-116	The ISIN code of the Index/Benchmark of a floating rate Bond is invalid.	Check the ISIN code of this field.
The “Date of admission to trading or date of First trade” should be a valid date and in a sensible range (no prior than 31-12-1899).	INS-117	The “Date of admission to trading or date of First trade” is not a consistent date.	Check date and correct it
The Termination Date should a valid date and in a sensible range (no prior than 31-12-1899).	INS-118	The Termination Date is not a consistent date.	Check date and correct it
The Termination Date should be equal to or later than the “Date of admission to trading or date of First trade”.	INS-119	The Termination Date is earlier than the “Date of admission to trading or date of First trade”.	Check both dates and correct them
The Maturity Date should be a valid date and in a sensible range (no prior than 31-12-1899)	INS-120	The Maturity Date is not a consistent date.	Check date and correct it
The Maturity Date should be equal to or later than “Date of admission to trading or date of First trade”.	INS-121	The Maturity Date and Date of admission to trading or date of First trade are not consistent..	Check both dates and correct them

⁶ See http://en.wikipedia.org/wiki/International_Securities_Identifying_Number to validate this digit.

⁷ See http://en.wikipedia.org/wiki/International_Securities_Identifying_Number to validate this digit.

The Expiry Date should be a valid date and in a sensible range (no prior than 31-12-1899).	INS-122	The Expiry Date is not a consistent date.	Check date and correct it
The Expiry date should be equal to or later than the "Date of admission to trading or date of First trade".	INS-123	The Expiry Date and The Date of admission to trading or date of First trade are not consistent.	Check both dates and correct them
Field "Option Type" shall only contain value "PUTO" when the "Instrument Classification" refers to the following CFI Codes: OP**** (Put Options).	INS-124	Invalid "PUTO" Option Type.	Check the Option type and correct it
Field "Option Type" shall only contain value "CALL" when the "Instrument Classification" refers to the following CFI Codes: OC**** (Call Options).	INS-125	Invalid "CALL" Option Type.	Check the Option type and correct it
The termination date should be populated in case Maturity date/Expiry date is populated and is strictly earlier than the current reporting date.	INS-126	<p>The Termination date is not populated for an expired/matured instrument.</p> <p>N.B.: that check if failed generates a warning only.</p>	
The termination date should be earlier or equal in case Expiry date/Maturity date is populated.	INS-127	<p>The Termination date and Expiry date/Maturity date are not consistent.</p> <p>N.B.: that check if failed generates a warning only.</p>	

The fields listed in Table 3 shall be consistent with the values provided by the Relevant competent Authority. ⁸	INS-128	<p>The following fields are not consistent with the one provided by << RCA>>: <i>List of RTS23 number Id of missing field(s)</i>".</p> <p>N.B.: that check if failed generates a warning only.</p>	Check the inconsistencies and resend the record or if the submitting entity believes its information is correct and reports directly to ESMA, should contact ESMA.
The currency of the Total issued nominal amount shall be the same as the currency of nominal value	INS-129	The currency of the Total issued nominal amount is not the same as the currency of nominal value	Check the currencies in both fields and correct it.

⁸ Generated during the consistency checks.

Here are some comments on the errors that were listed on the previous page:

INS-101 – The CFI code shall be a valid ISO 10962 code and shall be covered by at least one of the CFI constructs in the CFI-based validation matrix, otherwise it will be rejected.

INS-105 – The MIC reference database includes the list of valid MIC codes for all TVs and SIs within EEA countries.

INS -114, 115, and 116 - The check digit is calculated in this way:

1. Convert any letters to numbers – ex: U = 30, S = 28. US037833100 -> 3028037833100
 2. Collect odd and even characters: - ex: 3028037833100 = (3, 2, 0, 7, 3, 1, 0), (0, 8, 3, 8, 3, 0)
 3. Multiply the group containing the rightmost character (which is the FIRST group) by 2 – ex: (6, 4, 0, 14, 6, 2, 0)
 4. Add up the individual digits – ex: (6 + 4 + 0 + (1 + 4) + 6 + 2 + 0) + (0 + 8 + 3 + 8 + 3 + 0) = 45
 5. Take the 10s modulus of the sum – ex: 45 mod 10 = 5
 6. Subtract from 10 – ex: 10 - 5 = 5
 7. Take the 10s modulus of the result (this final step is important in the instance where the modulus of the sum is 0, as the resulting check digit would be 10) – ex: 5 mod 10 = 5
- So the ISIN check digit is five.

INS-108, 109, 110 and 111 – The Currency reference database includes the list of EEA currencies codes.

2.3.10.7 Inconsistency checks on instrument reference data

For instruments traded on several trading venues, the system will check that the reference data provided for this instrument's identifier is consistent with the reference data provided by the Relevant Competent Authority for that identifier, i.e. the fields in Table 3 hold strictly the same values⁹:

Table 3 Reference data fields expected to be checked for consistency against the value provided by the Relevant Competent Authority

Non-free-text fields:	
Instrument Classification	Expiry date
Issuer or operator of the trading venue Identifier	Price multiplier
Financial instrument short name	Underlying instrument code
Notional currency 1	Underlying index name
Commodities derivative indicator	Underlying issuer
Total issued nominal amount	Term of the direct underlying index
Maturity date	Option type
Currency of nominal value	Strike price
Nominal value per unit/minimum traded value	Strike price currency
Fixed rate	Option exercise style
Identifier of the index/benchmark of a floating rate bond	Delivery type
Name of the index/benchmark of a floating rate bond	Base product
	Sub product

⁹ e.g. when a trading venue starts trading an instrument which is already traded on other trading venues. In some cases, differences in some reference data fields reported by two trading venues do not constitute an inconsistency, e.g. if the same share is admitted to trading on two different trading venues at two different dates. For that reason, not all fields should be taken into account when assessing the consistency of two records on the same instrument.

Term of the index/benchmark of a floating rate bond Basis Point Spread of the index/benchmark of a floating rate bond Seniority of the bond	Further sub product Reference rate Transaction type Final price type IR Term of contract Notional currency 2 Fixed rate of leg 1 Fixed rate of leg 2 Floating rate of leg 2 IR term of contract of leg 2 Notional currency 2 FX Type
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[Updated: 31/10/2018] The system will not generate inconsistency warnings on Instrument full name

In case of any difference on non-free-text fields, the system will notify the sender issuing a warning for the submitted record.

Even if the system detects an inconsistency, the system will incorporate to the list of instruments published the submitted ISIN, MIC and associated dates of request for admission, first trade, and termination. The rest of the non-free text fields will be aligned to the values set by the Relevant Competent Authority for that instrument, when ESMA distributes/publishes the data.

To cover cases when the ESMA system receives inconsistent reference data for the same ISIN from the Relevant Competent Authority or from TV / SIs under its jurisdiction, the system will implement a set of validation rules and warnings will be issued for every inconsistent record found.

To check for inconsistencies on the reported data TV / SIs should check on the next day the reference data for the marked instruments that are inconsistent and compare it from information provided by the Relevant Competent Authority and correct any differences due to mistakes in the submitted data.

[Updated: 31/10/2018] If a reporting entity believes the information provided by it is the correct one, instead of the one published, it should contact the NCA of their jurisdiction in order to initiate the reference data correction procedure.

It should be noted that a record consider consistent on T could be flagged as inconsistent on T+1 as a result of other reference data being received.

2.3.10.8 Content and file errors feedback files

Content and file errors feedback files are generated by FIRDS system to check that the file has been received, and provide information on acceptance or errors. There is one feedback file per data file received.

Instrument feedback files contain different type of data:

- Information on the original file
- Errors in the file
- Error information on instrument records

2.3.10.8.1 Naming convention

An instrument feedback file will follow the naming convention detailed described in 2.3.8.2 with the different component filled as:

- <Sender> will be FIRDS as the file comes from FIRDS system
- <Filetype> will be FDBINS
- <Recipient> will be either NCAxx, Txxxx, Sxxxx, with xx as the country code of the NCA and xxxx the MIC of the trading venue which has sent the original file
- <Key1> would be filled with <Key1> from the original file
- <Key 2> would be filled with <Key2> from the original file
- <Year> will be the current year

2.3.10.8.2 File Information

For the feedback files in addition to the information on instrument records with errors described below, ESMA will provide file information which contains characteristics describing the file itself and references to the original file. This information should be included on the Business Application Header and on the Message Header.

2.3.10.8.2.1 Business Application Header (BAH)

The information contained on the BAH refers mainly to the original file, and identifies the sender and date of creation of the file. The fields to be used are same as described in [2.3.7.1](#) with additional information being filled about the related message. They should be populated as follows:

- “From: Organisation Identification: Identification: Organisation Identification: Other” - will be populated with ‘EU’ as the sender of the feedback file is ESMA.
- “To: Organisation Identification: Identification: Organisation Identification: Other” - should be populated with the “From: Organisation Identification: Identification: Organisation Identification: Other” of the submitted file to which this feedback is related to.
- “Business Message Identifier” - should be populated with the “<Key1>-<Key2>” part of the name of the feedback file.
- “Message Definition Identifier” – should be populated with the approved Message Identifier for the Status Advice Message as published on the ISO 20022 website.
- “Creation Date” - should be populated with the date and time when this feedback message was created.
- “Related” – This field is a complex structure similar to the BAH and should be populated with a copy of the BAH from the message to which this feedback is related to.

2.3.10.8.2.2 Message Header

On the description of the message header fields, Xpath is relative to the following prepended text “Document/FinInstrmRptgStsAdvc/StsAdvc/MsgSts/”

2.3.10.8.2.2.1 Report Status

- **Format:** ‘ACPT’, ‘CRPT’, ‘INCF’, ‘PART’, ‘RCVD’, ‘RJCT’, ‘RMDR’, ‘WARN’

- **XPath:** “Sts”

- **Definition:** Identifies the status of the received report.

- **Note:** The following table describes the cases when a certain code will be used:

Report Status code	Use cases
ACPT	File was accepted with no content errors
CRPT	File is corrupted
PART	File was accepted but content errors on some records exist
RJCT	File was rejected due to file errors

2.3.10.8.2.2.2 Validation Rule: Identification

- **Format:** {ALPHANUM-35}

- **XPath:** “VldtnRule/Id”

- **Definition:** Unique and unambiguous identification of a validation rule.

- **Note:** This field would be filled when a file is corrupted (Report status = ‘CRPT’) or in case of an error that originates a rejection of the file (Report status = ‘RJCT’).

2.3.10.8.2.2.3 Validation Rule: Description

- **Format:** {ALPHANUM-350}

- **XPath:** “VldtnRule/Desc”

- **Definition:** Further information on the validation rule as identified in the Identification.

- **Note:** This field would be filled when a file is corrupted (Report status = ‘CRPT’) or in case of an error that originates a rejection of the file (Report status = ‘RJCT’). The possible values for the Validation Rule fields are included on the following table:

Report status	Validation Rule Identification	Validation Rule Description
---------------	--------------------------------	-----------------------------

CRPT	FIL-101	The file cannot be decompressed.
RJCT	FIL-102	The file contains more than 1 XML file
RJCT	FIL-103	The name of the XML file is not consistent with the name of its container ZIP file
RJCT	FIL-104	The ISO 20022 Message Identifier in the BAH must refer to the latest schema approved
RJCT	FIL-105	The file structure does not correspond to the XML schema : [result of XML validation]
RJCT	FIL-106	The Reporting Entity is not registered at ESMA or the Submitting Entity shall not submit this data.
RJCT	FIL-107	File <Filename> has already been submitted once

2.3.10.8.3 Instrument feedback records

On the description of the record error fields, Xpath is relative to the following prepended text "Document/FinInstrmRptgStsAdvc/StsAdvc/RcrdSts/".

Information related to content errors in instruments is supported by the following fields:

2.3.10.8.3.1 Original Technical Record Identification

- **Format:** {ALPHANUM-35}
- **XPath:** “OrgnlRcrdId”
- **Definition:** A unique identifier of the record to be used by FIRDS error management routine to identify any error related to it.
- **Notes:** This field will be populated by a value corresponding to the one provided by the reporting entity which should clearly identify the record where the error was spotted.

2.3.10.8.3.2 Status

- **Format:** ‘RJCT’, ‘WARN’
- **XPath:** “Sts”
- **Definition:** Identifies the status advice for the current record.
- **Note:** The following table describes the cases when a certain code will be used:

Report Status code	Use cases
RJCT	The record was rejected because errors were found

WARN	There was an inconsistency detected on this record when compared to existing information provided by the RCA of the instrument
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2.3.10.8.3.3 Validation Rule Identification

- **Format:** {ALPHANUM-35}
- **XPath:** “VldtnRule/Id”
- **Definition:** Unique and unambiguous identification of a validation rule.

2.3.10.8.3.4 Validation Rule Description

- **Format:** {ALPHANUM-350}
- **XPath:** “VldtnRule/Desc”
- **Definition:** Further information on the validation rule as identified in the Identification.
- **Note:** The possible values for the Validation Rule Identification and Description fields are included on the following table:

Validation Rule Identification	Validation Rule Description
INS-101	The CFI code is not valid.
INS-102	The following mandatory fields are not reported: “List of RTS23 number Id of missing fields”
INS-103	The following Non Applicable fields are wrongly reported: “List of RTS23 number Id of N/A field(s)”.
INS-104	The following records are reported twice in the same file.
INS-105	The Trading Venue field contains an invalid MIC code.
INS-107	“Trading Venue” field is not a MIC code of a TV/SI under the jurisdiction of the NCA which submits the data shall be rejected.
INS-108	The Strike Price Currency Code is incorrect.
INS-109	The Notional Currency 1 Code is incorrect.
INS-110	The Notional Currency 2 Code is incorrect.
INS-111	The Currency of nominal value is incorrect.

INS-112	The LEI provided for “Issuer Identifier” is invalid.
INS-113	The LEI provided for “Direct Underlying Issuer” is invalid.
INS-114	The ISIN code of the instrument identification code is invalid.
INS-115	The ISIN code of the underlying is invalid.
INS-116	The ISIN code of the Index/Benchmark of a floating rate Bond is invalid.
INS-117	The “Date of admission to trading or date of First trade” is not a consistent date.
INS-118	The Termination Date is not a consistent date.
INS-119	The Termination Date is earlier than the “Date of admission to trading or date of First trade”.
INS-120	The Maturity Date is not a consistent date.
INS-121	The Maturity Date and Date of admission to trading or date of First trade are not consistent.
INS-122	The Expiry Date is not a consistent date.
INS-123	The Expiry Date and The Date of admission to trading or date of First trade are not consistent..
INS-124	Invalid “PUTO” Option Type.
INS-125	Invalid “CALL” Option Type.
INS-126	The Termination date is not populated for an expired/matured instrument.
INS-127	The Termination date and Expiry date/Maturity date are not consistent.
INS-128	The following fields are not consistent with the one provided by << RCA>>: <i>List of RTS23 number Id of missing field(s)</i> .
INS-129	The currency of the Total issued nominal amount is not the same as the currency of nominal value

2.3.10.8.4 Instrument feedback record format

The XML description and schema of the file can be found in point 2.5

2.3.10.8.5 Receiving instrument feedback files

Instrument Feedback files are received by the submitting entity using exactly the same process as a regular file. It is sent by ESMA (FIRDS system) and received in the incoming folder of the authority or trading venue:

- The naming convention is the same and the file type field is populated in with the value FDBINS for instrument feedback,
- Files are compressed,
- Files are downloaded from the EAMFT in the incoming directory in the usual way.

If there is a problem with the feedback file, the submitting entity should contact ESMA.

2.3.10.8.6 Responsibilities of the submitting authority or trading venue

The submitting authority or trading venue is responsible for the reliability and availability of its data. With respect to this statement, the submitting authority or trading venue must:

1. Ensure that the file has been received,
2. Ensure that all records are sent in a correct manner.

FIRDS uses the feedback files to ensure that everything has been received. The submitting authority or trading venue should check that they have received a feedback file for every file they sent. After one business day, the submitting authority or trading venue should contact the FIRDS administrator to ensure that the file has been received if no feedback file was provided.

The submitting authority or trading venue must read all feedback files and correct the records. The correction of the incorrect records should be done as soon as possible.

Corrected records are resent in a regular instrument reference file, which is not distinguishable from a regular record.

2.3.10.8.7 Error correction process by the CAs or TVs

It might happen that a submitting entity discovers an error within its system and would like to cancel previously sent reference data on an instrument and send new corrected information.

The files that are sent to the EAMFT are picked up by the FIRDS system throughout the day, so as a submitting entity you will receive feedback information throughout the day enabling you to correct erroneous information on the same day.

Since the information will be treated according to First in First out principle the reference data in the database will contain only the last information sent to ESMA. Meaning the full instrument file will contain the last valid ISIN-MIC combination and associated instrument descriptive data that was sent to ESMA before 23:59 by CAs or before 21:00 by TVs and Sis.

Two scenarios are possible:

1. A TV or SI realises that has a problem before 21:00 or an NCA realises that has a problem before 23:59
2. A TV or SI realises that has a problem after or 21:00 or an NCA realises that has a problem after 23:59

The cut-off time (21:00 for TVs, SIs or 23:59 for NCAs) is important since that is the time the FIRDS system will no longer accept new files to be processed on that day. Any reference data files sent to ESMA after cut-off will only be processed on next day.

In the first case, the submitting authority or trading venue just has to resend a corrected file. If the instrument reference data system receives more than one file from the sender during the same day, it will just process them in the order in which they arrived (First in First out). So resending a correct file will correct the error that was made in the previous file.

In the second case please send the instrument reference data as well, but keep in mind that the reference data on this instrument will only be in the downloadable full instrument file the two days later.

2.3.11 Notifications

2.3.11.1 Overview

This chapter deals with the notification process for missing or incomplete reports, to be sent by FIRDS system to National Competent Authorities, Trading Venues and Systematic Internalisers.

2.3.11.2 Overall dynamics

When FIRDS system has completed processing on all files submitted before the applicable cut-off time, it will verify for all submitting entities whether a file was submitted for any of its reporting entities before the applicable submission cut-off time, and generates a reminder for each missing file.

For each file received before the cut-off time the system will check whether at least one previously reported instrument has not been reported by that TV/SI or NCA because the instrument is still active, and in that case, generates a reminder file.

2.3.11.3 Missing/Incomplete reports reminders

The table below presents the controls run by the system in order to detect missing or incomplete reports and the reminder messages generated for each case:

Control executed by FIRDS	Reminder Reference	Reminder description	Action to be taken by submitting entity
For each TV/SI or NCA which was supposed to report information the system checks whether any data has been submitted by the TV/SI or NCA	RMD-001	No file has been submitted to ESMA on the day <<current reporting date>> or was submitted after the cut-off time.	In case of no data submission the missing report should be sent as soon as possible
System checks whether at least one previously reported instrument has not been reported by that TV/SI as expected ¹⁰	RMD-002	The instrument was not reported on the day <<current reporting date>> or was reported after the cut-off time.	Identify the missing instruments and include them in a file to be sent as soon as possible

2.3.11.4 Daily reminder file

Daily reminder files are generated by the instrument reference data system each time a missing or incomplete report was found based on the non-working days¹¹ collected from the submitting entities. Submitting entities should check for the existence of reminder files and submit the missing information.

Daily reminder files contain different type of data:

- Information on missing reports
- Information on missing instruments on a received report

2.3.11.4.1 Naming convention

A reminder file is a particular case of a feedback file and will follow the naming convention described in 2.3.8.2 with the different component filled as:

- <Sender> will be FIRDS as the file comes from ESMA FIRDS system
- <File type> will be RMDINS
- <Recipient> will be either NCAxx, Txxxx or Sxxxx, with xx as the country code of the NCA and xxxx the MIC of the TV or SI which has sent the file with missing instruments or has been identified by FIRDS as missing to report for that day
- <Key1> would be populated with T<segment MIC of TV> or S<MIC of SI> referring to the TV/SI which where the data is missing.
- <Key 2> will be a sequence number generated by FIRDS

¹⁰ This check only applies to Regulated Markets

¹¹ Refer to section 3

- <Year> will be the current year

2.3.11.4.2 File information

For reminder files about missing reports ESMA system will provide file information which contains characteristics describing the file itself.

For reminder files with information about incomplete reports in addition to the information describing the file itself, ESMA system will provide information on the missing instruments.

File information should be included on the Business Application Header and on the Message Header.

2.3.11.4.2.1 *Business Application Header (BAH)*

The information contained on the BAH refers mainly to the original file, and identifies the sender and date of creation of the file. The fields to be used are same as described on 0 with additional information being filled about the related message. They should be populated as follows:

- “From: Organisation Identification: Identification: Organisation Identification: Other” - will be populated with ‘EU’ as the sender of the feedback file is ESMA.
- “To: Organisation Identification: Identification: Organisation Identification: Other” - should be populated with the following codes depending on the entity that is receiving the reminder:
 - **NCAXX** where XX is the ISO 3166 country code (2 alpha characters) of the NCA (e.g. NCADE, NCAPL, ...);
 - **TXXXX** where XXXX is a MIC code identifying the submitting Trading Venue (e.g. XPAR, XAMS, ...);
 - **SXXXX** where XXXX is a MIC code identifying the submitting Systematic Internaliser.
- “Business Message Identifier” - should be populated with the “<Key1>-<Key2>” part of the name of the reminder file.
- “Message Definition Identifier” – should be populated with the approved Message Identifier for the Status Advice Message as published on the ISO 20022 website.
- “Creation Date” - should be populated with the date and time when this reminder message was created.

2.3.11.4.2.2 *Message Header*

On the description of the message header fields, Xpath is relative to the following prepended text “Document/FinInstrmRptgStsAdvc/StsAdvc/MsgSts/”

The information contained on the Message Header is:

2.3.11.4.2.2.1 Report Status

- **Format:** ‘ACPT’, ‘CRPT’, ‘INCF’, ‘PART’, ‘RCVD’, ‘RJCT’, ‘RMDR’, ‘WARN’

- **XPath:** “Sts”

- **Definition:** Identifies the status of the received report.

- **Note:** The following table describes the cases when a certain code will be used:

Report Status code	Use cases
RMDR	A report is missing or some records that should be reported are missing on the received file

2.3.11.4.2.2.2 Validation Rule: Identification

- **Format:** {ALPHANUM-35}

- **XPath:** “VldtnRule/Id”

- **Definition:** Unique and unambiguous identification of a validation rule.

- **Note:** This field would be filled when a report is missing or in case of missing instruments on the received file (Report status = ‘RMDR’).

2.3.11.4.2.2.3 Validation Rule: Description

- **Format:** {ALPHANUM-350}

- **XPath:** “VldtnRule/Desc”

- **Definition:** Further information on the validation rule as identified in the Identification.

- **Note:** This field would be filled when a report is missing or in case of missing instruments on the received file (Report status = ‘RMDR’). The possible values for the Validation Rule fields are included on the following table:

Report status	Validation Rule Identification	Validation Rule Description
RMDR	RMD-001	No file has been submitted to ESMA on the day <>current reporting date<> or was submitted after the cut-off time.
RMDR	RMD-002	The instrument was not reported on the day <>current reporting date<> or was reported after the cut-off time.

2.3.11.4.2.3 Instruments reminder records

On the description of the record error fields, Xpath is relative to the following prepended text “Document/FinInstrmRptgStsAdvc/StsAdvc/RcrdSts/”.

Information related to missing instruments is supported by the following fields:

2.3.11.4.2.4

2.3.11.4.2.4.1 Original Technical Record Identification

- **Format:** {ALPHANUM-35}
- **XPath:** “OrgnlRcrdId”
- **Definition:** A unique identifier of the record to be used by FIRDS error management routine to identify any error related to it.
- **Notes:** This field should be populated with the ISIN code of the missing instrument.

2.3.11.4.2.4.2 Status

- **Format:** ‘WARN’
- **XPath:** “Sts”
- **Definition:** Identifies the status advice for the current record.
- **Note:** The following table describes the cases when a certain code will be used:

Report Status code	Use cases
WARN	An instrument that should be reported is missing from the received file

2.3.11.4.2.4.3 Validation Rule Identification

- **Format:** {ALPHANUM-35}
- **XPath:** “VldtnRule/Id”
- **Definition:** Unique and unambiguous identification of a validation rule.

2.3.11.4.2.4.4 Validation Rule Description

- **Format:** {ALPHANUM-350}
- **XPath:** “VldtnRule/Desc”
- **Definition:** Further information on the validation rule as identified in the Identification.

- Note: The possible values for the Validation Rule Identification and Description fields are included on the following table:

Validation Rule Identification	Validation Rule Description
RMD-002	This instrument was not reported on the day <<current reporting date>> or was reported after the cut-off time.

2.4 Download interface

2.4.1 Overview

This chapter specifies the files that can be retrieved by National Competent Authorities and what should be done with these files. These three files (full, delta and invalid records file) will contain the up-to-date instruments as they are listed in the ESMA database. The table below describes the file types available in the public folder on HUBEX:

File Type Code	Description	Folder	Availability
FULINS	Full file	Public	10 last files issued (10 days)
DLTINS	Delta file	Public	10 last files issued (10 days)
INVINS	Invalid Records File	Public	10 last files issued (10 days)

2.4.2 File usage

A NCA downloading the 3 aforementioned files could use them with two different approaches to internally build a financial instruments active/historical database:

2.4.2.1 Using Full and Delta files

On the Go Live date of FIRDS (T_0) an empty financial instruments reference database structure is to be created. Any NCA that wants to use only Full and Delta files should perform the following steps:

- On day T_0 download the Full file and update the database with its content
- Every subsequent day $T = T_0+1, T_0+2, \dots$, download the Delta file published on day T by 8am CET (HUBEX) / 9am CET (Internet) and apply the corresponding changes to the database

2.4.2.2 Using Full and Delta files and Invalid Records files for periodic reconciliation

On the Go Live date of FIRDS (T_0) an empty financial instruments reference database structure is to be created. Any NCA that wants to perform database reconciliations with a certain periodicity should perform the following steps:

- On day T_0 download the Full file and update the database with its content

- Every n days ($T_0+n.x$), perform a full reconciliation:
 - download the full file and invalid records files published on day T by 8am (HUB) / 9am (Internet)
 - concatenate them and replace the entire database content
- On each day between two successive reconciliations $T = (T_0+n.x+1), \dots, (T_0+n.x+n-1)$:
 - download the delta file published on day T 8am (HUB)
 - apply the corresponding changes to the database

2.4.3 Full File - FULINS

2.4.3.1 Scope

The full file contains the full set of consolidated reference data which has been submitted to ESMA before the applicable cut-off time submitted on the previous working day by Trading Venues, Systematic Internalisers and National Competent Authorities that have not delegated collection. The file contains the last valid reference data for all instruments which are admitted to trading or traded on an EEA market the previous day.

The file is valid a certain day (the day of creation of the file) and becomes invalid as soon as another file is issued by the FIRDS system – (i.e. the next calendar day).

If an instrument is not in this list, it implies that either it is not admitted to trading or traded on an EEA market or the reporting entity has not sent the corresponding reference data to ESMA yet.

ESMA will make available the full file (FULINS) every day by 8:00 CET at the latest on the public folder of HUBEX.

2.4.3.2 File information

The file information should be included on the Business Application Header and on the Message Header and is exactly the same as the one mentioned on the upload interface 2.3.7.

2.4.3.2.1 Business Application Header (BAH)

The fields to be used are same as described on [Business Application header \(BAH\)](#). They should be populated as follows:

- “From: Organisation Identification: Identification: Organisation Identification: Other” - will be populated with ‘EU’ as the sender of the feedback file is ESMA.
- “To: Organisation Identification: Identification: Organisation Identification: Other” - should be populated with ‘PUBLI’.
- “Business Message Identifier” - should be populated with the name of the full file.
- “Message Definition Identifier” – should be populated with the approved Message Identifier for the Reference Data Report Message as published on the ISO 20022 website
- “Creation Date” - should be populated with the date and time when this message was created.

2.4.3.2.2 Message Header

The fields to be used are the same as described on 2.3.8.2 and should be populated as follows:

- Reporting Period: Publication Date
- Reporting Entity: National Competent Authority will be filled with EU as the sender of the file is ESMA
- Submission Date Time will be filled with system Date:Time when the file was created

2.4.3.3 Description of business fields

The business fields are exactly the same as those described in the upload interface 2.3.4.

FIRDS will populate the Relevant Competent Authority field after determination of the RCA, and will also populate “Publication Period: From Date” with the first day from when present details of the financial instrument were published.

FIRDS will populate the “Last update” with the last Date:Time when information was received by ESMA for that instrument.

FIRDS will use the “Inconsistency Indicator” to flag any inconsistency found during processing. All received records which failed consistency checks against the instrument information provided by the RCA will be identified with this flag marked ‘TRUE’.

The instrument records are exactly the same as the ones described on the upload interface.

2.4.3.4 Naming convention

The file type of the full file is FULINS. Since it is in the public directory, the recipient is PUBLI. The sender is FIRDS because it is generated by ESMA.

- In case of split full file, a nnZmm [2(n)Z2(n)] identifier as <key1> would be used, where “nn” indicates the number of the split files and “mm” (running from 01 to 99) indicates the maximum number of split files composing the full file.

[Updated: 31/10/2018 – Applicable to the major maintenance release planned Q1 2019]

- In order to help relating all constituents of a split full file together, they will have the same <key2> sequence number.

An instrument Full file split in three files may be named as:

FIRDS_FULINS_PUBLI_01Z03-000122_18.xml
FIRDS_FULINS_PUBLI_02Z03-000122_18.xml
FIRDS_FULINS_PUBLI_03Z03-000122_18.xml

The full file will be offered as one whole file or as a set of smaller files. This presents the option to each individual authority to implement the file in one go or to process it in small steps.

The description of the XML file schema can be found in chapter 2.5.4.1.

2.4.3.5 Compression

The full files are compressed using the standard ZIP algorithm. After compression, the extension of the file becomes **.zip**.

2.4.3.6 EAMFT

The full file is available in the public directory of the HUBEX. All NCAs should download the new file every day from the /public/ directory on the HUBEX. A new full file is uploaded each calendar day. So the latest available version is on the EAMFT at all times.

2.4.4 Full File - FULCAN

2.4.4.1 Scope

The full file contains the full set of consolidated cancelled reference data which has been submitted to ESMA before the applicable cut-off time submitted on the previous working day by Trading Venues, Systematic Internalisers and National Competent Authorities that have not delegated collection. The file contains all cancelled records reported.

The file is valid a certain day (the day of creation of the file) and becomes invalid as soon as another file is issued by the FIRDS system – (i.e. the next calendar day).

ESMA will make available the full file (FULCAN) every day by 8:00 CET at the latest on the public folder of HUBEX.

2.4.4.2 File information

The file information should be included on the Business Application Header and on the Message Header and is exactly the same as the one mentioned on the upload interface 2.3.8.

2.4.4.2.1 Business Application Header (BAH)

The fields to be used are same as described on [Business Application header \(BAH\)](#). They should be populated as follows:

- “From: Organisation Identification: Identification: Organisation Identification: Other” - will be populated with ‘EU’ as the sender of the feedback file is ESMA.
- “To: Organisation Identification: Identification: Organisation Identification: Other” - should be populated with ‘PUBLI’.
- “Business Message Identifier” - should be populated with the name of the full file.
- “Message Definition Identifier” – should be populated with the approved Message Identifier for the Reference Data Report Message as published on the ISO 20022 website

- “Creation Date” - should be populated with the date and time when this message was created.

2.4.4.2.2 Message Header

The fields to be used are the same as described on 2.3.8.2 and should be populated as follows:

- Reporting Period: Publication Date
- Reporting Entity: National Competent Authority will be filled with EU as the sender of the file is ESMA
- Submission Date Time will be filled with system Date:Time when the file was created

2.4.4.3 Description of business fields

The business fields are exactly the same as those described in the upload interface 2.3.4.

FIRDS will populate the Instrument identification code field (ISIN) as described in the 2.3.4.2.1

FIRDS will populate the Trading Venue field (MIC) as described in the 2.3.4.2.6

2.4.4.4 Naming convention

The file type of the full file is FULCAN. Since it is in the public directory, the recipient is PUBLI. The sender is FIRDS because it is generated by ESMA.

- In case of split full file, a nnZmm [2(n)Z2(n)] identifier as <key1> would be used, where “nn” indicates the number of the split files and “mm” (running from 01 to 99) indicates the maximum number of split files composing the full file.

- In order to help relating all constituents of a split full file together, they will have the same <key2> sequence number.

An instrument Full file split in three files may be named as:

```
FIRDS_FULCAN_PUBLI_01Z03-000122_18.xml  
FIRDS_FULCAN_PUBLI_02Z03-000122_18.xml  
FIRDS_FULCAN_PUBLI_03Z03-000122_18.xml
```

The full file will be offered as one whole file or as a set of smaller files. This presents the option to each individual authority to implement the file in one go or to process it in small steps.

The description of the XML file schema can be found in chapter 2.5.4.1.

2.4.4.5 Compression

The full files are compressed using the standard ZIP algorithm. After compression, the extension of the file becomes **.zip**.

2.4.4.6 EAMFT

The full file is available in the public directory of the HUBEX. All NCAs should download the new file every day from the /public/ directory on the HUBEX. A new full file is uploaded each calendar day. So the latest available version is on the EAMFT at all times.

2.4.5 Delta File

2.4.5.1 Scope

The delta file contains all additions, modifications or deletions on the central instrument reference database since the generation of the last set of files.

As with the full instrument file the Delta file will be made available once a day at 08:00 am CET on each calendar day at the latest.

2.4.5.2 File information

The file information should be included on the Business Application Header and on the Message Header and is exactly the same as the one for the Full file.

2.4.5.3 Description of business fields

The delta file will contain four types of information:

- Added records: records containing the reference data for new instruments
- Modified records: modified record, including both modified and not-modified data of the full instrument
- Terminated records: records containing the reference data for instruments that were terminated since the issue of the previous set of files or that reported later than the termination date
- Cancelled records: records containing the reference data for instruments that were cancelled due to a previously mistaken report

2.4.5.3.1 Added, Modified, Terminated, Cancelled records

The instrument records are exactly the same as the ones described on the upload interface. Each instrument record would be tagged as a New Record, Modified Record, Terminated Record or Cancelled as well as the Relevant Competent Authority.

For each instrument FIRDS will also populate the “Publication Period: ToFromDateToDate” with the period when the instrument was published, for all records marked as modified or terminated.

Instruments that were reported after their termination date will be published on the delta file with field “Never Published” populated with ‘True’.

For further information, see XML schemas on chapter [2.5](#).

2.4.5.4 Naming convention

The file type of the delta file is DLTINS. Since it is in the public directory, the recipient is PUBLI. The sender is FIRDS because it is generated by ESMA.

- In case of split delta file, a nnZmm [2(n)Z2(n)] identifier as <key1> would be used, where “nn” indicates the number of the split files and “mm” (running from 01 to 99) indicates the maximum number of split files composing the delta file.

[Updated: 31/10/2018 – Applicable to the major maintenance release planned Q1 2019]

- In order to help relating all constituents of a split delta file together, they will have the same <key2> sequence number.

An instrument Delta file which was not split, may be named as:

FIRDS_DLTINS_PUBLI_01Z01_000123_18.xml

Just as with the full instrument reference file the delta file can also be found as one file (with the name as presented above) or as a set of files to facilitate ease of use, or for technical reasons

As with the schema for the full instrument reference file the description of the XML file schema can be found in chapter 2.5.4.

2.4.5.5 Compression

The delta files are compressed using the standard ZIP algorithm. After compression, the extension of the file becomes **.zip**.

2.4.5.6 EAMFT

The delta file is available in the public directory of the EAMFT. All authorities should download the new file every day by from to the /public/ directory on the HUBEX. Delta files are retained for ten days on the EAMFT. Be sure to download them in time because they will be purged after that.

2.4.5.7 Example

The delta file contains all information on changes since the last delta file was issued but please be aware of the fact that this does not mean it has all reference data that reflects the changes that occurred in the EEA. Because files and records can be rejected the delta contains all reference data updates of correctly processed files and records that have been sent to ESMA by the CA's, TV's or SI's.

As an illustration please look at the following example:

	Day 1	Day 2	Day 3	Day 4
FCA	Day 1 file sent and processed	Day 2 file sent and processed	Day 3 file sent and processed	Day 4 file sent and processed
XPAR	Day 1 file sent and processed	No file sent no data	Day 3 file sent and processed	Day 4 file sent and processed
KNF	Day 1 file sent and processed	Day 2 file sent and rejected	Day 2 and Day 3 file sent and both rejected	Day 2,3,4 file sent and processed
XLIS	Day 1 file received not processed by ESMA	Day 2 file sent Day 1 and Day 2 processed	Day 3 file sent and processed	Day 4 file sent and processed

Day 1 – All Four CAs or TVs send reference data to ESMA but only three are processed; XLIS file arrives after the cut-off time and is not included on the processing to produce the delta file.

The generated Delta file will consist of reconciled data of

- FCA reference data from day 1
- AFM reference data from day 1
- KNF reference data from day 1

Day 2 the FCA, XLIS and KNF send reference data for Day 2 to ESMA. XPAR has sent no data. The FCA data and data from two days from XLIS are processed correctly. The KNF reference data is rejected.

The Generated Delta file consists of reconciled data of

- FCA reference data from day 2
- XLIS reference data from day 2

Day 3 the FCA, XLIS, KNF and the XPAR send reference data to ESMA to be processed. KNF sends two days as the previous day's reference data files were rejected. The FCA, XLIS and XPAR reference data is processed.

The Generated Delta file consists of reconciled data of

- FCA reference data from day 3
- XLIS reference data from day 3
- XPAR reference data from day 3

Day 4 the FCA, XLIS, KNF and the XPAR send reference data to ESMA to be processed. BAFIN sends three days as the previous day's reference data files were rejected.

The Generated Delta file consists of reconciled data of

- FCA reference data from day 4
- XLIS reference data from day 4
- XPAR reference data from day 4
- KNF reference data from day 4

As you can see the delta file can consist of updates for multiple days for submitting entities that were either unable to send a file, has sent in a file too late or had a file rejected.

2.4.6 Invalid Records File

2.4.6.1 Scope

This file will contain all records that are not part of the full file anymore and the never published records. This includes instruments that are not valid anymore, as well as out-of-date versions of records that have been modified over time. After an instrument has passed its end of validity date it will no longer be sent along in either the delta or the full instrument reference data file. In order to be able to properly compare instruments available on various trading days a file with invalid records will be created each working day. The file will contain all instruments that were available in the past.

As the invalid records file could grow indefinitely, ESMA will split it in files that should contain no more than 500.000 records.

However, if during the daily processing the size of the currently generated file exceeds this limit by less than 10% there will be no splitting operation and the file will be closed. On next processing day a new split file will be generated, containing the records that became invalid on that day.

Again, as with the delta and full instrument file, this file will be made available by 08:00 am CET at the latest each calendar day.

2.4.6.2 File information

The file information should be included on the Business Application Header and on the Message Header. The Business Application Header is exactly the same as the one for the Full file.

2.4.6.2.1 Message Header

On the description of the message header fields, Xpath is relative to the following prepended text "Document/FinInstrmRptgInvldRefDataRpt/".

The information contained on the Message Header is:

2.4.6.2.1.1 *Date period: Date*

- **Format:** {DATE_TIME_FORMAT}
- **XPath:** “DtPrd/Dt”
- **Definition:** Date and time when the file was created.
- **Standard:** The date should be sent in the ISO 8601 date format standard YYYY-MM-DDThh:mm:ss.dddZ. Dates and times shall be reported in UTC.
- **Note:** This field would be filled with the date and time when the first file was created or each time the 1.000.000 records limit is reached and a new split filled needs to be generated, with the date and time of the generation of that split file.

2.4.6.3 Description of business fields

The ESMA System extracts from the consistent reference data table the records which “PublishedToDate” is not NULL and is strictly prior to the next publication date, capturing records which are invalid or terminated or which “NeverPublished” flag is TRUE capturing terminated instruments reported late.

The invalid records file will contain two types of information for every financial instrument that are no longer valid:

- Instrument characteristics: record containing the reference data for instruments including the RCA for that instrument
- Publication period for each instrument record
- FIRDS will populate the “Last update” with the last Date:Time when the record was received by ESMA.

2.4.6.3.1 Instrument records

On the description of the instrument record fields, Xpath is relative to the following prepended text “Document/FinInstrmRptgInvldRefDataRpt/FinInstrms”.

The instrument records are exactly the same as the ones described on the upload interface 2.3.4.

2.4.6.3.2 Publication Period: FromDate

- **Format:** {DATE_TIME_FORMAT}
- **XPath:** “TechAttrbts/PblctnPrd/FrDtToDt/FrDt” and

“TechAttrbts/PblctnPrd/FrDtToDt/ToDt”

- **Definition:** The period when the instrument was valid.
- **Standard:** The format of the dates should follow the ISO 8601 Date Format standard YYYY-MM-DD.
- **Notes:** This field is composed by a “From” and a “To” component and would identify the period when the instrument was considered valid.

2.4.6.4 Naming convention

The file type of the complete merged file is INVINS. Since it is in the public directory, the recipient is PUBLI. The sender is FIRDS because it is generated by ESMA.

- Where there are split invalid records files <key1> will be a 5-digit incremental counter where each file contains no more than 500,000 invalid records. All historical invalid files that have reached this limit will not be re-published each day. The historical file will be available on the date they were published when the file had reached the maximum limit. An invalid file that has yet to reach its maximum limit will be available each day until the date it reaches its limit.
- <key2> will always be six 0s.

An invalid records file composed by three split files may be named as:

FIRDS_INVINS_PUBLI_00001-000000_18.zip
FIRDS_INVINS_PUBLI_00002-000000_18.zip
FIRDS_INVINS_PUBLI_00003-000000_18.zip

Just as with the full instrument reference file the invalid records file can also be found as one file (with the name as presented above) or as a set of files to facilitate ease of use.

As with the schema for the full instrument reference file the description of the XML file schema can be found in the chapter 2.5.4 “Download”.

2.4.6.5 Compression

The invalid instrument files are compressed with a ZIP algorithm. By compressing, the extension of the file becomes **.zip**.

2.4.6.6 EAMFT

The invalid instrument file is available in the public directory of the HUBEX. All authorities can download the new file every day from to the /public/ directory on the HUBEX. The invalid instrument file is replaced each working day. So the latest available version is on the HUBEX at all times.

2.4.7 Error Handling

There is no automated error handling implemented for the first version of the download interface.

If any error is noticed, the authority should not load the file but immediately contact ESMA.

If the FIRDS system fails to deliver the result files one day, all authorities should continue to work with the reference data of the previous day. ESMA support team will inform all authorities about the correction of the failure.

2.5 XML Format

2.5.1 Overview

This chapter contains all the XML schema's that are needed to exchange instrument reference data files with ESMA. It also describes all schema's ESMA uses to communicate with all the NCAs.

For reporting reference data 2 derived messages will be created, one for NCA's and once for TVs / SIs

The differences between the base message and derived messages are listed below:

- Some fields will be mandatory depending on the reporting entity.
- The number of instruments that can be in the message is defined.
- Fields not required for a reporting population have been removed.
- Choice elements have been restricted to only the required lists for a reporting population.

2.5.2 Upload

2.5.2.1 XSD schema for reference data file

As defined by XML standards, XML files are described using XML schemas. The XML schema corresponding to instrument reference data files is below. The schema should be used in TVs/SIs and NCAs local systems to generate and validate exchanged files.

This XML schema is also the IT tool to validate data received and sent between reporting entities and ESMA. All reporting entities will use the same XML schema to generate and validate their files.

The main XML schema is “auth.017.001.02”. See [Annex 6](#).

2.5.3 Feedback

2.5.3.1 XSD schema for feedback file

As defined by XML standards, XML files are described using XML schemas. The XML schema corresponding to feedback files is below.

The main XML schema is “auth.031.001.01”. See [Annex 6](#).

2.5.4 Download

2.5.4.1 XSD schema for the full, delta and invalid records files

The same XML schema as the one for reporting reference data is used for the full file.

The schema will be “auth.017.001.02”. See [Annex 6](#).

For the delta and invalid records files different schemas will be used:

The schema for delta file will be “auth.036.001.03”. See [Annex 6](#).

The schema for invalid records will be “auth.042.001.02”. See [Annex 6](#).

The schema for Cancellations full file will be “auth.102.001.01”. See [Annex 6](#).

3 Non-working days Data

3.1 Overview of the System

[Updated: 02/09/2019 – Removal of requirement for SI to report Non-Working Days]

[Updated: 02/09/2019 – Removal of requirement for Approved Publication Arrangements (APAs), to report Non-Working Days]

The first part of the application is the upload interface. A Trading Venue (TV), National Competent Authority (NCA), Consolidated Tape Provider (CTP) has to report to ESMA the full list of its non-working days through the EAMFT system by uploading files on HUBDE/HUBEX. A NCA will use HUBEX while a TV, and CTP will use HUBDE.

The FIRDS System will receive a set of Non-workings days from the TVs, NCAs and CTPs. Submitting entities will use the same standardised ISO 20022 XML format. The system processes the data, checks its quality and updates the central database.

3.2 File transfer flow

3.2.1 Overview

This chapter aims to specify the flow of files exchanged between ESMA and NCA/TV/CTP.

It defines not only how, but also when the files will be exchanged.

3.2.2 Main principles

The focus of the proposed solution is based on compliance with industry standards, which ensure the reliability of the system that is to be built.

3.2.3 Upload interface

The upload interface should be used to report non-working days. The submitting entities are:

- NCAs not delegating the collection of instruments reference data on behalf of the TV/CTP under their jurisdiction. The upload interface is HUBEX.
- TV/CTP under the jurisdiction of a NCA delegating the collection of instrument reference data. The upload interface is HUBDE.

The reporting format will use the same standardised ISO 20022 XML format.

3.2.4 Data management

The FIRDS system is run by ESMA to load the non-working days data files sent by each submitting entity.

The FIRDS system will gather files continuously, although file processing of files received after the relevant cut-off time (please refer to reference data section) will only occur once the instrument reference data to be published on the next day is ready. The system will control all files received and send a feedback file to the submitting entity. The full file may be rejected. Contrary to reference data, partial rejection of record is not handled by the FIRDS system. If there are no errors, a feedback file stating that it was fully accepted will be sent back to the submitting entity.

The FIRDS system will process all updates and new entries and make changes in the central database accordingly. The dates submitted in the non working day upload will be used to generate the reference data notifications as per section [2.3.10](#).

3.3 Upload interface

This chapter specifies the file content, the structure and the process that must be executed by submitting entities to report non-working days into the FIRDS System.

3.3.1 Collection overview

For each NCA/TV//CTP (venue) and for each year after 2017 included, ESMA shall receive the complete list of Non-working days, as known at the time of the submission.

All dates which are not reported are considered by the ESMA System as open. Consequently, weekends have to be reported otherwise they are assumed to be working days. Dates on which the TV/CTP is not open the full-day (half-day/other reason like open only a few hours shall not be reported otherwise they are assumed as closed days. **[Updated: 31/10/2018]** For trading venues which are opened for trading every calendar day of the year including week-ends and public holidays, no non-working days needs to be reported. Conversely, if no non-working day is reported to FIRDS for a given segment MIC for a given year, ESMA will consider the trading venue or systematic internaliser as opened every calendar day of the year and request information to be reported for that day.

The complete list of non-working days per year must be provided by the submitting entities in the same XML file.

Please note that one file can cover several years which enables the reporting of non-working days which are known several years in advance.

3.3.2 Collection of Non-working days Data on behalf of NCAs delegating data collection in their jurisdiction

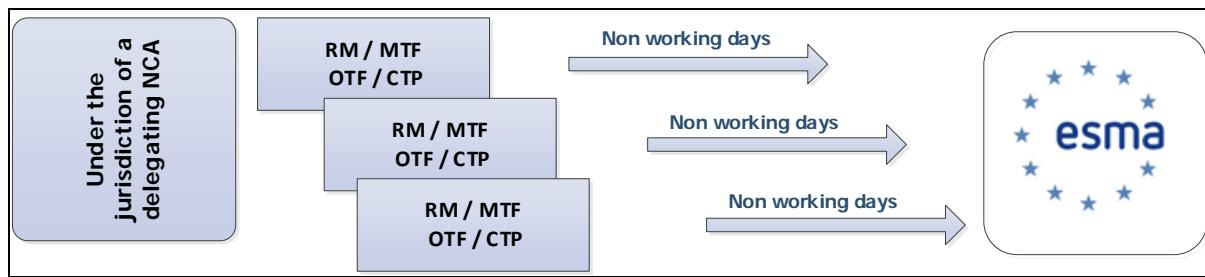


Figure 5 Non-working days Data flow for TV/CTP under the jurisdiction of a NCA delegating data collection

Before 31st of December, the ESMA System will receive from TV CTP under the jurisdiction of a NCA delegating data collection the complete list of days on when the TV/CTP is closed (whole day only) the next year. For each TV operating under an operating MIC and running several market segments, each one identified by a different segment MIC, a file must be sent for each of the mentioned segment MICs.

In addition, before 31st of December, the ESMA System will receive from each NCA delegating data collection the complete list of days on when the NCA is closed the next year.

The expectation is that all submitting entities will provide the first non-working day XML file (including all non-working days after the go live date for 2017) before the go live date.

It may happen that a correction is needed for any reason (unexpected days off, errors, ...) on the list of non-working days on a given year. In that case, the **complete and updated list** of non-working days for that year must be resubmitted, including past days, to ESMA.

3.3.3 Collection of Non-working days Data from NCAs not delegating data collection in their jurisdiction

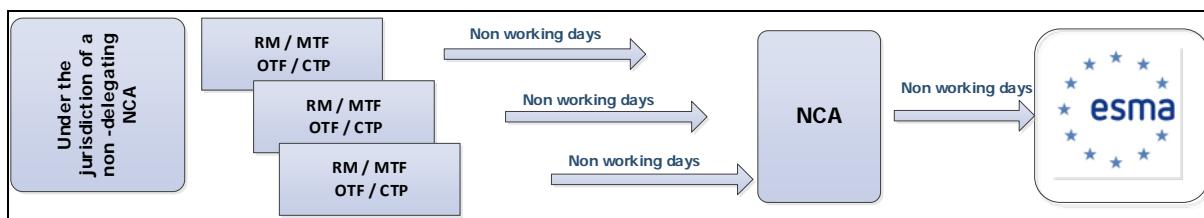


Figure 6 Non-working days Data flow for Trading Venues under the jurisdiction of a Non-Delegating NCA

Before 31st of December imperatively, the ESMA system will receive from the Non-Delegating NCA the complete list of days on when all TV/CTP under its jurisdiction are closed.

In addition, before 31st of December imperatively, the ESMA System will receive from each NCA delegating data collection the complete list of days on when the NCA is closed on the next year.

The expectation is that all submitting entities will provide the first non-working day XML file (including all non-working days after the go live date for 2017) before the go live date.

It may happen that a correction is needed for any reason (unexpected days off, errors, ...) on the list of non-working days on a given year. In that case, the **complete and updated list** of non-working days for that year must be resubmitted, including past days, to ESMA.

3.3.4 Business fields

3.3.4.1 Overview

This chapter defines the initial set of characteristic which will be sent to ESMA. The non-working days data files transmitted by TVs, s, CTPS, NCAs will use the same standardised ISO 20022 XML format. The scope of data to be reported is defined in the previous section.

3.3.4.2 Description of business fields

The list of attributes composing a Non-working days record to be received by the system is defined below.

Further to the below specified validation rules for each field, a set of validations will be performed, based on the table of Annex 5 preventing the Submitting entity from submitting to ESMA non existing calendar dates or data not related to it.

The field descriptions below contain several sections:

- **Format:** Field format according to definitions of table 1
 - **XPath:** Location on XSD schema to report this element
 - **Definition:** Explain what the field should contain

- **Standard:** The standard to use in order to populate the field (if applicable)
- **Validation:** Specific validation rules to be applied to this field (if exists)
- **Note:** If additional clarification is needed, it is included in this field

For all business fields XPath is relative to the following prepended text “Document/FinInstrmRptgNonWorkgDayRpt/NonWorkgDay”.

3.3.4.2.1 Id: Market identification code

- **Format:** {MIC}
- **XPath:** “Id/MktIdCd”
- **Definition:** Segment MIC for TV, where available, otherwise operating MIC to which the non-working day refers to.
- **Standard:** MIC code (ISO 10383 standard).
- **Validation:** A valid MIC Code should be populated according to the latest MIC reference list published by ISO¹². If that field is not populated with the MIC code of the TV (or of its segment) which reports the data, or the MIC code of a TV under the jurisdiction of the NCA which reports the data, the file containing the record will be rejected.
- **Note:** This field is populated for reporting non-working days of a TV only.

3.3.4.2.2 Id: National Competent Authority identification code

- **Format:** {COUNTRYCODE_2}
- **XPath:** “Id/NtlCmptntAuthrty”
- **Definition:** The country code of the NCA to which the non-working dates refer to.
- **Standard:** Country code (ISO 3166 standard).
- **Validation:** A valid Country Code should be populated according to the latest Country reference list published by ISO¹³. The country code should be an EEA country.

¹² <http://www.iso15022.org/mic/homepagemic.htm>

¹³ <http://www.iso15022.org/mic/homepagemic.htm>

If this field is not populated with the country code of the NCA which reports the data, the file containing the record will be rejected.

- **Note:** This field is populated for reporting NCA closing days only.

3.3.4.2.3 Id: Other venue Identification code

- **Format:** {ALPHANUM-50 MAX}

- **XPath:** “Id/Othr/Id”

- **Definition:** Identifies the CTP to which the non-working day refers to.

- **Standard:** 4-character code provided by ESMA.

In case of CTP, this field should be a 4-characters code provided by ESMA or a MIC if it exists.

- **Validation:** If this field is not populated with the identifier of the CTP which reports the data, or the code of an CTP under the jurisdiction of the NCA which reports the data, the full file will be rejected.

- **Note:** This field is populated for reporting non-working days for CTP only.

The type of venue, CTP, is populated in the field: *Other venue Identification type code*.

3.3.4.2.4 Id: Other venue Identification type code

- **Format:** ‘APPA’, ‘CTPS’

- **XPath:** “Id/Othr/Tp”

- **Definition:** Identifies the type of venue, CTP, to which the non-working days refer to.

- **Standard:**

In case of CTP, this field should be populated with ‘CTPS’.

- **Validation:** If this field is populated with values other than the aforementioned values, the file will be rejected.

- **Note:** This field is populated only for reporting non-working days of CTP. The identifier code of the CTP is populated in the field: *Id: Other venue Identification code*.

3.3.4.2.5 NonWorkingDay: Technical Record Identification

- **Format:** {ALPHANUM-35}
- **XPath:** "NonWorkgDay/TechRcrdId"
- **Definition:** Should provide a unique identifier of the record to be used by FIRDS error management routine to identify any error related to it.
- **Notes:** This field should be populated by a unique identifier that makes sense for the reporting entity, in order to easily process the eventual error messages received from ESMA.

The reporting date, followed by a sequence number (YYYYMMDDnxxxxxx) could be used.

3.3.4.2.6 NonWorkingDay: Non-working date

- **Format:** {DATEFORMAT}
- **XPath:** "NonWorkgDay/Dt"
- **Definition:** The date of the non-working day.
- **Standard:** The format of this date should follow the ISO 8601 Date Format standard:

YYYY-MM-DD.
- **Validation:** If this field is not populated, or populated with a non-existing calendar date or with a value of invalid format, the file will be rejected.
- **Note:** **All non-working dates of the same year must be reported in the same file.**

3.3.4.2.7 NonWorkingDay: Non-working reason

- **Format:** 'BHOL', 'PHOL', 'THOL', 'WKND', 'OTHR'
- **XPath:** "NonWorkgDay/Rsn"
 - **Definition:** The reason of the non-working day. This field is not currently mandated by the system and submitting entities may skip it.

- **Standard:**
 - In case of Bank Holiday, BHOL
 - In case of Public Holiday, PHOL
 - In case of trading Holiday, THOL
 - In case of Weekend, WKND

In case of other reason, OTHR

N.B. Half working days should not be reported as non-working days as they should be considered as a working day.

- Validation:** If this field is populated with values other than the aforementioned one, the file will be rejected with a schema validation error.

3.3.4.3 File information

In addition to the business information described above, the sender will have to provide file information which contains characteristics describing the file itself. This information should be included in the Business Application Header and in the Message Header.

The field descriptions below contain several sections:

- **Format:** Field format according to definitions of table 1
- **XPath:** Location on XSD schema to report this element
- **Definition:** Explain what the field should contain
- **Standard:** The standard to use in order to populate the field (if applicable)
- **Validation:** Specific validation rules to be applied to this field (if exists)
- **Note:** If additional clarification is needed, it is included in this field

3.3.4.4 Business Application header (BAH)

For the Business Application Header fields, the identified Xpath is the absolute value.

The same attribute as per section BAH for reference data except for the following attributes:

3.3.4.4.1 From: Organisation Identification: Identification: Organisation Identification: Other

- Format:** {ALPHANUM-35}
- XPath:** “AppHdr/Fr/OrgId/Id/OrgId/Othr/Id”
- Definition:** This field contains the MIC code of the TV, a prefix identifying the CTP followed by a four letter code provided by ESMA for an CTP or the country code of the Competent Authority which submits the information.
- Standard:** The trading venue hould be identified by the ISO 10383 four character MIC code. A CTP should be identified by a prefix of a C for a CTP followed by a four

letter code provided to them by ESMA. The country code should be identified by the alpha 2 character 3166 ISO country code.

- **Note:** When a NCA acts as a router, receiving files from TVCTP under their jurisdiction and not performing any validation on them, the original sender (TV/CTP) should also fill in the field “From: Organisation Identification: Identification: Organisation Identification: Other”.

3.3.4.5 Message header

For the message header fields, Xpath is relative to the following prepended text “Document/FinInstrmRptgNonWorkgDayRpt/RptHdr”.

In addition to the message header fields as per section [Message Header](#), the following fields must be considered:

3.3.4.5.1 Reporting Period: From Date

- **Format:** {DATEFORMAT}
- **XPath:** “RptgPrd/FrDtToDt/FrDt”
- **Definition:** The earliest Non-working date among the non-working days records in the file.
- **Standard:** The format of this date should follow the ISO 8601 Date format standard 8601.
- **Validation:** If this field is not populated, or populated with a non-existing date, or with a date of invalid format, the file will be rejected.

3.3.4.5.2 Reporting Period: To Date

- **Format:** {DATEFORMAT}
- **XPath:** “RptgPrd/FrDtToDt/ToDt”
- **Definition:** The latest non-working date among the Non-working days records in the file.
- **Standard:** The format of this date should follow the ISO 8601 Date format standard.
- **Validation:** If this field is not populated, or populated with non-existing date, or with a date of invalid format, the file will be rejected.

3.3.4.5.3 Reporting Entity: NCA identification code: id

- **Format:** {COUNTRYCODE_2}
- **XPath:** “RptgNtty/NtlCmptntAuthrty”

- **Definition:** This field contains the country code of the NCA (EEA home Member State) which reports the information.
- **Standard:** 2-letter country code (ISO 3166-2 Standard)
- **Validation:** If this field is not populated or populated with a value with incorrect format or is not an EEA country, the file will be rejected.
- **Note:** This field is used by NCA not delegating data collection to report its own non-working days.
This field is used by NCA not delegating data collection and not acting as router to report non-working days of TV/CTP under its jurisdiction.

3.3.4.5.4 Reporting Entity: MIC identification code: id

- **Format:** {MIC}
- **XPath:** “RptgNtty/MktIdCd”
- **Definition:** Segment MIC for TV, where available, otherwise operating MIC to which the non-working day refers to.
- **Standard:** MIC code (ISO 10383 Standard)
- **Validation:** If this field is not populated or populated with a value with incorrect format or invalid MIC, the file will be rejected.
- **Note:** This field is used by TV under the jurisdiction of a NCA delegating data collection to report its non-working days.
This field is used by TV under NCA delegating data collection and acting as router to report its non-working days.

3.3.4.5.5 Reporting Entity: CTP identification code: id

- **Format:** {ALPHANUM-50 MAX}
- **XPath:** “RptgNtty/Othr/Id”
- **Definition:** This field contains the identifier of CTP which reports the information.
- **Standard:** 4-character code provided by ESMA.
- **Validation:** If this field is not populated or populated with a value with incorrect format or unknown, the file will be rejected.
- **Note:** The type of venue, CTP, is identified in the next field.

This field is used by TP under the jurisdiction of a NCA delegating data collection and acting as router to report its non-working days.

This field is used by CTP under the jurisdiction of delegating data collection to report its non-working days.

3.3.4.5.6 Reporting Entity: CTP identification code: Type

- **Format:** 'CTPS'

- **XPath:** "RptgNtty/Othr/Tp"

- **Definition:** The type of venue other than TV/NCA, or CTP, which reports the data.

- **Standard:**

In case of CTP, this field should be populated with 'CTPS'.

- **Validation:** If this field is populated with values other than the aforementioned values, the file will be rejected.

- **Note:** This field is populated for reporting CTP non-working days only. The identifier code of the CTP is populated in the previous field.

-

3.3.4.6 Business data submission file

The business data submission file is the file which encapsulated the Business Application Header (BAH), Message Header (MHD) and Business Fields (BF).

In this file the following Xpaths are prepended to the previously defined XPaths:

- Business Application Header – "BizData/Hdr"
- Message Header – "BizData/Pyld"
- Business Fields - "BizData/Pyld"

[Updated: 31/10/2018 – Applicable to the major maintenance release planned Q1 2019]

For correct submission of the files the following namespaces need to be defined when creating the XML message:

- <BizData xmlns="urn:iso:std:iso:20022:tech:xsd:head.003.001.01" xmlns:xsi="<http://www.w3.org/2001/XMLSchema-instance>" xsi:schemaLocation="urn:iso:std:iso:20022:tech:xsd:head.003.001.01 head.003.001.01.xsd">
- <AppHdr xmlns="urn:iso:std:iso:20022:tech:xsd:head.001.001.01" xmlns:xsi="<http://www.w3.org/2001/XMLSchema-instance>" xsi:schemaLocation="urn:iso:std:iso:20022:tech:xsd:head.001.001.01 head.001.001.01_ESMAUG_1.0.0.xsd">
- <Document xmlns="urn:iso:std:iso:20022:tech:xsd:auth.039.001.01" xmlns:xsi="<http://www.w3.org/2001/XMLSchema-instance>" xsi:schemaLocation="urn:iso:std:iso:20022:tech:xsd:auth.039.001.01 auth.039.001.01_ESMAUG_DATNWD_1.1.0.xsd">

For clarity of usage see the example on [Annex 7](#).

3.3.5 Naming Convention, compression and EAMFT

3.3.5.1 Principles

It has been decided that exchanged files will not be encrypted, nor signed, but just compressed. File level encryption is not required as the communication layer uses an encrypted protocol e.g. SFTP, FTPS, HTTPS. On top of this, the information in itself is not classified as confidential.

Non-working days Data files are sent to and processed by the FIRDS system which is managed by ESMA.

3.3.5.2 Naming convention

All files containing the instrument reference data list must use the following naming convention:

<Sender>_<FileType>_<Recipient>_<Key1>-<Key2>_<Year>.xml

1. **<Sender>** is a 5-character identifier of the sender of the data. Depending on the type of the entity sending the data, the identifier can be one of the following:
 - **NCA^{XX}** where XX is the ISO 3166 country code (2 alpha characters) of the NCA sending the data (e.g. NCADE, NCAPL, ...);
 - **TXXXX** where XXXX is a MIC code identifying the submitting Trading Venue (e.g. XPAR, XAMS, ...).
 - **CXXXX** where XXXX is a 4-character code identifying the submitting CTP.
2. **<Filetype>** is a 6-character field identifying the type of data contained in the file. It must be set to DATNWD.
3. **<Recipient>** is a 5-character field that identifies the receiver of the file. It must be set to **FIRDS**.

4. <Key1> is a 5-letter character code which is reused by the system when generating a feedback file related to this file.

Key1 can be used as needed by the Submitting Entity. For example, a NCA may want to populate it with T<identifier code of the TV> or C<identifier code of the CTP> or referring to the TV which originally submitted the file to the NCA; this way, the name of the ESMA feedback file will contain the identification of the TV under its jurisdiction which is concerned by the feedback file. If not needed by the submitting entity, any 5-letter character code can be used.

5. <Key 2> is a unique sequence number using 6 digits. This attribute is completed with zeros to fit to 6 characters (e.g. 000157). This sequence number does not depend on the file type, recipient or any other characteristic. It can start again at 000000 after 999999. This number shall be incremented each time a sender sends a new file (if the same file is sent again, a new sequence number must be provided). This number identifies uniquely a file. Should a problem occur in the sending of the dataset, the sequence number will help identifying the file.
6. <Year> is a 2-digit field. It is the year when the file was sent. It facilitates archiving.

This naming convention is checked by the EAMFT. See the chapter 2.3.9 Upload Error Handling.

Examples:

- The Polish authority (K) sends a non-working data file. The file should be named as:
NCAPL_DATNWD_FIRDS_NCAPL-000123_17.xml
- Euronext Paris sends three non-working days data files corresponding to three Trading Venues operated by them. They should be named:
TXPAR_DATNWD_FIRDS_TXPAR-002123_17.xml
TXPAR_DATNWD_FIRDS_TALXN-002124_17.xml
TXPAR_DATNWD_FIRDS_TMON-002125_17.xml

3.3.5.3 Compression

All files exchanged through the FIRDS system have to be compressed using a ZIP algorithm. The extension of the files would then become **.zip** before being exchanged through the EAMFT. The zip file contains only one compressed xml file. **The zip file has the same filename as the xml file.**

3.3.5.4 ESMA Managed File Transfer System (HUBEX/HUBDE)

Depending on the type of submitting entity they would need to establish connection to one of ESMA's production HUBs.

NCA's will use HUBEX and TV/CTP will use HUBDE to send the files to ESMA. To do so, they will simply upload their non-working days data files (DATNWD) in the 'outgoing' directory of their area. The file will be then routed to FIRDS via HUBEX and HUBDE.

The XML schema for the Upload message is "auth.039.001.01". See [Annex 6](#).

3.3.6 Upload Error Handling

3.3.6.1 Overview

This chapter defines the error handling system. It deals with error handling between submitting entities and the FIRDS system as well as with the transmission errors.

3.3.6.2 Overall dynamics

A feedback is produced by the FIRDS system for each file received. The feedback file is made available through HUBDE/HUBEX to be retrieved by the submitting entity which has sent the non-working days data file, or in case of transmission errors detected by HUBDE a protocol level error is reported and no feedback file is generated.

A feedback file facilitates controlling that the respective file has been received and provides information on errors if any. In the scheme above, feedback files can be generated either by the FIRDS system or the HUBEX and sent back to the submitting entity.

Two cases can be observed when a submitting entity sends a non-working days data file to FIRDS:

- **File sent is correct (without any errors)**
 - A feedback file of status ACCEPTED is sent back by the FIRDS System to confirm that the file has been received and there are no errors.
- **File sent has errors of any kind**
 - A feedback file of status REJECTED is sent back by the FIRDS system to inform that the file has been received and errors have been discovered.
 - The submitting entity corrects the file/erroneous record and resends all the records previously submitted including for those no error was detected.

Generated feedback messages could contain three types of information:

- **Transmission errors:** every error which could be detected by HUBDE/HUBEX as for example naming convention errors. These will be provided by a “protocol message error”.
- **File errors:** errors detected by FIRDS system which prevents it reading files received. For example compression, XML format... The detail will be provided in the feedback file.
- **Content errors:** errors detected by FIRDS system concerning the content of the file at the level of the records - as an example that may be an invalid date. The detail will be provided in the feedback file.

3.3.6.3 Error correction

As per previous section, there are three types of errors:

1. Transmission errors
2. File errors
3. Record content errors

From the point of view of the FIRDS system:

- When transmission errors are detected, it generates a feedback file/ message and does not load any records of the file.
- When file errors are detected, it generates a feedback file and does not load any records of the file.
- When content errors are detected, it generates a feedback file and does not load any records of the file.

It is the responsibility of the submitting entity to ensure that all feedback files are analysed and all records are corrected:

- If a feedback regarding transmission errors is received, these must be corrected and the entire file resent.
- If a feedback containing file errors is received, these must be corrected and the entire file resent.
- If a feedback containing content errors is received, the erroneous records must be corrected and the entire file resent.

3.3.6.4 Transmission errors

For transmission errors see section [2.3.9.4](#)

3.3.6.5 File errors

For file errors see section [2.3.9.5](#)

3.3.6.6 Content errors

Control executed by the system	Error code	Error Message	Concerned attributes
If the non-working day is provided for a Market TV (NonWorkgDay/Id/MktIdCd is populated): the system checks that the MIC exists in the Reporting Flow View under “TV MIC”, and that there exists a line in the Reporting Flow View which maps this “TV MIC” with “Reporting Entity” documented in the RptHdr/RptgNtty If the non-working day is provided for a CTP (NonWorkgDay/Id/Othr/Id is populated): the system checks that the identification code	NWD-001	The TV/CTP identified under NonWorkgDay/Id is not registered at ESMA or is not consistent with the reporting entity in the header.	Reporting Entity: National competent authority code Non-working days: National competent authority code

under Other/Id exists in the Reporting Flow View under “Reporting Entity” and is the same as the entity reported under RptHdr/RptgNtty/Id/Othr			
In case the identification code of the record is a NCA ^[3] , that code shall exist in the NCA reference data table in the Registers system and must be equal to the Reporting Entity identifier in the header of the XML file.	NWD-002	The NCA identified by the “Trading Venue identification code” field is not registered at ESMA or is not equal to the reporting entity in the header.	Reporting Entity: Market identification code Non-working days: market identification code
The Non-working Date should be a valid date (existing date) ¹⁴ .	NWD-003	This date does not exist	Non-working days: Non-working date

3.3.6.7 Content and file errors feedback files

Content and file errors feedback files are generated by the FIRDS system to check that the file has been received, and provide information on acceptance or errors. There is one feedback file per data file received.

Instrument feedback files contain different type of data:

- Information on the original file
- Errors in the file
- Error information on non-working days records

3.3.6.7.1 Naming convention

A feedback file will follow the naming convention described in 2.3.8.2 with the different components filled as:

- <Sender> will be FIRDS (as the file is generated by the FIRDS system)
- <Filetype> will be FDBNWD
- <Recipient> will be the sender of the received DATNWD file
- <Key1> is the Key1 of the received DATNWD file
- <Key2> is the Key2 of the received DATNWD file
- <Year> will be the current year

^[3] Used in case the non-working day refers to an NCA

¹⁴ The format of the date is checked at the level of the file validation/compliance with XSD.

3.3.6.7.2 File information

For the feedback files in addition to the information on records with errors described below, ESMA will provide file information which contains characteristics describing the file itself and references to the original file. This information should be included on the Business Application Header and on the Message Header.

3.3.6.7.2.1 *Business Application Header (BAH)*

The information contained on the BAH refers mainly to the original received file, and identifies the sender and date of creation of the file. The fields to be used are same as described on 0 with additional information being filled about the related message. They should be populated as follows:

- “From: Organisation Identification: Identification: Organisation Identification: Other” - will be populated with ‘EU’ as the sender of the feedback file is ESMA.
- “To: Organisation Identification: Identification: Organisation Identification: Other” – should be populated with the “From: Organisation Identification: Identification: Organisation Identification: Other” of the submitted file to which this feedback is related to.
- “Business Message Identifier” – will be populated with the “<Key1>-<Key2>” part of the name of the original file.
- “Message Definition Identifier” – should be populated with the approved Message Identifier for the Status Advice Message as published on the ISO 20022 website.
- “Creation Date” – will be populated with the date and time when this feedback message was created.
- “Related” – This field is a complex structure similar to the BAH and will be populated with a copy of the BAH of the original file.

3.3.6.7.2.2 *Message Header*

On the description of the message header fields, Xpath is relative to the following prepended text “Document/FinInstrmRptgStsAdvc/StsAdvc/MsgSts/”.

[Updated: 19/10/2018 – Applicable to the major maintenance release planned Q1 2019]

For correct reception of the FDB and RMD files, the following change need to be defined when retrieving the XML message:

- The element

Document/FinInstrmRptgStsAdvc/StsAdvc/MsgSts/RptSts

should be changed to

Document/FinInstrmRptgStsAdvc/StsAdvc/MsgSts/Sts

For clarity of usage see the example on [Annex 7](#).

The information contained on the Message Header is:

3.3.6.7.2.2.1 Report Status

- **Format:** ‘ACPT’, ‘CRPT’, ‘INCF’, ‘PART’, ‘RCVD’, ‘RJCT’, ‘RMDR’, ‘WARN’
- **XPath:** “Sts”
- **Definition:** Identifies the status of the received report.
- **Note:** The following table describes the cases when a certain code will be used:

Report Status code	Use cases	Generating application
ACPT	File was accepted with no errors	FIRDS System
CRPT	File is corrupted	FIRDS System
RJCT	File was rejected due to file errors	FIRDS System

3.3.6.7.2.2.2 Validation Rule: Identification

- **Format:** {ALPHANUM-35}
- **XPath:** “VldtnRule/Id”
- **Definition:** Unique and unambiguous identification of a validation rule.
- **Note:** This field would be filled when a file is corrupted (Report status = ‘CRPT’) or in case of an error that originates a file error (Report status = ‘RJCT’).

3.3.6.7.2.2.3 Validation Rule: Description

- **Format:** {ALPHANUM-350}
- **XPath:** “VldtnRule/Desc”
- **Definition:** Further information on the validation rule as identified in the Identification.

- Note:** This field would be filled when a file is corrupted (Report status = 'CRPT') or in case of a file error (Report status = 'RJCT').

The possible values for the Validation Rule fields are included on the following table:

Report status	Validation Rule Identification	Validation Rule Description	Generation application
CRPT	FIL-101	The file cannot be decompressed.	FIRDS System
RJCT	FIL-102	The file contains more than 1 XML file	FIRDS System
RJCT	FIL-103	The name of the XML file is not consistent with the name of its container ZIP file.	FIRDS System
RJCT	FIL-104	The ISO 20022 Message Identifier in the BAH (*.xsd) is not valid.	FIRDS System
RJCT	FIL-105	The file structure does not correspond to the XML schema : [result of XML validation]	FIRDS System
RJCT	FIL-106	The Reporting Entity is not registered at ESMA or the Submitting Entity shall not submit this data.	FIRDS System
RJCT	FIL-107	File <Filename> has already been submitted once	FIRDS System

3.3.6.7.2.3 Non-working days feedback records

On the description of the record error fields, Xpath is relative to the following prepended text "Document/FinInstrmRptgStsAdvc/StsAdvc/RcrdSts/".

Information related to content errors in Non-working days is supported by the following fields:

3.3.6.7.2.4 Original Technical Record Identification

- Format:** {ALPHANUM-35}
- XPath:** "OrgnlRcrdId"
- Definition:** A unique identifier of the record to be used by FIRDS error management routine to identify any error related to it.
- Notes:** This field will be populated by a value corresponding to the one provided by the reporting entity which should clearly identify the record where the error was spotted.

3.3.6.7.2.5 Status

- Format:** 'RJCT', 'WARN'

- **XPath:** “Sts”

- **Definition:** Identifies the status advice for the current record.

- **Note:** The following table describes the cases when a certain code will be used:

Report Status code	Use cases
RJCT	The file was rejected because errors where found

3.3.6.7.2.6 Validation Rule Identification

- **Format:** {ALPHANUM-35}

- **XPath:** “VldtnRule/Id”

- **Definition:** Unique and unambiguous identification of a validation rule.

2.5.4.1.1.1 Validation Rule Description

- **Format:** {ALPHANUM-350}

- **XPath:** “VldtnRule/Desc”

- **Definition:** Further information on the validation rule as identified in the Identification.

- **Note:** The possible values for the Validation Rule Identification and Description fields are included on the following table:

Validation Rule Identification	Validation Rule Description
NWD-001	The TV/CTP identified by the “Trading Venue identification code” field is not registered at ESMA or is not consistent with the reporting entity in the header.
NWD-002	The NCA identified by the “Trading Venue identification code” field is not registered at ESMA or is not equal to the reporting entity in the header.
NWD-003	This date does not exist.

3.3.6.7.3 Non-working days feedback record format

The XML description and schema of the file can be found in the zip file of [Annex 6](#) labelled “DRAFT4auth.031.001.01_ESMAUG_FDB_1.0.0”

3.3.6.7.4 Receiving Non-working days feedback files

Non-working days Feedback files are received by the submitting entity using exactly the same process as a regular file. It is sent by ESMA (FIRDS system) and received in its incoming in HUBEX/HUBDE.

- The naming convention is the same and the file type field is populated in with the value FDBNWD for Non-working days feedback,
- Files are compressed,
- Files are downloaded from the EAMFT in the incoming directory in the usual way.

If there is a problem with the feedback file, the submitting entity should contact ESMA.

3.3.6.7.5 Responsibilities of the submitting authority or trading venue

The submitting entity is responsible for the reliability and availability of its data. With respect to this statement, the submitting entity must:

1. Ensure that the file has been received,
2. Ensure that all records are sent in a correct manner.

FIRDS uses the feedback files to ensure that everything has been received. The submitting entity should check that they have received a feedback file for every file they sent. After one business day, the submitting authority or trading venue should contact the FIRDS administrator to ensure that the file has been received if no feedback file was provided.

The reporting entity must read all feedback files and correct the records. The correction of the incorrect records should be done as soon as possible.

Corrected records are resent in a regular file, which is not distinguishable from a regular record.

[Updated: 31/10/2018 – Applicable to the major maintenance release planned Q3 2019]

3.4 Download Interface

This chapter specifies the file content and the structure of the file containing information about Non-Working days of all Trading Venues and CTPs, that can be retrieved by Competent Authorities.

The table below describes the file type available in the public folder on HUBEX:

File Type Code	Description	Folder	Availability
FULNWD	Full Non-Working days file	Public	10 last files issued (10 days)

3.4.1 Full Non-Working days file

3.4.1.1 Scope

The file contains the full set of Non-Working days for TVs, and CTPs which has been submitted to ESMA before the applicable cut-off time on the previous working day by Trading Venues, and National Competent Authorities that have not delegated collection.

The file is valid a certain day (the day of creation of the file) and becomes invalid as soon as another file is issued by the FIRDS system – (i.e. the next calendar day).

ESMA will make available the full Non-Working days file every day by 9:00 CET at the latest on the public folder of HUBEX.

3.4.1.2 File information

The file information should be included on the Business Application Header and on the Message Header and is exactly the same as the one mentioned on the upload interface 3.3.

3.4.1.2.1 Business Application Header (BAH)

The fields to be used are same as described on [3.3.4.4](#). They should be populated as follows:

- “From: Organisation Identification: Identification: Organisation Identification: Other” - will be populated with ‘EU’ as the sender of the file is ESMA.
- “To: Organisation Identification: Identification: Organisation Identification: Other” - should be populated with ‘PUBLI’.
- “Business Message Identifier” - should be populated with the name of the full Non-working days file.
- “Message Definition Identifier” – should be populated with the approved Message Identifier for the Non Working Days Data Report Message as published on the ISO 20022 website
- “Creation Date” - should be populated with the date and time when this message was created.

3.4.1.2.2 Message Header

The fields to be used are the same as described on 2.3.7.2 and should be populated as follows:

- Reporting Period: Publication Date
- Reporting Entity: National Competent Authority will be filled with EU as the sender of the file is ESMA
- Submission Date Time will be filled with system Date:Time when the file was created

3.4.1.3 Description of business fields

The business fields are exactly the same as those described in the upload interface 3.3.4.2.

FIRDS will group records by Entity Identifier and populate the Entity Identifier and Datefields according to the following rules:

- a. FinInstrmRptgNonWorkgDayRpt/NonWorkgDay/Id: the entity identifier (MIC code or 2-letter country code) within the relevant element:
 - i. MktIdCd if the Entity Identifier starts with T
 - ii. NtlCmptntAuthrty if the Entity Identifier starts with NCA or is equal to ESMA (in that case the 2 letter code is EU)
 - iii. Othr if the Entity Identifier starts with C, in that case Tp = CTPS
- b. FinInstrmRptgNonWorkgDayRpt/NonWorkgDay/NonWorkgDayDt: for each non-working day of that entity, in ascending order

3.4.1.4 Naming convention

The file type of the full Non-Working Days file is FULNWD. Since it is in the public directory, the recipient is PUBLI. The sender is FIRDS because it is generated by ESMA.

The same XML schema as the one for reporting non working days data is used for the full file.

The schema will be “auth. 039.001.01”. See [Annex 6](#).

3.4.1.5 Compression

The full Non-Working days files are compressed using the standard ZIP algorithm. After compression, the extension of the file becomes .zip.

3.4.1.6 EAMFT

The full Non-Working days file is available in the public directory of the HUBEX. A new file is uploaded each calendar day. So the latest available version is on the EAMFT at all times.

Annex 1. Scope of the reference data to be received

The list of reference data fields to be received by the system is described in Tables 1, 2 and 3 of the Annex of the Regulatory Technical Standard on MiFIR Article 27.

In addition, NCAs not delegating data collection in their jurisdiction will have the possibility to submit, for each record, the date and time they received the record from the corresponding TV / SI. This field is optional. If not specified, the data and time or reception of the file by ESMA will be used instead. Changes to this field will not be recorded in the “invalid records file”.

Annex 2. Scope of the reference data to be published

The list of reference data fields to be published by the system is:

- Fields described in Tables 1, 2 and 3 of the Annex of the Regulatory Technical Standard on MiFIR Article 27;
- The country of the Relevant Competent Authority;
- For NCAs full file only:
- the date / time when the record was received from the corresponding submitting entity;
- a flag indicating whether an inconsistency has been detected for the corresponding record.

Annex 3. File Naming convention

File Type code	Data	Category	HUBEX/HUDE folder
DATINS	File that contains instrument reference data to be submitted to the ESMA System.	Incoming file	Incoming
FDBINS	Feedback files generated by the ESMA System on a DATINS file.	Feedback file	Outgoing
DATNWD	File that contains non-working days' data to be submitted to the ESMA System.	Incoming file	Incoming
FDBNWD	Feedback file generated by the ESMA System on a DATNWD file.	Feedback file	Outgoing
CANINS	File that contains cancelled instrument reference data to be submitted to the ESMA System.	Incoming file	Incoming
FULCAN	Full file for cancelled records only	Consolidated file	Public (HUBEX only)
FDBCAN	Feedback file generated by the ESMA System on a CANINS file.	Feedback file	Outgoing
FULINS	Full File	Consolidated file	Public (HUBEX only)
DLTINS	Delta File	Consolidated file	Public (HUBEX only)

INVINS	Invalid records file	Consolidated file	Public (HUBEX only)
DATCUR	Full Currencies ISO data file	Consolidated file	Public (HUBEX only)
DATCNY	Full Country ISO data file	Consolidated file	Public (HUBEX only)
DATCFI	Full CFI ISO data file	Consolidated file	Public (HUBEX only)
DATLEI	GLEIF daily LEI data file	Consolidated file	Public (HUBEX only)
DATMIC	Full MIC ISO data file	Consolidated file	Public (HUBEX only)
DATIDX	Expression of interest on indices Full file	Consolidated file	Public (HUBEX only)
RMDINS	Reminder file	Reminder file	Outgoing

Annex 4. File and Content Errors

File Errors

Error Reference	Error Message
FIL-101	The file cannot be decompressed.
FIL-102	The file contains more than 1 XML file.
FIL-103	The name of the XML file is not consistent with the name of its container ZIP file.
FIL-104	The ISO 20022 Message Identifier in the BAH must refer to the latest schema approved
FIL-105	The file structure does not correspond to the XML schema : [result of XML validation]
FIL-106	The Reporting Entity is not registered at ESMA or the Submitting Entity shall not submit this data.
FIL-107	File <Filename> has already been submitted once

Content Errors

Error Reference	Error Message
INS-101	The CFI code is not valid against the CFI based validation matrix.
INS-102	The following mandatory fields are not reported: "List of RTS23 number Id of missing field(s)"
INS-103	The following Non Applicable fields are wrongly reported: "List of RTS23 number Id of N/A field(s)".
INS-104	The following records are reported twice in the same file.
INS-105	The Trading Venue field contains an invalid MIC code.
INS-107	"Trading Venue" field is not registered at ESMA or is not reported by the right reporting entity.
INS-108	The Strike Price Currency Code is incorrect.

INS-109	The Notional Currency 1 Code is incorrect.
INS-110	The Notional Currency 2 Code is incorrect.
INS-111	The Currency of nominal value is incorrect.
INS-112	The LEI provided for "Issuer Identifier" is invalid.
INS-113	The LEI provided for "Direct Underlying Issuer" is invalid.
INS-114	The ISIN code of the instrument identification code is invalid.
INS-115	The ISIN code of the underlying is invalid.
INS-116	The ISIN code of the Index/Benchmark of a floating rate Bond is invalid.
INS-117	The "Date of admission to trading or date of First trade" is not a consistent date.
INS-118	The Termination Date is not a consistent date.
INS-119	The Termination Date is earlier than the "Date of admission to trading or date of First trade".
INS-120	The Maturity Date is not a consistent date.
INS-121	The Maturity Date and Date of admission to trading or date of First trade are not consistent..
INS-122	The Expiry Date is not a consistent date.
INS-123	The Expiry Date and The Date of admission to trading or date of First trade are not consistent.
INS-124	Invalid "PUTO" Option Type
INS-125	Invalid "CALL" Option Type
INS-126	The Termination date is not populated for an expired/matured instrument.
INS-127	The Termination date and Expiry date/Maturity date are not consistent.
INS-128	The following fields are not consistent with the one provided by <>RCA>>: List of RTS23 number Id of missing field(s)".
INS-129	The currency of the Total issued nominal amount is not the same as the currency of nominal value
INS-130	The ISIN-MIC combination, received from a cancellation record, doesn't exists in FIRDS DB

Annex 5. CFI Based Validations [Updated: 02/03/2020]

[Updated: 02/03/2020 - Updated CFI-based validations]

As of 02 March 2020, updated CFI-based validations, have been implemented in FIRDS-Test environment.

As of 18 May 2020, updated CFI-based validations, have been implemented in FIRDS-Production environment.

Latest CFI-based validations, are published in our website in the below link

https://www.esma.europa.eu/sites/default/files/library/firds_cfi_validations.xlsx

Annex 6. XML schemas [Updated: 17/09/2020]

Instrument Reference Data Schema Table – XML Schema version 1.2.0

[Updated: 23/09/2019] Following the installation of FIRDS V3.0.2, on 23/09/2019, XML Schema 1.1.0 should be used to report data to ESMA in the production environment.

[Updated: 17/09/2020] XML Schema 1.2.0 should be used to support cancellation of records.

- FIRDS Cancellations file, new base message **(CANINS - auth.102)** for reporting entities to submit cancellations.
- FIRDS Full file for Cancellations, new base message **(FULCAN - auth.102)** for ESMA system to publish cancelled records.
- FIRDS Feedback file for Cancellations **(FDBCAN – auth.031)** will be based on the existing XSD schema for FDBINS, auth.031.001.01_ESMAUG_FDB_1.1.0.xsd
- FIRDS delta files **(DLTINS – auth.036)** – updated version of the message, adding a “Cancelled Record” branch to distribute cancellation information.

Message Component	File type	XML Schema used for validation (ISO 2022 derived Message)	ISO 20022 Base Message Definition Identifier
Business Application Header (BAH)	All	head.001.001.01_ESMAUG_1.0.0.xsd	head.001.001.01
BAH and business message encapsulation	All	head.003.001.01.xsd	head.003.001.01
Instrument Reference Data Report	DATINS	auth.017.001.02_ESMAUG_DATINS_1.1.0.xsd	auth.017.001.01
Feedback on Instrument Reference Data Report	FDBINS	auth.031.001.01_ESMAUG_FDB_1.1.0.xsd	auth.031.001.01
Full file	FULINS	auth.017.001.02_ESMAUG_FULINS_1.1.0.xsd	auth.017.001.01
Delta file [Updated xsd]	DLTINS	auth.036.001.03_ESMAUG_DLTINS_1.2.0.xsd	auth.036.001.03
Cancellations file [New xsd]	CANINS	auth.102.001.01_ESMAUG_CANINS_1.2.0.xsd	auth.102.001.01
Full file for Cancellations [New xsd]	FULCAN	auth.102.001.01_ESMAUG_CANINS_1.2.0.xsd	auth.102.001.01
Feedback file for Cancellations [Existing xsd]	FDBCAN	auth.031.001.01_ESMAUG_FDB_1.1.0.xsd	auth.031.001.01
Invalid records file	INVINS	auth.042.001.02_ESMAUG_INVINS_1.1.0.xsd	auth.042.001.01



Reminder	RMDINS	auth.031.001.01_ESMAUG_RMD_1.1.0.xsd	auth.031.001.01
Non Working Days Data Report	DATNWD	auth.039.001.01_ESMAUG_DATNWD_1.1.0.xsd	auth.039.001.01
Feedback on Non Working Days Data Report	FDBNWWD	auth.031.001.01_ESMAUG_FDB_1.1.0.xsd	auth.031.001.01

All incoming files will be validated against head.003.001.01.xsd,
head.001.001.01_ESMAUG_1.0.0.xsd, and against the XML Schema corresponding to the file's HUB
File Type

[Updated: 31/10/2018 – Applicable to the major maintenance release planned Q1 2019]

Instrument Reference Data Schema Table – XML Schema version 1.1.0

Message Component	File type	XML Schema used for validation (ISO 2022 derived Message)	ISO 20022 Base Message Definition Identifier
Business Application Header (BAH)	All	head.001.001.01_ESMAUG_1.0.0.xsd	head.001.001.01
BAH and business message encapsulation	All	head.003.001.01.xsd	head.003.001.01
Instrument Reference Data Report	DATINS	auth.017.001.02_ESMAUG_DATINS_1.1.0.xsd	auth.017.001.02
Feedback on Instrument Reference Data Report	FDBINS	auth.031.001.01_ESMAUG_FDB_1.1.0.xsd	auth.031.001.01
Full file	FULINS	auth.017.001.02_ESMAUG_FULINS_1.1.0.xsd	auth.017.001.02
Delta file	DLTINS	auth.036.001.02_ESMAUG_DLTINS_1.1.0.xsd	auth.036.001.02
Invalid records file	INVINS	auth.042.001.02_ESMAUG_INVINS_1.1.0.xsd	auth.042.001.02
Reminder	RMDINS	auth.031.001.01_ESMAUG_RMD_1.1.0.xsd	auth.031.001.01
Non Working Days Data Report	DATNWD	auth.039.001.01_ESMAUG_DATNWD_1.1.0.xsd	auth.039.001.01
Feedback on Non Working Days Data Report	FDBNWD	auth.031.001.01_ESMAUG_FDB_1.1.0.xsd	auth.031.001.01

All incoming files will be validated against head.003, head.001.01_ESMA_UG_1.0.0.xsd, and against the XML Schema corresponding to the file's HUB File Type

The XML Schema messages are published on ESMA website.

Annex 7. Sample file [Updated: 31/10/2018 – Applicable to the major maintenance release planned Q1 2019]

[Updated: 31/10/2018 – Applicable to the major maintenance release planned Q1 2019]

- Sample for Reference Data message (XML Schema 1.1.0):

```
<?xml version="1.0" encoding="UTF-8"?>
<BizData xmlns="urn:iso:std:iso:20022:tech:xsd:head.003.001.01"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="urn:iso:std:iso:20022:tech:xsd:head.003.001.01 head.003.001.01.xsd">
  <Hdr>
    <AppHdr xmlns="urn:iso:std:iso:20022:tech:xsd:head.001.001.01"
      xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
      xsi:schemaLocation="urn:iso:std:iso:20022:tech:xsd:head.001.001.01
      head.001.001.01_ESMAUG_1.0.0.xsd">
      <Fr>
        <OrgId>
          <Id>
            <OrgId>
              <Othr>
                <Id>XDUB</Id>
              </Othr>
            </OrgId>
          </Id>
        </OrgId>
      </Fr>
      <To>
        <OrgId>
          <Id>
            <OrgId>
              <Othr>
                <Id>EU</Id>
              </Othr>
            </OrgId>
          </Id>
        </OrgId>
      </To>
      <BizMsgIdr>2015-01-01000000</BizMsgIdr>
      <MsgDefIdr>auth.017.001.02</MsgDefIdr>
```

```
<CreDt>2013-01-17T18:05:00Z</CreDt>
</AppHdr>
</Hdr>
<Pyld>
  <Document xmlns="urn:iso:std:iso:20022:tech:xsd:auth.017.001.02"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="urn:iso:std:iso:20022:tech:xsd:auth.017.001.02
  auth.017.001.02_ESMAUG_DATINS_1.1.0.xsd">
    <FinInstrmRptgRefDataRpt>
      <RptHdr>
        <RptgNtty>
          <MktIdCd>XDUB</MktIdCd>
        </RptgNtty>
        <RptgPrd>
          <Dt>2013-01-17</Dt>
        </RptgPrd>
      </RptHdr>
      <RefData>
        <TechRcrdId>2015-01-01000123</TechRcrdId>
        <FinInstrmGnlAttrbts>
          <Id>AB1234567890</Id>
          <FullNm>InstrumentFullNameHere</FullNm>
          <ShrtNm>HZL ČMB 4,45/10</ShrtNm>
          <ClssfctnTp>ESXXXX</ClssfctnTp>
          <NtnlCcy>EUR</NtnlCcy>
          <CmmntyDerivInd>false</CmmntyDerivInd>
        </FinInstrmGnlAttrbts>
        <Issr>EQYXK86SF381Q21S3020</Issr>
        <TradgVnRltdAttrbts>
          <Id>XDUB</Id>
          <IssrReq>false</IssrReq>
          <FrstTradDt>2015-02-23T00:00:00Z</FrstTradDt>
        </TradgVnRltdAttrbts>
      </RefData>
      <RefData>
        <TechRcrdId>2015-01-01000123</TechRcrdId>
        <FinInstrmGnlAttrbts>
          <Id>AB1234567890</Id>
          <FullNm>InstrumentFullNameHere </FullNm>
          <ShrtNm>HZL ČMB 4,45/10</ShrtNm>
          <ClssfctnTp>DBVQFX</ClssfctnTp>
```

```

<NtnlCcy>EUR</NtnlCcy>
<CmmntyDerivInd>false</CmmntyDerivInd>
</FinInstrmGnlAttrbts>
<Issr>EQYXK86SF381Q21S3020</Issr>
<TradgVnRltdAttrbts>
  <Id>XHEL</Id>
  <IssrReq>false</IssrReq>
  <FrstTradDt>2015-02-23T00:00:00Z</FrstTradDt>
</TradgVnRltdAttrbts>
<DebtInstrmAttrbts>
  <TtlLssdNmnlAmt Ccy="CZK">349.60</TtlLssdNmnlAmt>
  <MtrtyDt>2010-05-19</MtrtyDt>
  <NmnlValPerUnit Ccy="CZK">100.0</NmnlValPerUnit>
  <IntrstRate>
    <Fltg>
      <RefRate>
        <ISIN>PN5QWZKIH3L9</ISIN>
      </RefRate>
      <Term>
        <Unit>MNTH</Unit>
        <Val>232</Val>
      </Term>
      <BsisPtSprd>14300</BsisPtSprd>
    </Fltg>
  </IntrstRate>
  <DebtSnrt>JUND</DebtSnrt>
</DebtInstrmAttrbts>
</RefData>
<RefData>
  <TechRcrdId>2015-01-01000123</TechRcrdId>
  <FinInstrmGnlAttrbts>
    <Id>AB1234567890</Id>
    <FullNm>InstrumentFullNameHere </FullNm>
    <ShrtNm>DAX9908TOPENZ</ShrtNm>
    <ClssfctnTp>FFFPXX</ClssfctnTp>
    <NtnlCcy>EUR</NtnlCcy>
    <CmmntyDerivInd>false</CmmntyDerivInd>
  </FinInstrmGnlAttrbts>
  <Issr>885100KZRBC1KP0WDC71</Issr>
  <TradgVnRltdAttrbts>

```

```
<Id>XLIS</Id>
<IssrReq>false</IssrReq>
<FrstTradDt>2015-02-23T00:00:00Z</FrstTradDt>
</TradgVnRltdAttrbts>
<DerivInstrmAttrbts>
  <XpryDt>2015-02-28</XpryDt>
  <PricMltplr>60.9</PricMltplr>
  <UndrlygInstrm>
    <Sngl>
      <ISIN>AJSQW9HOSNR8</ISIN>
    </Sngl>
  </UndrlygInstrm>
  <DlvryTp>PHYS</DlvryTp>
  <AsstClssSpcfcAttrbts>
    <FX>
      <FxTp>FXEM</FxTp>
      <OthrNtnlCcy>GHS</OthrNtnlCcy>
    </FX>
  </AsstClssSpcfcAttrbts>
</DerivInstrmAttrbts>
</RefData>
</FinInstrmRptgRefDataRpt>
</Document>
</Pyld>
</BizData>
```

- Sample for Reference Feedback message (XML Schema 1.1.0):

```
<?xml version="1.0" encoding="UTF-8"?>
<BizData
  xsi:schemaLocation="urn:iso:std:iso:20022:tech:xsd:head.003.001.01 head.003.001.01.xsd"
  xmlns="urn:iso:std:iso:20022:tech:xsd:head.003.001.01"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <Hdr>
    <AppHdr
      xsi:schemaLocation="urn:iso:std:iso:20022:tech:xsd:head.001.001.01
head.001.001.01_ESMAUG_1.0.0.xsd"
      xmlns="urn:iso:std:iso:20022:tech:xsd:head.001.001.01"
      xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
      <Fr>
        <OrgId>
          <Id>
            <OrgId>
              <Othr>
                <Id>EU</Id>
              </Othr>
            </OrgId>
          </Id>
        </OrgId>
      </Fr>
      <To>
        <OrgId>
          <Id>
            <OrgId>
              <Othr>
                <Id>MUFP</Id>
              </Othr>
            </OrgId>
          </Id>
        </OrgId>
      </To>
      <BizMsgIdr>TMUFP-000217</BizMsgIdr>
      <MsgDefIdr>auth.031.001.01</MsgDefIdr>
      <CreDt>2019-02-12T15:05:07Z</CreDt>
      <Rltd>
        <Fr>
          <OrgId>
            <Id>
              <OrgId>
                <Othr>
                  <Id>MUFP</Id>
                </Othr>
              </OrgId>
            </Id>
          </OrgId>
        </Fr>
        <To>
          <OrgId>
            <Id>
              <OrgId>
```

```

<Othr>
    <Id>EU</Id>
</Othr>
</OrgId>
</Id>
</OrgId>
</To>
<BizMsgIdr>2019-02-12-000217</BizMsgIdr>
<MsgDefldr>auth.017.001.02</MsgDefldr>
<CreDt>2019-02-12T14:42:04.775Z</CreDt>
</Rltd>
</AppHdr>
</Hdr>
<Pyld>
<Document
    xsi:schemaLocation="urn:iso:std:iso:20022:tech:xsd:auth.031.001.01
auth.031.001.01_ESMAUG_FDB_1.1.0.xsd"
    xmlns="urn:iso:std:iso:20022:tech:xsd:auth.031.001.01"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
<FinInstrmRptgStsAdvc>
    <StsAdvc>
        <MsgSts>
            <Sts>PART</Sts>
        </MsgSts>
        <RcrdSts>
            <OrgnlRcrdId>000000014</OrgnlRcrdId>
            <Sts>WARN</Sts>
            <VldtnRule>
                <Id>INS-127</Id>
                <Desc>The Termination date and Expiry date/Maturity date are not
consistent.</Desc>
            </VldtnRule>
            <VldtnRule>
                <Id>INS-128</Id>
                <Desc>The following fields are not consistent with the one provided by AT: 7, 14,
15, 17, 18, 23.</Desc>
            </VldtnRule>
            <RcrdSts>
                <StsAdvc>
                    <FinInstrmRptgStsAdvc>
                </Document>
            </StsAdvc>
        </RcrdSts>
    </StsAdvc>
</FinInstrmRptgStsAdvc>
</Document>
</Pyld>
</BizData>

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