

FCA Financial Instruments Transparency System

Instructions on access and download of full and
delta transparency files

July 2020

1 Introduction

The FCA Financial Instruments Transparency System (FCA FITRS) has been built to replace the European Securities and Markets Authority (ESMA) FITRS in the UK as part of the FCA's planning for Brexit. The purpose of this document is to provide:

- details on the files containing UK only transparency calculation results that FCA will publish; and
- instructions on how to access these files.

The intended audience is the market participants which need to make use of the UK transparency calculation results for the purpose of complying with the Markets in Financial Instruments (Amendment) (EU Exit) Regulations 2018 (UK MiFID Regs) and the associated Binding Technical Standards.

The FCA FITRS transparency results files are calculated from transparency data collected from:

- UK trading venues; and
- UK approved publication arrangements (APAs).

The results files also include pre-Brexit results sourced from ESMA FITRS, to the extent these results have not been superseded within FCA FITRS.

References, in this document, as to the timings of when files will be made available may be subject to change: any changes will be communicated to firms.

1.1 Acceptable Use

To minimise disruption to the FCA FITRS service caused by irregular traffic patterns, malicious (e.g. DDOS) or accidental, all requests to both the UI Web Form and the API service will be rate limited. The FCA will use this as a basis to optimise the performance of the system utilising the various tools and techniques that are built into the solution.

Note: the individual file download links will not be subject to throttling as they are served via a separate solution.

2 Description of the transparency calculation results files generated by FCA FITRS

2.1 Full Files / Delta Files¹

FCA FITRS makes transparency calculation results available in the form of machine-readable files:

- a. **Full file:** the equity or non-equity full files contain UK transparency calculation results for all equity or non-equity instruments. For each ISIN and Reporting Period, the file contains the latest version of the calculation results.
- b. **Delta file:** the equity and non-equity delta files contain the UK transparency calculation results for which a change has occurred since the generation of the previous set of files, e.g. in the following situations:
 - I. Calculations have been produced for a new instrument;
 - II. Updated data has been received for the instrument;
 - III. A non-equity instrument is getting closer to its maturity date, and as a result its time-to-maturity bucket changes and the instrument now belongs to a different non-equity sub-class;
 - IV. Calculation results have been updated following a specific action from an FCA Data Manager.

Given the high volume of data, the records are split into several files, in particular when they exceed 500,000 records, or based on the first letter of the CFI code in the case of the full files.

2.2 Equity transparency calculation results full and delta files

Equity transparency calculation results files contain, for each ISIN:

- a. ISIN²
- b. MIFIR Identifier³
- c. Full Name⁴
- d. A flag indicating whether the instrument is liquid⁵;
- e. The average daily turnover⁶;
- f. If the instrument is liquid, the average value of transactions⁷;
- g. If the instrument is liquid, the Standard Market Size (SMS)⁸;

¹ Please refer to the FCA's approach to Transparency (<https://fca.org.uk/publication/policy/supervisory-statement-mifid-transparency-regime.pdf>)

² BizData/Pyld/Document/FinInstrmRptgEqtyTradgActvtyRslt/EqtyTrnsprncyData/Id

³ BizData/Pyld/Document/FinInstrmRptgEqtyTradgActvtyRslt/EqtyTrnsprncyData/ FullNm

⁴ BizData/Pyld/Document/FinInstrmRptgEqtyTradgActvtyRslt/EqtyTrnsprncyData/FinInstrmClssfctn

⁵ BizData/Pyld/Document/FinInstrmRptgEqtyTradgActvtyRslt/EqtyTrnsprncyData/Lqdt

⁶ BizData/Pyld/Document/FinInstrmRptgEqtyTradgActvtyRslt/EqtyTrnsprncyData/Sttstcs/AvrgDalyTrnvr

⁷ BizData/Pyld/Document/FinInstrmRptgEqtyTradgActvtyRslt/EqtyTrnsprncyData/Sttstcs/AvrgTxVal

⁸ BizData/Pyld/Document/FinInstrmRptgEqtyTradgActvtyRslt/EqtyTrnsprncyData/Sttstcs/StdMktSz

- h. The average daily number of transactions⁹;
- i. The total number of transactions executed¹⁰;
- j. The total volume of transactions executed¹¹;
- k. The most relevant market in terms of liquidity for the purpose of MiFIR¹² Art.4(1)(a)¹³;
- l. For shares and depositary receipts, the average daily number of transactions on the most relevant market in terms of liquidity¹⁴;
- m. The Reporting Period describing the period of trading activity taken into account in order to derive the results¹⁵.

2.3 Non-Equity transparency calculation results full and delta files

Non-Equity transparency calculation results files contain, for each ISIN:

- a. ISIN¹⁶
- b. MIFIR Identifier¹⁷
- c. Full Name¹⁸
- d. A flag indicating whether the instrument is liquid¹⁹;
- e. The pre-trade Large-In-Scale threshold (LIS)²⁰;
- f. The post-trade Large-In-Scale threshold (LIS)²¹;
- g. Pre-trade Size-Specific-to-the-Instrument threshold (SSTI)²²;
- h. Post-trade Size-Specific-to-the-Instrument threshold (SSTI)²³;
- i. The Reporting Period describing the period of trading activity taken into account in order to derive the results²⁴.

LIS and SSTI thresholds are expressed in EUR (under element <Amt>) except for emission allowances and derivatives on emission allowances, where they are expressed in tons of carbon dioxide (under element <Nb>).

⁹ BizData/Pyld/Document/FinInstrmRptgEqtyTradgActvtyRslt/EqtyTrnsprncyData/Sttstcs/AvrgDalyNbOfTxs

¹⁰ BizData/Pyld/Document/FinInstrmRptgEqtyTradgActvtyRslt/EqtyTrnsprncyData/Sttstcs/TtlNbOfTxsExctd

¹¹ BizData/Pyld/Document/FinInstrmRptgEqtyTradgActvtyRslt/EqtyTrnsprncyData/Sttstcs/TtlVolOfTxsExctd

¹² Regulation (EU) No 600/2014 of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Regulation (EU) No 648/2012, which became part of UK law by virtue of the European Union Withdrawal Act 2018

¹³ BizData/Pyld/Document/FinInstrmRptgEqtyTradgActvtyRslt/EqtyTrnsprncyData/RlvntMkt/Id

¹⁴ BizData/Pyld/Document/FinInstrmRptgEqtyTradgActvtyRslt/EqtyTrnsprncyData/RlvntMkt/AvrgDalyNbOfTxs

¹⁵ BizData/Pyld/Document/FinInstrmRptgEqtyTradgActvtyRslt/EqtyTrnsprncyData/RptgPrd/FrDtToDt

¹⁶ BizData/Pyld/Document/FinInstrmRptgNonEqtyTradgActvtyRslt/NonEqtyTrnsprncyData/Id

¹⁷ BizData/Pyld/Document/FinInstrmRptgNonEqtyTradgActvtyRslt/NonEqtyTrnsprncyData/FinInstrmClsfctn

¹⁸ BizData/Pyld/Document/FinInstrmRptgNonEqtyTradgActvtyRslt/NonEqtyTrnsprncyData/FullNm

¹⁹ BizData/Pyld/Document/FinInstrmRptgNonEqtyTradgActvtyRslt/NonEqtyTrnsprncyData/Lqdy

²⁰ BizData/Pyld/Document/FinInstrmRptgNonEqtyTradgActvtyRslt/NonEqtyTrnsprncyData/PreTradLrgInScaleThrshld

²¹ BizData/Pyld/Document/FinInstrmRptgNonEqtyTradgActvtyRslt/NonEqtyTrnsprncyData/PstTradLrgInScaleThrshld

²² BizData/Pyld/Document/FinInstrmRptgNonEqtyTradgActvtyRslt/NonEqtyTrnsprncyData/PreTradInstrmSzSpfcThrshld

²³ BizData/Pyld/Document/FinInstrmRptgNonEqtyTradgActvtyRslt/NonEqtyTrnsprncyData/PstTradInstrmSzSpfcThrshld

²⁴ BizData/Pyld/Document/FinInstrmRptgNonEqtyTradgActvtyRslt/NonEqtyTrnsprncyData/RptgPrd/FrDtToDt

3 Instructions to download full and delta reference data files from the FCA website

3.1 Timing of generation

The files published by the FCA on its website are generated:

- a. on a weekly basis for the Full File – on Saturday morning from 08:00 UTC;
- b. on a daily basis for the Delta File – every morning from 08:00 UTC Monday to Friday.

3.2 XML Format

The transparency calculation files produced by FITRS are structured as follows:

- a. Encapsulation of a Business Application Header (BAH), and a Payload as per XML Schema head.003.001.01.xsd;
- b. The Business Application Header is generated as per XML Schema head.001.001.01_ESMAUG_1.0.0.xsd;
- c. The payload is generated as per XML Schema 044.001.01_ESMAUG_DATECR_1.1.0.xsd for Equity calculation results full files (FULECR) and delta files (DLTECR) and 045.001.01_ESMAUG_DATNCR_1.1.0.xsd for Non-Equity calculation results full files (FULNCR) and delta files (DLTNCR).
- d. Link to XML Schema: <https://www.fca.org.uk/markets/market-data-regimes/market-data-reporting-mdp>

3.3 File Naming Conventions

The full file will follow the following naming convention:

For Equities: FULECR_<Date>_<CFI 1st letter>_<Key1>of<Key2>.zip

For Non-Equities: FULNCR_<Date>_<CFI 1st letter>_<Key1>of<Key2>.zip;

Where:

- I. <Date> =YYYYMMDD;
- II. <Key1> = The number of the file in the range produced for that day and that CFI 1st letter;
- III. <Key2> = The total number of files produced for that day and that CFI 1st letter.

Examples:

- a. FULECR_20171104_E_1of1.zip
- b. FULECR_20171104_D_1of1.zip
- c. FULECR_20171104_O_1of2.zip
- d. FULECR_20171104_O_2of2.zip

The delta file will follow the following naming convention:

- a. For Equities: DLTECR_<Date>_<Key1>of<Key2>.zip
- b. For Non-Equities: DLTNCR_<Date>_<Key1>of<Key2>.zip

Where:

- I. <Date> =YYYYMMDD;
- II. <Key1> = The number of the file within the range produced for that day;
- III. <Key2> = The total number of files produced for that day.

Examples:

- a. DLTECR_20171106_01of01.zip
- b. DLTNCR_20171106_01of01.zip

3.4 Access to the files published (human interface)

Go to <https://data.fca.org.uk> select the register "Financial Instrument Transparency System"; or go directly to <https://data.fca.org.uk/#/fits/fitsDownload>

FCA FINANCIAL CONDUCT AUTHORITY

Homepage > Financial Instruments Transparency System

Basic Information-Register

Selected Register:
Financial Instruments Transparency System

Q Refine Search

Keyword Search:

Publication date

From:
DD/MM/YYYY

To:
DD/MM/YYYY

Instrument Type
- Select -

File Type
- Select -

Search Clear

Link to: [Equity Transparency Calculation Results](#)
Link to: [Non-Equity Transparency Calculation Results](#)

Notice and Disclaimer

UK MIFIR (Regulation (EU) No 600/2014 of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Regulation (EU) No 648/2012, as it forms part of domestic law by virtue of section 3 of the EU (Withdrawal) Act 2018, and as modified by domestic law from time to time) provides for a transparency regime. Under this regime, the FCA is required to undertake calculations and publish information. The FCA maintains the FCA Financial Instruments Transparency System (FCA FITRS) to run these calculations and publish the required information.

Your attention is drawn to the [Copyright Notice and Disclaimer](#) published on the FCA website that applies to use of the FCA FITRS. For the purposes of FCA FITRS, clauses 2.2.1, 2.2.2, 2.2.3, 2.2.5, 2.2.7, 2.3, 2.4, 2.9 and 2.10 of the [Copyright Notice and Disclaimer](#) does not apply. By accessing the FCA FITRS you will be deemed to have accepted those terms in full. You are responsible for ensuring that all persons who access the FCA FITRS through any internet connection provided by you are aware of the terms of this Notice and Disclaimer and the [Copyright Notice and Disclaimer](#) and that they comply with them.

Users must not violate the security of the site nor attempt to gain unauthorised access to the FCA FITRS, data, materials, information, computer systems or networks connected to any server associated with the FCA FITRS either through hacking, password timing or any other improper means; and/or undertake any action that, in the sole discretion of the FCA, may impose an unreasonable or disproportionate burden on the FCA FITRS site or its structure; and/or use any automated device, program tool, algorithm, process or methodology (including but not limited to any scraper, robot, bot, spider, data mining or computer code) to access or obtain material from the FCA FITRS site and its structure; and/or forge any headers or otherwise manipulate identifiers to disguise the origin of any content. Any such action may result in the removal of user access and/or other action by the FCA. If you have any problems or questions about using the FCA FITRS you should [contact us](#).

Link to: [Instructions on how to download and use transparency results files](#)

Last update: 20/09/2019 15:24:30

Figure 1 FITRS Web Form Search

Use the Publication Date filter on the left-hand side and click on "Submit" to list all files published within the specified period. Additional filters are available to further refine the list (Full / Delta files, Equity / Non-Equity instruments):

FCA FINANCIAL CONDUCT AUTHORITY

Homepage > Financial Instruments Transparency System

Basic Information-Register

Selected Register:
Financial Instruments Transparency System

Q Refine Search

Keyword Search:

Publication date

From:

To:

Instrument Type

- Select -

File Type

- Select -

Link to: [Equity Transparency Calculation Results](#)
Link to: [Non-Equity Transparency Calculation Results](#)

Notice and Disclaimer

UK MIFIR (Regulation (EU) No 600/2014 of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Regulation (EU) No 648/2012, as it forms part of domestic law by virtue of section 3 of the EU (Withdrawal) Act 2018, and as modified by domestic law from time to time) provides for a transparency regime. Under this regime, the FCA is required to undertake calculations and publish information. The FCA maintains the FCA Financial Instruments Transparency System (FCA FITRS) to run these calculations and publish the required information.

Your attention is drawn to the [Copyright Notice and Disclaimer](#) published on the FCA website that applies to use of the FCA FITRS. For the purposes of FCA FITRS, clauses 2.2.1, 2.2.2, 2.2.3, 2.2.5, 2.2.7, 2.3, 2.4, 2.9 and 2.10 of the [Copyright Notice and Disclaimer](#) does not apply. By accessing the FCA FITRS you will be deemed to have accepted those terms in full. You are responsible for ensuring that all persons who access the FCA FITRS through any internet connection provided by you are aware of the terms of this Notice and Disclaimer and the [Copyright Notice and Disclaimer](#) and that they comply with them.

Users must not violate the security of the site nor attempt to gain unauthorised access to the FCA FITRS, data, materials, information, computer systems or networks connected to any server associated with the FCA FITRS either through hacking, password timing or any other improper means; and/or undertake any action that, in the sole discretion of the FCA, may impose an unreasonable or disproportionate burden on the FCA FITRS site or its structure; and/or use any automated device, program tool, algorithm, process or methodology (including but not limited to any scraper, robot, bot, spider, data mining or computer code) to access or obtain material from the FCA FITRS site and its structure; and/or forge any headers or otherwise manipulate identifiers to disguise the origin of any content. Any such action may result in the removal of user access and/or other action by the FCA. If you have any problems or questions about using the FCA FITRS you should [contact us](#).

Link to: [Instructions on how to download and use transparency results files](#)

Items: 1-10 / 17

Results per page: 10

File Type	Instruments Type	Publication Date	Download Link
Delta	Equity Instruments	2019-09-09	DLTECR_20190909_1of1.zip
Delta	Non-Equity Instruments	2019-09-09	DLTNCR_20190909_1of1.zip
Full	Equity Instruments	2019-09-06	FULECR_20190906_R_1of1.zip
Full	Equity Instruments	2019-09-06	FULECR_20190906_D_1of1.zip
Full	Equity Instruments	2019-09-06	FULECR_20190906_F_1of1.zip
Full	Non-Equity Instruments	2019-09-06	FULNCR_20190906_C_1of1.zip
Full	Equity Instruments	2019-09-06	FULECR_20190906_C_1of1.zip
Full	Non-Equity Instruments	2019-09-06	FULNCR_20190906_D_1of1.zip
Full	Equity Instruments	2019-09-06	FULECR_20190906_E_1of1.zip
Full	Non-Equity Instruments	2019-09-04	FULNCR_20190904_J_1of1.zip

First Previous 1 2 Next Last

Last update: 20/09/2019 15:24:30

Figure 2 FITRS Web Form Search - Example results

Click on the Download Link for any of the files returned, to download the corresponding file.

3.5 Access to the files published (machine-to-machine interface)

- a. To support automated download of the files, it is possible to list the files published on a specific date by sending an HTTP request.
- b. The following HTTP request will return the list of the files published by the FCA:
 - a. [https://api.data.fca.org.uk/fca_data_fitrs_files?q=publication_date:\[2019-0309-0401%20TO%202019-0309-2511\]&from=0&size=100&pretty=true](https://api.data.fca.org.uk/fca_data_fitrs_files?q=publication_date:[2019-0309-0401%20TO%202019-0309-2511]&from=0&size=100&pretty=true)
- c. The below table explains each aspect of the above query so that it can be modified as required to meet necessary usage requirements.

Table 1 Query parameters

Query component	Description
q=	This is the general query part of the request and tells the response to return columns for a given result if one exists
publication_date:[2019-09-01%20TO%202019-09-11]	The filtered query supports the filtering of data. For the filtered query here, the data is filtered by date. Note: both the latest date and earliest date are present and follow the ISO date time format ²⁵ . Change the date to look for files from a different day or range of days.
from=0	The starting from index of the hits to return. Defaults to 0
size=100	The number of results to return. Default is 10
pretty	Formats the JSON response in pretty format

- The combination of start and row is used to assist cycling over the results when multiple results are returned e.g. more than 100. To read a secondary list (100+) change start to 100 and leave rows as 100. The number of records that the query returns is given by attributes of the resultsFound list.
- The response is a JSON²⁶ document containing the URL for the IRD files in the "download_link" field.

²⁵ See Appendix A for examples of datetime format

²⁶ JSON is the only format option available in AWS Elasticsearch

3.6 JSON Response Document

The following JSON document represents the response of a query to the FCA FITRS Transparency Calculation results API returning a single entry.

```
{
  "took" : 1,
  "timed_out" : false,
  "_shards" : {
    "total" : 4,
    "successful" : 4,
    "skipped" : 0,
    "failed" : 0
  },
  "hits" : {
    "total" : 1,
    "max_score" : 2.6405284,
    "hits" : [
      {
        "_index" : "fca-fitrs-downloadfiles",
        "_type" : "_doc",
        "_id" : "8",
        "_score" : 1.0,
        "_source" : {
          "download_link"
: "https://data.fca.org.uk/artefacts/FITRS/DLTECR_20190909_1of1.zip",
          "file_type" : "Delta",
          "file_name" : "DLTECR_20190909_1of1.zip",
          "publication_date" : "2019-09-09",
          "instrument_type" : "Equity Instruments",
          "last_refreshed" : "2019-09-09T14:16:23.322Z"
        }
      }
    ]
  }
}
```

The following table defines the FCA fields in the index.

Table 2 ES index fields

Field Name	Description
download_link	Fully qualified URL that can be used to download the file.
file_type	The type of file. That is, Full or Delta file.
file_name	The file name.
publication_date	The date for which the file has been published. This will be identical to the date part of the file name and will align with the value found in the 'AppHdr/CreDt'.
instrument_type	The type of instrument file: "Non-Equity Instruments" or "Equity Instruments" ²⁷
last_refreshed	The date the particular entry was added to the index.

²⁷ When spaces are present in the search string the string must be surrounded by double quotes

3.7 AWS Elastic Search Parameter Support

The underlying Elastic Search Engine supports a wide range of parameters. However, the FCA will support a subset of all relevant parameters which are listed and explained below.

Table 3 Elastic Search parameter support

SN	Parameter Name	Description	Supported	Mandatory
1	q	<p>The query string (maps to the query_string query, see Query String Query for more details). The parameter must follow the syntax as defined under:</p> <p>https://www.elastic.co/guide/en/elasticsearch/reference/6.3/query-dsl-query-string-query.html#query-string-syntax</p> <p>The underlying Elastic Search Schema contains the following 3 searchable fields. Therefore, these are the only 3 fields that can be utilised with the q=* query string search type.</p> <ol style="list-style-type: none"> instrument_type: Will be one of "Non-Equity Instruments" or "Equity Instruments" file_type: Will be one of Full or Delta. file_name: Examples include *.zip, *C* publication_date: Date in YYYY-MM-DD Format. For range queries please use YYYY1-MM1-DD1 TO YYYY2-MM2-DD2. <p>Search q Strings can utilise all or any of the 3 above fields</p> <p>Example</p> <p>q=F*.</p> <p>q=file_name:F*</p> <p>q=file_name: DLTNCR_20171106_01of01.zip</p>	Yes	Yes

SN	Parameter Name	Description	Supported	Mandatory
2	from	The starting from index of the hits to return. Defaults to 0 Example - q=((file_type:"Non-Equity Instruments") AND (publication_date:[2017-10-15 TO 2017-12-31]))&from=	Yes	Yes
3	size	The number of hits to return. Defaults to 10 Example - q=((file_type:"Non-Equity Instruments") AND (publication_date:[2019-03-02 TO 2019-03-02]))&from=0&size=100&pretty=true&sort=publication_date:desc	Yes	Yes
4	sort	Sorting to perform. Can either be in the form of fieldName, or fieldName:asc/fieldName:desc. There can be several sort parameters (order is important). Example - ?q=((file_type:"Non-Equity Instruments") AND (publication_date:[2019-03-02 TO 2019-03-02]))&from=0&size=100&pretty=true&sort=publication_date:desc	Yes	No
5	pretty	Pretty Prints the search results Example - ?q=((file_type:"Non-Equity Instruments") AND (publication_date:[2019-03-02 TO 2019-03-02]))&from=0&size=100&pretty=true&sort=publication_date:desc	Yes	No
6	df	The default field to use when no field prefix is defined within the query. Here we have not prefixed the search term, "Non-Equity Instruments" with any fieldname. So instead of saying ?q=file_type:"Non-Equity Instruments" we say ?q="Non-Equity Instruments"&df=file_type	Yes	No
7	default_operator	The default operator to be used, can be AND or OR. Defaults to OR.	Yes	No

SN	Parameter Name	Description	Supported	Mandatory
8	analyzer	The analyser name to be used when analysing the query string.	This parameter will be ignored.	
9	analyze_wildcard	Should wildcard and prefix queries be analysed or not. Defaults to false	This parameter will be ignored.	
10	batched_reduce_size	The number of shard results that should be reduced at once on the coordinating node.	This parameter will be ignored.	
11	stored_fields	The selective stored fields of the document to return for each hit, comma delimited	This parameter will be ignored.	
12	track_scores	When sorting, set to true in order to still track scores and return them as part of each hit.	This parameter will be ignored.	
13	timeout	A search timeout, bounding the search request to be executed within the specified time value and bail with the hits accumulated up to that point when expired. Defaults to no timeout.	This parameter will be ignored.	
14	terminate_after	The maximum number of documents to collect for each shard, upon reaching which the query execution will terminate early. If set, the response will have a Boolean field 'terminated_early' to indicate whether the query execution has actually 'terminated_early'. Defaults to no 'terminate_after'.	This parameter will be ignored.	
15	search_type	The type of the search operation to perform. Can be dfs_query_then_fetch or query_then_fetch. Defaults to query_then_fetch. See Search Type for more details on the different types of search that can be performed.	This parameter will be ignored.	

4 Use of full and delta transparency calculation results files

4.1 Calculation results files for equity instruments (FULECR and DLTECR files)²⁸

FULECR / DLTECR records with empty Reporting Period²⁹ and tagged with "ESTM" methodology³⁰ correspond to estimates; they apply from the day the instrument starts being traded, until superseded by a FFWK or YEAR record.

FULECR / DLTECR records with a Reporting Period³¹ of four calendar weeks and tagged with "FFWK" methodology correspond to calculations produced on the basis of the first four weeks of trading. Such a record applies after the end of the six week period following the day the instrument was first admitted to trading or traded on a trading venue.³² The Reporting Period holds the first four weeks of trading of the instrument, as known by the system at the time of performing the calculations.

Table 4

Date of first trade (first day of the Reporting Period)	Four-weeks calculation results apply until	First yearly calculation
From 3 December year (Y) to 2 December year (Y+1)	31 March year (Y+2)	Performed in year (Y+2) based on year (Y+1) trading activity

FULECR / DLTECR records with a Reporting Period of a full year (Y) and tagged with "YEAR" methodology correspond to calculations produced on the basis of a year of trading; they apply from 1 April of year (Y+1) until 31 March of year (Y+2).

In summary, FULECR / DLTECR records can be in one of the following cases.

Table 5

Reporting period	Type of calculation	Type of instrument	Period of application
Empty	Estimates	Equity / Equity-like	Liquidity and LIS/SMS thresholds apply from first trading date for six weeks Calculation results may be updated e.g. when refined estimates
Four calendar weeks	Calculations based on first four weeks of trading	Equity / Equity-like	Liquidity and LIS/SMS thresholds apply from six calendar weeks after the first trading date, until the next yearly calculation as per Table 4

²⁸ Annual calculations will not be available in full or delta files for the initial release of 1st November 2019

²⁹ No < RptgPrd> element under /BizData/Pyld/Document/FinInstrmRptgEqtyTradgActvtyRslt/EqtyTrnsprncyData

³⁰ /BizData/Pyld/Document/FinInstrmRptgEqtyTradgActvtyRslt/EqtyTrnsprncyData/Mthdlgy

³¹ /BizData/Pyld/Document/FinInstrmRptgEqtyTradgActvtyRslt/EqtyTrnsprncyData/Mthdlgy

³² For instruments which start trading before 2/Dec of year Y, the next yearly calculations will be the yearly calculations performed on year (Y+1) and applicable from 1 April (Y+1), whereas for instruments which start trading after 3/Dec of year Y, the next yearly calculations will be those performed on year (Y+2) and applicable from 1 April (Y+2)

1/Jan/Y – 31/Dec/Y	Yearly calculations	Equity / Equity-like	Liquidity and LIS/SMS thresholds apply from 1 April of year (Y+1) until 31 March of year (Y+2)
---------------------------	---------------------	----------------------	--

4.2 Calculation results files for non-equity instruments (FULNCR and DLTNCR files)³³

For non-equity instruments other than bonds, the system publishes results which correspond to calculations produced on the basis of a year of trading. Reporting Period is a full year (Y), and liquidity results are provided along with LIS / SSTI thresholds. The results apply from 1 June of year (Y+1) until 31 May of year (Y+2).

Table 6

Reporting Period	Period of application of the results
1/Jan – 31/Dec year Y	1/June year (Y+1) – 31/May year (Y+2)

For bond instruments, two different processes with separate timings (quarterly vs yearly) are required for the liquidity assessment on one hand, and for the determination of LIS / SSTI thresholds on the other hand. As a consequence, liquidity and LIS / SSTI thresholds will be found in separate records

- Results for which the Reporting Period is a full year (Y) correspond to calculations produced on the basis of a year of trading; for bond instruments, they only hold LIS / SSTI threshold and the liquidity flag is empty. The LIS / SSTI thresholds apply from 1 June of year (Y+1) until 31 May of year (Y+2).

Table 7

Reporting Period	Period of application of the results
1/Jan – 31/Dec year Y	1/June year (Y+1) – 31/May year (Y+2)

- Results for which the Reporting Period³⁴ is a quarter correspond to quarterly liquidity assessment for bonds; they apply for three months from the sixteenth day of the second month of the following quarter, as per table below.

Table 8

Reporting Period	Period of application of the results
1/Jan – 31/March year Y	16/May – 15/Aug year Y
1/Apr – 30/June year Y	16/Aug – 15/Nov year Y
1/July – 30/Sep year Y	16/Nov year Y – 15/Feb year (Y+1)
1/Oct – 31/Dec year Y	16/Feb year (Y+1) – 15/May year (Y+1)

³³ Annual calculations will not be available in full or delta files for the initial release of 1st November 2019

³⁴ /BizData/Pyld/Document/FinInstrmRptgNonEqtyTradgActvtyRslt/NonEqtyTrnsprncyData/RptgPrd

- c) Results with empty Reporting Period³⁵ only contain the liquidity flag for new bond instruments; they apply from the day the instrument starts being traded, until the next quarterly liquidity assessment for the bond, as per table below;

Table 9

Date of first trade	Records with information on liquidity for new bonds apply until	First quarterly liquidity assessment
1/March – 31/May year Y	15/August year Y	Quarterly liquidity calculations made on the basis of Reporting Period 1/April – 30/June year Y
1/June – 31/August year Y	15/November year Y	Quarterly liquidity calculations made on the basis of Reporting Period 1/July – 30/September year Y
1/September – 30/November year Y	15/February year (Y+1)	Quarterly liquidity calculations made on the basis of Reporting Period 1/October – 31/December year Y
1/December year Y – end of February year (Y+1)	15/May year (Y+1)	Quarterly liquidity calculations made on the basis of Reporting Period 1/January – 31/March year (Y+1)

In summary, FULNCR / DLTNCR records can be in one of the following cases

Table 10

Reporting period	Liquidity flag	Type of instrument	Period of application
1/Jan/Y – 31/Dec/Y	True or false (not empty)	Non-equity instrument other than bond	Liquidity and LIS/SSTI thresholds apply from 1/June year (Y+1) – 31/May year (Y+2) Calculation results may be updated over time e.g. when the instrument changes time-to-maturity bucket, in which case the new results need to be applied.
	(empty)	Bond	LIS/SSTI thresholds apply from 1/June year (Y+1) – 31/May year (Y+2)
Quarter	True or false (not empty)	Bond	Liquidity flag applies from sixteenth of a month for three months as per 8
Empty	True or false (not empty)	Bond	Liquidity flag applies from first trading date until sixteenth of a month as per 9

³⁵ No <RptgPrd> element under /BizData/Pyld/Document/FinInstrmRptgNonEqtyTradgActvtyRslt/NonEqtyTrnsprncyData

5 Example Search Response

5.1 Example 1

UK FITRS JSON response for a single file compared to the equivalent ESMA FITRS response for the same file:

UK FITRS JSON Response³⁶

ESMA FITRS JSON Response³⁷

³⁶ [https://api.data.fca.org.uk/fca_data_fitrs_files?q=\(\(instrument_type:%22Equity%20Instruments%22\)%20AND%20\(publication_date:\[2019-03-05%20TO%202019-03-25\]\)\)&from=0&size=100&pretty=true](https://api.data.fca.org.uk/fca_data_fitrs_files?q=((instrument_type:%22Equity%20Instruments%22)%20AND%20(publication_date:[2019-03-05%20TO%202019-03-25]))&from=0&size=100&pretty=true)

³⁷ [https://registers.esma.europa.eu/solr/esma_registers_fitrs_files/select?q=*&fq=\(\(instrument_type:%22Equity%20Instruments%22\)%20AND%20\(creation_date:%5B2019-03-05T00:00:00Z+TO+2019-03-05T23:59:59Z%5D\)\)&wt=json&indent=true&start=0&rows=100](https://registers.esma.europa.eu/solr/esma_registers_fitrs_files/select?q=*&fq=((instrument_type:%22Equity%20Instruments%22)%20AND%20(creation_date:%5B2019-03-05T00:00:00Z+TO+2019-03-05T23:59:59Z%5D))&wt=json&indent=true&start=0&rows=100)


```

{
  "took" : 1,
  "timed_out" : false,
  "_shards" : {
    "total" : 4,
    "successful" : 4,
    "skipped" : 0,
    "failed" : 0
  },
  "hits" : {
    "total" : 1,
    "max_score" : 2.6405284,
    "hits" : [
      {
        "_index" : "fca-fitrs-downloadfiles",
        "_type" : "_doc",
        "_id" : "2872",
        "_score" : 2.6405284,
        "_source" : {
          "download_link" :
"https://data.fca.org.uk/artefacts/FITRS/DLTECR_20190305_1of1.zip",
          "file_type" : "Delta",
          "file_name" : "DLTECR_20190305_1of1.zip",
          "publication_date" : "2019-03-05",
          "instrument_type" : "Equity Instruments",
          "last_refreshed" : "2019-03-22T12:03:56.183Z"
        }
      }
    ]
  }
}

```

```

{
  "responseHeader":{
    "status":0,
    "QTime":0,
    "params":{
      "q":"*",
      "indent":"true",
      "start":"0",
      "fq":"((instrument_type:\"Equity Instruments\") AND (creation_date:[2019-03-05T00:00:00Z TO 2019-03-05T23:59:59Z]))",
      "rows":"100",
      "wt":"json"}},
  "response":{"numFound":1,"start":0,"docs":[
    {
      "instrument_type":"Equity Instruments",
      "file_type":"Delta",
      "creation_date":"2019-03-05T23:39:06Z",
      "download_link":"http://fitrs.esma.europa.eu/fitrs/DLTECR_20190305_1of1.zip",
      "file_name":"DLTECR_20190305_1of1.zip",
      "_root_":"2872",
      "id":"2872",
      "type_s":"parent",
      "_version_":1628825727119917058,
      "timestamp":"2019-03-23T19:27:41.856Z"}}
  ]}
}

```

5.2 Example 2

The following multi-result queries return identical data sets. The query output in the left-hand column was executed against a Test UK FITRS ElasticSearch service and the query output in the righthand column was executed against the existing ESMA production FITRS register.

UK FITRS AWS Elastic Search Service query:

[https://api.data.fca.org.uk/fca_data_fitrs_files?q=\(\(instrument_type:%22Equity%20Instruments%22\)%20AND%20\(publication_date:\[2019-03-02%20TO%202019-03-02\]\)\)&from=0&size=100&pretty=true](https://api.data.fca.org.uk/fca_data_fitrs_files?q=((instrument_type:%22Equity%20Instruments%22)%20AND%20(publication_date:[2019-03-02%20TO%202019-03-02]))&from=0&size=100&pretty=true)

ESMA FITRS Solr query:

[https://registers.esma.europa.eu/solr/esma_registers_fitrs_files/select?q=*&fq=\(\(instrument_type:%22Equity%20Instruments%22\)%20AND%20\(creation_date:%5B2019-03-02T00:00:00Z+TO+2019-03-02T23:59:59Z%5D\)\)&wt=json&indent=true&start=0&rows=100](https://registers.esma.europa.eu/solr/esma_registers_fitrs_files/select?q=*&fq=((instrument_type:%22Equity%20Instruments%22)%20AND%20(creation_date:%5B2019-03-02T00:00:00Z+TO+2019-03-02T23:59:59Z%5D))&wt=json&indent=true&start=0&rows=100)

UK FITRS JSON Response	ESMA FITRS JSON Response
<pre> { "took" : 2, "timed_out" : false, "_shards" : { "total" : 4, "successful" : 4, "skipped" : 0, "failed" : 0 }, "hits" : { "total" : 4, "max_score" : 2.6997604, "hits" : [{ "_index" : "fca-fitrs-downloadfiles", "_type" : "_doc", "_id" : "2836", "_score" : 2.6997604, "_source" : { "download_link" } }, { "_index" : "fca-fitrs-downloadfiles", "_type" : "_doc", "_id" : "2833", "_score" : 2.6869516, "_source" : { "download_link" } }] } } </pre>	<pre> { "responseHeader":{ "status":0, "QTime":1, "params":{ "q":"*", "indent":"true", "start":"0", "fq":"((instrument_type:\"Equity Instruments\") AND (creation_date:[2019-03-02T00:00:00Z TO 2019-03-02T23:59:59Z]))", "rows":"100", "wt":"json"}}, "response":{"numFound":4,"start":0,"docs":[{ "instrument_type":"Equity Instruments", "file_type":"Full", "creation_date":"2019-03-02T15:59:14Z", "download_link":"http://fitrs.esma.europa.eu/fitrs/FULECR_20190302_D_1of1.zip", "file_name":"FULECR_20190302_D_1of1.zip", "_root_":"2833", "id":"2833", "type_s":"parent", "_version_":1628825727093702656, "timestamp":"2019-03-23T19:27:41.831Z"}, { "instrument_type":"Equity Instruments", "file_type":"Full", "creation_date":"2019-03-02T15:59:14Z", "download_link":"http://fitrs.esma.europa.eu/fitrs/FULECR_20190302_R_1of1.zip", "file_name":"FULECR_20190302_R_1of1.zip", "_root_":"2834", "id":"2834", "type_s":"parent", "_version_":1628825727093702657, "timestamp":"2019-03-23T19:27:41.831Z"}]} } </pre>

```

"file_name" : "FULECR_20190302_D_1of1.zip",
"publication_date" : "2019-03-02",
"instrument_type" : "Equity Instruments",
"last_refreshed" : "2019-03-22T12:03:56.188Z"
}
},
{
  "_index" : "fca-fitrs-downloadfiles",
  "_type" : "_doc",
  "_id" : "2834",
  "_score" : 2.6869516,
  "_source" : {
    "download_link" :
:
"https://data.fca.org.uk/artefacts/FITRS/FULECR_20190302_R_1of1.zip",
"file_type" : "Full",
"file_name" : "FULECR_20190302_R_1of1.zip",
"publication_date" : "2019-03-02",
"instrument_type" : "Equity Instruments",
"last_refreshed" : "2019-03-22T12:03:56.188Z"
}
},
{
  "_index" : "fca-fitrs-downloadfiles",
  "_type" : "_doc",
  "_id" : "2835",
  "_score" : 2.5981188,
  "_source" : {
    "download_link" :
:
"https://data.fca.org.uk/artefacts/FITRS/FULECR_20190302_C_1of1.zip",
"file_type" : "Full",
"file_name" : "FULECR_20190302_C_1of1.zip",
"publication_date" : "2019-03-02",
"instrument_type" : "Equity Instruments",
"last_refreshed" : "2019-03-22T12:03:56.188Z"
}
}
]
}
}

{
  "instrument_type": "Equity Instruments",
  "file_type": "Full",
  "creation_date": "2019-03-02T15:59:14Z",
}

"download_link": "http://fitrs.esma.europa.eu/fitrs/FULECR_20190302_E_1of1.zip",
"file_name": "FULECR_20190302_E_1of1.zip",
"_root_": "2836",
"id": "2836",
"type_s": "parent",
"_version_": "1628825727106285575",
"timestamp": "2019-03-23T19:27:41.843Z"},
{
  "instrument_type": "Equity Instruments",
  "file_type": "Full",
  "creation_date": "2019-03-02T15:59:14Z",
}

"download_link": "http://fitrs.esma.europa.eu/fitrs/FULECR_20190302_C_1of1.zip",
"file_name": "FULECR_20190302_C_1of1.zip",
"_root_": "2835",
"id": "2835",
"type_s": "parent",
"_version_": "1628825727115722757",
"timestamp": "2019-03-23T19:27:41.852Z"}]
}}

```

Appendix A Date Time Format Examples

The formats are as follows: the components shown below must be present, using this exact punctuation. Note that the "T" appears in the string, to indicate the beginning of the time element, as specified in ISO 8601.

Year:
 YYYY (eg 1997)
Year and month:
 YYYY-MM (eg 1997-07)
Complete date:
 YYYY-MM-DD (eg 1997-07-16)
Complete date plus hours and minutes:
 YYYY-MM-DDThh:mmTZD (eg 1997-07-16T19:20+01:00)
Complete date plus hours, minutes and seconds:
 YYYY-MM-DDThh:mm:ssTZD (eg 1997-07-16T19:20:30+01:00)
Complete date plus hours, minutes, seconds and a decimal fraction of
a second
 YYYY-MM-DDThh:mm:ss.sTZD (eg 1997-07-16T19:20:30.45+01:00)

where:

YYYY = four-digit year
MM = two-digit month (01=January, etc.)
DD = two-digit day of month (01 through 31)
hh = two digits of hour (00 through 23) (am/pm NOT allowed)
mm = two digits of minute (00 through 59)
ss = two digits of second (00 through 59)
s = one or more digits representing a decimal fraction of a
second
TZD = time zone designator (Z or +hh:mm or -hh:mm)

Appendix B Example Queries

AWS Elasticsearch Query	Description
<code>https://api.data.fca.org.uk/fca_data_fitrs_files?q=((instrument_type:%22Equity%20Instruments%22)%20AND%20(publication_date:[2019-03-05%20TO%202019-03-25]))&from=0&size=100&pretty=true</code>	Query for all 'Equity Instruments' files published between 5th March 2019 and 25th March 2019
<code>https://api.data.fca.org.uk/fca_data_fitrs_files?q=((file_type:Delta)%20AND%20(instrument_type:%22Non-Equity%20Instruments%22)%20AND%20(publication_date:[2019-03-02%20TO%202019-03-25]))&from=0&size=100&pretty=true</code>	Query for all 'Non-Equity Instruments' delta files published between 5th March 2019 and 25th March 2019
<code>https://api.data.fca.org.uk/fca_data_fitrs_files?q=*&from=0&size=100&pretty=true&sort=publication_date:desc</code>	Query for all files published and sort the results on publication_date in descending order, latest file first.
<code>https://api.data.fca.org.uk/fca_data_fitrs_files?q=*&from=0&size=1&pretty=true&sort=last_refreshed:desc</code>	<p>Query for last refresh time</p> <p>Aggregation queries cannot be performed as part of a Query String query. The query shown simply requests all data, orders them in descending order, and then limits the record return number to 1.</p>

Appendix C FCA FITRS Publishing URL's

System	URL
Production Web Form	https://data.fca.org.uk/#/fitrs/fitrsDownload
Production API	https://api.data.fca.org.uk/fca_data_fitrs_files?q=