

AFME MiFID II Exchange Questionnaire

Executive Summary:

This MiFID II Exchange Questionnaire (“Questionnaire”) has been created through collaboration between AFME and major European Equities Exchanges¹. The purpose of the Questionnaire is to provide a standardised set of questions which can be sent from investment firms to Exchanges that fall under the scope of MiFID II. Exchanges responding to the Questionnaire should note that six questions have been selected as high priority issues and should be addressed in detail, these questions have been underlined.

The Questionnaire is to be sent bilaterally from investment firms to their Exchange counterparts. The information provided in response to the Questionnaire by Exchanges to investment firms is strictly confidential and for the benefit of the recipient firm and its affiliates only. Furthermore, the information provided is valid at the point in time when it is provided. The liability regime for the Questionnaire is established by the Disclaimer included in Annex I, which is provided by the responding Exchange.

The Questionnaire is made available to any party to use in a Microsoft Word format. However, in order to maintain the integrity of the document, we ask users to recognise and respect the numbering and wording of all questions.

The Questionnaire is subject to change and may be updated.

Document version 1.0, 19 January 2016

AFME does not make any representation or warranty, express or implied, in relation to the Questionnaire, including without limitation as to its suitability, completeness or fitness for purpose. Under no circumstances shall AFME be liable for any loss or damage, whether direct or indirect, arising out of or in connection with the use of this Questionnaire.

About AFME:

AFME represents a broad array of European and global participants in the wholesale financial markets. Its members comprise pan-EU and global banks as well as key regional banks, brokers, law firms, investors and other financial market participants. We advocate stable, competitive, sustainable European financial markets that support economic growth and benefit society.

AFME is the European member of the Global Financial Markets Association (GFMA) a global alliance with the Securities Industry and Financial Markets Association (SIFMA) in the US, and the Asia Securities Industry and Financial Markets Association (ASIFMA) in Asia.

AFME is listed on the EU Register of Interest Representatives, registration number: 65110063986-76.

¹ The Questionnaire has been shared with but not necessarily endorsed by individual Exchanges as well as the Federation of European Securities Exchanges and the Futures Industry Association.

Table of Contents

A. Communication and Collaboration	2
B. Treatment of Confidential Information	3
C. Due Diligence	3
D. Regulatory Data and Data Management	4
E. Algorithms and Algorithmic Testing	9
F. DEA Impacts	12
G. Order to Trade Ratio/Market Making	12
H. High Frequency Trading	14

Name of Exchange:

- LSE Derivatives

Name and contact details of the person completing the Questionnaire:

- Enrico Pellizzoni
- Head of Derivatives Product
- Enrico.Pellizzoni@borsaitalia.it
- +39 02 72426304

A. Communication and Collaboration

A.1. What are your plans for communicating MiFID II updates to your members and participants during 2017?

- London Stock Exchange Group hosted MiFID II Client Events in London, Milan, Paris and Amsterdam across March and April to inform clients of the planned content and delivery of MiFID II changes. Further events scheduled for Q3.
- MiFID II microsite has been launched <http://www.lseg.com/resources/mifid-ii> and standard communication channels will also be used.
- For further information, draft MiFID II technical specifications are available at: <http://www.lseg.com/derivatives/document-library>
- Technical events were held at the end of June in both London and Milan. 121 meetings will be arranged in Paris and Amsterdam. Further events will be scheduled in Q3.

A.2. How are you collaborating with cross exchange groups to develop a consistent approach to the solutions required by MiFID II?

- We are following the FIX community proposed approach for MiFID 2 information. We have participated in cross Exchange workshops and been in regular engagement through industry debates primarily via the FIX Trading Community.

A.3. How are you providing Independent Software Vendors with MiFID II specific updates & workshops?

- ISVs have dedicated Technical Account Managers to support client readiness. Technical Specifications were published in March and April and test environment goes live in July. The approach is the same used for member firms.

A.4. When do you plan to have your changes for MiFID II requirements ready? Will these become mandatory on Jan 3rd 2018 or earlier?

- Documentation has been published in April. Test environment will be available on July. Go live of protocol changes are planned for Q4. Migration Guides will be published ahead of the test environment go-lives which begin in July.

B. Treatment of Confidential Information

B.1. High Priority Question - Can you confirm that confidential personal client information can be sent and received over an interface separate to the order interface, thus will not require encryption being on the same private data circuit, can be sent post trade and will not be leveraged for commercial purposes?

- LSEG derivatives markets: Personal confidential information regarding identity of clients, decision makers and traders will not be explicitly required in order entry messages (see question D1). LSEG will require participants to provide 'short codes' in order entry messages, to be mapped against 'long codes', containing personal information, through a separate and secure web interface, with 'short-long codes' mappings to be provided in advance of order entry, or post trade, at clients' choice.

C. Due Diligence

C.1. What efforts are you making towards an industry standard on your due diligence approach?

- Member due diligence is aimed at confirming the compliance of prospective members and members with the requirements set out in the rules. This includes standardised processes which will be further enhanced to accommodate the requirements defined in RTS 7 Article 7.
- Processes already follow the requirements in REC and the FCA's guidance on Market Operators' oversight of member firm compliance with rules.

C.2. Will your due diligence be standardised every year?

- Member due diligence is already standardised and includes on-boarding reviews, annual checks and risk-based reviews. These processes are designed to be proportionate and risk-based.

D. Regulatory Data and Data Management

D.1. High Priority Question - Will you follow short codes on your FIX or native interfaces and will it cover the following fields:

- Yes, London Stock Exchange will adopt the short code concept to codify true values for certain fields required for Trading Venue Order Record Keeping.
- Short code formats will be 4 byte UINT32 on the Native interface, and String (range 0 to 4,294,967,295) on the FIX interface.
- For further information, draft MiFID II technical specifications are available at: www.londonstockexchange.com/techlib

D.1.1. Member/Participant

- No. Member / participant information will be retrieved from available configuration of market access interfaces, so it will not be necessary to specify this data in order entry messages.

D.1.2. Client ID codes

- Yes. A short code for Client ID will have to be provided in order entry messages.

D.1.3. DEA Orders

- No. Members / participants will be required to flag order entry messages referring to the trading activity of their DEA clients. However, it will not be required to identify DEA clients via short codes. Flag for DEA orders will be in the format of a 'True' / 'False' binary field.

D.1.4. Investment Decision ID

- Yes. A short code for Investment Decision ID will have to be provided in order entry messages.

D.1.5. Execution Decision ID

- Yes. A short code for Execution ID will have to be provided in order entry messages.

D.2. Provision of Regulatory Data:

D.2.1. What are your plans for collecting regulatory data pertaining to Trading Capacity - (e.g. AOTC, DEAL, MTCH)?

- Indication of trading capacity is already required at order entry for LSEG derivatives trading venues.
- LSEG will add a new Trading Capacity into existing field in native SOLA protocol in order to identify orders sent under 'Matched Principal' capacity.
- The following existing mapping for Trading Capacities will be applied to the purposes of order keeping requirements in RTS 24:
 - 'Principal' [and 'Market maker' for LSEDM] will be translated into 'DEAL'
 - 'Matched Principal' will be translated into 'MTCH'
 - 'Client' will be translated into 'AOTC'

D.2.2. What are your plans for collecting regulatory data pertaining to on/off venue post-trade indicators for trade reports?

- All transactions, including negotiated transactions, are executed as on exchange trades under the Rules of LSEDM.
- No post-trade indicators must be provided by market participants.

D.2.3. What are your plans for collecting regulatory data pertaining to non-executing brokers?

- Non executing brokers operate on LSEG derivatives trading venues under a specific membership profile using specific order types. Field [=] required for order keeping under RTS 24 will be derived internally using available information, so no changes to order entry messages are planned in order to map trading activity of non-executing brokers.

D.2.4. Will you return any/all of these details back on order and/or execution events?

- AOTC, DEAL, MTCH will be returned on Execution Reports for order acknowledgements and execution events.
- For further information, draft MiFID II technical specifications are available at: www.londonstockexchange.com/techlib

D.3. Provision of data from Exchanges to investment firms:

D.3.1. High Priority Question - What are your plans for providing market participants with passive/aggressive flags?

- This field is already provided back to clients of LSEG derivatives markets (field "Liquidity Status" in execution notices via SOLA native protocol SAIL; field [•] in execution notices via FIX protocol)

D.3.2. What are your plans for providing market participants with the Waiver ID on executions?

- This new field will be provided back to clients in execution reports.

D.3.3. High Priority Question - What are your plans for providing market participants with event time and to what precision/format?

AFME preference would be a concise, faster format. AFME are in support of the FIX proposals on the formatting of market data.

- LSEG derivatives markets will provide transact time granular to microseconds, and accurate to within 100 microseconds of UTC.
- For further information, draft MiFID II technical specifications are available at: www.londonstockexchange.com/techlib

D.3.4. What are your plans for providing market participants with triggered circuit breaker flags?

- LSEG derivatives markets already disseminate information related to a triggered circuit breakers through dedicated messages indicating the change of 'status' of an instrument (this information is available through trading and market data protocols). In case a circuit breaker is triggered for an instrument (see answer to question E.7), the instrument status is automatically set to 'Suspended' (code 'S') and this information is disseminated. At the moment, LSEG derivatives markets are not planning to change this existing behaviour of their trading system in this respect.

D.4. Is there any additional order/trade/control information you expect from participants? Will you pass back any information not listed above?

- In addition to short codes for Client ID, Investment Decision ID and Execution ID, the following additional information will be required at order entry (see answer to question D.2.4):
 - Algo flag: 'True / False' binary flag to indicate whether the order was inserted in the trading systems using algorithm ('Execution ID' short code will have to be mapped to an algorithm 'long' code, when provided)
 - DEA flag: 'True / False' binary flag to indicate whether the order was inserted by a DEA client of the market Member / participant
 - Liquidity provision flag (see answer to question G.1)
- See answer to question D.2.3 as concerns plans to return this information in order acks and execution notices.

D.5. Halting of Algorithms:

D.5.1. Will you support withdrawal or halting of algorithms according to the Algorithm ID sent and how will this work?

- NO. Control on value of short codes provided for Execution ID will be applied at order entry, that could trigger order rejection. Participant will anyway be required by Market Rules of LSEG derivatives markets to register mapping of short codes referring to successfully tested algorithms in advance of their usage in order entry messages. LSEG derivative trading venues will perform post trade checks against short codes used in order entry messages.

D.5.2. Will you have a kill switch at the Algorithm ID level and how would it work?

- NO. LSEG derivatives trading venues will not introduce kill switch functionality at the level of individual algos. However, kill switch functionality will be available at Trader ID and User ID (logical connectivity) level. Market participants will be able to setup dedicated Trader IDs (or User IDs) to segregate order flow from specific algorithms, if deemed necessary.

D.6. Will there be a way for firms to extract all their order and execution details for the day to feed into their surveillance systems and how will it work?

- Order and trade details are available via Drop Copy services.
- Clients can download their trade details via Clearing applications (BCS GUI and API).

D.7. Will you require a registered list of people to contact to invoke kill functionality?

- Members must provide and maintain a list of personnel who are authorised to request order or quote deletions.

D.8. What are your plans for harmonising instrument tick sizes against a central standard and will you still have your specific tick size rules?

- As concerns LSEG derivatives markets, MiFID II do not include specific requirements as concerns tick sizes, so LSEG is not planning to modify existing ticks.

D.9. Will you continue to publish your own data with regards to tick sizes?

- As concerns LSEG derivatives markets, LSEG will continue to publish information regarding tick sizes / tables via Market Rules and related technical documentation.

D.10. How are you unbundling your market data products? For instance, to publish independently instrument trading stats and phases (e.g. auction data vs continuous phase data)?

- LSEG will offer additional, more granular disaggregated data products on a commercial basis. In addition, we will provide further bespoke disaggregation on-demand. Disaggregated products will be available to both direct customers and those subscribing through a vendor.

D.11. What MiFID II specific changes are you introducing to your market data feeds - additional static data fields, real-time data fields, format changes, tick sizes?

- LSEG is developing a new MiFID II compliant data feed, which will run in parallel to our existing feeds and will carry all of the content and formatting required as set out in the annexes to RTS 1 and 2. Customers will be able to choose between continuing to receive our existing native feeds or taking the new MiFID II feed via GTP.

D.12. Do you plan to include the ISO requirement in your market data?

- The MiFID II GTP Post Trade feed will be compliant with the requirements of RTS 1 and RTS 2.

D.13. Do you intend to inform members of progress (per instrument, per waiver) towards the 4% volume cap and if so, how?

- Not applicable to derivatives.

D.14. When an instrument is suspended due to exceeding the 4% or 8% cap, will you continue to accept the reporting of negotiated trades provided the size exceeds LIS?

- Not applicable to derivatives.

D.15. How will negotiated trades be rejected for instruments which have been suspended due to the dark volume caps?

- Not applicable to derivatives.

D.16. For any instruments prevented from trading under the Double Volume Cap constraints, will you be informing members of an expected date at which trading will be re-enabled?

- Not applicable to derivatives.

D.17. Do you intend to inform members of the waivers available per instrument on each given trading day and whether the use of any particular waivers has changed compared to the previous day?

- Not applicable to derivatives.

D.18. What are your plans with regard to formalising and making public the instruments traded on your venue(s) (particularly with regard to explicitly identifying the admission of multi-listed instruments from non-EEA markets)?

Where the admission/listing of such instruments will drive participant and investor obligations in respect of the Trading Obligation and trade/transaction reporting.

- London Stock Exchange's obligation is to provide reference data to its competent authority. Competent authorities shall transmit reference data to ESMA. ESMA shall publish the reference data in an electronic, downloadable and machine readable form.
- London Stock Exchange plans to continue to provide reference data via existing channels.

D.18.1. Will you rely purely on RTS 23/FIRD notification, or will you publish lists of instruments in a publicly available place?

- See answer to D.18

E. Algorithms and Algorithmic Testing

E.1. High Priority Question - What certification will be required for algorithms and can you confirm that you will not block new Algorithm IDs before retrospective self-certification?
AFME preference would be the self-certification of algorithms which can be retrospectively validated.

- Members will be required to confirm that their algorithms have been certified and the means used for certification. This confirmation will be provided via a Member Portal. There are no plans to block new algorithms however an end of day process will capture discrepancies and notify clients of any outstanding self-certification issues. Further guidance will be provided on this process in due course.

E.1.1. What will be the grace period for retrospective self-certification?

- For any algorithm IDs not registered in advance of first use, LSEG derivatives markets will expect to receive registration by the end of the trading day of first use.

E.2. Testing Environments

E.2.1. What are your plans for supporting test instruments on the market?

- Test instruments are supported in our Customer Development Service. Additional CDS legacy environments are planned for January 2018 to ensure at least one of our test environments is always aligned with the current production release.

E.2.2. Will you provide test symbols in the live market?

- See answer to E.2.1

E.2.3. Do you plan any enhancements to your existing testing environment and how will these work?

- See answer to E.2.1

E.3. Many members may use third party vendors for market data. How will testing of market data consumption be tested in regards to algorithmic trading?

- Testing for our market data feeds(GTP and HSVF) remains unchanged and is focused on the software's ability to re-request data.

E.4. Stress testing

E.4.1. Will testing environments mirror production to enable high volume stress testing?

- Our testing environments are designed for functional rather than volume testing. We are interested in client feedback in making an environment available for high volume testing.

E.4.2. Will you be providing a test system to facilitate your own and investment firms stress testing requirements?

- See answer to E.4.1

E.4.3. How often will the stress testing cycle occur? (*Available daily? Repeated every hour?*)

- See answer to E.4.1

E.4.4. Will there be any auto order generators or other tools deployed, if so how will they operate?

- Yes a liquidity generator to automate the generation of liquidity in predefined instruments on a daily basis is under analysis. Further details will be provided in due course.

E.5. How will maximum order volume checks work, will these be security specific or generic?

- For LSEG derivatives markets, thresholds related to exchange level, pre-trade checks can be defined at the level of each instrument group (e.g. physically settled, American-style stock options on a specific underlying). We are planning to define max. order volume threshold at a less granular level e.g. stock options on any underlying, irrespective of settlement and exercise style.

E.6. What post trade checks, if any, will you implement?

- LSEG derivatives markets are planning to execute an extensive set of pre-trade checks, so that no post-trade check on executed trades will be introduced. Any executed trade will be immediately sent to the respective clearing house and will be cleared according to the agreements in place between the trading venue and the clearing house. Please note that such agreements are fully compliant with the definitions under Art. of RTS 26, so that LSEG

derivatives trading venue are not mandated to introduce pre-trade checks for clearing members. Pre-trade validation services are made available for clearing members as a commercial service, on request by the market member / participant.

E.7. What circuit breakers have you implemented?

- LSEG derivatives operate the following rules to trigger circuit breakers:
 - Trade Price vs. Static Control Price (“Y Validation”)
- Prior to effectively executing a trade, the trading system validates its potential execution price. The potential execution price is validated against the Static Control Price plus/minus the percentage defined by the “Y” parameter.
- If the potential trade price is outside such interval, then the trade is not executed.
- In case the potential trade should be executed during the Opening Phase:
 - no trade is executed at the Opening Price;
 - the Instrument Series State is changed to “Reserved”;
- otherwise:
 - the incoming order is rejected;
 - the Instrument is suspended;
- In both cases, the Instrument Series State returns to its normal behaviour after a period of time defined by market rules.
 - Trade Price vs. Last Trade Price (“Z Validation”)
- Prior to effectively executing a trade, the trading system validates its potential execution price. The potential execution price is validated against the Dynamic Control Price plus/minus the percentage defined by the “Z” parameter.
- If the potential trade price is outside such interval, then:
 - the trade is not executed;
 - the incoming order is rejected;
 - the Instrument is suspended;
- The Instrument returns to its normal behaviour after a period of time defined by market rules.

E.7.1. Are you considering altering these or adding new ones?

- NO. LSEG derivatives trading venues are not planning to introduce new circuit breakers, in addition to the ones already in place.

E.7.2. How will you support members monitoring DEA or algorithmic orders triggering circuit breakers?

- DEA orders will be flagged in order to be identified.
- Circuit breakers as per D.3.4

E.8. High Priority Question - What are your plans with respect to supported “kill switch” functionality?

- LSEG derivatives markets already operate the following functionalities:
 - 'Global cancellation' message: allows to simultaneously cancel all quotes resting in the order book. The Global Cancellation message allows to specify the Trader ID and the instrument (e.g. FTSE MIB futures, or stock options on a specific underlying, physically settled, European style) where quotes must be cancelled. ; When a Global Cancellation message is sent to the trading system, quote entry with the specified Traded ID and instrument is NOT suspended;
 - 'Kill Switch' functionality, allowing to cancel all resting orders and quotes submitted by an individual Trader ID or market member / participant, at the same time preventing submission of new orders and quotes.
- In order to control its usage within the member firm, the message to trigger the Kill Switch functionality will be available on a dedicated logical connectivity, separated by normal order entry functionalities.

E.9. What precautionary/absolute measures will venues operating a dark pool put into effect to ensure trading remains below the double volume cap?

- Not applicable to derivatives.

F. DEA Impacts

F.1. What information regarding trading controls and organisation will you require from members in relation to sponsored access and how will you provide real time alerts?

- N/A - LSE does not offer Sponsored Access to its Derivatives Market.

F.2. For DEA/SMA trading, what additional enrichment will you be making to exchange drop copies to facilitate new data requirements for MiFID?

- Any new field added to order acks and execution notices (see answer to question D.1.3) will also be available via Drop Copy. This will include the DEA flag described in answer to question D.1.3

G. Order to Trade Ratio/Market Making

G.1. What are your plans for collecting regulatory data pertaining to liquidity provision flags?

- On LSEG derivatives markets, dedicated Trader IDs will be configured to segregate the order flow submitted to the trading venue under a liquidity provision agreement. Please note that this approach is already in place as concerns double sided quotes. The same approach will be extended to single-sided orders. The 'Liquidity provision' flag required as Filed 8 in the Annex to RTS 24 will be internally generated and attributed exclusively to orders / quotes submitted through one of these dedicated Trader IDs. Please note that a 'Liquidity provision' flag will be added to order entry messages in native protocols for consistency with FIX

messaging, but such flag will not be considered for the purposes of order keeping requirements in RTS 24. Also, it should not be considered for the order keeping requirement for investment firms in RTS6. The correct information to populate Field 3 of Annex II, Table 3 of RTS 6 can be derived from the naming convention of the used Trader ID, that is reported back to clients in order acks and execution notices.

G.2. How will you monitor compliance with the market making measures? Will this monitoring also include alerting for when market making levels are being approached? If so, how will you inform members of a need to register as a Market Maker?

- LSEG trading venues are not required to monitor the trading activity of market participant to verify whether they are obliged to sign a market making agreement according to the provisions of Art. 1 and 2 of RTS 8. So, LSEG derivatives markets are not planning to introduce controls or to inform market participants in case they are behaving as a 'market making strategy' according to the definitions of Art. 1 of RTS 8.

G.3. What are your plans for implementing OTR controls?

- LSEG derivatives trading venues will define max. acceptable OTR according to the requirement of RTS 10, with different max. values for market makers and liquidity providers. In addition, LSEG derivatives trading venues will consider the calculated OTR as not significant in case the total number of 'orders' (numerator of the ratio) is below a pre-specified absolute value, or in case the number of trades (denominator of the ratio) is below a pre-specified, absolute value.

G.3.1. At what level will you set these and how will you apply the controls?

- Max. OTR levels / thresholds will be communicated in due course. Internal controls on the effective OTR levels for any participant and instrument (see answer to G.3.2) will be executed on a daily basis.

G.3.2. Will OTR be applied at a trader, session or membership level?

- OTR will be calculated at membership / instrument level, as required by Art.1 of RTS 9.
- For derivatives, the definition of 'instrument' will refer to any individual derivatives series configured in the trading system e.g. at ISIN level (e.g. a derivative contract with a specified expiry and strike price, on physically settled, American style stock option on a specific underlying).

G.3.3. What tools/MIS will you produce for members to monitor OTRs and will you plan for daily as well as monthly reports?

- No formal tools are planned.
- Members should be able to count their own order actions and executions accordingly.

G.3.4. What obligations will you put on members (if any) to monitor the OTR?

- No obligations are planned at this time.

G.3.5. Do you have any access linked to OTR that would block trading or prevent access to the market?

- No. London Stock Exchange does not intend to use order to trade ratios to automatically block trading or prevent access to the venue.

H. High Frequency Trading

H.1. Will you define where a member is using infrastructure intended to minimize network and other types of latencies, and what level will this definition be at (i.e. member, connection etc.)?

- London Stock Exchange does not intend to define where a member is using infrastructure intended to minimize network and other types of latencies.

H.2. Will you monitor firms for use of HFT trading technique?

This will help firms to assess HFT status.

- London Stock Exchange intends to provide support for HFT self-assessment by providing average messages per second information on request.

H.3. What are your plans for providing monthly estimates of the average messages per second taking into account the preceding 12 months?

- London Stock Exchange intends to provide average messages per second information on request.

Annex

Annex I – Disclaimer

The replies and information provided in this document represent LSE Derivatives plans and views as of July 2017.

They can change and/or develop differently in the coming months leading to 3 January 2018 and they therefore cannot be relied upon by any reader or participant nor considered as LSE's final views or decision in any relevant matters.

If and where needed official communications will be released describing how MiFID II and MiFIR provisions will be implemented by LSE Derivatives, also via amendments to the relevant market rules and user agreements.