



**London**  
Stock Exchange Group

# **MiFID II**

# **London Client Event**

**21 March 2017**



# Agenda

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## 15:00 – 16:30

- Introduction – **Brian Schwieger**
- Equity, Equity-like and Non-Equity Cash Markets– **Tom Stenhouse**
- Derivatives Markets – **Enrico Pellizzoni**
- MiFID II Implementation – Technology – **Don Mucha**
- Q & A

## 16:30

- *Networking Drinks*



# MiFID II

## Introduction

Brian Schwieger



# Equity, Equity-like and Non-Equity Cash Markets

**Tom Stenhouse**



# Organisational Requirements (1/2)

- ESMA requires that trading venues must set out the conditions for using its electronic order submission systems by its members, and to carry out an annual risk-based assessment of compliance with these conditions.
  - **Portal access will be provided for members to submit information as required by each LSEG venue**
- Members are required to undertake conformance testing prior to the deployment or a substantial update of the access to the trading venue's system or the member's trading system, trading algorithm or trading strategy
  - **LSEG considers that existing conformance policies satisfy the requirement**
- Trading venue conformance testing facilities must reflect the Production environment
  - **Additional LSEG CDS environments will be provided in order to achieve this**
- Trading venues shall require their members to certify that the algorithms they deploy have been tested to avoid creating or contributing to disorderly trading conditions prior to the deployment or substantial update of a trading algorithm
  - **Portal access will be provided for members to state their means of testing and to submit algorithm IDs with mapping to long form IDs as appropriate**



# Organisational Requirements (2/2)

Trading venues shall have at least in place:

- Limits per member of the number of orders sent per second
  - **Technical message throughput limits per connection will apply on LSEG venues**
- Mechanisms to manage volatility
  - **LSE and Borsa will continue to operate volatility auctions, whilst Turquoise will use price collars to constrain trading during volatile conditions**
- Pre-trade controls to prevent disorderly trading and breaches of capacity limits
  - **Borsa and Turquoise will continue to utilise price collars, LSE will introduce price collars. Maximum order value/volume checks will be introduced to prevent uncommonly large orders. Parameters are intended to be set differently in regular trading compared to auctions in markets where relevant. Parameters to be published at a later date**
- Kill switch functionality to be deployed upon request of the member or sponsored access client, or as required by the market operator
  - **LSEG trading venues will have mechanisms available to disconnect customer connections and cancel orders, either automatically through optional configuration or by the market operator**



# Market Making (1/3)

## RTS 8 advises that:

- For certain financial instruments traded on a continuous auction order book trading system, investment firms shall be required to request entry into a market making agreement for any instrument in which they pursue a market making strategy and, during half of the trading days over a one month period, they:
  - post firm, simultaneous two-way quotes of comparable size and competitive prices
  - deal on their own account in at least one financial instrument on one trading venue for at least 50% of the daily trading hours of continuous trading at the respective trading venue, excluding opening and closing auctions
- For the purposes of the above:
  - two quotes shall be deemed of comparable size when their sizes do not diverge by more than 50% from each other
  - quotes shall be deemed to have competitive prices where they are posted at or within the maximum bid-ask range set by the trading venue and imposed upon every investment firm that has signed a market making agreement with that trading venue

# Market Making (2/3)

- A “binding written agreement” shall be required for the financial instrument or instruments covered by the agreement along with the minimum obligations to be met by the investment firm and other relevant terms
  - **Portal access will be provided for members to submit registrations for each LSEG venue**
  - **Maximum bid-ask range will be set and published by the trading venue at a later date**
- The investment firm must flag firm quotes (or orders) submitted to the trading venue under the market making agreement in order to distinguish those quotes from other order flows and meet obligations equivalent to those on the previous slide, and for the purpose of these agreements:
  - **LSEG venues will allow firms to enter anonymous limit orders**
  - **Members can either dedicate a connection, where all orders will be considered as activity considered for the MIFID II market making agreement obligations, or populate a Liquidity Provision Activity flag offered on an order by order basis**

# Market Making (3/3)

- Trading venues shall describe in their market making scheme the incentives and the requirements that must be met in terms of presence, size and spread by investment firms in order to access those incentives under stressed market conditions different to those in normal trading conditions
  - **LSEG considers stressed market conditions for equities and equity-like products to be a pre-defined period following resumption of trading after volatility interruptions**

# Order to Trade Ratios (1/1)

- ESMA considers that trading venues should calculate the ratio of unexecuted orders to transactions in order to ensure effectively that the ratio does not lead to excessive volatility
- Trading venues shall calculate the ratio of unexecuted orders to transactions effectively into the system by each of their members for every financial instrument traded under an electronic continuous auction order book or a quote-driven or a hybrid trading system
- The maximum ratio of unexecuted orders to transactions calculated by the trading venue shall be deemed to have been exceeded by a member or participant of the trading venue during a trading session it exceeds a threshold on either a volume or number basis
  - **LSEG trading venues will calculate order to trade ratios as required by the regulation**

# Tick Sizes (1/1)

- Trading venues shall apply tick sizes in shares or depositary receipts corresponding to the order price and liquidity band for that instrument
- This regulation is only mandatory for equity ETFs using tick sizes in the most liquid band
- LSE is aiming to implement the MIFID II tick size table as a default for any new and existing ETFs & ETCs/ETNs

**Liquidity Bands**

| Price ranges          | 0 ≤ Average daily number of transactions < 10 | 10 ≤ Average daily number of transactions < 80 | 80 ≤ Average daily number of transactions < 600 | 600 ≤ Average daily number of transactions < 2000 | 2000 ≤ Average daily number of transactions < 9000 | 9000 ≤ Average daily number of transactions |
|-----------------------|-----------------------------------------------|------------------------------------------------|-------------------------------------------------|---------------------------------------------------|----------------------------------------------------|---------------------------------------------|
| 0 ≤ price < 0.1       | 0.0005                                        | 0.0002                                         | 0.0001                                          | 0.0001                                            | 0.0001                                             | 0.0001                                      |
| 0.1 ≤ price < 0.2     | 0.001                                         | 0.0005                                         | 0.0002                                          | 0.0001                                            | 0.0001                                             | 0.0001                                      |
| 0.2 ≤ price < 0.5     | 0.002                                         | 0.001                                          | 0.0005                                          | 0.0002                                            | 0.0001                                             | 0.0001                                      |
| 0.5 ≤ price < 1       | 0.005                                         | 0.002                                          | 0.001                                           | 0.0005                                            | 0.0002                                             | 0.0001                                      |
| 1 ≤ price < 2         | 0.01                                          | 0.005                                          | 0.002                                           | 0.001                                             | 0.0005                                             | 0.0002                                      |
| 2 ≤ price < 5         | 0.02                                          | 0.01                                           | 0.005                                           | 0.002                                             | 0.001                                              | 0.0005                                      |
| 5 ≤ price < 10        | 0.05                                          | 0.02                                           | 0.01                                            | 0.005                                             | 0.002                                              | 0.001                                       |
| 10 ≤ price < 20       | 0.1                                           | 0.05                                           | 0.02                                            | 0.01                                              | 0.005                                              | 0.002                                       |
| 20 ≤ price < 50       | 0.2                                           | 0.1                                            | 0.05                                            | 0.02                                              | 0.01                                               | 0.005                                       |
| 50 ≤ price < 100      | 0.5                                           | 0.2                                            | 0.1                                             | 0.05                                              | 0.02                                               | 0.01                                        |
| 100 ≤ price < 200     | 1                                             | 0.5                                            | 0.2                                             | 0.1                                               | 0.05                                               | 0.02                                        |
| 200 ≤ price < 500     | 2                                             | 1                                              | 0.5                                             | 0.2                                               | 0.1                                                | 0.05                                        |
| 500 ≤ price < 1000    | 5                                             | 2                                              | 1                                               | 0.5                                               | 0.2                                                | 0.1                                         |
| 1000 ≤ price < 2000   | 10                                            | 5                                              | 2                                               | 1                                                 | 0.5                                                | 0.2                                         |
| 2000 ≤ price < 5000   | 20                                            | 10                                             | 5                                               | 2                                                 | 1                                                  | 0.5                                         |
| 5000 ≤ price < 10000  | 50                                            | 20                                             | 10                                              | 5                                                 | 2                                                  | 1                                           |
| 10000 ≤ price < 20000 | 100                                           | 50                                             | 20                                              | 10                                                | 5                                                  | 2                                           |
| 20000 ≤ price < 50000 | 200                                           | 100                                            | 50                                              | 20                                                | 10                                                 | 5                                           |
| 50000 ≤ price         | 500                                           | 200                                            | 100                                             | 50                                                | 20                                                 | 10                                          |

**Anticipated effective date of wholesale tick changes:**

**3 January 2018**

# Transaction Reporting for Non-MiFID Members

- Under MiFIR, operators of trading venues must ensure that transactions in financial instruments traded on their platforms by non-MiFID member firms are reported to the relevant competent authority
- Non-MiFID firms include (i) members located outside of the EEA and (ii) those members falling under an exemption in MiFID Article 2\*
  - **LSEG trading venues will require non-MiFID member firms to use the UnaVista Transaction Reporting service**
  - **UnaVista is an award-winning Approved Reporting Mechanism (ARM) that will support MiFIR transaction reporting for LSEG trading venues**
  - **LSEG trading venues will contact their non-MiFID member firms with further details as to how to sign up to use the UnaVista Transaction Reporting service**

*\* MiFID Article 2 exemptions have been amended in MiFID II – firms relying on a MiFID exemption should check to ensure that they can still use an appropriate exemption or (where required) obtain appropriate authorisation from a competent authority*

# Order Record Keeping (1/3)

- For LSEG trading venues to maintain order records, members must submit with each order:
  - the **member or participant** of the trading venue who submitted the order to the trading venue
  - the **person or computer algorithm** within the member or participant of the trading venue to which an order is submitted that is **responsible for the investment decision** in relation to the order
  - the **person or computer algorithm** within the member or participant of the trading venue that is **responsible for the execution** of the order
  - the **client** on whose behalf the member or participant of the trading venue submitted the order to the trading venue
  - the **trading capacity** in which the member or participant of the trading venue submits an order
  - a **liquidity provision activity** flag when an order is submitted as part of a market making strategy, or is submitted as part of other liquidity provision activity
  - a flag to denote whether the order was submitted to the trading venue using **DEA**
- Members must also specify a flag to denote whether the order submitted is **algorithmic**



# Order Record Keeping (2/3)

- A natural person shall be identified using a concatenation of the ISO 3166-1 alpha-2 (2 letter country code) of the nationality of the person, followed by the identifier listed in RTS 22, Annex II based on the nationality of the person
- Where the applicable identifier specified refers to CONCAT, the natural person shall be identified by the investment firm using an identifier created from the concatenation of the following elements in the following order:
  - the date of birth of the person in the format YYYYMMDD
  - the five first characters of the first name (append with '#'s for names shorter than 5 characters)
  - the five first characters of the surname (append with '#'s for names shorter than 5 characters)
- Examples of National IDs chosen by countries (from RTS 22, Annex II)
  - UK: UK National Insurance Number
  - Italy: Fiscal code (Codice Fiscale)
  - Netherlands: National Passport Number
  - France/Germany: CONCAT
- LEI should be used to identify clients when they are entities

# Order Record Keeping (3/3)

- To address data security and confidentiality concerns, it will not be possible to submit full identifiers on orders but instead ‘short codes’ must be entered
- A Member Portal will be introduced and mandated as the means for firms to submit short code mappings to full identifiers (‘long codes’) in a timely manner
- Members will be expected to manage their own generation of short codes, adhering to certain guidelines to ensure uniqueness and orderly management
- In case the provided short code for the Client ID field corresponds to “aggregated orders” (‘AGGR’) or orders “pending allocations” (‘PNAL’), no mapping to a long code will be required
- Policy work is ongoing in order to address potential issues, including but not limited to:
  - late receipt of mappings from members
  - breaches of uniqueness requirements

# Clock Synchronisation (1/1)

- Trading venues and their members or participants shall synchronise the business clocks they use to record the date and time of any reportable event with the UTC
- Trading venues shall ensure their clocks adhere to a level of accuracy according to the gateway to gateway latency of each of their trading systems
  - **LSEG venues measure latency as less than 1 millisecond and therefore will record timestamps with a granularity of 1 microsecond and a maximum divergence from UTC of 100 microseconds**
- Members of trading venues shall ensure that their business clocks used to record the time of reportable events adhere to a level of accuracy depending on the type of trading activity:
  - \* Activity using high frequency algorithmic trading (HFT) technique: granularity of 1 microsecond or better and a maximum divergence from UTC of 100 microseconds
  - Other order book trading activity: granularity and accuracy of 1 millisecond or better
  - Activity of concluding negotiated transactions: granularity and accuracy of 1 second or better

\* To assist in HFT self-assessment, LSEG venues shall make available to firms, on request, estimates of the average of messages per second on a monthly basis two weeks after the end of each calendar month taking into account all messages submitted during the preceding 12 months

# Pre-trade Transparency (1/4)

- In MiFID II, transparency obligations are extended to cover equity-like products (e.g. Depositary Receipts, ETFs) and non-equity products (e.g ETCs/ETNs, bonds and Securitised Derivatives)
- Specific requirements for equities are set out under the trading obligation for shares (MiFIR Article 23)
  - “An investment firm shall ensure the trades it undertakes in shares admitted to trading on a regulated market or traded on a trading venue shall take place on a regulated market, MTF or systematic internaliser, or a third-country trading venue assessed as equivalent, unless their characteristics include that they are non-systematic, ad-hoc, irregular and infrequent, or are carried out between eligible and/or professional counterparties and do not contribute to the price discovery process.”
- LSEG operates a range of Trading Venues and MTFs, whilst also offering an Approved Publication Arrangement (‘APA’) for the publication of Systematic Internaliser and OTC trades

# Pre-trade Transparency (2/4)

- The four equity waivers included in MiFID I are established as regulation in MiFID II and extended to equity-like products (MiFIR Article 4, RTS 1) with some changes
  - The Reference Price waiver (RPW) systems must only reference the midpoint of the current BBO of the listing venue or 'most relevant in terms of liquidity'
  - The Negotiated Transaction waiver (NTW) systems must only allow trades which are (i) within the current volume-weighted spread of the venue, (ii) in illiquid instruments, or (iii) subject to conditions other than the current market price
  - Large In Scale (LIS) waiver allowed for orders that satisfy re-calibrated minimum size criteria
  - Order Management Facility (OMF) waiver may be used for iceberg (reserve) orders and stop orders, with iceberg orders now subject to a minimum size threshold of €10,000
- LSEG has submitted a number of pre-trade transparency waiver applications to ESMA via its competent authorities and will adapt systems accordingly to reflect the regulatory changes

# Pre-trade Transparency (3/4)

- Non-equity products will have the following pre trade transparency waivers (MIFIR Article 9, RTS 2) available
  - LIS waiver allowed for orders that satisfy minimum size criteria
  - Actionable indications of interest in request for quote systems that are above size specific to the financial instrument (SSTI)
  - Financial instruments for which there is not a liquid market may be waived from pre trade transparency
  - Order management facility waiver
  - In addition, Exchange For Physical and Package Orders have subsequently been included
- LSEG will submit a number of pre-trade transparency waiver applications to ESMA via its competent authorities and will adapt systems accordingly to reflect the regulatory changes



# Pre-trade Transparency (4/4)

- The Volume Cap Mechanism (MiFIR Article 5, RTS 3) has been introduced to “ensure that the use of the [RPW] and [NTW for liquid securities] does not unduly harm price formation”
  - If total trading in a financial instrument using these waivers on a venue exceeds 4% of total EU trading in the previous 12 months, the venue will be prohibited from using the waiver(s) for 6 months in that instrument
  - Similarly, if total trading in a financial instrument using these waivers across all venues exceeds 8%, all venues will be prohibited from using the waivers for 6 months
  - Excluded are NTs in illiquid instruments and those subject to conditions other than current market price
- Initial equity instrument restrictions anticipated to come into force on Thursday 11 January 2018 or Friday 12 January 2018. New MiFID instruments (ETFs, DRs) not initially affected.
  - **On the first day of MiFID II, trading venues must report previous 12 months trading volumes by instrument to competent authorities (CAs) , next day CAs report to ESMA, by 22:00 CET on day 5 ESMA announces instruments and any specific venues to be affected, and within two working days waiver suspensions must be applied**
  - **LSEG trading venues impacted will apply validation and rejection at the point of submission of NTW trades and entry of NTW orders and RPW orders**
  - **Various block trading initiatives and other trading services are available on LSEG venues, in order to support participants in trading without the affected waivers**

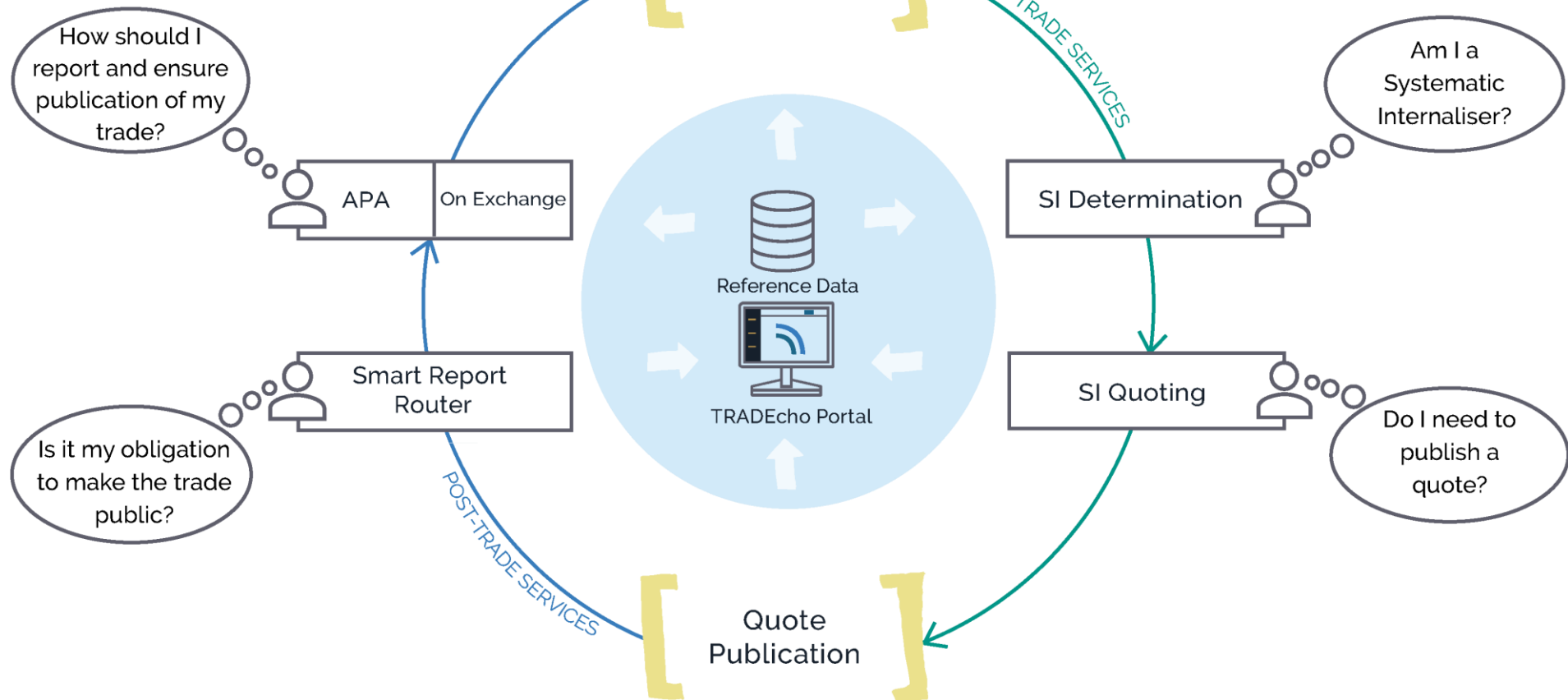
# Post-trade Transparency (1/2)

- ESMA has defined that details of trades shall be made public by applying defined standards including specific date/time formats, instrument and venue identifiers and flags identifying certain pre-trade transparent waiver usage, post-trade deferrals, algorithmic involvement and other trade attributes which may apply
  - **GTP will publish a new trade feed for this purpose whilst maintaining existing core feed**
- Where a previously published trade report is cancelled, a new trade report including all details of the original trade with a cancellation flag shall be published
  - **LSEG trading venues and the TRADEcho APA will maintain trade history to facilitate late cancellations**
  - **LSE on-exchange trade reporting responsibility will be defined in the LSE rules whilst OTC reporting responsibility is defined by ESMA (SI to report, or seller to report when no SI)**

# Post-trade Transparency (2/2)

- For equity and equity-like products trades must be published as close to real-time as is technically possible and in any case within one minute of the relevant transaction
- For equity and equity like products deferred publication can be requested and applied if the transaction is between an investment firm dealing on own account other than through matched principal trading and another counterparty, and the size meets pre-defined thresholds
- For non-equity products trades must be published as close to real-time as is technically possible and in any case within 15 minutes of the relevant transaction (moving to five minutes after three years)
- For non-equity products deferred publication can be requested and applied if:
  - the transaction is large in scale, or
  - the transaction is in a financial instrument does not have a liquid market, or
  - the transaction is executed between an investment firm dealing on own account other than on a matched principal basis and another counterparty and is above a size specific to the instrument (SSTI)

# TRADEcho



## On-Exchange

TRADEcho provides the mechanism for London Stock Exchange Member Firms to report trades executed under the Rules of the London Stock Exchange to meet their MiFIR/MiFID II post-trade transparency obligations.

## APA

TRADEcho's Approved Publication Arrangement (APA) provides investment firms with the mechanism to publish trades they have executed and thereby meet their MiFIR/MiFID II post-trade transparency obligations.

## SRR

TRADEcho's Smart Report Router (SRR) complements the APA service by providing firms with the tools to determine when it is their obligation to publish a trade report. As proponents of open platforms, the SRR service is APA agnostic. Clients can choose to route to alternate APAs for trade publication.

## SI Determination

TRADEcho provides investment firms with the tools to determine if they qualify as being a Systematic Internaliser. TRADEcho SI Determination calculates your status for each instrument and keeps you informed of your SI status.

## SI Quoting

TRADEcho provides Systematic Internaliser's with the tools to validate, publish and view quotes on the TRADEcho portal and via LSE market data channels.



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# Derivatives Markets

Enrico Pellizzoni

# Waivers to Pre-trade Transparency (1/3)

MiFID II is introducing a new regime whose goal is to define the conditions under which it is possible to waive pre-trade transparency obligations for derivatives

**Large-In-Scale** waiver



*Relevant for «liquid» products  
IDEM / LSEDM equity derivatives always «liquid».  
Interest and commodity derivatives may be liquid*

**Illiquid Instrument** waiver



*Covering products classified as «not liquid» (and not subject to the trading obligation)*

**SSTI** waiver



*Available for actionable indication of interest in RfQ systems, which would expose liquidity providers to «undue risk»*

**Order management facility** waiver



*Iceberg, stop orders etc.*

**Package orders** waiver



*ESMA published Final Report on 28.2 including definition of «package orders for which there is a liquid market» and relation to other waivers.  
Approval of RTS and Q&A expected in Q2 2017*

**Exchange for Physicals** waiver

# Waivers to Pre-trade Transparency (2/3)

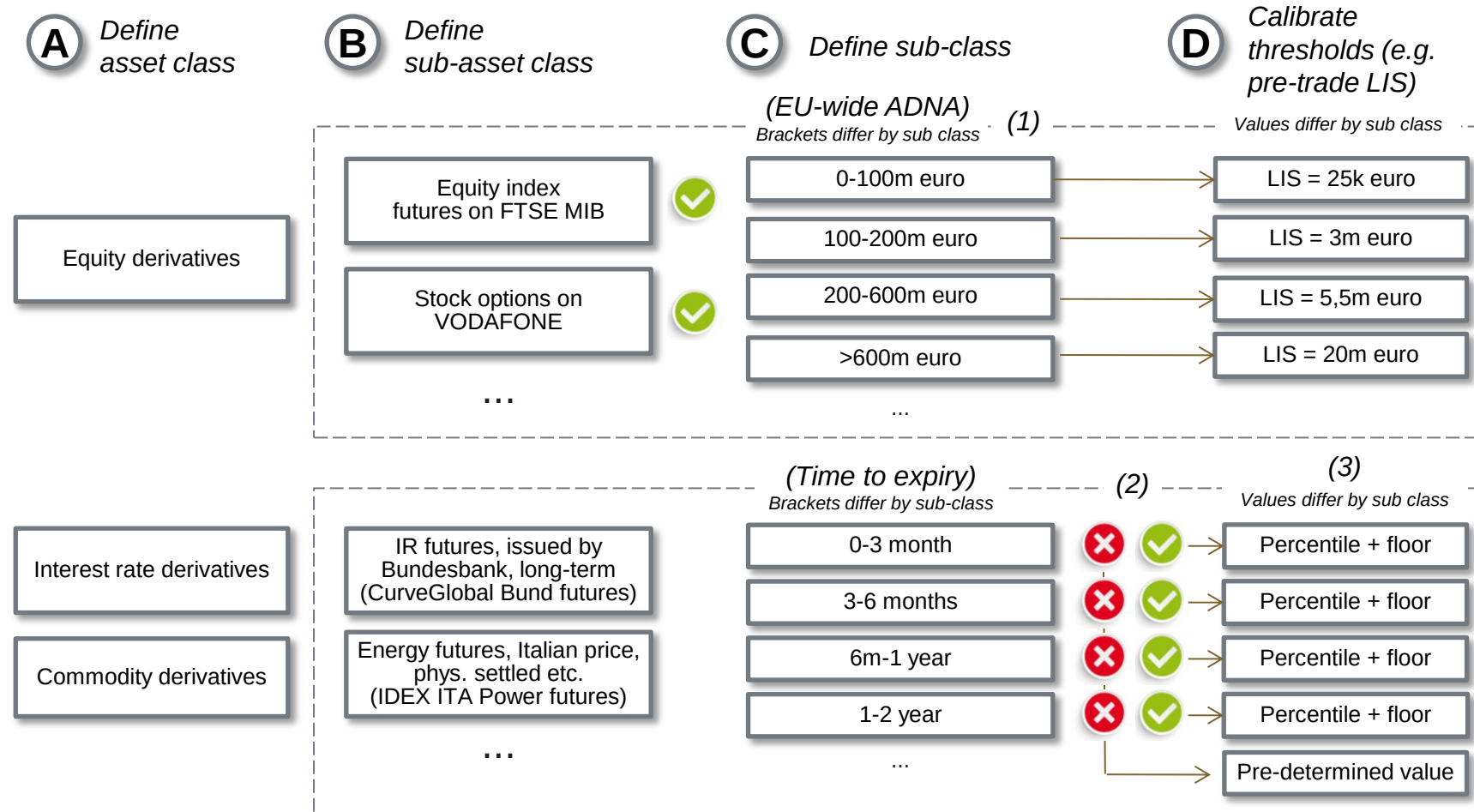
- IDEM and LSEDM do not intend to materially change their existing market model, that is centered on central order book services (CLOB) supported by market makers/ liquidity providers providing on-book liquidity and complemented by order types supporting bilaterally negotiated transactions (BNTs)
- For existing functionalities requiring a MiFID II waiver to pre-trade transparency:
  - ✓ **Cross Orders** (including bundled orders), allowing to execute BNTs, will be adapted to MiFID II requirements (see next slide)
  - ✓ **Iceberg Orders** will be subject to a minimum size validation (10,000 euro, including hidden and visible portion of the order) on order entry / user-triggered modification, expressed in notional value
  - ✓ functioning of **Stop Orders** will remain unchanged
  - ✓ existing **Request-for-Quote** functionality will continue to operate under full pre-trade transparency. No specific waiver to pre-trade transparency for RfQs will be required to CAs

# Waivers to Pre-trade Transparency (3/3)

- Expected changes to order types supporting **BNTs**:
  - ✓ min. sizes for BNTs (min. allowed size, min. size for “outside spread”) will be in **notional value**. LSEG is working with CAs for a simplified approach, converting into a single threshold in standard lots for each underlying
  - ✓ BNTs **on liquid instruments** will only be possible when size is above a pre-defined minimum size, consistent with MiFID II pre-trade Large-In-Scale threshold
  - ✓ BNTs for strategies (**package orders** waiver) still under assessment<sup>1</sup>
- Min. size for BNTs on liquid products could be higher than MiFID II LIS threshold, for those products where the LIS threshold is expected to be low in comparison to existing min. block trade thresholds (i.e. single name derivatives)
- **Consistent with LSEG overall approach to pre-trade transparency, existing price validation rules to accept and execute BNTs (based on comparison with BBO (best bid/ask order book prices) will be maintained, where available**
  - ✓ BNT at prices outside the BBO (“outside spread”, i.e. “block trades” on IDEM) will remain possible, when BNT size is above a minimum threshold

# ① Derivatives Markets - Pre-trade Transparency

## Defining Pre-trade Transparency Thresholds (1/4)



# ① Derivatives Markets - Pre-trade Transparency

## Defining Pre-trade Transparency Thresholds (2/4)

### ILLUSTRATIVE

#### Example: IDEM FTSE MIB Index futures

| Underlying | IDEM 2016 ADNA <sup>1</sup> | Current minimum “outside spread” size |                                | Pre-trade “Large in Scale” threshold |              | Delta | Market making quantity oblig. (current) |                                |
|------------|-----------------------------|---------------------------------------|--------------------------------|--------------------------------------|--------------|-------|-----------------------------------------|--------------------------------|
|            | €bn                         | Lots                                  | € est. (notional) <sup>2</sup> | Lots est <sup>2</sup>                | € (notional) | times | Lots <sup>3</sup>                       | € est. (notional) <sup>2</sup> |
| FTSE MIB   | 3.9                         | 5                                     | 480,865                        | 208                                  | 20,000,000   | 42x   | 10                                      | 961,729                        |

#### Example: IDEM FTSE MIB options

| Underlying | IDEM 2016 ADNA | Current minimum “outside spread” size |                                | Pre-trade “Large in Scale” threshold |              | Delta | Market making quantity oblig. (current) |                                |
|------------|----------------|---------------------------------------|--------------------------------|--------------------------------------|--------------|-------|-----------------------------------------|--------------------------------|
|            | €bn            | Lots                                  | € est. (notional) <sup>2</sup> | Lots est. <sup>2</sup>               | € (notional) | times | Lots <sup>3</sup>                       | € est. (notional) <sup>2</sup> |
| FTSE MIB   | 1.0            | 100                                   | 4,808,645                      | 416                                  | 20,000,000   | 4,2x  | 15                                      | 721,297                        |

Minimum threshold to enter bilateral trades would be equal to **x** times the current regime

# ① Derivatives Markets - Pre-trade Transparency



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## Defining Pre-trade Transparency Thresholds (3/4)

An example - IDEM stock options (sample of underlyings)

**ILLUSTRATIVE**

| Underlying     | IDEM 2016 ADNA | Current minimum "outside spread" size |                                | Pre-trade "Large in Scale" threshold |                           | Delta | Market making qty oblig. (current) |                                |
|----------------|----------------|---------------------------------------|--------------------------------|--------------------------------------|---------------------------|-------|------------------------------------|--------------------------------|
|                | €m             | Lots                                  | € est. (notional) <sup>1</sup> | Lots est <sup>1</sup>                | € (notional) <sup>2</sup> | times | Lots <sup>3</sup>                  | € est. (notional) <sup>1</sup> |
| ENI            | 32.3           | 500                                   | 3,857,845                      | 194                                  | 1,500,000                 | 0,4x  | 60*                                | 462,941                        |
| Unicredit      | 30.3           | 500                                   | 683,798                        | 1,097                                | 1,500,000                 | 2,2x  | 30*                                | 41,028                         |
| IntesaSanpaolo | 30.0           | 500                                   | 1,207,080                      | 621                                  | 1,500,000                 | 1,2x  | 100*                               | 241,416                        |
| Generali       | 19.1           | 500                                   | 709,022                        | 1,058                                | 1,500,000                 | 2,1x  | 160*                               | 226,887                        |
| Telecom Italia | 18.8           | 500                                   | 420,329                        | 1,784                                | 1,500,000                 | 3,6x  | 160*                               | 134,505                        |
| ENEL           | 16.2           | 500                                   | 1,042,678                      | 719                                  | 1,500,000                 | 1,4x  | 140*                               | 291,950                        |
| FCA            | 12.7           | 500                                   | 2,172,181                      | 127                                  | 550,000                   | 0,3x  | 40*                                | 173,774                        |
| Snam RG        | 5.4            | 500                                   | 1,961,281                      | 76                                   | 300,000                   | 0,2x  | 20                                 | 78,451                         |
| Atlantia       | 4.7            | 500                                   | 5,578,658                      | 27                                   | 300,000                   | 0,05x | 30                                 | 334,719                        |

# ① Derivatives Markets - Pre-trade Transparency

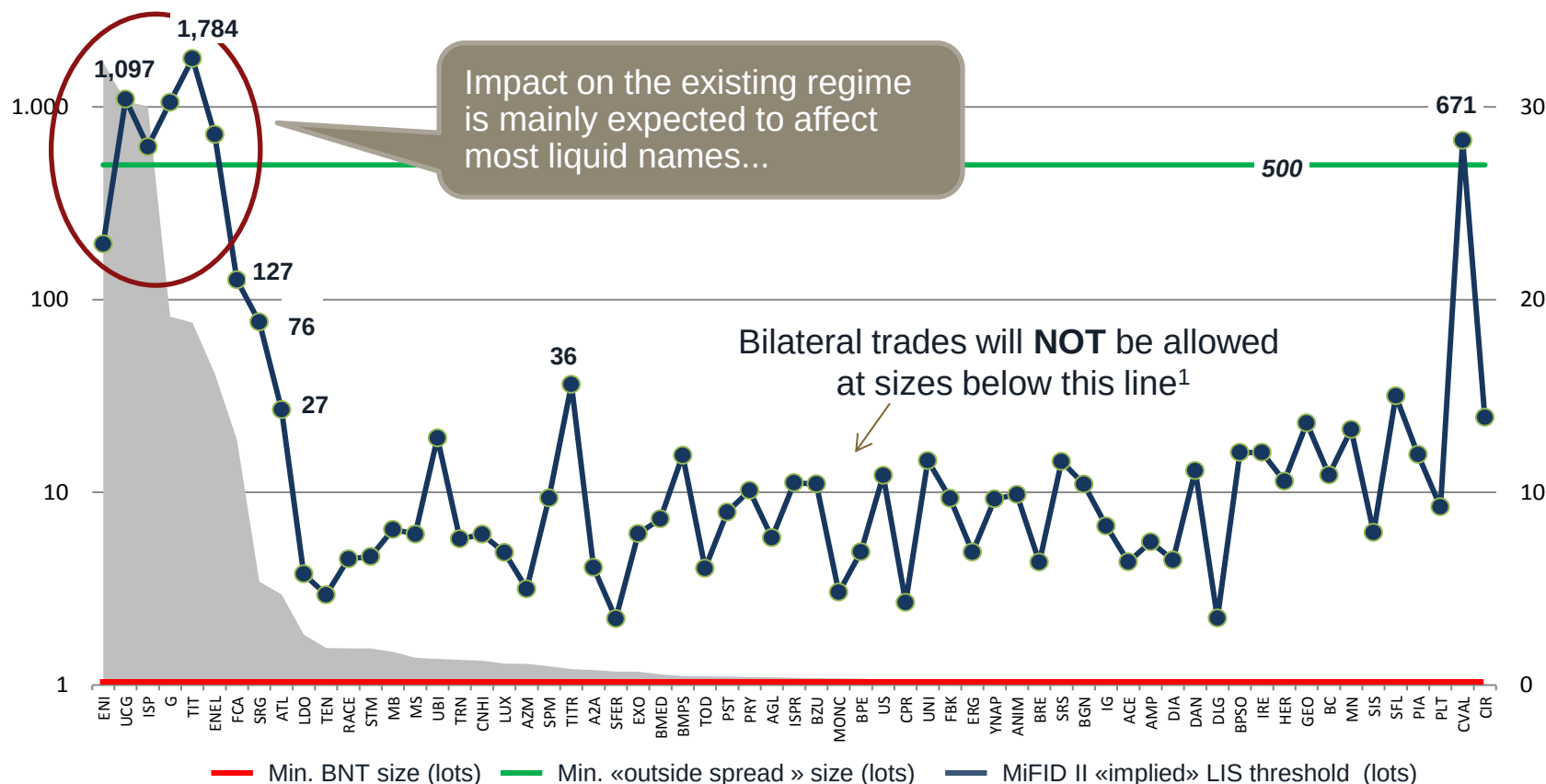
## Defining Pre-trade Transparency Thresholds (4/4)

An example: IDEM stock options

**ILLUSTRATIVE**

Number of standard contracts (lots, log scale)

IDEM ADNA 2016 (€m)



# Post trade Transparency Requirements

- Post-trade transparency «**as close to real-time as is technically possible**»
- LSEDM and IDEM provide immediate post trade transparency via existing market data feeds **HSVF and GTP (IDEM only)**
  - as concerns BNTs, LSEDM Rulebook requirement requiring participants to timely report to the Exchange (within 15 minutes) will remain in place. Trade details will be published as soon as the trade is accepted and executed under the rules of LSEDM
- New regime defining conditions for “**deferrals**” to immediate post-trade transparency
  - TVs must obtain **specific authorisation** from their CA to delay publication of trade details to the public
- **LSEG derivatives market is not planning to immediately change their existing market model, that is based on immediate disclosure of details of executed trades to the public, irrespective of the traded instrument, trading functionality or trade size**

## ② Derivatives Markets - Post-trade Transparency

# Standardised Post-trade Data



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- New requirement to disseminate market data regarding details of executed trades using a **standardised format**
- Post-trade information with the content and format required by MiFID II (RTS 2 Annex II, including post trade flags) offered
  - ✓ via dedicated new message on Group Ticker Plant (**GTP**)<sup>1</sup>
  - ✓ a new message will be added to the native protocol **HSVF for LSEG derivatives markets**, in order to support markets run on SOLA where GTP is not available
- In order to maximise performance of existing protocols and reduce impacts for participants
  - ✓ reception of the new message will be **optional**
  - ✓ existing trade and reference data messages will remain **largely unchanged**<sup>1</sup>
  - ✓ only the new trade messages/data feed will use the **standardised formats** to present information (incl. prices and timestamps)



## ③ Derivatives Markets – Market Making

# Identification of Orders/Quotes

- MiFID II requires TVs to flag any order / quote inserted by a market participants under a market making / liquidity provision agreement<sup>1</sup>
- Configuration changes will be introduced with minimal impact to participants, to allow participants to mark orders (in addition to quotes) sent to the trading system when operating as a market maker or liquidity provider
  - ✓ **dedicated Trader IDs** with special naming convention
  - ✓ enabled to insert orders and quotes only for instruments where a market making / liquidity provision agreement is in place with the TV
  - ✓ order flow from these Trader IDs only will be considered to **monitor performance** and to attribute **fee discounts / rebates / incentives** (where available)
  - ✓ usage of these dedicated Trader IDs will determine «**liquidity provision flag**» to the purpose of order keeping requirements for TVs

### ③ Derivatives Markets – Market Making

# MiFID II Market Making Agreement and Schemes

- **Market making agreements** will be introduced on all IDEM and LSEDM products
  - ✓ mandatory participation for firms pursuing a «market making strategy»...
  - ✓ ...but also open on a voluntary basis
  - ✓ requirements in line with criteria in Art.1 of RTS 8 (e.g. 50% time presence etc.), plus min. quantity
  - ✓ granularity at instrument level (e.g. FTSE MIB futures, FTSE RIOB futures, stock options on a specific underlying)
  - ✓ series covered by obligations to include front expiry and (for options) a limited set of strikes
  - ✓ no fee discounts / rebates / incentives
- MiFID II requires the MMA to be enhanced with a **scheme** for equity derivatives<sup>1</sup>
  - ✓ must cover (at least) instruments included in the agreement signed by the participant
  - ✓ includes requirements to access incentives during SMCs

### ③ Derivatives Markets – Market Making

# Impact on Existing Programs

- Existing market making and liquidity provision programs
  - ✓ are intended to cover a significant number of expiries / strike prices
  - ✓ in single name equity derivatives, can require to cover a minimum number of instruments (e.g. stock options' PMMs)
- **Existing market making and liquidity provision programs will be adapted**, where necessary, to comply with the minimum requirements included in the corresponding «market making agreement»
  - ✓ minimum presence of at least 50% during daily trading hours of continuous trading, excluding auctions and «exceptional circumstances»
  - ✓ comparable quantity
- **Lower quantity / spread requirements** during «stressed market conditions»
- Fee discounts / rebates / incentives, where available, and related obligations to access incentives will be maintained

## ④ Derivatives Markets – Systems and Controls

# Pre-trade Controls

- IDEM and LSEDM are already compliant with most of the requirements of MiFIR art.48
- **Throttle limits, mechanisms to manage volatility, pre-trade controls on prices and order quantity, as well as policies / arrangements mentioned under art.18(3) of RTS 7 are already in place for LSEG Derivatives markets**
- The following changes have been considered necessary to ensure full compliance to the new MiFID II requirements, and will be introduced:
  - ✓ a new pre-trade control at exchange level on maximum order value
  - ✓ a new mass cancellation message for orders (kill-switch), deleting all open orders and preventing any new order to be inserted in the order book
- In addition, the Pre-trade Validation Service (PTVS) will be enhanced by adding price collars and max. order value controls (required pre-trade controls for TV's members)

## ⑤ Derivatives Markets – Order Keeping

# Order Keeping Requirements for Trading Venues

- In order to comply with MiFIR Art. 25 and RTS 24, IDEM and LSEDM will require new information in order entry messages on the SOLA trading system
- These new fields will be returned to market participants<sup>1</sup> to support in their obligations for order record keeping and transaction reporting<sup>2</sup>
  - ✓ new marker for DEA flows («**DEA flag**»)
  - ✓ new marker to identify orders inserted in the trading system by an algorithm («**algo flag**»)
  - ✓ liquidity provision flag
  - ✓ Identifiers of market participants' direct clients, decision makers, traders and algorithms, in the format of «**short code**» plus «**qualifier**» that guarantee privacy at order entry and minimise latency and bandwidth impact
  - ✓ reconciliation with «full codes» will be required at the end of the trading day («**code mapping**» service, to be available via Blt Club)



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# MiFID II Implementation - Technology

**Don Mucha**



# Agenda

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- Member Portal
- Testing Services
- Certification Testing Update
- Algorithm Conformance
- Exchange Hosting Update
- Data Disaggregation
- Impacts on Trading and Market Data Interfaces
- Additional Borsa Italiana / EuroTLX MiFID II Update
- SOLA 9 for IDEM
- High Level Timelines



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# Member Portal

# Member Portal Overview

- The Blt Club portal (hereafter the member portal) was launched for members of Borsa Italiana, CC&G and EuroTLX in 2016.
- The member portal is a secure online application allowing users to manage multiple memberships via a single logon.
- The member portal will be extended to cover London Stock Exchange and Turquoise members in **H2 2017**.
- The membership team will contact members in the coming months to provide details as to how to sign up to use the member portal and manage access rights.

# Member Portal Overview

|                                |                                                                                    |                                                             |
|--------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------|
| <b>Member Information</b>      |   | Company details and regulatory authorisation                |
| <b>Market Management</b>       |   | Trading service access; identifiers; clearing & settlement  |
| <b>Technical Configuration</b> |   | Configuration for production trading systems                |
| <b>Compliance Information</b>  |   | Compliance contacts & registered persons for order deletion |
| <b>User Management</b>         |  | Manage user access and permissions                          |

# Member Portal – MiFID II Enhancements

- The following enhancements will be made to the member portal for all venues in order to manage additional information required for MiFID II related processes including:
  - Short Code and Long Code Mapping
  - Member Legal Entity Identifier (LEI)
  - Due diligence information
  - Market Making registration
  - Position Limits for Commodity Derivatives (Borsa Italiana only)



# Short Codes & Long Codes (1)

Short and Long code mapping for each trading venue for:

- **Client ID**
  - Legal Entity (LEI)
  - Natural Person – local person identifier
- **Executing ID / Investor ID**
  - Natural Person – local person identifier
  - Algorithm



# Short Codes & Long Codes (2)

- The customer will be required to specify long codes only once and will be given the ability to:
  - Register new long codes
  - Modify existing long codes
  - Deregister existing long codes
- Actions can be performed via:
  - Member Portal GUI
  - Web API (tbc)
  - CSV upload via Member Portal GUI or sFTP

# Short Codes & Long Codes (3)

- The following *Short Code* values will be reserved for the following usages:

|                   |                                                                                  |
|-------------------|----------------------------------------------------------------------------------|
| <b>0 (NONE)</b>   | ID is missing (for Client IDs and Investment IDs only)                           |
| <b>1 (AGGR)</b>   | Client Order is an “aggregated” order (for Client IDs only)                      |
| <b>2 (PNAL)</b>   | Client Order is not yet associated (“pending”) to a Client (for Client IDs only) |
| <b>3 (CLIENT)</b> | Execution Decision has been taken by the client (for Execution IDs only)         |



# Testing Services

# Testing Services (1)

- **Trading venues** must provide their members with access to a testing environment which reproduces as realistically as possible the production environment.
- **Trading venues** must provide a conformance testing environment which provides a list of financial instruments representative of every class of instruments available in the production environment.
- **Trading venues** should ensure an effective separation of testing environment from production environment.

# Testing Services (2)

The current LSEG CDS (Customer Development Service) environments are not continuously aligned with production:

- Reference Data (Instruments, Participants, etc.) are aligned periodically (once/twice per year).
- Software version of Trading Systems can be different from the one used in production.

# Testing Services (3)

In order to facilitate testing, a new production like test environment will be provided in parallel to the existing one:

- A Legacy CDS environment will be introduced for all the Trading and Market Data services of the Group's Trading Venues.
- The new environment will be periodically aligned with production in terms of Software version of Trading Systems, Reference Data (Instruments and Participants) and Market Structure.

# Capacity & Stress Testing

- Both Trading Venues and Investment Firms are obliged to self-assess their systems in order to ensure reliability not only during normal trading conditions but also during exceptional conditions . **Our test environments are not and will not be environments on which high load tests can be carried on.**
- The Group is analysing the possibility of opening the production environment periodically out of market hours (e.g. on a Saturday) for high volume testing.



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# Certification Testing Update

# Certification Testing Update

- Trading Venues shall require their members to undertake conformance testing.
- The conformance testing shall ensure that the basic functioning of the member's trading system.
- Prior to the deployment or substantial update of an algorithmic trading system, trading algorithm or algorithmic trading strategy, an Investment Firm shall establish clearly delineated methodologies to develop and test such systems, algorithms or strategies.



# Algorithm Conformance

# Algorithm Conformance

- Investment firms are required to certify their algorithmic trading systems, trading algorithm and algorithmic trading strategies and any changes to them before use on any venue.
- Testing may be completed on the testing facility of the trading venue or by any other appropriate means.

# Algorithm Conformance

- London Stock Exchange Group Trading Venues will not execute Conformance Testing of client algorithms.
- London Stock Exchange Group Trading Venues will require member firms to:
  - Self certify that they have tested the conformance of their trading algorithms, via the Member Portal.
  - Upload the list of algorithms that will be used on our markets, via the Member Portal.
  - Identify orders generated by trading algorithms and to provide the identification of the algorithm.



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# Exchange Hosting Services

# Exchange Hosting - Introduction

- Exchange Hosting Service is available in the Group's Primary Data Centres in London and Milan.
- LSEG trading venues located in the same Data Centres as Hosted clients.
- Local 10Gb connectivity to the trading venues and market data systems.
- Resilient Time synchronisation services available for clients seeking to ensure MiFID II compliant.
- Remote hands and other support services available to assist clients complete local inspections, hardware changes or cabling changes.

# Exchange Hosting - Update

## London Exchange Hosting Service

| Area                          | Description                                      | MiFID II Compliance |
|-------------------------------|--------------------------------------------------|---------------------|
| Policy Document Publication   | Release of Product Policies                      | Q2 2017             |
| Fibre Length Normalisation    | Installation of same length market facing fibres | Q2 2017             |
| Time Synch Services Available | GPS L1 Service Available                         | ✓                   |
|                               | <b>New PTP service due to be delivered</b>       | Q2 2017             |

## Milan Exchange Hosting Service

| Area                          | Description                                | MiFID II Compliance |
|-------------------------------|--------------------------------------------|---------------------|
| Policy Document Publication   | Release of Product Policies                | Q2 2017             |
| Fibre Length Normalisation    | Same length market facing fibres in place  | ✓                   |
| Time Synch Services Available | GPS L1 service available                   | ✓                   |
|                               | <b>New PTP service due to be delivered</b> | Q2 2017             |



# Data Disaggregation

# Data Disaggregation

- The London Stock Exchange Group will support the requirement to disaggregate data services through **commercial means only**.
- The existing dissemination mechanics for real-time data services – primarily multicast across a number of load balanced IP groups – will remain unchanged.
- Commercial data disaggregation for direct customers will be contractually enforced and monitored via standard data audit.
- Data disaggregation for non-direct customers (those customers taking data via an Information Vendor or ISV) should liaise with their vendor for further detail on impacts.
- It is anticipated that a more granular data package, in addition to the current products, will be introduced from 1 January 2018 to support data disaggregation. Customers can request additional data packages be priced and made available via their Account Manager.



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# Impacts on Trading and Market Data Interfaces

# Impacts on FIX Gateways

- Millennium and SOLA FIX gateways will provide support for FIX extension packs:
  - EP206 - Clock synchronisation
  - EP216 - Post trade flagging obligations
  - EP222 - Transparency, and order data and recordkeeping
- UTCTimestamp fields updated to support microseconds (tags 52, 60, 122).
- Addition of TrdRegPublicationGrp component block (tags 2668, 2669, 2670) used to fulfil MiFID II trade flagging requirements. Support for values:
  - 0 NLIQ
  - 1 OLIQ
  - 4 Pre-trade ILQD
  - 5 pre-trade SIZE

# Impacts on FIX Gateways

- Existing Parties component block (tags 453, 448, 447, 452, 2376) used to identify client ID, executing trader, investment decision maker.
- Update to existing Party Role (tag 452) value 12. Updated in line with EP222 to identify Executing Trader. Addition of new Millennium Exchange value 100 to identify Trader ID.
- Addition of OrderAttributeGrp component block (tags 2593, 2594 2595) used to identify Liquidity provision activity or algorithmic order.
- Addition of OrderOrigination (tag 1724) to identify the origin of the order. Support for value 5 to identify Direct Electronic Access (DEA).



# Millennium – Native Trading Gateway

- Millennium Native Trading gateway message formats will be updated to provide MiFID II support.
- New fields added to messages:
  - Client ID - Identifier of the client
  - Investor ID - Identifier of the trading member/participant who made investment decision
  - Executing Trader - Identifier of the trading member/participant who made the execution decision
  - PartyRoleQualifiers - describes the value specified in Client ID, Investor ID, Executing Trader - LEI, Natural Person, Algorithm
  - FXMiFIDFlags - Flags introduced to identify DEA involvement, Algo and Liquidity provision activity
  - Waiver Flags - used to fulfil trade flagging requirements



# SOLA – SAIL Trading Gateway

- SOLA SAIL trading gateway message formats will be updated to provide MiFID II support.
- New fields added to messages:
  - Client ID Code / Qualifier- Identifier of the client
  - Investment Decision Code / Qualifier - Identifier of the trading member/participant who made investment decision
  - Execution Decision Code / Qualifier - Identifier of the trading member/participant who made the execution decision
  - Algo Flag
  - DEA Flag
  - Liquidity Provision Flag
  - Pre/Post Trade Transparency Flags



# MITCH Message Impacts

- Only minimal changes being made to MITCH.
- Additional field, “PTModFlags”, added to Trade message for managing Trade cancellations and amendments.
- Trade Break message will no longer be disseminated.

# Impacts on HSVF

- A dedicated Trade message will be added with:
  - Relevant Post Trade Flags.
  - Prices, Timestamps and Flags will be published using the MiFID II required format.
  - Customers will be allowed to filter out this message.
- Existing channels will keep existing and providing the same information with minimal changes.
- Reference Data Information to messages J/JF/JS will be enhanced.
- Timestamps will be added (with SOLA 9, so before MiFID II).

# Group Ticker Plant

- Minimal interface changes to core GTP feed.
- Changes to trade cancellation event model:
  - Off-Book Trade Cancellation published via Off-Book Trade message (0x78) with Off book Trade Cancellation flag set
  - Trade Cross Cancellation published via Trade Cross message (0x71) with Cross Trade Cancellation flag set
- Addition of new message Indicative Quote Information (0x80) to support RFQ quote transparency (Borsa Italiana only).

# Group Ticker Plant

- A new MiFID II GTP Post Trade feed to fulfil MiFID II market data format and content requirements will be introduced alongside existing channels.
- The new feed is not anticipated to broadcast at similar performance of the core Group Ticker Plant products. Performance expectations will be communicated in due course.
- Permissions for this service will be done independently of all other services and should be specifically requested by customers.

# Group Ticker Plant

- New MiFID II GTP Post Trade feed will disseminate a subset of core GTP feed messages:
  - System event - used to identify start / end of market
  - Instrument directory - used to disseminate instrument definitions
  - Instrument status - used to disseminate instrument status
- New MiFID II GTP Post Trade feed will disseminate new messages:
  - MiFID Trade
  - MiFID Off-Book Trade
  - MiFID Cross Trade



# Group Ticker Plant

- New MiFID II GTP Post Trade feed will disseminate messages with fields compliant with MiFID II format requirements:
  - Date and Time - ISO 8601 date and time in the following string format:  
YYYY-MM-DDThh:mm:ss.dddddddZ
  - MiFID Decimal - ASCII character representation of numeric values
- New MiFID II GTP Post Trade feed messages will disseminate Post Trade flags compliant with MiFID II content requirements:
  - LRGS (Large in Scale transaction flag)
  - RFPT (Reference price transaction flag)
  - SIZE (Transaction above the standard market size)
  - NLIQ (Negotiated transactions in liquid financial instruments)
  - OILQ (Negotiated trades in illiquid financial instruments)
  - ALGO (Algorithmic transaction)
  - ILQD (Illiquid instrument transaction)
  - CANC (Cancellations)
  - AMND (Amendments)

# Enhancements to Trade Cancellation and Amendment



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With MiFID II, Trading Platforms will have to manage the amendment and cancellation of Trades made up to S-1.

- Market Data - Trades will be sent with Cancellations or Amendments flags set.
- Millennium Exchange – Trade Cancellations or Amendments will be sent using a Trade Capture Report sent via the Post Trade Gateway.
- SOLA - Trade Cancellations or Amendments will be sent using a dedicated message sent via the trading interface.

# Enhancements to Trading Capacity

- FIX
  - OrderCapacity (tag 528) value R = MTCH (Matched Principal) added for all venues
  - OrderCapacity (tag 528) value U = UNMTCH (UnMatched Principal) will also be added for EuroTLX only
  
- Native
  - Capacity field value 1 = MTCH (Matched Principal) added for all venues
  - Capacity field value 6 = UNMTCH (UnMatched Principal) will also be added for EuroTLX only



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# Borsa Italiana / EuroTLX

## MiFID II Update

# Request for Quote (RFQ)

- With MiFID II, depending on the RFQ size and on the liquidity of the instrument, RFQ can be:
  - *Private* (as it currently is on our markets)
  - *Partially Disclosed*
  - *Disclosed*
- For *Partially Disclosed* RFQs, indicative Bid and Ask Prices of Quotes (average of Quote Bid and Ask Prices) entered by Market Makers will be published via **GTP (FDI channels only) and MITCH** when (and if) the RFQ trade is generated
- For *Disclosed* RFQs, all Market makers quotes sent in response to RFQ will be published via **GTP (FDI channels only) and MITCH** when (and if) the RFQ trade is generated
- On Borsa Italiana MOT market and EuroTLX market, RFQ will be either *Private*, *Partially Disclosed* or *Disclosed*, while on ETF+ RFQ will be always *Private*

# Reconciliation Files (1)

For **MIT** platform (for Borsa Italiana and EuroTLX markets):

- Reconciliation Files currently generated on the MIT platform will be enhanced including the new information managed by the platform
  - either generated by the Trading Participant (like client ID, Algo Flag, etc.)
  - or generated by the matching engine (like Waiver Indicators, etc.)

## **Important:**

- in the Reconciliation Files only the information visible at the trading level are reported (now and with MiFID II)
- therefore, for example only the *Short Codes* for Client ID, Execution ID and Investment Decision ID will be provided together with orders and the files will **not** be enriched with the corresponding *Long Codes* (that the client will provide off-line)

# Reconciliation Files (2)

For **SOLA** platform (for IDEM market):

- Currently, on SOLA there is not a proper Reconciliation Service
- With MiFID II a Reconciliation Service for the derivatives markets will be provided; the service will:
  - be similar to the one provided via the MIT platform (and will follow the same high level principles)
  - be available via FTP using the existing repository used for the equivalent service for MIT markets



# Market Making/Liquidity Provision

On Borsa Italiana and EuroTLX:

- on **MIT**, Market Makers/Liquidity Providers are (and will be) given one or more dedicated Comp ID(s) in order to segregate Market Making/Liquidity Provision activity
- on **SOLA**, Market Makers/Liquidity Providers are (and will be) given one or more dedicated Trader ID(s) in order to segregate Market Making/Liquidity Provision activity
- Market Makers/Liquidity Providers most of the time send quotes but under certain circumstances (depending on the type of activity) may send orders



# SOLA 9 - IDEM

# SOLA 9 - IDEM

- SOLA 9 documentation is already available on our website
- SOLA 9 has been in CDS since 20 February 2017
- SOLA 9 is already live for LSE Derivatives Market
- Go-Live planned for the end of **May 2017**
- Dress rehearsals will be scheduled before the go-live
- **All Interconnected Applications will have to perform the conformance test before the go-live**
- *The SOLA MiFID II release will be delivered in CDS and production in the 2<sup>nd</sup> half of 2017 (see previous slides)*

# SOLA - Pre-Trade Validations (1)

## PTV will be added to IDEM with SOLA 9

- PTV will be added to IDEM with SOLA 9 (details available in the specifications)
- PTV functionality will be enhanced with the SOLA MiFID II Technical Release (price collars will be added)
- Kill Switch Functionality
  - Being introduced with SOLA 9 as part of PTV
  - Will be extended outside PTV functionality with the MiFID II SOLA Technical Release.



# High Level Timelines



# Migration and High Level Time Line

- Specifications for Millennium Exchange, SOLA and GTP to be published by the end of Q1 2017.
- CDS environments to be available in July 2017.
- **Conformance Testing will be mandatory for all applications connecting to SOLA, MIT and TRADEcho platforms.**
- Dress rehearsals will be scheduled before the go-live.
- Go-Live in Q4 (October-November) for all platforms/services.
- *New fields will be required to be present in the trading protocols but content will not be validated until MiFID II go-live.*



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# Q & A



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