



London
Stock Exchange Group

Technical User Group

London

22 April 2020

Agenda

- Introduction
- London Stock Exchange Member Portal Enhancements
- London Stock Exchange - Release 9.5.3
- Group Ticker Plant - Release 1.4.4.9
- Turquoise - Release 9.5.3
- Other Project Updates and 2020 Roadmap
- IDEM – SOLA Release 15
- Borsa Italiana - Release 9.5 & EuroTLX consolidation
- Q&A – <https://app.sli.do/event/6tueovrw>



London Stock Exchange Member Portal Enhancements

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Instrument Registration Process - Current

- Firm registers as a Market Maker with Membership Team
- Firm fills out a spreadsheet called the Registration Information Form (RIF) manually inputting into the spreadsheet the instruments in which they want to be a registered market maker.
- Firms prints out the RIF spreadsheet form and sign it.
- Firms scans the signed RIF form and emails to CMS Market Management team.

Instrument Registration Process - New

- Firm registers as a Market Maker with Membership Team.
- Firm enters registrations into Member Portal either via a bulk upload or web form.
- Member Portal performs validity and consistency checks before accepting and processing any applications.
- 17:30 UK time daily cut off time for requests to go-live the next day.
- Instrument will be loaded into Millennium system at the end of the day.



Registration Information

Customers can view instruments they are registered for along with the status. They can also add, reinstate and withdrawal registrations directly via Member Portal

LSE Market Making - Registration Information

For queries relating to market making registrations; including registering in an instrument currently in a non-market making segment / sector.
Please email marketmanagement@lse.com.

Any request for a withdrawal must be made to the Market Supervision department on +44 (0)20 7797 3666. An example where permission may be granted includes where a member firm is acting both as broker and market maker to an issuer that is subject to a bid situation or where the member firm has system problems in accordance with rules 1050 and 1500 in core rules.

Add Withdrawal Reinstatement

Member ID Trader Group ID ISIN Status Valid From Valid To

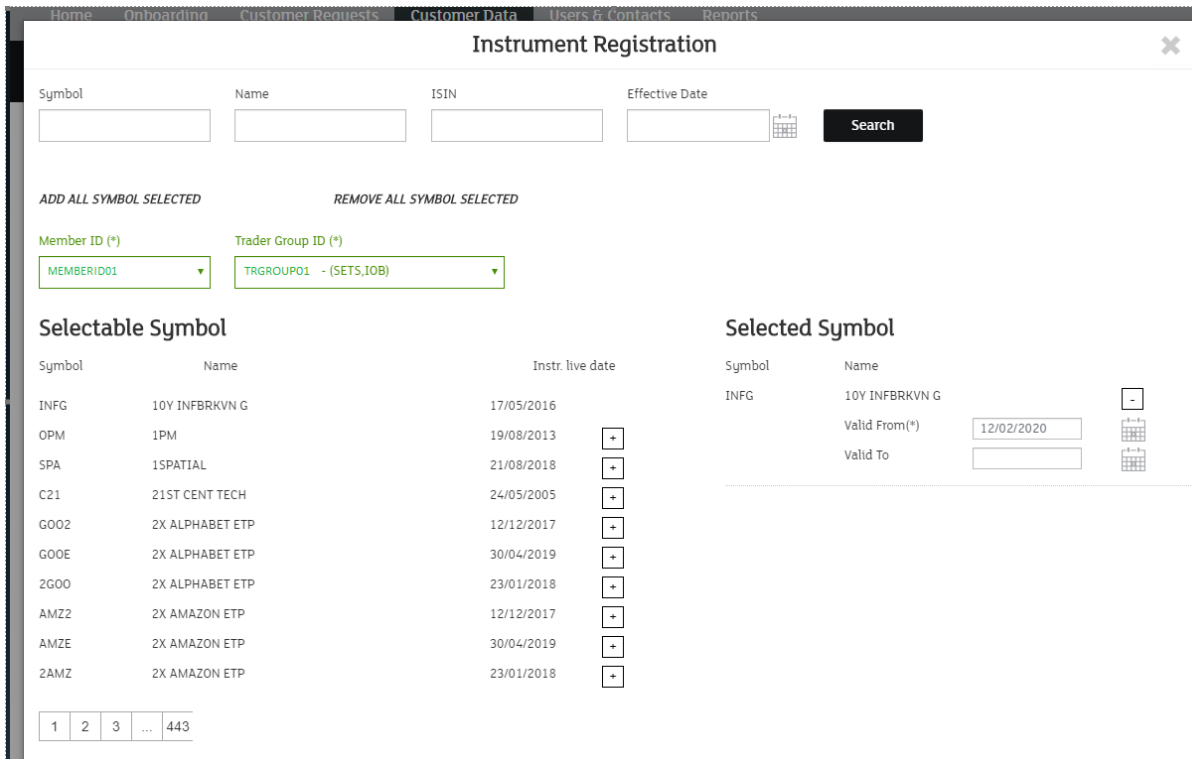
Search

Page 1 of 17 20 Items per Page Showing 1 - 20 of 323 results. ← First Previous Next Last →

Member ID	Trader Group ID	TDIM	ISIN	Issue Name	Sector Code	Segment Code	Status	Valid From	Valid To	
<input type="checkbox"/> MEMBERID01	TRGROUP01	1MCS	IE00BBGBF313	BOOSTFTSE2501XS	ENLL	ETCS	Withdrawn	09/03/2017		
<input type="checkbox"/> MEMBERID01	TRGROUP01	2AAP	IE00BF03XJ35	2X APPLE ETP	ETCM	ETC2	Withdrawn	23/01/2018		
<input type="checkbox"/> MEMBERID01	TRGROUP02	2AMZ	IE00BF03XH11	2X AMAZON ETP	ETCM	ETC2	Withdrawn	23/01/2018		
<input type="checkbox"/> MEMBERID01	TRGROUP01	2CIT	IE00BF03XL56	2X CITI ETP	ETCM	ETC2	Active	23/01/2018		
<input type="checkbox"/> MEMBERID01	TRGROUP02	2CRM	IE00BD09ZY63	2X SALESFOR ETP	ETCM	ETC2	Active	23/01/2018		

Instrument Registration Form

Customers can add instrument registrations by selecting the instrument from a list of active instruments. A list of active instruments is provided to Member Portal at the end of each day.



The screenshot shows the 'Instrument Registration' form with the following sections:

- Navigation:** Home, Onboarding, Customer Requests, Customer Data, Users & Contacts, Reports
- Search Fields:** Symbol, Name, ISIN, Effective Date (with calendar icon), and a Search button.
- Actions:** ADD ALL SYMBOL SELECTED, REMOVE ALL SYMBOL SELECTED
- Member ID (*):** Dropdown menu with 'MEMBERID01' selected.
- Trader Group ID (*):** Dropdown menu with 'TRGROUP1 - (SETS,IOB)' selected.
- Selectable Symbol Table:**

Symbol	Name	Instr. live date	
INFG	10Y INFBRKVN G	17/05/2016	
OPM	1PM	19/08/2013	+
SPA	1SPATIAL	21/08/2018	+
C21	21ST CENT TECH	24/05/2005	+
GOO2	2X ALPHABET ETP	12/12/2017	+
GOOE	2X ALPHABET ETP	30/04/2019	+
2GOO	2X ALPHABET ETP	23/01/2018	+
AMZ2	2X AMAZON ETP	12/12/2017	+
AMZE	2X AMAZON ETP	30/04/2019	+
2AMZ	2X AMAZON ETP	23/01/2018	+
- Selected Symbol Form:**

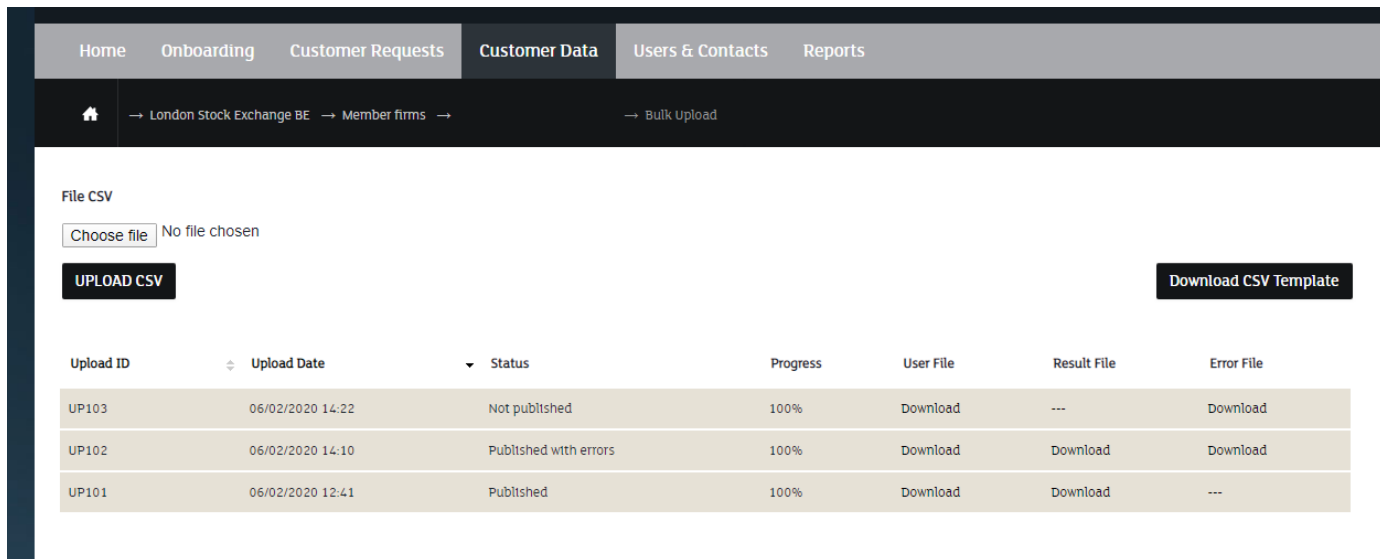
INFG 10Y INFBRKVN G

Valid From (*): 12/02/2020

Valid To: []
- Page Navigation:** 1 2 3 ... 443

Bulk Upload

Firms can bulk upload Instrument Registrations by loading a CSV file into Member Portal. A result file will be produced for successful uploads and an error file will be produced with any errors.



Upload ID	Upload Date	Status	Progress	User File	Result File	Error File
UP103	06/02/2020 14:22	Not published	100%	Download	---	Download
UP102	06/02/2020 14:10	Published with errors	100%	Download	Download	Download
UP101	06/02/2020 12:41	Published	100%	Download	Download	---



London Stock Exchange – Release 9.5.3

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Release 9.5.3 – Summary of changes

- Introduction of the new field “Offset” in FIX and Native New Order message
- Reserved field added to Native New Order Message
- Native New Order message length increase
- Data type change to the Exchange Market Size field in the XLON Instrument file
- RFQ enhancements and go-live of the Auto-Complete “Anonymous to All” Auction RFQ with Order Book Sweep model (available for ETPs in sizes below ESMA Large In Scale (LIS) thresholds only)

New Offset order type

- New “Offset” field valid with the At The Close (ATC) time in force only
- The order will be priced based on the user defined offset (in basis points) from the Dynamic Reference Price (DRP) when elected to the order book, at the beginning of the Closing Auction. The DRP at the start of the closing auction will usually be the last orderbook execution.
- Clients can also specify a limit price (“hard limit price”) and an offset. If both are specified, the more conservative of the hard limit price and the calculated price (DRP + offset) will be used
- If the calculated price (DRP + offset) results in a price which does not conform to the minimum price increment for that instrument, the price will be rounded conservatively to a valid tick



Offset order – Interface changes

FIX 5.0 trading

Message	Tag
New Order	OrdType(40) – new value 'F' (Offset)
New Order	Offset(27018) – new tag
Order Cancel/Request	Offset(27018) – new tag
Execution Report	Offset(27018) – new tag

Native

Message	Field
New Order	Order Sub Type – new value '55' (Offset)
New Order (message length increased)	Offset – new field
New Order (message length increased)	Reserved field – new field
Order Cancel/Request	Offset – new field (amended existing Reserved field)

Drop Copy

Message	Tag
Execution Report	Offset(27018) – new tag

RFQ enhancements

- Ability for the requestor to make all quotes public at any time within the Request For Quote (RFQ) session
- Notification to Market Makers that their RFQ quotes become executable, and therefore published to the market, if below the ESMA Large In Scale (LIS) threshold for the instrument
- RFQ Quotes will also be published for RFQ cancellation and expiry if below the ESMA LIS threshold for the instrument
- Go-live of the Auto-Complete “Anonymous to All” Auction RFQ with Order Book Sweep model (available for ETPs in sizes below ESMA Large In Scale (LIS) thresholds only)

RFQ models summary

Model	Manual Winner Takes All	Auto-Complete Winner Takes All	Auto-Complete with Order Book Sweep
Instrument type	Equities, DRs & ETPs	Equities, DRs & ETPs (above LIS RFQs)	ETPs (below LIS RFQs)
Anonymity	Anonymous or named	Equities, DRs: Anonymous or named ETPs: Named	Anonymous
Market Maker Quotes	RFQ Quotes are sent to the Requester: Best Execution or Select and Match models	RFQ quotes are NOT sent to the requester: execution against the best quote	RFQ quotes are NOT sent to the requester: execution against the best quote(s) and/or order(s)
Post Trade – Trade Type	RFQ Trade	RFQ Trade	RFQ Trade if the RFQ executed against a Quote, and Regular Trade if executed against an order
Post Trade – Quote publication	Opened Quotes published if trade is below LIS	Equities, DRs: Opened Quotes published if trade is below LIS ETPs: Opened Quotes not published as trade above LIS	Opened Quotes published as trade is below LIS

Release 9.5.3 Go-Live Readiness

- Certification is **mandatory** for all Native software
- Certification test is required for any other software which is modified in order to support the release.
- All application certifications must be completed prior to production go-live.
- Sign-off that all trading and market data software has been tested is required before production go-live

Release 9.5.3 Timeline

Date	Event
31 March 2020	Technical Specifications released
22 April 2020	CDS go-live
6 July 2020	Production go-live*

* Dates are subject to internal testing and customer readiness. Final dates will be confirmed in due course.



Group Ticker Plant – Release 1.4.4.9

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Release 1.4.4.9 – Summary of changes

1. New field 'Side' added to Trade Summary Message
2. New mechanism of Order Book Recovery



Trade Summary Message – ‘Side’ Field

Purpose

Provides an indication of whether the original visible passive side trade was a Buy or a Sell on a multi or single trade event.

Change / Impact

- New field ‘Side’ added to Trade Summary Message
- Message Length increased
- Requires CDS testing and customer sign off with your TAM

<u>Side</u>	<u>61</u>	<u>1</u>	<u>Byte</u>	<p><u>The side of the visible passive order(s) that triggered the trade summary.</u></p> <table border="1"> <thead> <tr> <th style="text-align: center;"><u>Value</u></th> <th style="text-align: center;"><u>Meaning</u></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;"><u>Space</u></td> <td style="text-align: center;"><u>No Side (only Hidden quantity executed)</u></td> </tr> <tr> <td style="text-align: center;"><u>B</u></td> <td style="text-align: center;"><u>Buy Side</u></td> </tr> <tr> <td style="text-align: center;"><u>S</u></td> <td style="text-align: center;"><u>Sell Side</u></td> </tr> </tbody> </table>	<u>Value</u>	<u>Meaning</u>	<u>Space</u>	<u>No Side (only Hidden quantity executed)</u>	<u>B</u>	<u>Buy Side</u>	<u>S</u>	<u>Sell Side</u>
<u>Value</u>	<u>Meaning</u>											
<u>Space</u>	<u>No Side (only Hidden quantity executed)</u>											
<u>B</u>	<u>Buy Side</u>											
<u>S</u>	<u>Sell Side</u>											

GTP 002 – Technical Guide Issue 19.11.1



New Mechanism of Order Book Recovery

Purpose

Allows customers to obtain the current Trading Status from the Replay and Recovery Complete (0x83) message for every instrument, including the ones that have no active orders on the order book at the time of the Recovery Request.

Change / Impact

- Impacts recovery of Order Book messages (Recovery Type = 1) for the Level 1 and Level 2 Order Book services
- Order Book Clear (0x79) message returned for every instrument requested regardless if displayable active orders exist on the Instrument Order Book
- Order Book Clear message will be published before publishing the Orders to serve a Recovery request for Order Books initiated, regardless of whether the request is at the Instrument Level, Segment Level, or Channel Level.







Documentation

New GTP Documents and Release Notes are available on the GTP website.

<https://www.lseg.com/areas-expertise/technology/group-technology/group-ticker-plant>

GTP NEXT FUNCTIONAL RELEASES

Next Functional Release

- | | |
|---|--------------|
|  GTP 002 - Technical Guide - Issue v19.11.1 → | PDF
7mb |
|  GTP003 - Statistics Guide - Issue 10.6 → | PDF
694kb |
|  GTP007 - GTP Lite Guide - Issue 5.0 → | PDF
627kb |
|  Production and CDS Release Note v2.11 → | PDF
229kb |

GTP Release 1.4.4.9 Timeline

Date	Event
31 March 2020	Technical Specifications released
22 April 2020	CDS go-live
6 July 2020	Production go-live*

* Dates are subject to internal testing and customer readiness. Final dates will be confirmed in due course.

Turquoise – Release 9.5.3

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Client Technology Services UK

Release 9.5.3 – Summary of changes

Turquoise Plato Lit Auctions™ Order Book

- Re-introduction of Time in Force (TIF) Good for Auction (GFA)
- New pegged order matching logic

Turquoise Plato™ (inc. Turquoise Plato Block Discovery™) Order Book

- Introduction of a new matching phase Trading At Last (TAL)

Turquoise Lit™, Turquoise Plato Lit Auctions™ and Turquoise NYLON™ Cash Order Book

- Amendment to order expiry timing

Turquoise Plato Lit Auctions™ Order Book

- Orders with a TIF of GFA will be reintroduced for the Turquoise Plato Lit Auctions™ Order Book.
- GFA Orders will only be accepted if upon entry the auction generates an Indicative Auction Price and Quantity is greater than 0 (zero), else the order will be expired immediately.
- A new matching logic will allow Pegged Orders to be considered at their Limit Price, when they are not marketable at the midpoint of the Primary Market Best Bid and Offer.

Turquoise Plato™ - Trade at Last (TAL)

- Post-close matching phase using fixed Primary Market Closing Price with no pre-trade transparency
- Easy adoption through simple extension of **Turquoise Plato™** and **Turquoise Plato Block Discovery™**
- Firm orders and 'conditional' order functionality offered

Existing functionality:

Turquoise Plato™ and **Turquoise Plato Block Discovery™**

Combination of Reference Price Waiver (RPW) and Large In Scale (LIS) Waiver

PBBO Midpoint used for matching up to 16:30

Time: 8:00

16:30
16:35+
Primary
Auction
End Time

16:45
TAL
Phase
Ends

Extended session:

TAL Phase:

RPW and LIS matching resumes after Primary closing auction using Primary Market Closing Price

Matching
suspended
during Primary
auction phase

Execution Reports sent to advise of firm-up request or to confirm trade at the Primary Market Closing Price

Execution Reports sent to confirm expiry / cancellation of all unexecuted Orders & Block Indications

Key attributes

- Trade At Last (TAL) phase leverages existing functionality and attributes of **Turquoise Plato™** and **Turquoise Plato Block Discovery™**
- 'Fixed price' matching phase using Primary Market Closing Price
- Firm Orders and Block Indications ('conditionals') permitted as per conventional model
- Existing Reputational Scoring methodology utilised
- Same instrument universe as the **Turquoise Plato™** Order Book

Note: This proposal is subject to regulatory 'non-objection'
Events are based on timings for LSE (as a Primary Market) and UK time

Turquoise Lit™, Turquoise Plato Lit Auctions™ and Turquoise NYLON™ Cash Order Book

- Following the introduction of the new TAL phase within the Turquoise Plato™ Order Book, all Orders will now expire at the close of the trading session.
- For Example: Unexecuted Orders will now expire from the Turquoise Lit™ and Turquoise Plato Lit Auctions™ Order Books and Turquoise NYLON™ Cash Order Book at 16:30:01, instead of 16:30:02 (UK Time).

Release 9.5.3 timelines

Release 9.5.3	Dates
Updated Technical Specifications	Available now
CDS deployment	22 April 2020 *
Production go-live	13 July 2020 *

* Dates are subject to internal testing and customer readiness. Final dates will be confirmed in due course.



Other Projects Updates and 2020 Roadmap

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TRADEcho – 3.5

- This release will be made available in CDS in Q2 2020 with production expected in early Q3 2020.
- No mandatory customer changes for this release
- Bug fixes and changes include:
 - Inactive Instruments excluded from Instrument Mapping Logic
 - CountryOfIssue is now optional on quotes
 - Restoring the EOD Summary trade files – this can be requested in the Portal

CurveGlobal Markets – SOLA 14B Release

No protocol changes being introduced as part of this release.

Implied-in prices for butterfly spreads – The deployment of SOLA14B will allow the enablement of implied-in prices in butterfly spreads. Implied-in prices are implicit orders calculated based on the explicit orders available in the book of the legs composing the butterfly spread. Implied-out orders will remain disabled on butterfly spreads.

There will be no impacts on implied-in and implied-out prices for calendar spreads, condor spreads and packs.

Date	Event
21 May 2020	CurveGlobal Markets SOLA 14B CDS Go-Live
15 June 2020	CurveGlobal Markets SOLA 14B Production Go-Live*

* Dates are subject to internal testing and customer readiness. Final dates will be confirmed in due course.

2020 Roadmap

Date	Market / Product	Release / Environment
22 April 2020	London Stock Exchange	9.5.3 CDS
	Turquoise	9.5.3 CDS
	Group Ticker Plant	1.4.4.9 CDS
Q2 2020	TRADEcho	3.5 CDS
21 May 2020	CurveGlobal Markets	14B CDS
15 June 2020	CurveGlobal Markets	14B Production*
6 July 2020	London Stock Exchange	9.5.3 Production*
	Group Ticker Plant	1.4.4.9 Production*
13 July 2020	Turquoise	9.5.3 Production*
Early Q3 2020	TRADEcho	3.5 Production*

* Dates are subject to internal testing and customer readiness. Final dates will be confirmed in due course.



SOLA Platform Update

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IDEM – SOLA 15

- Technical Specifications: June 2020
- CDS availability: end of Q2/beginning of Q3 2020
- **Mandatory Conformance Test before the go-live**
- **Go-Live (dates TBC) by the end of September 2020** (2 CDRs, one out of the 2 mandatory, before the go-live)
- Introduction of **CPI (Client Price Improvement)** facility to enter client orders either closed internally (vs. order on own account) or on the public orderbook (according to price priority)

IDEM – SOLA Hardware Refresh

- In **Q4 2020**, the Hardware on which the SOLA platform runs (for **IDEM**) will be replaced
- **No changes to SAIL and FIX Trading/Drop Copy Protocols** will happen together with the Hardware Refresh
- **No changes to SAIL/FIX Trading/Drop Copy Gateways IP and ports** will happen together with the Hardware Refresh
- One of the key objectives of the project is to provide customers with a **significant improvement of performances** and to support new services
- **Go-Live by the end of November 2020**
- **2 Customer Dress Rehearsals will be held before the go-live**
 - **Participation to at least 1 CDR is to be considered mandatory**



Millennium IT – Release 9.5 & EuroTLX

Consolidation

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Timeline

- The new **MIT Release 9.5** is planned to **Go-Live on Saturday 20 June 2020** (1st Trading Day, **Monday 22 June 2020**)
- Documentation has been published on the Borsa Italiana website since 9 March 2020
- CDS available since 25 March 2020
- **Customer Dress Rehearsal:**
 - 1st CDR planned for **30 May 2020**
 - 2nd CDR planned for **13 June 2020**
 - **Participation to at least 1 CDR is to be considered mandatory**

EuroTLX Consolidation (1)

- Together with MIT Release 9.5, **EuroTLX will be moved to the MIT instance currently in use for Borsa Italiana**, this implies:
 - the same Native/FIX trading Gateways and Drop Copy/Post Trade Gateways currently in use for Borsa Italiana will also be used for EuroTLX
 - **Comp IDs will not change**, just GW IP address and port will change
 - Connections to the current dedicated EuroTLX gateways will become unavailable
 - the default password of all EuroTLX Comp IDs will be reset to the default one, **bit_1234**
 - the Instrument ID for all EuroTLX instruments will change

EuroTLX Consolidation (2)

- EuroTLX Consolidation has been applied in CDS since 8 April 2020
- **No Changes will be applied to GTP configuration**
- **No Changes will be applied to Reference Data Files (that will be updated with new Instrument ID)**
 - ISINs will not change
- Mapping between current Instrument IDs and new Instrument IDs will be provided prior the go-live (as done for CDS)

Functional Changes

- Changes to RFQ mechanism will be introduced, in particular
 - Deferred publication of RFQ trades
 - Auction RFQ

Note: both changes will not be activated at the go-live but at a later stage, confirmation will be provided in due course

- Changes to GTP and GTP Lite
 - **Trade Summary Message** (indication of passive order side, plus – for multiple execution – cumulative quantity and “far” executed price) on **MIT markets**
 - Activation of **Hidden Execution Indicator** for **MIT markets**
 - Dissemination of end of previous trading day **Open Interest** in the morning at Market Open for **IDEM Market**



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Q&A



SLIDO

Please submit any questions via the SLIDO link provided in your invitation

<https://app.sli.do/event/6tueovrw/live/questions>