FIX TRADING COMMUNITY – Market Model Typology (MMT)

Revised Data Standard FIX MMT v4.0

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WHAT IS THE RATIONALE FOR USING <u>FIX MMT</u>?





Improving post-trade transparency



Source: Refinitiv



Why do we have FIX MMT?

Purpose: MMT is an efficient operational solution for fulfilling trade flagging, incl. respective regulatory requirements.

It became a de facto standard for trade reporting across all equity and part of non-equity markets, predominantly in Europe.

Benefits: MMT delivers unambiguous post trade transparency information, that is created at the source, and which may flow (e.g. STP) along the full market data value chain.

MMT supports fully electronic processing of consistently flagged data points without the need for local reinterpretation/mapping of the same events across different sources. It improves data quality and reduces cost.



Post-trade transparency typically informs about ...

- the validity of the transaction information (e.g. a cancellation).
- the trading venue the execution took place on.
- the type of **market mechanism** used to perform liquidity pooling.
- the type of interaction between the buyer(s) and seller(s), and if it was of a bilateral or multilateral nature.
- the level of pre-trade transparency which was available before the execution.
- the level of timestamping accuracy is available for determining the exact sequence of executions.
- the immediacy or deferral of the trade publication.



Components of post-trade transparency

	MessageName = Trade Type = TR		
	Version = 100		
	Subtopic = PostTrade, Auction Topic=768		
	Package = 5		
	Flags = Delta, Single		
	SendTime = 20171026-07:00:38.034374		
	Isin = CH0005795668		· · · · · · · · · · · · · · · · · · ·
	Currency = CHF		security
	Exchange = XSWX		
	ExecutionTime = 20171026-		
	07:00:38.000015		
	TradeId = 00031D6UH1P0001T	_	
	PublishTime = 20171026-07:00:38.000015		transaction id
	PublicationVenue = XSWX		
	Price = 0.920000		
	PriceNotation = M		price
	Size = 614		
	NotionalAmount = 0.000000		
	NostroCross = 0		
	TradeToBecleared =		
	SpecialPrice = 0		
	MMT flags = 10PH		
	MarketMechanism = 1 LB		
	TradingMode = 0 OA		MMT infor
	TransactionCategory = -		
	NegotiationIndicatorOrWaiver = -		
	AgencyCrossTradeIndicator = -		
	ModificationIndicator = -		
	BenchmarkOrReferencePriceIndicator = -		
	SpecialDividendIndicator = -		
	OffBookAutomatedIndicator = -		
	OrdinaryOrOutsidePriceFormation = P P		
	AlgorithmicIndicator = H ALGO		
	PublicationMode = -		
	PostTradeDeferralType = -		
	DuplicativeIndicator = -		

Source: SIX Swiss Exchange (MDDX)



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MMT Components

MMT flags = 10-MarketMechanism = 1 LB TradingMode = 0 TransactionCategory = NegotiationIndicatorOrWaiver AgencyCrossTradeIndicator = -ModificationIndicator = BenchmarkOrReferencePriceIndicator SpecialDividendIndicator = -OffBookAutomatedIndicator = -OrdinaryOrOutsidePriceFormation = AlgorithmicIndicator = H ALGO PublicationMode = -PostTradeDeferralType = DuplicativeIndicator =

* for the defined market mechanism and trading mode Source: SIX Swiss Exchange (MDDX)

Sensitivity: C2 Internal

CLOB

Opening Auction

Standard Trade *

Valid Trade

No Pre-Trade Transparency Waiver

Plain Vanilla Execution

Algorithmic Flag

Immediacy of publication

Uniqueness of information



WHO HAS ADOPTED MMT?





Stakeholders that have adopted MMT







Bloomberg Desktop Terminal

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Sensitivity: C2 Internal Source: Bloomberg



Bloomberg's Market Data Feed (B-PIPE)

 $MarketDataEvents = {$

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MKTDATA EVENT TYPE = TRADE MKTDATA EVENT SUBTYPE = NEW EVT TRADE PRICE = 18.318EVT TRADE SIZE RT = 1046

= "DB" EVT TRD MMT LEVL 1 TRD TYP CD RT = <u>"CT"</u> EVT TRD MMT LEVL 2 TRD TYP CD RT EVT TRD MMT LVL 3.1 TRD T CD RT = <u>"D"</u> EVT TRD MMT LVL 3.2 TRD T CD RT \\ // = \\\// EVT TRD MMT LVL 3.3 TRD T CD RT = \\\// EVT TRD MMT LVL 3.4 TRD T CD RT EVT TRD MMT LVL 3.5 TRD T CD RT = "RFPT" = \\\// EVT TRD MMT LVL 3.6 TRD T CD RT = \\\// EVT TRD MMT LVL 3.7 TRD T CD RT = "P" EVT TRD MMT LVL 3.8 TRD T CD RT EVT TRD MMT LVL 3.9 TRD T CD RT = "ALGO" = \\\// EVT TRD MMT LVL 4.1 TRD T CD RT = \\\// EVT TRD MMT LVL 4.2 TRD T CD RT EVT TRD MMT LVL 5 TRD TYP CD RT = \\\//



Dark Order Book

Continuous Trading

Dark Trade

Reference Price Trade

Plain-Vanilla Trade

Algorithmic Trade



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/ Time and Sales [ERIC-B.ST]

	ReceivedTime	TrdTm	Size	Price 1	rt vwap	Fla VWVol	Bid A	4sk.	MMT Codes	<u>^</u>
IC-B.ST	02 Mar 12:59	12:59:41	507	57.89 4	AT 57.628	2.7056m	57.89 5	7.91	LB,CT,P	
IC-B.ST	02 Mar 12:59	12:59:29	224	57.9 A	AT 57.628	2.7051m	57.88 5	7.9	LB,CT,P,ALGO	
IC-B.ST	02 Mar 12:59	12:59:10	250	57.89	4T		57.88 5	7.9	DB,CT,D,RFPT,P,ALGO	
IC-B.ST	02 Mar 12:59	12:59:00	366	57.89 4	4D		57.89 5	7.9	PA,UA,P,ALGO	
IC-B.ST	02 Mar 12:59	12:59:00	1,645	57.89 4	AT 57.628	2.7048m	57.89 5	7.9	LB,CT,P,ALGO	
IC-B.ST	02 Mar 12:59	12:59:00	570	57.89 4	AT 57.628	2.7032m	57.89 5	7.9	LB,CT,P	
IC-B.ST	02 Mar 12:58	12:58:53	44	57.9 4	AT 57.628	2.7026m	57.9 5	7.91	LB,CT,P,ALGO	
IC-B.ST	02 Mar 12:58	12:58:53	488	57.9 4	AT 57.628	2.7026m	57.9 5	7.91	LB,CT,P,ALGO	
IC-B.ST	02 Mar 12:57	12:57:58	519	57.9 A	AT 57.628	2.7021m	57.9 5	7.92	LB,CT,P	
IC-B.ST	02 Mar 12:57	12:57:49	1,651	57.9 A	AT 57.628	2.7016m	57.89 5	7.9	LB,CT,P,ALGO	
IC-B.ST	02 Mar 12:57	12:57:42	172	57,895	4T		57.89 5	7.9	DB,CT,D,RFPT,P,ALGO	
IC-B.ST	02 Mar 12:57	12:57:21		57.89 A	AT 57.627	2.6999m	57.89 5	7.9	LB,CT,P,ALGO	
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IC-B.ST	02 Mar 12:56	12:56:50	472	57.88 A	4D		57.87 5	7.89	PA,UA,P,ALGO	
IC-B.ST	02 Mar 12:56	12:56:32	72	57.89 A	AT 57.627	2.6995m	57.88 5	7.9	LB,CT,P,ALGO	
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Sensitivity: C2 Internal Source: ION Fidessa



SIX Financial Information – Market Data Feed (MDF)

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SWX	US0231351067	645156	AMAZON.COM RG	CHF	1430	1430	TRA	9:04:21	908154	20P
SWX	FI0009000681	472672	NOKIA RG	CHF	and the second se	5.562		9:02:57	251950	20P
SWX	LU0838782315	20028815	XTR DAX IN U 1D	CHF	126.08		TRA	9:55:20	248608	22PH
SWX	CH0200252812	20025281	1.125 AUSNET 19	CHF	101.69	101.69	TRA	9:33:29	877116	22PH
SWX	CH0197841551	19784155	4 EDP FINANCE 18	CHF	and the second sec	and the second sec		10:18:58	392087	22PH
SWX	CH0194958986	19495898	1.375 SVENSKA 22	CHF	the second se	Name and Address of the Owner, which the Party of the Owner, which the Party of the Owner, which the Owner,	TRA	10:22:02		22PH
SWX	CH0194836364	19483636	SCOR OPEN	CHF	and the second se	and the second s		9:36:20		22PH
SWX	CH0194695190	19469519	SWISS LIFE -S FRN	CHF	and the second se	102.4	TRA	10:08:56	771250	22PH
SWX	IE00888DZ566	19328353	ISHS S&P 500 CHF-AC	CHF		48.62	TRA	9:37:24	514382	22PH
SWX	IE0088BVCK12	19328350	ISHS WORLD CHF-ACC	CHF	and the set of the set	the second se	and the second se	9:11:13	921785	22PH
SWX	LU0641007421	19204552	XTR2 GI-LBD 4DHD	CHF	and the second se	107.32		10:40:23	55060	22PH
and the second	CH0187695553	18769555	2 LGT BANK 19	CHF	and the second se	The second	TRA	9:52:49	457909	22PH
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SWX	CH0184305016	18430501	SBIDSPF1-5-CHF ADIS	CHF	26.73	26.73	TRA	10:00:20	298157	22PH
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and the second se	CH0146698425	14669842	1.25 EIB 19	CHF	and the second se		TRA	10:28:41		22PH
	IE0086R52036	13937387	ISHS GLD PRD USD-AC	CHF	and the second se	8.486	the second s	10:48:13		22PH
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and the second se	CH0139101593	13910159	ZKB GOLD ETF-AA CHF	CHF	Contraction of Contra	and the second sec	and the second se	10:25:30		22PH
	IE0084613386	12931546	SSGA SPDR BL BD USD	CHF		and the second se	TRA	10:47:30		22PH
	NL0009739416	12871311	POSTNL BR	CHF	and the second se	3.767	TRA	9:02:57		22PH
	CH0122526608	12252660	2.625 ENAG 23	CHF	And a second	104	TRA	9:44:35	The second se	22PH
the first band and an an	CH0120743346	12074334	2 HSBC SFH 19	CHF	and the second se	102.91	TRA	9:30:52		22PH
	CH0118923918	11892391	UBSETF SBID715CHFAD	CHF		146.94	TRA	9:45:22	1.5 5.4 5	22PH
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Source: SIX Financial Information (visualisation of the Market Data Feed)



LSEG Refinitiv – Desktop

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Trading Day		~	14-Mar-2022 14	:01:29.071						XLON	▽ 7,650.0000	34		LB, CT, P, ALGO	
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1	5		14-Mar-2022 14	1:01:29.071						XLON	▽ 7,650.0000	9		LB, CT, P, ALGO	
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			14-Mar-2022 14	:01:29.070							• • •	46		LB, CT, P, ALGO	
Exchange Time (LON))	<u>~</u>] -	14-Mar-2022 14	:01:29.070			MM	Dis	splav	v Code	in the time	34		LB, CT, P, ALGO	
✓ FILTERS			14-Mar-2022 14	1:01:05.837								47		LB, CT, P, ALGO	
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MMT Trade Conditio	ons to exclude		14-Mar-2022 14	:00:32.867			th <u>e</u>	desk	(top	via the	e quote app.	21		LB, CT, P, ALGO	
			14-Mar-2022 14	:00:25.567								10		LB, CT, P, ALGO	
		<u> </u>	14-Mar-2022 14	00.24 980						XLON	▲ 7 654 0000	21			

Sensitivity: C2 Internal Source: Refinitiv

ADING **INDUSTRY-DRIVEN • INDEPENDENT • NEUTRAL**

LSEG Refinitiv – Realtime Feed

SEG.L	Market Price	2022-03-14T14:00:08.058601045Z	0 Raw	UPDATE	TRADE			
			FID	178		TRDVOL_1	105	
			FID	13432		TR_TRD_FLG	1	OB
			FID	3859		SEQ_NO	361251	
			FID	3885		ORDBK_TRD	7658	
			FID	8582		MMT_CLASS	12PH	
	Ffficio	nt MMT string in	FID	6581		TRVOL_ONBK	105	
		\sim	FID	3900		TRADE_ID	5.03534E+14	
R	efinitiv I	Realtime feed using	J FID	4465		TRD_IND_1	Α	
Ν	MMT_CLASS field (available		FID	8519		TRD_P_XID	XLON	
			FID	11		NETCHNG_1	218	
	111	desktop too).	FID	32694		LTNOV_UNS	361251 7658 12PH 105 5.03534E+14 A A XLON 218 804090	
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			FID	14266		SALTIM_NS	14:00:08.011	
p	position	of the string where	FID	14312		SRC_ES_NS	14:00:08.011	
t	he value	e is not known from	FID	6		TRDPRC_1	7658	
			FID	12840		ELIGBL_TRD	1	Υ
		the venue.	FID	4756		LSTSALCOND	0	
			FID	56		PCTCHNG	2.93	
			FID	1021		SEQNUM	361251	





WHAT HAS CHANGED WITH THE LATEST RTS 1 / RTS 2 REVIEW?





Trade Flagging modifications driven by regulation

Final Report

On the review of RTS 2 (non-equity transparency)



28 March 2022 ESMA70-156-4944

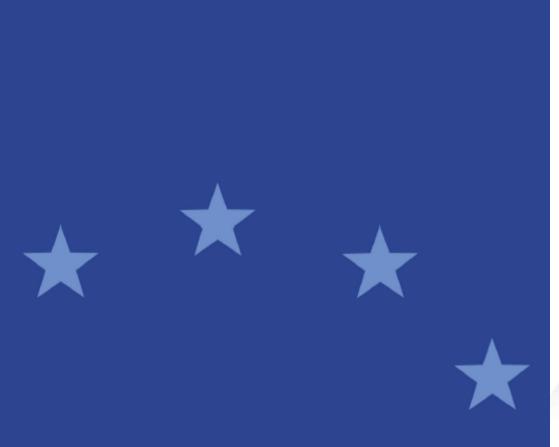




* esma European Securities and Markets Authority

Opinion

Amendments to Commission Delegated Regulation (EU) 2017/587 (RTS 1) and Commission Delegated Regulation (EU) 2017/583 (RTS 2)



19 December 2022 | ESMA70-156-626



Amended EU RTS 1 and RTS 2 provisions for MMT v4.0

- New Market Mechanism "Hybrid System" (RTS 1 and RTS 2)
- 'CONT' flag to be added (RTS 1)
- 'PORT' flag to be added (RTS and RTS 2)
- Combinations of 'PRIC', 'CONT', 'PORT' permitted
- Combination with 'NPFT' is excluded
- Amended "NPFT" definition (RTS1 and RTS2)
- 'TNCP" flag to be deprecated (RTS 1)

See ESMA70-156-4944



New separate Market Mechanism "Hybrid System"

7	5	Hybrid system	A system falling into two or more of the types of trading systems referred to in rows 1 to 4 of this table.	For hybrid systems that combine different trading systems at the same time, the requirements correspond to the pre-trade trade transparency requirements applicable to each type of trading system that forms the hybrid system. For hybrid systems that combine two or more trading systems subsequently, the requirements correspond to the pre-trade transparency requirements applicable to the respective trading system operated at a particular point in time
	6	Any other trading system	Any other type of trading system not covered by rows 1 to 5.	Adequate information as to the level of orders or quotes and of trading interest in respect of shares, depositary receipts, ETFs, certificates and other similar financial instruments traded on the trading system; in particular, the five best bid and offer price levels and/or two-way quotes of each market maker in that instrument, if the characteristics of the price discovery mechanism so permit.

		Options		MiFID II F	Equivalencies	s or Ut
Level	Full Name	ESMA Stipula	Display Code	Trade Flag	RTS 1 (equity)	(noi equ
1	MARKET MECHANISM					
	Central Limit Order Book	"1"	"LB"	n/a	×	×
	Quote Driven Market	"2"	"QB"	n/a	×	×
	Dark Order Book	"3"	"DB"	n/a	×	×
	Off Book (including Voice or Messaging Trading)	"4"	"OB"	n/a	×	×
	Periodic Auction	"5"	"PA"	n/a	×	×
	Request for Quotes		IRQ.	n/a		~
	Any Other, Including Hybrid	"7"	"AH"	n/a	×	×

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New flags: Portfolio (PORT) and Contingent Transaction (CONT)

Table 2 SUMMARY OF ESMA'S PROPOSALS REGARDING THE VARIOUS LISTS OF NON-PRICE FORMING TRANSACTIONS

Short name	Types of transactions	Art 2 of RTS 1 (STO)	Art 6 of RTS 1 (NT3)	Art 13 of RTS 1 / Art 12 of RTS 2
Benchmark transactions	the transaction is executed by reference to a price that is calculated over multiple time instances according to a given benchmark, including transactions executed by reference to a volume-weighted average price or a time-weighted average price:	Exempted from STO (no change proposed)	Eligible for NT3 transactions (no change proposed)	Not exempted from OTC post-trade transparency (no change proposed)
Portfolio trade	the transaction is part of a portfolio trade	Exempted from STO (no change proposed)	Eligible for NT3 transactions (no change proposed)	Not exempted from OTC post-trade transparency (no change proposed)
Contingent trade (1)	the transaction is contingent on the purchase, sale, creation or redemption of a derivative contract or other financial instrument where all the components of the trade are to be executed only as a single lot	Exempted from STO (no change proposed)	Eligible for NT3 transactions (no change proposed)	Not exempted from OTC post-trade transparency (no change proposed)



Removal of Flag: Trade Not Contributing to Price Discovery (TNCP)

CONTEXT	ESMA/MMT FLAG	BACKGROUND
Price Discovery Process	Remove existing flag [TCNP] MMT Level 3.8 Will be deprecated, but will remain in the model for backward compatibility purposes	Overlap and co NPFT (Non-Pric

onfusion with the existing flag ice Forming Trade)



Amended FIX Recommended practices

- 'IGRP' new flag for Intra-Group transactions executed for administrative or position management purposes
- 'GIVE' new flag for RFMD give-ups transactions
- 'XBDT' new flag for trades reported more than once due to overlapping regulatory reporting rules in different jurisdictions



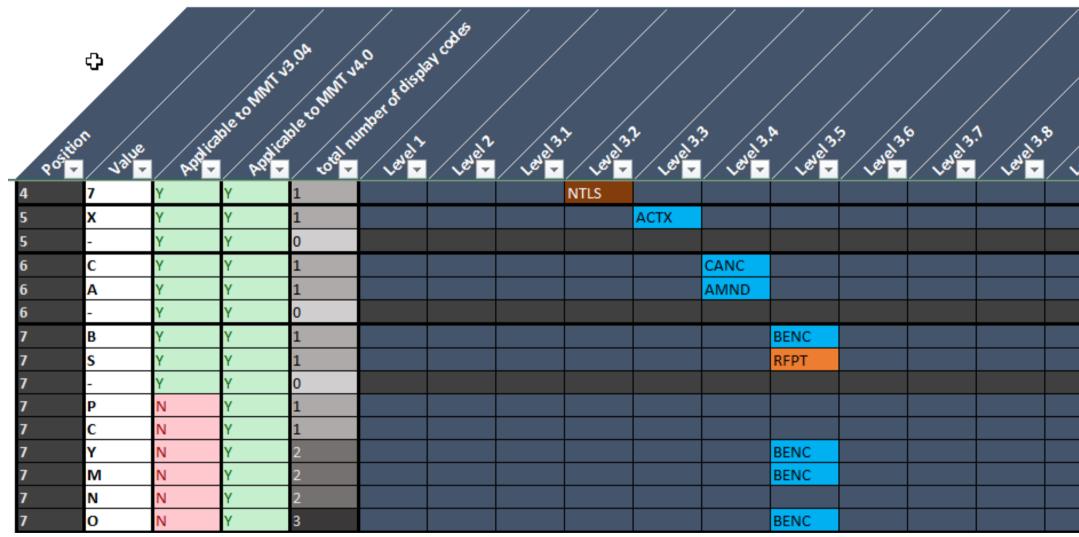
Main features of FIX MMT v4.0 data model

- Enlargement of data model beyond v3.04 data structure
- Decoupling of display and efficient encoding data structures
- Efficient Encoding data structure keeps the existing 14 positions of the MMT string



New Matrix for v4.0 Efficient encoding (see excel file, Tab «Efficient encoding» on FIX website)

• The efficient encoding for MMT v4.0 is backwards compatible with the efficient encoding for the preceeding version, MMT v3.04.





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Regulatory Initiatives in Progress

- The EU Commission to endorse the ESMA recommendations published on March 28 2022 \rightarrow done with ESMA opinion on Dec. 19 2022 and adoption of the proposed amendments to MiFID Technical Standards by EC on Jan. 17 (formal Objection Period for European Parliament and EU Council until April 2023)
- ESMA plans a second wave of trade flagging requirements amendments within the next two years \rightarrow out of scope for v4.0
- FCA has plans to review trade flagging requirements as well but has not communicated any timeline \rightarrow out of scope for v4.0



WHAT YOU SHOULD REMEMBER ABOUT FIX MMT





What you should remember about FIX MMT

- FIX MMT delivers an operational solution for fulfilling trade flagging regulatory requirements raised by ESMA. <u>Have a look!</u>
- FIX MMT is suitable for all asset classes subject to MiFID/MiFIR.
- FIX MMT is an off-the-shelf industry solution and can be freely used without any licensing constraint.
- FIX MMT is protocol agnostic. It is supported in the FIX Protocol.
- FIX MMT v4.0 has been adapted to the latest trade flagging requirements further to MiFID/MiFIR RTS 1 and RTS 2 review.
- FIX MMT is a collaborative initiative; additional expertise is always welcome.
- Please submit your questions/comments to:
 <u>fix@fixtrading.org</u>



Using MMT: BMLL Example

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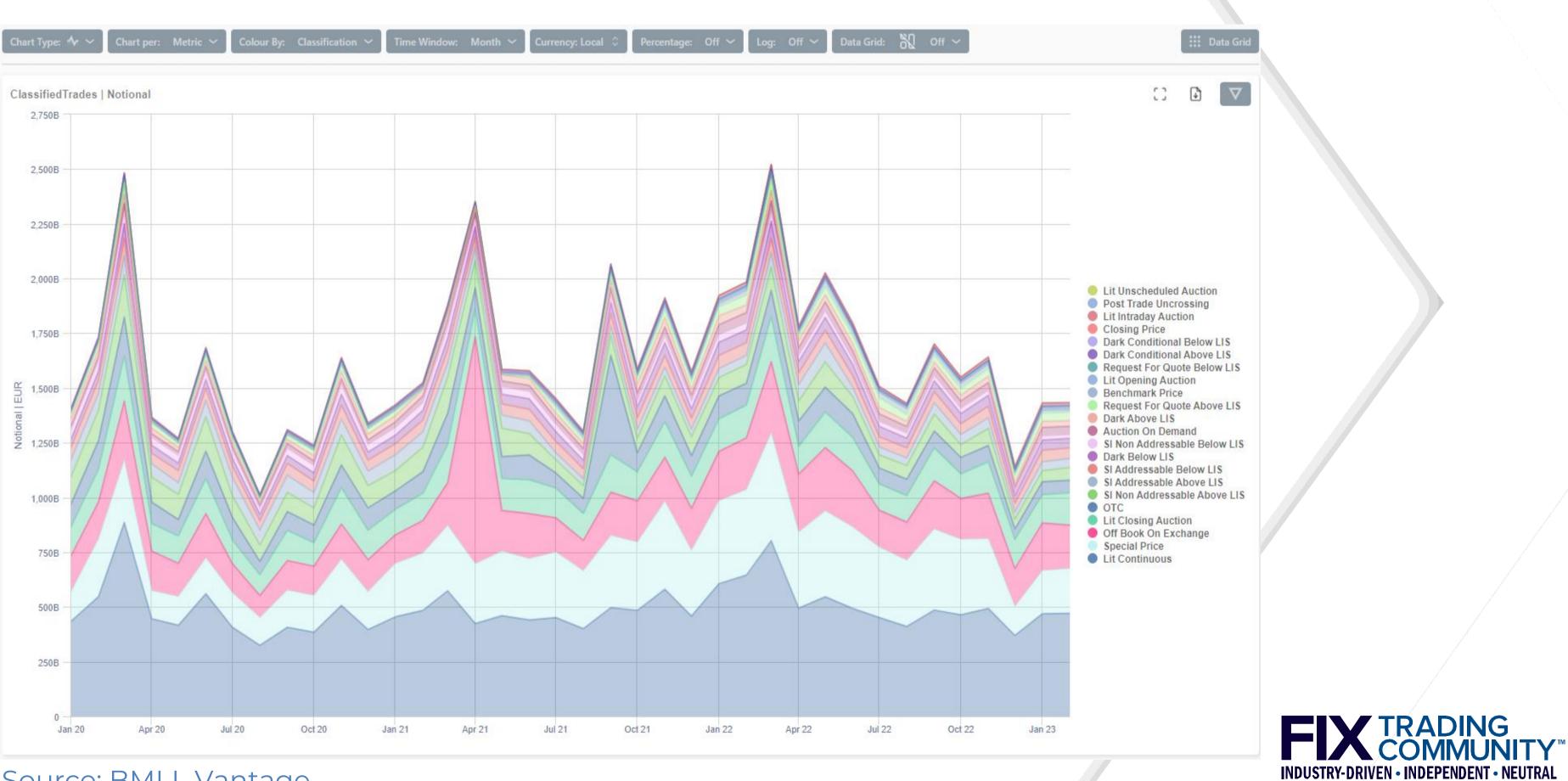
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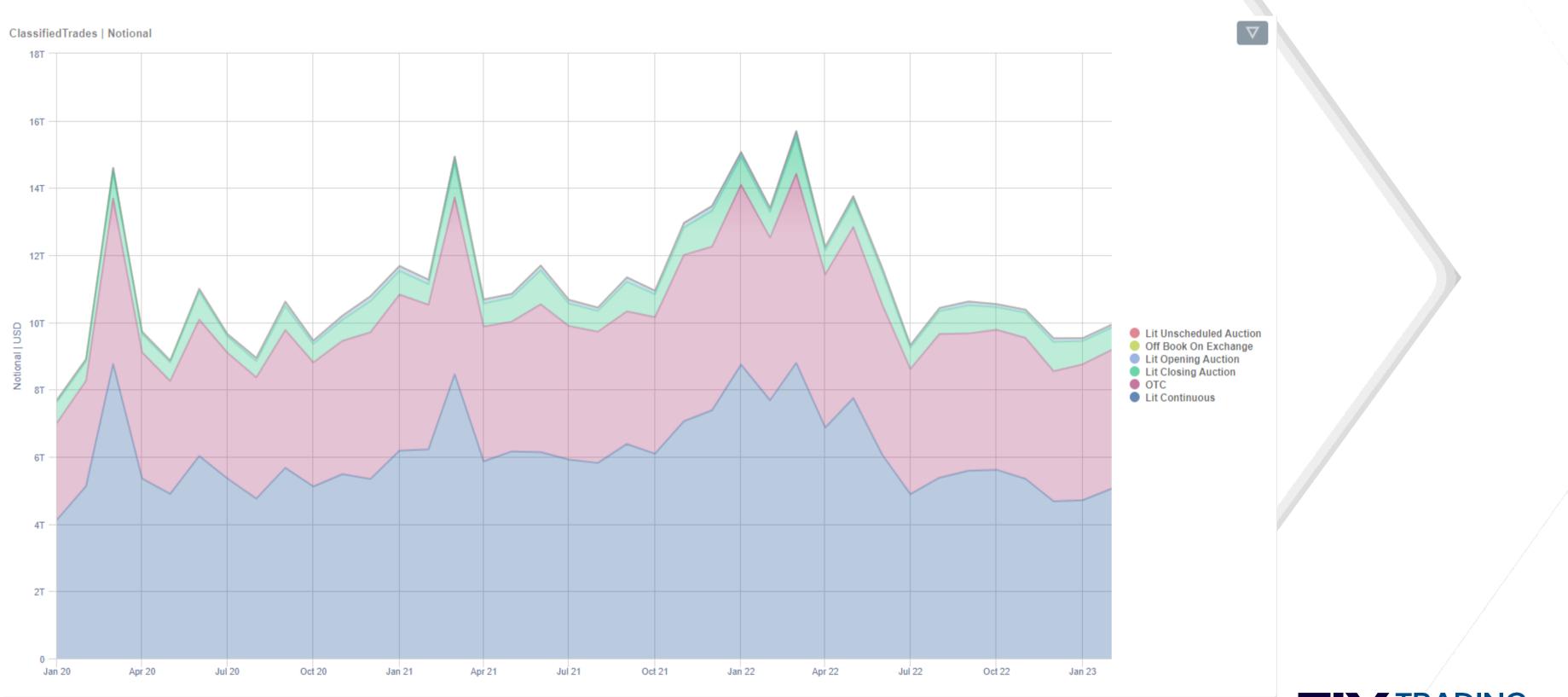


Using MMT for analytics: European classified trades



Source: BMLL Vantage

Classifying trades without MMT: US example



Source: BMLL Vantage









