

MARKET MODEL TYPOLOGY (MMT) - Overview

October 2012

Trade Reporting Standards

Background

- **Fact:** Standardisation of trade data is a prerequisite for effective data consolidation.
- **Our Mission:** Proactive and rapid adoption of a single, *de facto* standard for trade reporting across all markets and OTC.
- **Scope:**
 - Create a standard data model for trade condition reporting based on CESR Technical Working Group recommendations.
 - Develop a cross reference for immediate adoption and use in vendor-provided services in parallel with native adoption.
 - Gain industry support for standard and approach.
 - Work with the industry to develop clear and specific guidelines for the consistent application of trade reporting standards in OTC markets.
 - Enable broad implementation (FIX protocol support, Markit BOAT support, etc.).
 - Gain regulatory endorsement of standards.

Market Model Typology (“MMT”)

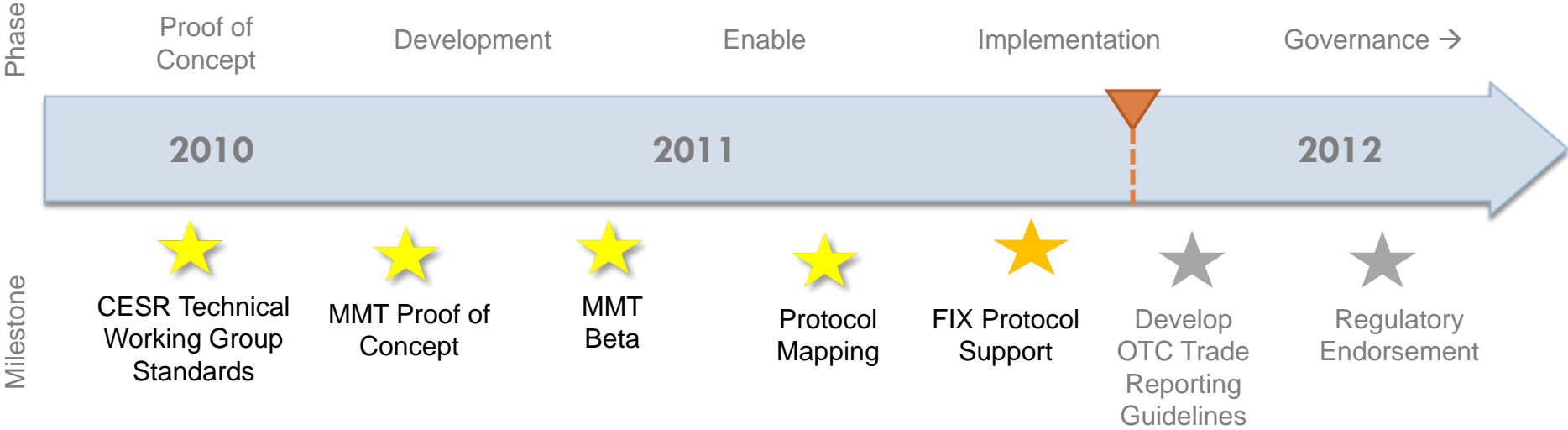
- What is it?
 - A means of applying trade reporting standards across RMs, MTFs and OTC trade reporting.
 - An elaboration of the ESMA (formerly CESR) Technical Working Group OTC trade reporting standards recommended by CESR in its technical advice to the European Commission (see CESR doc 10-882).
 - A data model and cross reference table which maps trade flags across securities exchanges, MTFs and OTC reporting venues.
 - A practical solution to enabling rapid adoption of a *de facto* standard for trade reporting currently endorsed by trading platforms and reporting venues as well as the major market data vendors.

Market Model Typology (“MMT”)

- What is it NOT?
 - A lobbying agenda or bias towards any of the three options for data consolidation set forth by the European Commission.
 - A closed working group of exchanges, MTFs and vendors. MMT is open to all who contribute.
 - A mandate or replacement for the current trade conditions which often are required for local regulatory reasons.

Phases and Milestones

Critical phases and milestones achieved and still yet to achieve.



MMT Participants

Participation in MMT is open to all. Current participants in the *MMT Steering Group* and/or the *MMT Technical Committee* include representatives from:

Participants	
BATSChi-X Europe	Irish Stock Exchange
Bloomberg	LSEG (London Stock Exchange Group)
BME Spanish Exchanges	Markit BOAT
Deutsche Bank	Nasdaq OMX
Deutsche Börse AG	NYSE Euronext Simon Gallagher (MMT SC Chair)
FESE (Federation of European Securities Exchanges)	SIX Swiss Exchange Marc Berthoud (MMT TC Chair)
Fidessa	SIX Financial Information
FIX Protocol	Thomson Reuters Graham Green (MMT TC Vice Chair)
Interactive Data	Wiener Börse

Standards Comparison

MMT's data model is a slight modification of ESMA/CESR's recommendations

CESR OTC Trade Codes

'B' – Benchmark Trade

'X' – Crossing Trade

'T' – Technical Trade

'D' – Dark Trade

'N' – Negotiated Trade

'G' – Give-up/Give-in

'E' – Ex-cum/Dividend Trade

** Multiple Types May Apply
e.g. 'BX' -- VWAP Cross*

CESR Reason Codes

'A' – Amendment

'C' – Cancelation

MMT Initiative Codes

'B' – Benchmark Trade

'X' – Crossing Trade

'T' – Technical Trade

'D' – Dark Trade

'N' – Negotiated Trade

'G' – Give-up/Give-in

'E' – Ex-cum/Dividend Trade

'P' – Plain Vanilla

'F' – Trade with Conditions

MMT Reason Codes

'A' – Amendment

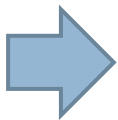
'C' – Cancelation



MMT Hierarchical Data Model

MMT hierarchical model provides enhanced transparency beyond trade flags

Level	Type	Code
1. Market Mechanism	Central Limit Order Book	'1'
	Quote Driven Market	'2'
	Dark Order Book	'3'
	Off Book	'4'
2. Trading Mode	Scheduled Opening Auction	'O'
	Scheduled Closing Auction	'K'
	Scheduled Intraday Auction	'I'
	Unscheduled Auction	'U'
	Continuous Trading	'2'
	At Market Close Trading	'3'
	Out of Main Session Trading	'4'
	Trade Reporting (On Exchange)	'5'
	Trade Reporting (Off Exchange)	'6'
Trade Reporting (Systematic Internaliser)	'7'	
3. Transaction Type	(See Slide 7 – MMT Initiative Codes)	'B', 'X', 'T', 'D', 'N', 'G', 'E', 'P', 'F', 'A', 'C'
4. Publication Mode	Immediate	--
	Non-immediate	'1'



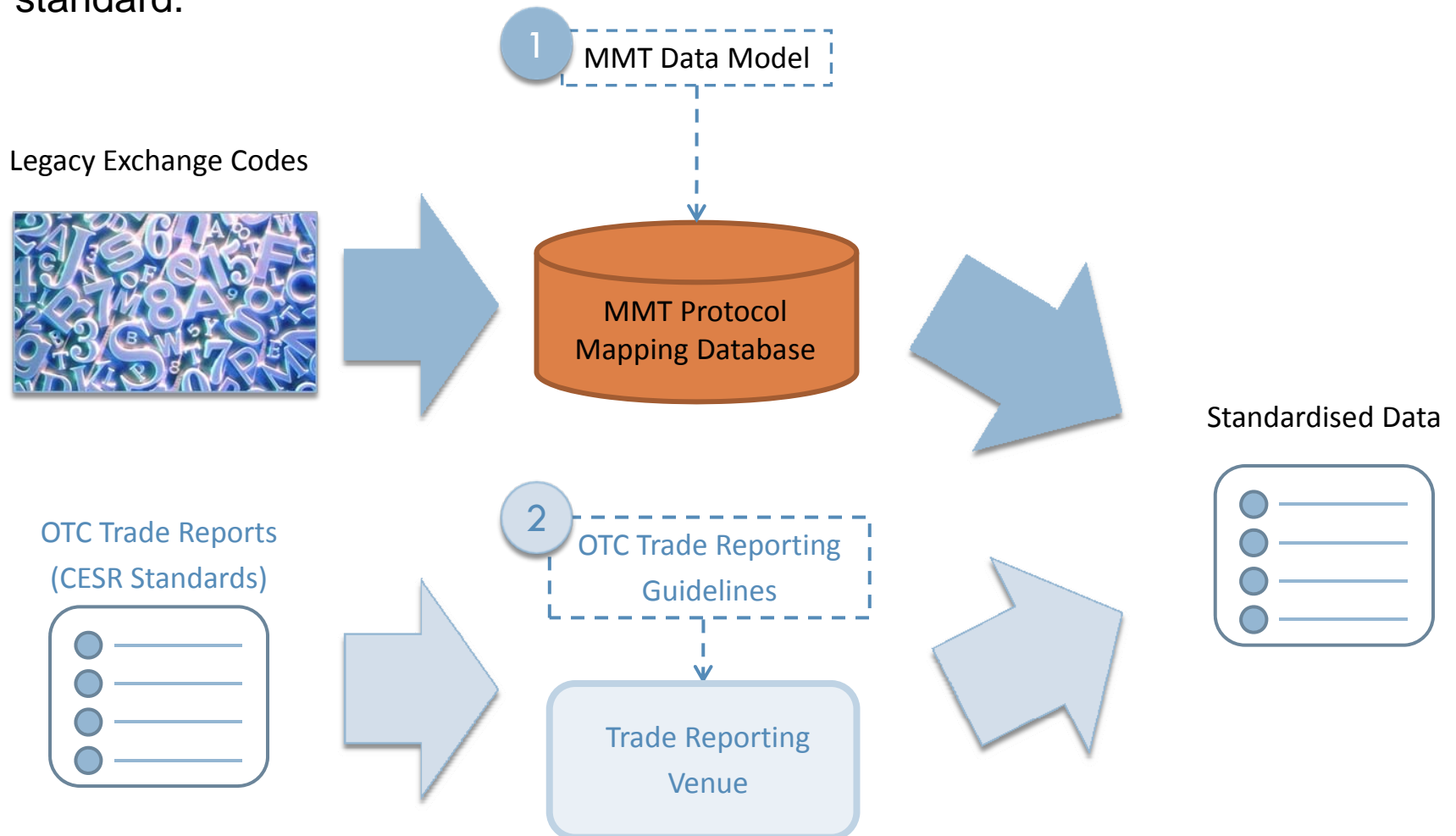
MMT Questionnaire

Proprietary Trade flag specification: combination of characteristic fields					MMT Matrix																		
Field 1	Field 2	Field 3	Brief description		MMT Level 1:	MMT Level 2:	MMT Level 3.1:	MMT Level 3.2:	MMT Level 3.3:	MMT Level 3.4:													
"Last Trade Type"	"Tick Action Indicator"	XEBS_Trading_Phase is disseminated in separate messages, synchronization via timestamps			Market Mechanism	Trading Mode	Transaction Category	Negotiated Transaction Indicator	Crossing Trade Indicator	Modification Indicator													
X	I	5	Exchange Trade - Opening Auction		Central Limit Order Book	Auction Trading	Plain-Vanilla Trade	No Negotiated Trade	No Crossing Trade	New Trade													
X	I	6	Exchange Trade - Intraday Auction		Central Limit Order Book	Auction Trading	Plain-Vanilla Trade	No Negotiated Trade	No Crossing Trade	New Trade													
X	I	7	Exchange Trade - Closing Auction		Central Limit Order Book																		
X	I	26	Exchange Trade - Continuous Trading		Central Limit Order Book																		
S	I		Xetra BEST		Central Limit Order Book																		
P	I		Xetra MidPoint		Dark Order Book																		
	D		Cancelled Exchange Trade		*** Implied via Trade Identifier																		
Your data (insert lines as required but keep formatting)							MMT Codes				Mapping to CESR Code	Environment											
							Levels:						Trade flag field only existing on request by regulator (yes/no)	Data feed	Instrument Segment	MIC(s)							
					MMT Level 3.5: Trade with Conditions		MMT Level 4: Publication Mode		1	2	3.1						3.2	3.3	3.4	3.5	4		
										note that these fields are populated automatically													
					No Conditions					1	1	P	-	-	-	-	-	-	-	NO	CEF	Cash Equities	XETR, XETI
					No Conditions					1	1	P	-	-	-	-	-	-	-	NO	CEF	Cash Equities	XETR, XETI
					No Conditions					1	1	P	-	-	-	-	-	-	NO	CEF	Cash Equities	XETR, XETI	
					No Conditions					1	2	P	-	-	-	-	-	-	NO	CEF	Cash Equities	XETR, XETI	
					No Conditions					1	2	P	-	-	-	-	-	-	NO	CEF	Cash Equities	XETR, XETI	
					No Conditions					3	2	D	-	-	-	-	-	D	NO	CEF	Cash Equities	XETR, XETI	
*** Implied via Trade Identifier					*** Implied via Trade Identifier (for								C	C	NO	CEF	Cash Equities	XETR, XETI					

- Fill in the proprietary Codes
- Choose the applicable MMT attributes
- MMT Codes automatically populated
- MMT Codes automatically mapped to ESMA/CESR Codes

MMT Cross Reference Database

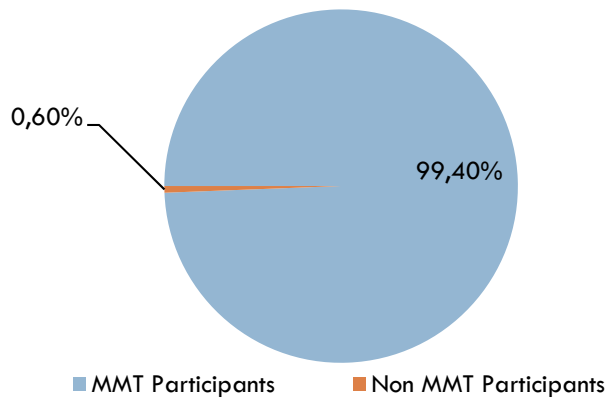
MMT's database provides a mapping from legacy protocols to a common standard.



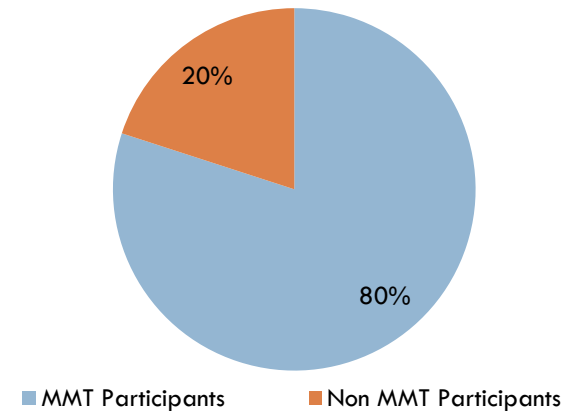
Summary of European Trade Venue Participation in MMT

<u>Participation in MMT -</u> <u>EU/EEA September 2012</u>	Turnover	Venues
All EU/EEA Venues	1'356'569'290'796	60
MMT Participants	1'348'471'512'063	48
Non MMT Participants	8'097'778'733	12
MMT % Coverage	99.40%	80.00%

MMT Participants Market Share of EU/EEA/CH Turnover EUR



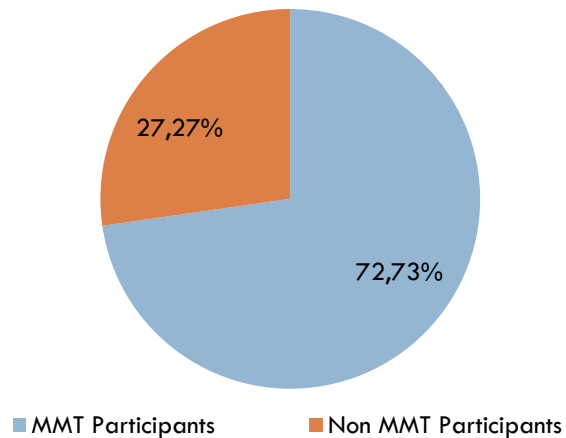
EU/EEA/CH Venue Participation in MMT



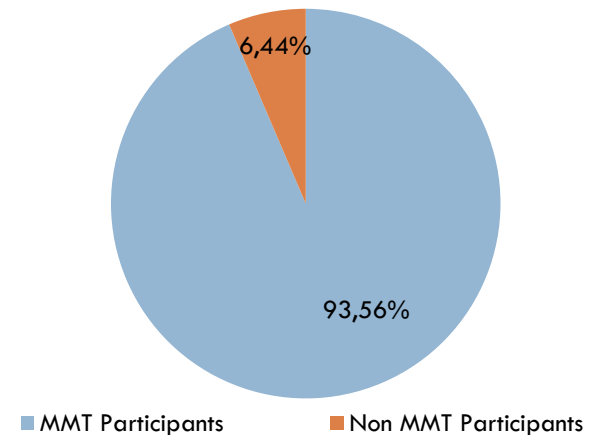
Summary of European Venue Participation in MMT

Participation in MMT - Geographical Europe September 2012	Turnover EUR	Venues
All Venues	1'432'308'386'481	66
MMT Participants	1'348'471'512'063	48
Non MMT Participants	92'769'802'101	18
MMT % Coverage	94.15%	72.73%

Geographical European Venue Participation in MMT



MMT Participants Market Share of Geographical European Turnover EUR



Next Steps for joining MMT initiative

- Support the MMT Initiative
- Read the MMT Documentation:
 - *MMT Guide*
 - *MMT Matrix*
 - *MMT FAQ*
 - *MMT Trade Flag Mapping Guide*
- Complete the MMT Questionnaire
- Return for review to MMT-TC@nyx.com
- Ongoing mapping maintenance