MMT Technical Committee

Market Model Typology (MMT) Initiative Guide

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Revision 2.2

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Table of Contents

Document History

Revision	Date	Author/Editor	Revision Comments
1.0	Sept, 2011	MMT Technical Committee	First published draft
2.0	May, 2012	MMT Technical Committee	- Removed section on MMT Governance - Updated definition of 'Technical Trade' in Section 6.1.3 and the Glossary - Minor edits throughout - Updated formatting
2.1-draft-1		MMT Technical Committee	Updated to reflect v2 of the MMT Matrix
2.1-draft-2	Feb, 2013	MMT Technical Committee	Updated section 6.1.3 to remove "Technical Trade" from "Trade with Conditions"
2.2	Nov, 2014	MMT Technical Committee	- Updated formatting to reflect FIX TC documentation structure. - Updated to reflect MMT v2.2. - Added a section that explains the changes between MMT versions 1, 2.0, 2.1 and 2.2. - Added a section for market data vendor representation of MMT.

1   Executive Summary – The MMT Initiative

The MMT initiative was developed through the collaborative efforts of exchanges, MTFs, market data vendors and trade reporting venues as a means of standardising post-trade data reporting. Market fragmentation can be seen as a natural by-product of competition but more action is needed to meet the challenges in the area of equity market data, in particular post-trade transparency. Though much of this stems from a lack of standards in the OTC market, Regulated Markets and MTFs also need to support a single industry standard that can be applied across all sources of post-trade data.

Since early 2014 the ownership of the MMT standard has been handed over to FIX Trading Community, a well established standard organisation. The MMT Steering Group and the MMT Technical Committee are subject to FIX governance rules.

Due to the scale and complexity of coordinating the implementation of standard trade conditions across the industry as well as the potential regulatory dependencies for changing existing local market standards, MMT was designed to enable standardisation through abstraction while native adoption of standards can proceed in parallel. In many cases, MMT trade conditions will complement existing proprietary codes rather than replace them.

The MMT Initiative is open to all industry participants to support the idea of one standard and has been developed by experienced professionals ranging from equity market operators, reporting venues and data vendors. FIX Trading Community is the organisation in charge of the maintenance of MMT standard. The MMT standard itself is however protocol neutral.

It is intended that the delivery of the MMT will facilitate the delivery of a European Consolidated Tape regardless of whether it is delivered by a single provider or by multiple providers delivering consistent but competing consolidated tape solutions.

Work will be performed in order to ensure the extension of the MMT logic beyond equity towards additional asset classes. The MMT standard will in addition be adapted according to forthcoming regulatory changes.

You can submit questions on MMT relevant topics: mmt@fixtrading.org

2 Document Scope

The MMT Guide is meant to be used as a support document, together with the MMT Initiative Mapping Matrix to assist in the completion of the MMT Questionnaire. The MMT Initiative Guide aims to provide clear definitions for the terms used within the MMT Initiative.
Other MMT related material is available on the FIX Trading Community site at the following link:

http://www.fixtradingcommunity.org/pg/group-types/mmt

This document has been written to be aligned with the most recent version of MMT – v2.200.

3 MMT Stakeholders

The MMT Initiative is open to all equity market data users across the industry, from data originators (securities exchanges, MTFs, APAs) to end consumers (private investors, fund managers, treasurers, academics), including solution providers (data vendors, ASPs, ISVs, OMS providers).

It is expected that the following group of stakeholders will benefit from MMT implementation:
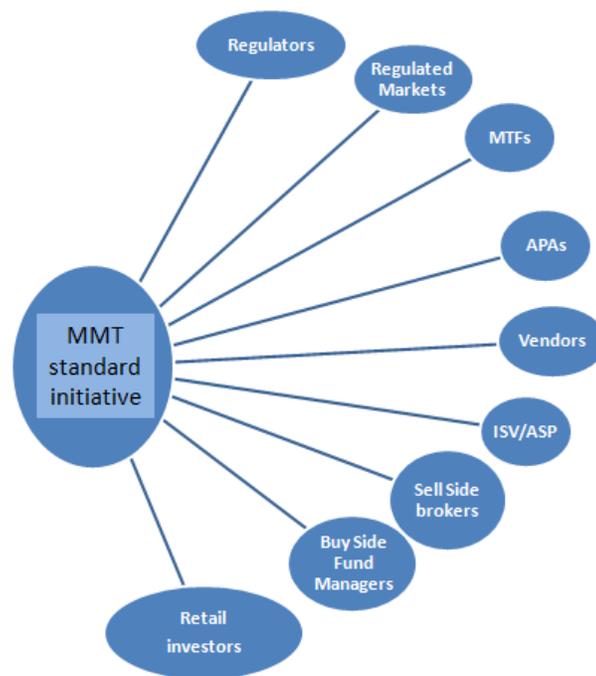
4 MMT Implementation

The implementation of the MMT Initiative is regarded as two distinct achievable goals:

- **MMT Questionnaire and MMT Initiative Trade Flag Mapping Guide:** The first step for participation in the MMT Initiative is the completion of the *MMT Questionnaire* by each participant, which naturally facilitates inclusion in the *MMT Initiative Trade Flag Mapping Guide*.
  - o The *MMT Initiative Trade Flag Mapping Guide* is the central document, which will store the information provided in the completed questionnaires and therefore is inclusive of all participants that have completed their *MMT Questionnaire*.
  - o The *MMT Initiative Trade Flag Mapping Guide* will be made openly available and can be utilised by parties wishing to apply the mapping to codes within their own data infrastructure.
- **Feed Disseminated MMT Mapping:** Participants of the MMT Initiative who have completed the *MMT Questionnaire* for inclusion in the *MMT Initiative Trade Flag*

Mapping Guide will be encouraged to implement the MMT mapping in their relevant Market Data feeds to allow dissemination within trade reports directly to consuming parties.

5 MMT Documents

The following documents are available:

- **MMT Initiative Mapping Matrix:** This documents the data structure and hierarchy of the MMT Initiative in a tabular format. It explains the available combinations of attributes that could be applied to any one trade reported by a market operator. The *MMT Initiative Mapping Matrix* provides a structured model to assist with the completion of *MMT Questionnaire*.
- **MMT Initiative Guide**: This is a support document to the *MMT Initiative Mapping Matrix* and *MMT Questionnaire* which provides definitions and methodology. It explains the process for participation, provides definitions for the initiative and explains the structure and hierarchy of the MMT Matrix.
- **MMT Initiative Questionnaire:** This is the mapping document to be completed by participants. The information reported in the *MMT Questionnaire* will be included in the *MMT Trade Flag Mapping Guide*.
- **MMT Initiative Trade Flag Mapping Guide**: The full mapping table containing information from all completed *MMT Questionnaires*. The *MMT Trade Flag Mapping Guide* will be made available to all industry participants.
- **MMT Initiative FAQ:** A list of the most commonly asked questions.

6 The MMT Matrix

This section explains the structure and hierarchy of the MMT Matrix and provides definitions for the attributes and terms used.

FIX Trading Community: MMT Initiative Mapping Matrix v2.2

6.1 Data Structure and Data Hierarchy

MMT is structured into four primary complementary levels that collectively describe the circumstances under which a trade has been executed. Every trade will carry attributes from each of these levels.

Market Mechanism:
- "1" Central Limit Order Book
- "2" Quote Driven Market
- "3" Dark Order Book
- "4" Off Book

Trading Mode:
- "1" Undefined Auction
- "O" Scheduled Opening Auction
- "K" Scheduled Closing Auction
- "I" Scheduled Intraday Auction
- "U" Unscheduled Auction
- "2" Continuous Trading
- "3" At Market Close Trading
- "4" Out of Main Session Trading
- "5" Trade Reporting (On Exchange)
- "6" Trade Reporting (Off Exchange)
- "7" Trade Reporting (Systematic Internaliser)

Transaction Type:

TRANSACTION CATEGORY:
- "P" Plain-Vanilla Trade
- "D" Dark Trade
- "T" Technical Trade
- "G" Give-Up/Give-In Trade
- "F" Trade with Conditions

NEGOTIATED TRANSACTION INDICATOR:
- "N" Negotiated Trade
- "-" No Negotiated Trade

CROSSING TRADE INDICATOR:
- "X" Crossing Trade
- "-" No Crossing Trade

MODIFICATION INDICATOR:
- "C" Trade Cancellation
- "A" Trade Amendment
- "-" New Trade

BENCHMARK INDICATOR:
- "B" Benchmark Trade
- "-" No Benchmark Trade

EX/CUM DIVIDEND INDICATOR:
- "E" Ex/Cum Dividend Trade
- "-" No Ex/Cum Dividend Trade

OFF BOOK AUTOMATED INDICATOR:
- "-" Unspecified or does not apply
- "M" Off Book Non-Automated
- "Q" Off Book Automated

Publication Mode:
- "-" Immediate Publication
- "1" Non-Immediate Publication

6.1.1 Level 1: Market Mechanism

Level 1 of MMT defines the fundamental functional market mechanism that has facilitated the trade, and it can have one of the following values. They are mutually exclusive. See also details on the MMT Initiative Mapping Matrix document.

Level 1: MARKET MECHANISM
Meaning

Level 1: MARKET MECHANISM
Meaning
Central Limit Order Book
A trading mechanism where transparent , iceberg and LIS Hidden buy and sell orders interact on an electronically maintained order book and are prioritised/sorted in order of price and time. Buy and sell orders that match in price are immediately and automatically executed, with the transaction typically also being reported immediately.
Quote Driven Market
A trading method by which execution prices are largely determined from buy and sell offer quotations issued by market makers or dealers. Most such systems operate a mandatory quotation period during each trading day, during which registered market makers must display their best buy and sell quotations. The market makers are obliged to transact at those quotations if approached to do so.
Dark Order Book
A dark order book offers the similar or equivalent capabilities to a Central Limit Order Book, but the orders and their attributes are not displayed –orders are completely hidden which grants the traders full anonymity with Price formation derived from an external reference price.
Off Book
Trades that have not been executed on a quote-driven or order-driven book are considered to be 'off book' trades.

6.1.2 Level 2: Trading Mode

Level 2 of MMT further differentiates transactions by defining the trading mode under which the trade was executed, and it can have one of the following values. They are mutually exclusive.

Level 2: TRADING MODE
Meaning
Undefined Auction
A trade, or an aggregation of trades, executed at the conclusion of an unspecified type of auction call. **This trade type code has been included to support venues that are presently unable to explicitly distinguish the type of auction call that gave rise to the trade.   Wherever possible, venues should instead aim to specify the type of auction call from the choices below (opening, closing, intraday, unscheduled).**
Scheduled Opening Auction
A trade, or an aggregation of trades, executed at the conclusion of a scheduled opening auction call.
Scheduled Closing Auction
A trade, or an aggregation of trades, executed at the conclusion of a scheduled closing auction call.
Scheduled Intraday Auction
A trade, or an aggregation of trades, executed at the conclusion of a scheduled intraday auction call.
Unscheduled Auction
A trade, or an aggregation of trades, executed at the conclusion of an unscheduled auction call. An unscheduled auction call may be triggered by factors such as a volatility interruption, or to facilitate an orderly resumption of a trading following a market halt.
Continuous Trading
Refers to a trading phase where orders on an order book are continuously executed in the event that one or more buy and sell orders match.
At Market Close Trading
A trading phase that follows the conclusion of a continuous trading or closing auction phase, through which parties are only able to transact at the determined closing price for the day. This may be facilitated by an auction, but would be considered distinct from a standard auction trading phase.
Out of Main Session Trading
A trading phase that is permitted by a market outside of the core operating hours such as the

Level 2: TRADING MODE
Meaning
continuous, auction and at market close trading phases. Such phases may include pre-market open trade reporting or special after-hours market trading phases.
Trade Reporting (On Exchange)
The process of 'manually' reporting a transaction, as opposed to the automatic trade reporting typical of continuous trading platforms, under the rules or regulations of the market through which the trade is being reported.
Trade Reporting (Off Exchange)
The process of 'manually' reporting a transaction, as opposed to the automatic trade reporting typical of continuous trading platforms, outside of the rules or regulations of the market or trade aggregation service through which the trade is being reported. This category would include OTC trades.
Trade Reporting (Systematic Internaliser)
Trades reporting by a Systematic Internaliser, which is a firm that executes orders from its clients against its own book or against orders from other clients. Systematic Internalisers are subject to pre-trade and post-trade transparency requirements under the MiFID regulations.

6.1.3 Level 3: Transaction Type

Level 3 of MMT provides information on the type of the transaction. This consists of five sub-levels, and it is possible to define <u>one</u> value for each of the available sub-levels 3.1, 3.2, 3.3, 3.4 and 3.5.

Level 3: TRANSACTION TYPE	
3.1 TRANSACTION CATEGORY	
Meaning	**Equivalent ESMA Code**
Plain-Vanilla Trade	*none*
An ordinary/standard trade for the specified trading Market Mechanism or Trading Mode.	
Dark Trade	D
A dark trade is one that executes under the following terms: 1. Reference price waiver - Dark Orders execute via a real or virtual Dark Book where only orders marked to execute at the reference price (Mid-Point) interact. 2. Large in scale waiver - commonly regarded as LIS Hidden Order, which may execute against either Lit or other LIS Hidden Orders via a (Hybrid or Integrated) Central Limit Order Book. Where an LIS Hidden Order executes against a Lit order, the transaction should be reported according to the status of the resting order in the order book. If the resting order is hidden then the trade will naturally be reported has a Dark Trade because no pre-trade visibility of the interacting orders is given prior to the trade. If the resting order is Lit then the execution would not be deemed Dark due to the pre-trade visibility given by the resting Lit Order.	
Technical Trade	T
Trades that either represented non-addressable liquidity or where the exchange of shares is determined by factors other than the current market valuation of the share. Non-exhaustive examples of such trades include OTC hedges of a derivative; inter-fund transfers; equity hedge trades related to the creation/redemption of ETFs; Exchange for Physical trades.	
Give-Up/Give-In Trade	G
A trade that has resulted from an order having been executed by a broker on behalf of another broker. A give-up (or give-in) trade means that the broker who executed the trade must give-up the commission for executing that trade to the other broker.	
Trade With Conditions	*none*

Level 3: TRANSACTION TYPE

3.1 TRANSACTION CATEGORY

Meaning	Equivalent ESMA Code
Trades where the trade price and/or trading process does not reference or correlate with the then current market price. Note that this trade type is provided so as to ensure that MMT is compatible with existing systems, but the trade type need not be used if the "Negotiated Trade" or "Benchmark Trade" trade types have been used.	

3.2 NEGOTIATED TRANSACTION INDICATOR

Meaning	Equivalent ESMA Code
Negotiated Trade	N
A trade conducted in an EU regulated market security that is not subject to pre-trade transparency on the market through which it is being reported and which is on terms that are no worse than those that could be achieved on the relevant market's order or quote book, (or where the share is not traded continuously, and is on terms that are no worse than those that could be achieved on a relevant venue with continuous trading), after taking into account any relevant trading, settlement and clearing costs. The negotiated trade flag should only be used for trades which occurred under the negotiated trade waiver in Article 18(1)(b) of the MiFID Implementing Regulation.	
No Negotiated Trade	*none*
Any trade for which the "Negotiated Trade" definition does not apply.	

3.3 CROSSING TRADE INDICATOR

Meaning	Equivalent ESMA Code
Crossing Trade	X
"Trades where an investment firm has brought together two clients' orders with the purchase and the sale conducted as one transaction and involving the same volume and price." [see ESMA discussion paper released in May 2014, p. 159] . It is not meant to denote a trade facilitated via a Central Limit Order Book that coincidentally crosses as part of the activity of that book.	
No Crossing Trade	*none*
Any trade for which the "Crossing Trade" definition does not apply.	

3.4 MODIFICATION INDICATOR

Meaning	Equivalent ESMA Code
Trade Cancellation	C
A trade report that represents the cancellation of an earlier trade report.	
Trade Amendment	A
A trade report that represents an amendment (replacement) of an earlier trade report.	
New Trade	*none*
A new trade report.	

3.5 BENCHMARK INDICATOR

Meaning	Equivalent ESMA Code

Benchmark Trade	B
A category for Volume Weighted Average Price (VWAP), Time Weighted Average Price (TWAP), Competitive Volume Weighted Average Price (CVWAP) and all other trades where the price is calculated over multiple time instances according to a given benchmark. Such trades may differ in price from the prevailing market price at the time the trade is published.	
No Benchmark Trade	*none*
Any trade for which the "Benchmark Trade" definition does not apply.	

3.6 EX/CUM DIVIDEND INDICATOR	
Meaning	**Equivalent ESMA Code**
Ex/Cum Dividend Trade	E
The ex/cum dividend indicator is intended to convey the role of the dividend in explaining why a trade price has occurred outside of the normal market price of the share. Therefore, the flag should only be set in two situations: 1. when the traded price is conducted on a cum dividend basis when the share is in an ex dividend period. 2. when the traded price is conducted on an ex dividend basis when the share is in a cum div period.	
No Ex/Cum Dividend Trade	*none*
Any trade for which the "Ex/Cum Dividend Trade" definition does not apply.	

3.7 Off Book Automated Indicator	
Meaning	**Equivalent ESMA Code**
Off Book Automated	*none*
The definition of the Off Book Automated value of 'Q' is a concurrence of two key attributes, both of which must be met for the flag to be set: I. A computerised process makes the decision to simultaneously match and execute the two sides that comprise the trade and; II. At least one side of the trade represents liquidity with which an external client could have interacted.	
Off Book Non-Automated	*none*
A trade for which the "Off Book Automated" definition does not apply	
Unspecified or does not apply	*none*
A trade that had not been executed via the Off Book market mechanism, or for which it has not been possible to classify it as Automated or Non-Automated.8	

6.1.4 Level 4: Publication Mode

Level 4 of MMT defines the mode in which the transaction is being published, and it can have one of the following values:

Level 4: PUBLICATION MODE
Meaning
Immediate Publication
A trade that has been reported to the market immediately following execution.
Non-Immediate Publication
A trade that is not being reported to the market immediately following execution. This would encapsulate 'late' trades that legally should have been reported immediately by the responsible reporting party, and 'deferred publication' trades that are legally eligible to be subject to deferred publication, for example large in scale orders. It does not refer to trades that are published late due a technical problem at the publishing venue.

6.2 Fully Embedded ESMA/CESR Recommendations

ESMA/CESR had recommended that the following transaction codes be universally applied as published on 13th October 2010 [ESMA/CESR -10/882]. MMT uses the same codes for the equivalent MMT transaction types.

Transaction Code	Explanation	Equivalent MMT Code
B	Benchmark trade	B
X	Agency cross trade ("cross trade")	X
G	Give-up/give-in trade	G
E	Ex/cum dividend trade	E
T	Technical trade	T
D	Dark trade	D
N	Negotiated trade	N
C	Cancellation	C
A	Amendment	A

7 MMT Syntax and Encoding

7.1 General Remarks

Each attribute of MMT Levels 1 to 4 described in Section 6 has been assigned an individual physical field as specified in the *MMT Initiative Mapping Matrix* column "Physical field".

It was decided to implement individual fields down to the lowest sub-level of TRANSACTION TYPE which yields a straightforward interpretation, mapping, and selective usage of desired flags, for example by feed handlers and database indices.

In order to minimise mapping efforts when consolidating messages from various sources, the same data type and value encoding (as specified for each field) should be used in all feed implementations of the trade flags (irrespective of message format and protocol). However, technical field names/tags may vary from feed to feed (depending on protocol and message format actually used).

7.2 Physical Field Codes

To help facilitate the maintenance of values and encoding, MMT levels 1, 2, 3 and 4 are encoded as alphanumeric characters with alpha and numeric values not being used as "abbreviations", i.e. the specific value's implied meaning cannot be derived from the value itself. The attributes of these levels are clearly defined in the MMT Initiative Mapping Matrix document.

At MMT Level 3 the ESMA/CESR recommended codes, which are listed in Section 6.2, are adopted as the 'Physical field' because this level covers the greatest part of ESMA/CESR flagging requirements and they are already well-known in the industry.

Note: The apparent disadvantage of not being self-explanatory is compensated for by the greater stability of codes when rephrasing descriptions or adding new values. There is no need to choose codes which "express" or "abbreviate" a meaning nor can codes suggest a (possibly) wrong meaning.

7.3 Mandatory Requirements

It is a mandatory requirement that a 'Physical field' be applied to every trade type at every MMT Level. All 'Physical fields' specified are "mandatory" in the sense that the field itself will be either:

- present in each and every trade message and show one of the codes listed in the *MMT Initiative Mapping Matrix* Physical field column; or
- an "always equal to" value at an MMT level or sub-level is documented within the market operator's data feed specification, so that consumers of the feed know how to infer the appropriate MMT physical field value.Constant values must be documented using the standard template that is downloadable on FIX website. This template must be appended to the data feed specifications.

MMT - FIX Trading Community

The placeholder '-' (ASCII code 45 decimal; also shown in the MMT Matrix) is used whenever none of the "meaningful" values applies. Thus, the character '-' indicates that the field is

"empty". This rule provides full clarity without the need to interpret a pattern of present and absent fields.

7.4 Completing the MMT Questionnaire

In order to complete the *MMT Questionnaire* the following steps are necessary:
1. Identify the organisation's own proprietary trade flags.
2. Populate the questionnaire's proprietary area (under the "Field x" headers) with the proprietary flags.
3. In the MMT Matrix section, use the drop-down menus to choose the appropriate MMT Code Description at each level for the identified proprietary trade flags.
4. When applying an MMT Code Description, the MMT 'Physical Field' will be applied in the MMT Code section.
5. When all MMT Code Descriptions have been applied at the MMT Matrix section, ensure that a 'Physical field' has been populated for each corresponding level in the MMT Code section. If an MMT Code Description has not been assigned at the MMT Matrix section then an error will be denoted by a '#' in the corresponding level in the MMT Code section.

8 Market Data Vendor Representation of MMT

Native MMT codes have been designed to allow efficient processing in trading systems and data feeds. They're however not intuitive when they get read by a human being on a screen. For this reason data vendors participating to the MMT Technical Committee have agreed on a common set of more intuitive codes making the MMT categorization human readable and easy to consume on display products.There is a one to one mapping with native MMT codes. Details are available on the MMT Initiative mapping Matrix.

MMT - FIX Trading Community

For efficient packing on a vendor data feed, a precise concatenation of the physical values at each level is recommended. The number of levels will depend on the version of MMT, but it is anticipated that all vendors will implement MMT v2.2.

For example, a trade that has the following MMT v2.2 definitions will be encoded as "1OP-------":

- Level 1   MARKET MECHANISM : "1"   Central Limit Order Book
- Level 2   TRADING MODE : "O"   Scheduled Opening Auction
- Level 3.1   TRANSACTION CATEGORY : "P" Plain-Vanilla Trade
- Level 3.2 NEGOTIATED TRANSACTION INDICATOR : "-"   No Negotiated Trade
- Level 3.3   CROSSING TRADE INDICATOR : "-"   No Crossing Trade
- Level 3.4   MODIFICATION INDICATOR : "-"   New Trade
- Level 3.5   BENCHMARK INDICATOR : "-"   No Benchmark Trade
- Level 3.6   EX/CUM DIVIDEND INDICATOR : "-"   No Ex/Cum Dividend Trade
- Level 3.7 OFF BOOK AUTOMATED INDICATOR : "-"   Unspecified or does not apply
- Level 4   PUBLICATION MODE : "-"   Immediate Publication

The encoded representation may not be sufficiently intuitive for display applications. Consequently, the display code may be used instead. The same trade would be represented as "LB,OA,P", given that there is no display code equivalent for the "-" physical code.

9 Conditions of Use of MMT

Access to MMT publications and registration to the MMT mailing list is free of charge. There are no license fees. Users are expected to respect MMT logic, data hierarchy, data structure and naming convention. Reference to MMT should be made explicit in the specifications.

The MMT standard is protocol neutral. A ready to use standard FIX version is however available. See FIX EP163 and EP186

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10 MMT Revision History

The differences between **MMT v1** and **MMT v2** are as follows:
- The "Auction Trading" trade type at Level 2 (Trading Mode) has been separated into the following distinct trade types:
  - o "Scheduled Opening Auction";
  - o "Scheduled Closing Auction";
  - o "Scheduled Intraday Auction"; and
  - o "Unscheduled Auction".
- The "Trade with Conditions" indicator at Level 3.5 (Trade Condition Indicator, as defined in **MMT v1**) has been subsumed into Level 3.1 (Transaction Category) to form the "Trade with Conditions" trade type, and the "No Conditions" trade type has been deprecated.
- The "Benchmark Trade" has been removed from Level 3.1 (Transaction Category) and now forms Level 3.5 (Benchmark Indicator, as defined in **MMT v2**), with the following trade type values:
  - o "Benchmark Trade"; and
  - o "No Benchmark Trade".
- The "Ex/Cum Dividend Indicator" has been removed from Level 3.1 (Transaction Category) and now forms Level 3.6 (Ex/Cum Dividend Indicator), with the following trade type values:
  - o "Ex/Cum Dividend Trade"; and
  - o "No Ex/Cum Dividend Trade".

The differences between MMT v2 and v2.200 are as follows:
- A further auction value of "Undefined Auction" has been created.
- A new level of 3.7 "Off Book Automated Indicator" has been created to enable automated/non-automated trades to be identified.

11 Glossary

Term	Explanation	MMT Level
Amendment	A trade report that represents an amendment (replacement) of an earlier trade report.	3: Transaction Type
APA	Approved Publication Arrangement: "a person authorised under the provisions established in Directive [new MiFID] to provide the service of publishing trade reports on behalf of investment firms" Source: EU Commission Proposal COM(2011) 652/4	-
ASP	Application Service Providers	-

Term	Explanation	MMT Level
At Market Close Trading	A trading phase that follows the conclusion of a continuous trading or closing auction phase, through which parties are only able to transact at the determined closing price for the day.	2: Trading Mode
Auction Trading	A trade executed during an auction trading phase on a lit order book. Auction phases are relevant to markets that operate a continuous trading phase as a means of facilitating trades (sometimes referred to as immediate execution or an order-driven market). An auction is effectively a temporary halt to immediate order execution. It provides traders in the market with the ability to influence and respond to the perceived market value of a financial instrument, without risk of any orders that they submit being immediately executed prior to the stated time that the auction ends. This gives participants the opportunity to amend their orders as they see fit, in a more orderly environment. During the auction phase the trading engine will calculate an equilibrium price based on all of the orders that have been entered in to the order book. Orders that are better than or equal to this equilibrium price, including special "at market price" orders for which the price is not specified, will transact at the calculated equilibrium price once the auction phase ends. Auction calls may be held at scheduled times to facilitate an orderly opening of the market (the opening auction), an orderly closing of the market (the closing auction), or intraday (the intraday auction). They may also be held at unscheduled times (an unscheduled auction) to facilitate an orderly resumption of trading following circumstances such as a volatility interruption or a market halt.	2: Trading Mode
Benchmark	A category for Volume Weighted Average Price (VWAP), Time Weighted Average Price (TWAP), Competitive Volume Weighted Average Price (CVWAP) and all other trades where the price is calculated over multiple time instances according to a given benchmark. Such trades may differ in price from the prevailing market price at the time the trade is published.	3: Transaction Type
Broker Crossing System (BCS)	An internal automated process operated by a broker-dealer that matches buy and sell orders on a discretionary for example intra-spread basis within a pricing methodology referencing an appropriate best bid and offer (BBO).	-
Cancellation	A trade report that represents the cancellation of an earlier trade report.	3: Transaction Type
Central Limit Order Book (CLOB)	A trading method by which transparent (visible) buy and sell orders are placed on to an electronically-maintained order book and prioritised/sorted in order of price and time. Buy and sell orders that match in price are immediately and automatically executed, with the transaction typically also being reported immediately.	1: Market Mechanism
Committee of European Securities Regulators (ESMA/CESR)	The predecessor to the European Securities and Markets Association (ESMA). ESMA/CESR ceased to exist effective 1st January 2011.	-
Competitive Volume Weighted Average	Provides the best and worst average price performance by actual market makers.	-

Term	Explanation	MMT Level
Price (CVWAP)		
Continuous Trading	Refers to a trading phase where orders on an order book are continuously executed in the event that one or more buy and sell orders match.	2: Trading Mode
Crossing Trade	A trade that results when a broker executes both a buy and a sell for the same security from one client account to another. Incidental crossings that are purely triggered by price/time priority of an order book algorithm are not flagged as such.	3: Transaction Type
Dark Order Book	A dark order book offers the similar or equivalent capabilities to a Central Limit Order Book, but the orders and their attributes are not displayed. This grants traders full anonymity.	1: Market Mechanism
Dark Trade	A trade that executes under the reference price waiver and the large in scale waiver.	3: Transaction Type
European Securities and Markets Association (ESMA)	Established on 1st January 2011 as a successor to the Committee of European Securities Regulators (ESMA/CESR), ESMA is an independent European Union (EU) authority that contributes to safeguarding the stability of the EU's financial system by ensuring the integrity, transparency, efficiency and orderly functioning of securities markets. http://www.esma.europa.eu/	-
Ex/Cum Dividend	**The ex/cum dividend indicator is intended to convey the role of the dividend in explaining why a trade price has occurred outside of the normal market price of the share.** **Ex-dividend**: A trade that has been executed on or after a prescribed ex-dividend date. The purchaser of the share will not be eligible to receive a due dividend payment on that share. **Cum-dividend**: A trade that has been executed prior to a prescribed ex-dividend date. The purchaser of the share will be eligible to receive a due dividend payment on that share.	3: Transaction Type
Give-Up/ Give-In Trade	A trade that has resulted from an order having been executed by a broker on behalf of another broker. A give-up (or give-in) trade means that the broker who executed the trade must give-up the commission for executing that trade to the other broker.	3: Transaction Type
Immediate Publication	A trade that has been reported to the market immediately following execution.	4: Publication Mode
LIS	Large In Scale	-
ISV	Independent Software Vendor	
Market Makers	A firm or individual that quotes both a buy and a sell price (two-way quotes) for a financial instrument held in an inventory. Registered market makers are normally obliged to provide transactional two-way quotes during designated mandatory quotation periods.	-
Markets in Financial Instruments Directive (MiFID)	A European law that provides harmonised regulation for investment services across the member states of the European Economic Area (EEA), consisting of the Member States of the European Union (EU) plus Iceland, Norway and Liechtenstein.	-
MTF	Multilateral Trading Facility – An alternative trading centre to a traditional regulated market that allows buyers and sellers to transact with one another. An MTF does not have a listing process and it cannot set the regulatory status of a security.	-
Negotiated	A trade conducted in an EU-regulated market security that is	3: Transaction

Term	Explanation	MMT Level
Trade	not subject to pre-trade transparency on the market through which it is being reported and which is on terms that are no worse than those that could be achieved on the relevant market's order or quote book, (or where the share is not traded continuously, and is on terms that are no worse than those that could be achieved on a relevant venue with continuous trading), after taking into account any relevant trading, settlement and clearing costs. The negotiated trade flag should only be used for trades which occurred under the negotiated trade waiver in Article 18(1)(b) of the MiFID Implementing Regulation.	Type
Non-Immediate Publication	A trade that is not being reported to the market immediately following execution. This would encapsulate 'late' trades that legally should have been reported immediately but had not been owing to a technical or procedural issue, and 'deferred publication' trades that are legally eligible to be subject to deferred publication, for example large in scale orders.	4: Publication Mode
Off-Book	Trades that have not been executed on a quote-driven or order-driven book are considered to be 'off-book' trades.	1: Market Mechanism
Off-Exchange	Trades that are being reported outside of the rules and regulations of a regulated market are considered to be 'off-exchange' trades.	1: Market Mechanism
OMS	Order Management System	
On-Exchange	Trades that are being reported within the rules and regulations of a regulated market are considered to be 'on-exchange' trades.	1: Market Mechanism
Over the Counter (OTC)	Refers to trades transacted over a dealer network instead of a centralised authorised trading platform operated by a regulated market ("exchange") or a multilateral trading facility (MTF).	-
Out of Main Session Trading	A trading phase that is permitted by a market outside of the core operating hours such as the continuous, auction and at market close trading phases. Such phases may include pre-market open trade reporting or special after-hours market trading phases.	2: Trading Mode
Plain Vanilla Trade	An ordinary/standard trade for the specified trading phase or book type.	3: Transaction Type
Quote Driven Book	A trading method by which execution prices are largely determined from buy and sell offer quotations issued by market makers or dealers. Most such systems operate a mandatory quotation period during each trading day, during which registered market makers must display their best buy and sell quotations. The market makers are obliged to transact at those quotations if approached to do so.	1: Market Mechanism
Systematic Internaliser Trade Reporting	Trades reported by a Systematic Internaliser, which is a firm that executes orders from its clients against its own book or against orders from other clients. Systematic Internalisers are subject to pre-trade and post-trade transparency requirements under the MiFID regulations.	2: Trading Mode
Technical	Trades that either represented non-addressable liquidity or where the exchange of shares is determined by factors other than the current market valuation of the share. Non-exhaustive examples of such trades include OTC hedges of a derivative; inter-fund transfers; equity hedge trades related to the creation/redemption of ETFs; Exchange for Physical trades.	3: Transaction Type

Term	Explanation	MMT Level
Time Weighted Average Price (TWAP)	The average price of a financial instrument over a specified time.	-
Trade Flag Mapping Guide	The document that indicates the mappings between a proprietary market data feed's trade type identifiers and the Market Model Typology transaction codes.	-
Trade Reporting	The process of 'manually' reporting a transaction, as opposed to the automatic trade reporting typical of continuous trading platforms.	2: Trading Mode
Trade with Conditions	Trades where the trade price and/or trading process does not reference or correlate with the then current market price. Note that this trade type is provided so as to ensure that MMT is compatible with existing systems, but the trade type need not be used if the "Negotiated Trade", "Technical Trade" or "Benchmark Trade" trade types have been used.	3: Transaction Type
Volume Weighted Average Price (VWAP)	The average price of a financial instrument over a specified time, typically a trading day, taking into account the volume of each of the individual trades when determining the collective average price for those trades.	-