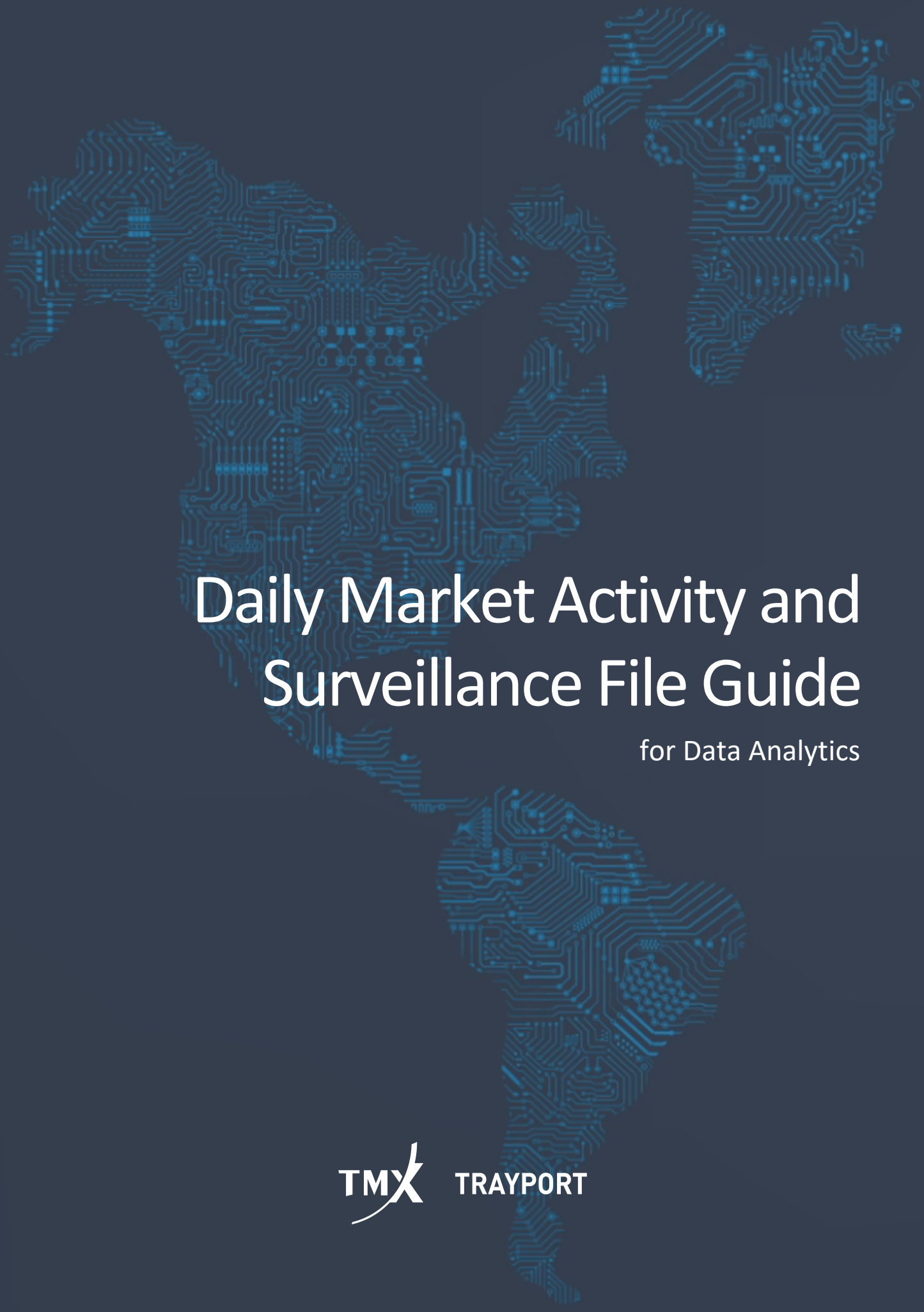

Daily Market Activity and Surveillance File Guide

for Data Analytics

TMX TRAYPORT

LEGAL NOTICE

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Trayport Home Page

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Trayport Daily Market Activity And Surveillance Files

The Trayport Daily Market Activity File and the Trayport Surveillance File both contain a daily summary of all market activity on your permissioned trading venues, delivered in .csv format via a secure FTP site each morning. The Surveillance File includes all the data from the Daily Market Activity File, plus additional fields.

You must choose to receive either the Daily Market Activity File or the Surveillance File. If you choose the Surveillance File, you can select one or both of the following groups of additional fields:

- Additional trade and order fields
- Reference data fields

The details of the two groups of fields are provided in this document.

> **Important:** Daily Market Activity and Surveillance Files are licensed for the purpose of fulfilling the requirements of the Market Abuse Regulation (MAR). The Client should contact their Trayport Client Relationship Manager if they wish to discuss additional uses for the Daily Market Activity or Surveillance File. Use for any other purpose will incur additional licensing.
> Given that market activity information can be obtained from a vast number of sources and systems the Client shall be responsible for checking the Daily Market Activity File and reading these specifications to ensure that it meets the Client's reporting requirements. Trayport does not warrant or represent that the Daily Market Activity or Surveillance File is complete, contains all information displayed in Trayport's systems or is fit for the Client's purposes.

Downloading Files

Connection details for Trayport's secure FTP site:

Server Address:	sftp.compliance.trayport.com
Protocol	SFTP
Port	22

Each day's Market Activity File and Surveillance File is created after midnight (UK time) and is available to download from the secure FTP site from the morning of the following day.

Both file names are automatically populated with the relevant date, in the format *MAR-yymmdd.csv.zip*.

Trayport Support will provide you with user account credentials to allow you to access the site. If you have not received your credentials, please contact Trayport Support on +44 (0) 20 7960 5555 or support@trayport.com.

Market Activity and Surveillance File Fields

This section details the fields within the Daily Market Activity File that are used to describe each individual market action, and the fields within the Surveillance File.

Market Activity Fields

Field	Orders	Trades	Description	Format	Example
Type	Mandatory	Mandatory	Describes the type of market action. The following values may be specified: • AddOrder - an order is placed in the market • UpdateOrder - the terms of an order are updated, or an order is partially dealt • DeleteOrder - an order is cancelled and removed from the market, or an order is fully dealt • InsertDeal - a trade is carried out • UpdateDeal - the terms of a trade are updated • DeleteDeal - a trade is cancelled **Note:** The IsDealt field indicates whether an UpdateOrder or DeleteOrder action is due to the order being dealt.	Enumerated	AddOrder

Field	Orders	Trades	Description	Format	Example
DateTime	Mandatory	Mandatory	Displays the date and time at which the action occurred (in UTC), as observed by the Trayport Daily Market Activity service.	Date and time in ISO 8601 format (YYYY-MM-DDTHH:MM:SS.msmsmsZ)	2016-06-30T15:20:16.498Z
OrderId	Mandatory	Optional for InsertDeal actions only	For private data, the `OrderId` field contains the order identifier sent by the execution venue; for anonymous market data the `OrderId` is generated by Joule Direct. Manual Deals inserted by brokers do not have this field populated.	String	101a
InstId	Mandatory	Mandatory	The unique identifier of the instrument on which the action was carried out.	Integer	123
InstName	Mandatory	Mandatory	The name of the instrument on which the action was carried out.	String	Germany Baseload
Price	Mandatory	Mandatory	The price of the order or trade after the action is applied.	Decimal	45.05
Volume	Mandatory	Mandatory	The volume of the order or trade after the action is applied. This is a numeric value with decimals.	Decimal	25

Field	Orders	Trades	Description	Format	Example
PersistentOrderId	Mandatory	Mandatory for InsertDeal actions only	Trayport recommends using both the `PersistentOrderId` and `ExecutionVenueId` fields to track individual orders in case two different venues assign the same `OrderId` to different orders. • For private orders from exchange venues the `PersistentOrderId` is generated by the execution venue. Anonymous orders from exchange venues do not have this value populated. • For both anonymous and private orders from broker venues the `PersistentOrderId` represents individual orders and can be generated by the execution venue. If not populated by the execution venue, Trayport will populate this value for you. Please see Known Issues for noteworthy circumstances. Manual Deals inserted by brokers do not have this field populated.	String	202a
ExecutionVenueId	Mandatory	Mandatory	The unique identifier for the execution venue on which the action is carried out.	Integer	955
ExecutionVenue	Mandatory	Mandatory	A three to four letter code identifying the execution venue on which the action is carried out.	String	VNU

Field	Orders	Trades	Description	Format	Example
ClearingVenue	Optional	Optional	The clearing venue on which the action is carried out.	String	CLR
SequenceID	Mandatory	Mandatory	A unique identifier for the time sequence on which the action is carried out. For actions on spread contracts, this is the ID of the sequence for the first leg of the spread.	Integer	567
SequenceItemID	Mandatory	Mandatory	A unique identifier for the individual sequence item (that is, the specific time period) on which the action is carried out. For actions on spread contracts, this is the ID of the first leg of the spread.	Integer	111
Period	Mandatory	Mandatory	The descriptive name of the time period on which the action is carried out (this corresponds to the `SequenceItemID` field). For actions on spread contracts, this is the name of the first leg of the spread.	String	Jan-18
SecondSequenceID	Optional	Optional	For actions on spread contracts, this is the ID of the sequence for the second leg of the spread.	Integer	00566
SecondSequenceItemID	Optional	Optional	For actions on spread contracts, this is the ID of the individual sequence item for the second leg of the spread.	Integer	112
SecondPeriod	Optional	Optional	For actions on spread contracts, this is the name of the second leg of the spread.	String	Feb-18

Field	Orders	Trades	Description	Format	Example
Side	Mandatory	Not Specified	The side of the market that the order is placed on following the action. The following values may be specified: • Bid • Ask	Enumerated	Bid
ExecutionVenuesOrderID	Optional	Optional	This field is only populated for private orders and trades on Portal venues. It is a unique identifier assigned by the execution venue. For orders, its value is the same as the `PersistentOrderId`. For trades, its value is the same as the `MIFIDForeignOrderId`.	String	555
Company	Mandatory	Not Specified	The name of the company that has carried out an order action. For orders not placed by your company, 'Anonymous Trading Company' is displayed.	String	Company A
Trader	Mandatory	Not Specified	The name of a trader that has carried out an order action. For orders not placed by your company, 'System Anonymous Trader' is displayed.	String	Jane Doe

Field	Orders	Trades	Description	Format	Example
Tradable	Mandatory	Not Specified	Indicates whether an order is tradable by your company. The following values may be specified: • y - order is tradable • n - order is not tradable	Enumerated	y

Field	Orders	Trades	Description	Format	Example
OrderType	Mandatory	Not Specified	The type of order, indicating its tradability and status in the market. The following values may be specified: • Firm - an order that is visible to other counterparties in the market and potentially tradable • Withheld - an order that is currently not visible to other counterparties in the market • Indicative - a non-tradable order intended to indicate that the counterparty is willing to negotiate around the price • Reference - a non-tradable order intended to provide price information to the market (such as closing prices or exchange rates) • VenueImplied - the order is calculated by a Trayport or non-Trayport venue system, based on two or more other orders in the market	Enumerated	Firm

Field	Orders	Trades	Description	Format	Example
OrderState	Mandatory	Not Specified	Indicates the current state of the order in the market. The following values may be specified: • None • OrderDealt - the order is being removed from the market due to being dealt • VenueImplied - the order is calculated by Trayport's Broker or Exchange Trading System, based on two or more other orders in the market	Enumerated	None
AllOrNone	Mandatory	Not Specified	Shows whether an order is All Or None; that is, only the entire volume can be dealt in a single trade. The following values may be specified: • y - order is All Or None • n - order is not All Or None	Enumerated	n
IsDealt	Mandatory for DeleteOrder or UpdateOrder actions only	Not Specified	Indicates whether the action involves dealing an order, either wholly or partially. The following values can be specified: • TRUE - the action involves either some or all of the volume of an order being dealt • FALSE - the action does not involve an order being dealt	Enumerated	FALSE

Field	Orders	Trades	Description	Format	Example
InitiatorTraderName	Not Specified	Optional	The name of the initiator trader for a trade action. The initiator is the counterparty that submits the original order to the market. If the trade is Private and Confidential, this field may not be populated.	String	Jane Doe
InitiatorCompanyName	Not Specified	Optional	The name of the initiator company for a trade action. The initiator is the counterparty that submits the original order to the market. If the trade is Private and Confidential, this field may not be populated.	String	Company A
InitiatorWay	Not Specified	Optional	The side of the trade of the initiator counterparty. For example, if a value of 'Buy' is specified, the initiator is on the buy side of the trade and the aggressor is on the sell side. If the trade is Private and Confidential, this field may not be populated. The following values may be specified: • Buy • Sell	Enumerated	Buy
AggressorTraderName	Not Specified	Optional	The name of the aggressor trader for a trade action. The aggressor is the counterparty that trades the available order in the market. If the trade is Private and Confidential, this field may not be populated.	String	John Smith

Field	Orders	Trades	Description	Format	Example
AggressorCompanyName	Not Specified	Optional	The name of the aggressor company for a trade action. The aggressor is the counterparty that trades the available order in the market. If the trade is Private and Confidential, this field may not be populated.	String	Company B
Voice	Not Specified	Mandatory	Indicates whether or not the trade is a voice deal; that is, it has been carried out on-screen by a broker at the request of a trader. The following values may be specified: • y - indicates the trade is a voice deal • n - indicates the trade is not a voice deal	Enumerated	n
PnC	Not Specified	Mandatory	Indicates whether or not a trade is marked as Private and Confidential; that is, the counterparties involved are visible only to those counterparties, and to the venue. The following values may be specified: • y - indicates the trade is Private and Confidential • n - indicates the trade is not Private and Confidential	Enumerated	y

Field	Orders	Trades	Description	Format	Example
VoiceDealConfirmState	Not Specified	Optional	If a trade is a voice trade that requires the counterparties involved to confirm the trade details, this field indicates the current confirmation status. The following values may be specified: • NotRequired • Pending • Confirmed • Rejected	Enumerated	Pending
TradeId	Not Specified	Mandatory	A unique identifier for the trade.	String	10A
MyPosition	Not Specified	Optional	Shows your role in a trade (if applicable). The following values may be specified: • Initiator • Aggressor > **Note:** Both values are specified for self-trades.	Enumerated	Initiator
RouteToMarketId	Optional	Optional	If you have access to multiple routes to market, including broker accounts through one or more Direct Market Access (DMA) providers, the `RouteToMarketId` field is used to identify which route an order or trade uses.	Integer	050

Field	Orders	Trades	Description	Format	Example
MarketData	Mandatory	Mandatory	Indicates whether an order or trade action is public. The following values may be specified: • y - order or trade action is public • n - order or trade action is not public For more information about distinguishing between public and private actions, see Public and Private Data.	Enumerated	y
OwnData	Mandatory	Mandatory	Indicates whether an order or trade action is private. The following values may be specified: • y - order or trade action is private • n - order or trade action is not private For more information about distinguishing between public and private actions, see Public and Private Data.	Enumerated	n

Field	Orders	Trades	Description	Format	Example
SleeveProvider	Not Specified	Mandatory	Indicates if you are buying and selling as part of the same deal, also known as a sleeved trade. SleeveProvider=y will be seen on two deals per sleeve. This fields applies to the following records: • UpdateDeal • DeleteDeal • InsertDeal	Boolean	y
VenueDealDate	Not Specified	Mandatory	The date provided by the Venue for a trade.	Date and time in ISO 8601 format (YYYY-MM-DDTHH:MM:SS.msmsmsZ)	2016-06-30T15:20:16.498Z
FromBrokenSpread	Not Specified	Optional	Indicates if the deal is from a spread deal that has been broken.	Boolean	y

Field	Orders	Trades	Description	Format	Example
OldOrderId	Optional	Not specified	For order update actions, this field is set to the previous OrderId value. This applies to public and private orders. When an order is inserted, this value can be set to *0*, or *empty* where not set. **Note:** For **brokers**: the OldOrderId is set to *0* when an order is inserted. If the order is updated then the OldOrderId value is updated to the original order Id. For **exchanges**: the OldOrderId is *empty* when an order is inserted. If the order is updated then the OldOrderId value is updated to the original order Id. **Note:** For venues using Trayport systems, this value is returned for all updated orders. For venues using non-Trayport systems, this value is always returned for your own orders, provided it has been made available by the venue system. Market-neutral changes on non-Trayport venues result may result in an order update, however they may not cause the OldOrderId value to update.	String	71|2342363958045926904

Field	Orders	Trades	Description	Format	Example
			Note: Sometimes an updated order record may be sent out with the same OrderId and OldOrderId. One example of a situation where this occurs is if the order record has been sent because the trading agreements have been updated on Joule Direct. In this case, the order itself has not changed, and therefore it is not assigned a new OrderId.		
OrderIdCounter	Mandatory for Exchange Orders 0 for Broker Orders	Not specified	A counter to distinguish multiple occurrences of public exchange orders at the same price level. The counter will be increased every time a price level disappears and re-appears. For example, when an order is fully traded and a new order is placed at the same price afterwards. The counter starts at 1 for each price level. A value of 0 is used for exchange private orders or for broker public and private orders. The counter is reset for every daily file for the price level.	Integer	1

Additional Trade and Order Fields

Field	Orders	Trades	Description	Format	Example
TradingCapacity	Optional	Not Specified	Shows whether the order results from the counterparty carrying out matched principal trading under the MiFID II regulation. A full description of this field can be found in the MiFID Regulatory Technical Standards (RTS) 22 Annex I (Table 2, Field 29). The following values can be returned: • DEAL • MTCH • AOTC.	String	DEAL

Field	Orders	Trades	Description	Format	Example
AggressorTradingCapacity	Not Specified	Optional	Displays whether the trade results from the aggressor company carrying out matched principal trading under the MiFID II regulation. A full description of this field can be found in the MiFID Regulatory Technical Standards (RTS) 22 Annex I (Table 2, Field 29). The following values can be returned: • DEAL • MTCH • AOTC.	String	DEAL

Field	Orders	Trades	Description	Format	Example
InitiatorTradingCapacity	Not Specified	Optional	Displays whether the trade results from the initiator company carrying out matched principal trading under the MiFID II regulation. A full description of this field can be found in the MiFID Regulatory Technical Standards (RTS) 22 Annex I (Table 2, Field 29). The following values can be returned: • DEAL • MTCH • AOTC.	String	DEAL
ExecutionMaker	Optional	Not Specified	Code used to identify the person or algorithm within the company who is responsible for the execution under the MiFID II regulation. A full description of this field can be found in the MiFID Regulatory Technical Standards (RTS) 22 Annex I (Table 2, Field 59).	Integer	999111100

Field	Orders	Trades	Description	Format	Example
AggressorExecutionMaker	Not Specified	Optional	Code used to identify the person or algorithm within the aggressor company who is responsible for the execution under the MiFID II regulation. A full description of this field can be found in the MiFID Regulatory Technical Standards (RTS) 22 Annex I (Table 2, Field 59).	Integer	999111100
InitiatorExecutionMaker	Not Specified	Optional	Code used to identify the person or algorithm within the initiator company who is responsible for the execution under the MiFID II regulation. A full description of this field can be found in the MiFID Regulatory Technical Standards (RTS) 22 Annex I (Table 2, Field 59).	Integer	999111100

Field	Orders	Trades	Description	Format	Example
DecisionMaker	Optional	Not Specified	The code used to identify the person or algorithm within the company who is responsible for the investment decision, under the MiFID II regulation. A full description of this field can be found in the MiFID Regulatory Technical Standards (RTS) 22 Annex I (Table 2, Field 57).	Integer	999111002
AggressorDecisionMaker	Not Specified	Optional	Code used to identify the person or algorithm within the company who is responsible for the investment decision, under the MiFID II regulation. A full description of this field can be found in the MiFID Regulatory Technical Standards (RTS) 22 Annex I (Table 2, Field 57).	Integer	999111002

Field	Orders	Trades	Description	Format	Example
InitiatorDecisionMaker	Not Specified		Code used to identify the person or algorithm within the initiator company who is responsible for the investment decision, under the MiFID II regulation. A full description of this field can be found in the MiFID Regulatory Technical Standards (RTS) 22 Annex I (Table 2, Field 57).	Integer	999111002
DerivativeIndicator	Optional	Not Specified	This field returns **y** if the transaction reduces risk in an objectively measurable way in accordance with the MiFID II regulation. Otherwise it returns **n**. A full description of this field can be found in the MiFID Regulatory Technical Standards (RTS) 22 Annex I (Table 2, Field 64).	Boolean	y

Field	Orders	Trades	Description	Format	Example
AggressorDerivativeIndicator	Not Specified	Optional	This field returns **y** if the transaction reduces risk in an objectively measurable way for the aggressor company, in accordance with the MiFID II regulation. Otherwise it returns **n**. A full description of this field can be found in the MiFID Regulatory Technical Standards (RTS) 22 Annex I (Table 2, Field 64).	Boolean	y
InitiatorDerivativeIndicator	Not Specified	Optional	This field returns **y** if the transaction reduces risk in an objectively measurable way for the initiator company, in accordance with the MiFID II regulation. Otherwise it returns **n**. A full description of this field can be found in the MiFID Regulatory Technical Standards (RTS) 22 Annex I (Table 2, Field 64).	Boolean	y

Field	Orders	Trades	Description	Format	Example
DEA	Optional	Not Specified	This field returns **y** if the order was submitted to the trading venue using Direct Electronic Access (DEA) as defined in the MiFID II regulation. Otherwise it returns **n**. A full description of this field can be found in the MiFID Regulatory Technical Standards (RTS) 24 Annex I (Table 2, Field 2).	Boolean	y
AggressorDEA	Not Specified	Optional	This field returns **y** if the aggressor carried out the trade using Direct Electronic Access (DEA) as defined in the MiFID II regulation. Otherwise it returns **n**. A full description of this field can be found in the MiFID Regulatory Technical Standards (RTS) 24 Annex I (Table 2, Field 2).	Boolean	y

Field	Orders	Trades	Description	Format	Example
InitiatorDEA	Not Specified	Optional	This field returns **y** if the initiator carried out the trade using Direct Electronic Access (DEA) as defined in the MiFID II regulation. Otherwise it returns **n**. A full description of this field can be found in the MiFID Regulatory Technical Standards (RTS) 24 Annex I (Table 2, Field 2).	Boolean	y
DEAClientId	Optional	Not Specified	If DEA is used, the code of the DEA user is returned in this field. A full description of this field can be found in the MiFID Regulatory Technical Standards (RTS) 24 Annex I (Table 2, Field 3).	Integer	50001001
AggressorDEAClientId	Not Specified	Optional	If DEA is used by the aggressor company, the code of the DEA user is returned in this field. A full description of this field can be found in the MiFID Regulatory Technical Standards (RTS) 24 Annex I (Table 2, Field 3).	Integer	50001001

Field	Orders	Trades	Description	Format	Example
InitiatorDEAClientId	Not Specified	Optional	If DEA is used by the initiator company, the code of the DEA user is returned in this field. A full description of this field can be found in the MiFID Regulatory Technical Standards (RTS) 24 Annex I (Table 2, Field 3).	Integer	50001001
LiquidityProvision	Optional	Not Specified	This field returns **y** if the order is submitted to a trading venue as part of a market making strategy, as defined in the MiFID II regulation. Otherwise it returns **n**. A full description of this field can be found in the MiFID Regulatory Technical Standards (RTS) 24 Annex I (Table 2, Field 8).	Boolean	y
AggressorLiquidityProvision	Not Specified	Optional	This field returns **y** if the aggressor company carries out the trade as part of a market making strategy, as defined in the MiFID II regulation. Otherwise it returns **n**. A full description of this field can be found in the MiFID Regulatory Technical Standards (RTS) 24 Annex I (Table 2, Field 8).	Boolean	y

Field	Orders	Trades	Description	Format	Example
InitiatorLiquidityProvision	Not Specified	Optional	This field returns **y** if the initiator company carries out the trade as part of a market making strategy, as defined in the MiFID II regulation. Otherwise it returns **n**. A full description of this field can be found in the MiFID Regulatory Technical Standards (RTS) 24 Annex I (Table 2, Field 8).	Boolean	y
IsManual	Not Specified	Optional	If the trade was added to the system manually by a broker, this field is set to **y**. Otherwise, this field is set to **n**.	Boolean	y
ManualOrderIndicator		Not Specified	If the order submission was manual, this returns **y**. If the order submission was automated, this returns **n**. This field only applies to orders submitted to ICE or CME.	Boolean	y
LastUpdateTime	Not Specified	Mandatory	The date and time when the trade was last updated (in UTC time, written in ISO 8601 format). Usually the same as the VenueDealDate unless details of the trade are amended by a broker.	Date and time in ISO 8601 format (YYYYMMDDTHH:MM:SS .msmsmsZ)	2025-05-10T00:11:01.059Z

Field	Orders	Trades	Description	Format	Example
LastUpdateNanoSecondsPart	Not Specified	Optional	This field provides a date and time for the order with nanosecond accuracy, as required by the MiFID II regulation.	Integer	250
ProductClassification	Optional	Optional	Shows the MiFID II market classification, and therefore whether the MiFID II regulation applies to the order/trade. This is only returned for your own company's orders/trades. The following values may be returned: • OTF - MIFID • OTF - Non-MIFID • RM - MIFID • RM - Non-MIFID • Non-MIFID • MTF.	String	OTF - MIFID
InitiatorSleeve	Not Specified	Optional	The type of trade. If this trade is a third-party trade where the initiator is trading on behalf of a company that does not have a trading agreement with the aggressor, this attribute is set to **y**. Otherwise, this attribute is set to **n**.	Boolean	n

Field	Orders	Trades	Description	Format	Example
AggressorSleeve	Not Specified	Optional	The type of trade. If this trade is a third-party trade where the aggressor is trading on behalf of a company that does not have a trading agreement with the initiator, this attribute is set to **y**. Otherwise, this attribute is set to **n**.	Boolean	n
AccountId		Not Specified	The ID of the trading account associated with this order.	Integer	10009201
AggressorAccountId	Not Specified	Optional	The ID of the trading account associated with the deal aggressor.	Integer	10009201
InitiatorAccountId	Not Specified	Optional	The ID of the trading account associated with the deal initiator.	Integer	10009201
AccountName		Not Specified	The name of the trading account associated with the order.	String	ACCXYZ
AggressorAccountName	Not Specified	Optional	The name of the trading account associated with the deal aggressor.	String	ACCXYZ
InitiatorAccountName	Not Specified	Optional	The name of the trading account associated with the deal initiator.	String	ACCXYZ

Field	Orders	Trades	Description	Format	Example
RelationshipId	Not Specified	Optional	An ID identifying related trades on the foreign server. If a trade takes place as a result of the system automatically breaking a spread trade into its constituent legs, or if a trade is manually broken into its constituent legs by an administrator, the legs are assigned the same foreign relationship ID so that it is easy to identify that they are related.	Integer	10024455
PriceDelta	Optional	Not Specified	The amount to change the price value when adding the hidden quantity to the order.	Decimal	0.1
NegotiationStatus	Not Specified	Optional	This value is only displayed if the ExecutionWorkflow is assigned to Non-MTF. This attribute can have one of the following values: • Pending • In Negotiation • Executed • Declined.	String	Executed
HiddenVolume	Optional	Not Specified	The amount of hidden quantity associated with the order.	Decimal	100

Field	Orders	Trades	Description	Format	Example
ExpiryType	Optional	Not Specified	This defines how the order expires or its execution condition. This attribute can have the following values: • GoodTillCancelled • GoodForDay • GoodTillDate • GoodTillEndOfDate.	String	GoodTillCancelled
IsBlock	Not Specified	Optional	Indicates that this is an off-exchange trade (ICE and EEX only).	Boolean	n

Reference Data Fields

The fields in the table below apply to both order and trade events. All fields are *optional*.

Field	Description	Format	Example
ProductGroup	The group the instrument belongs to. The following values may be specified: • Agriculture • Americas Power • Asia Power • Capacity • Coal • Customer Marketplace • Emissions • Euro Power • Freight • Gas • Indian Power • Iron • LNG • Metals UK • Power.	String	Gas
LotSize	The size of each lot for the instrument.	Integer	1
Currency	The currency of the instrument.	String	EUR
isProductSpread	Indicates if the instrument is a product spread (location spread).	Boolean	y
ContractType	ContractType Indicates the contract type of the instrument. The following values may be specified: • Future • Forward	String	Forward
TickSize	The instrument price stepping.	Decimal	0.1

Tracking Order Lifecycles

The MAR EoD Activity file comprises all events that were sent to your company by the brokers and exchanges to which it is connected through Trayport's Joule Direct platform. Each event represents the insertion, update or removal of an order or trade; this is described in the `Type` field in Market Activity File Fields. To track the lifecycle of an individual order, or to reconstruct the orderbook for a contract at a particular point in time, you need to know how to identify and link the relevant events.

There are two main models used for order management by the venues that are connected to Joule Direct.

Orders

Some exchanges, and all brokers, track each individual order inserted by market participants separately. Each order is assigned a `PersistentOrderId` by the venue, which remains constant until that order is completely removed from the market. Each order is also assigned an `OrderId` by the venue. The `OrderId` represents a unique state of the order within its lifecycle: if the price or quantity of the order changes (either because it has been updated by its owner, or because it has been partially dealt), the `OrderId` changes but the `PersistentOrderId` remains the same. The `OrderId` that was used before the update may also be tracked in the `OldOrderId` field on the `UpdateOrder` event.

Brokers and exchanges assign IDs to their orders independently of each other, which means that the same ID can be coincidentally used by different venues simultaneously. However, venues should never use the same ID more than once at the same time. A combination of `ExecutionVenueId` and `PersistentOrderId` can be used as a unique identifier for a particular order.

Price Levels

Other exchanges follow the model above for their private data (i.e. those orders owned by your company), but have a different model for their public data. These exchanges do not track public orders in the same way as brokers. Instead, in their public data feeds, multiple orders from different market participants are aggregated into price levels. A single quantity for each price level is sent to Trayport, and the Joule Direct platform is not able to see the underlying orders which make up each price level. Exchanges do not normally assign a unique `PersistentOrderId` to price levels.

The Joule Direct platform therefore generates a `PersistentOrderId` for each price level based on its unique properties: the contract, side, price, and whether or not it is implied (as exchanges typically only allow a single implied price at each level in addition to the non-implied outright price). For example, for a bid of 5 @ 245 on the TTF DA contract, Trayport might generate the following `PersistentOrderId`:

- Seq[10002096,10000302,2]|245|B|0,

Here, the three numbers in the Seq portion uniquely represent TTF DA, and the rest of the ID comprises the price, side and type of the order.

> **Note:** While it is currently possible to decode the `PersistentOrderId` generated by Trayport, we strongly recommend against doing this and may change the format of these IDs at any time. You should treat the IDs as arbitrary values with no inherent meaning, and use the other fields for each row to extract information such as contract, side and price.

As only one implied and one non-implied outright order can exist on a particular contract and side at once, the combination of `ExecutionVenueId` and `PersistentOrderId` is therefore guaranteed to be unique at any point in time.

When the quantity available at a price level changes, an UpdateOrder event is recorded with the new quantity and the same `PersistentOrderId`. Some exchanges also provide an `OrderId` for each price level; these do not normally change when the quantity on a price level is updated and will not be tracked in the `OldOrderId` field.

Because the `PersistentOrderId` is generated from the properties of the order, it is possible for these IDs to be reused over time if separate orders with the same properties are inserted.

To track different uses of the same `PersistentOrderId` over the course of the day, Trayport generates the `OrderIdCounter` field, which increments by 1 each time a `PersistentOrderId` is reused (i.e. inserted after being entirely removed from the market). This means that a combination of `ExecutionVenueId`, `PersistentOrderId` and `OrderIdCounter` uniquely represents an order within a single MAR file.

EXAMPLE

There are two traders, Trader A and Trader B, working at different companies. They both decide to bid on the TTF DA contract and have similar ideas about its price. The table below displays how their actions would appear in the MAR file for a third company that is not party to any of their orders or trades. This example starts with no orders in the market at any price level.

Event	Type	Price	Volume	PersistentOrderId	OrderIdCounter
Trader A inserts bid of 5 @ 245	AddOrder	245	5	Seq [10002096,10000302,2]|245|B|0	1
Trader B inserts bid of 10 @ 245	UpdateOrder	245	15	Seq [10002096,10000302,2]|245|B|0	1
Trader A updates the price of their bid to 243	UpdateOrder	245	10	Seq [10002096,10000302,2]|245|B|0	1
	AddOrder	243	5	Seq [10002096,10000302,2]|243|B|0	1
Trader B deletes their bid	DeleteOrder	245	10	Seq [10002096,10000302,2]|245|B|0	1
Trader A updates the price of their bid back to 245	DeleteOrder	243	5	Seq [10002096,10000302,2]|243|B|0	1
	AddOrder	245	5	Seq [10002096,10000302,2]|245|B|0	2

Currently, the following exchanges track price levels for public data instead of individual orders:

- EEX
- NDAQ
- ICE
- IENX
- GMEP
- GMEG
- IDEX

- MIBG
- CME.

All other venues track individual orders for both public and private data.

Unique Field Combinations

Despite the differences in behaviour between venues, you can always use `PersistentOrderId` to link order actions. For venues tracking individual orders, the `OrderIdCounter` field is always either empty or set to *0*. You can therefore use the following combination of fields to uniquely identify a specific order on any venue:

- `ExecutionVenueId`
- `PersistentOrderId`
- `OrderIdCounter`.

However, note that this does not mean that the price and quantity of the order defined by the above combination of fields is constant across its lifecycle:

- On venues that track individual orders, updates to price and quantity will cause the `OrderId` to change while the `PersistentOrderId` remains constant.
- On venues that track price levels, updates to the quantity does not change the `PersistentOrderId` or the `OrderIdCounter` and are unlikely to change the `OrderId`.
- On venues that track price levels, updates to the price are shown as a change in quantity (including the removal or insertion of that quantity) at both the old and the new price level, as shown in the example above.

If you need to uniquely identify orders based on their financial properties, we recommend that you include the relevant properties directly in any combined ID you generate.

Known Limitations

Issue	Description
1.	If a click-trade has been carried out on a venue that uses Trayport GV Portal, the order inserted as part of the trade does not appear in the Daily Market Activity File.
2.	For anonymous tradedata from exchange venues the `PersistentOrderId` will not be populated.
3.	The following markets and their contracts are not currently covered by the Daily Market Activity File: • CME Henry Hub Fast Markets • EPEX SPOT • Nodal.
4.	When using a Broker Trading System, if the system reconnects, for example when Joule Direct is upgraded, the `OldOrderId` is lost. A new `PersistentOrderId` will be used for any orders from that point onwards.
5.	When a `PersistentOrderId` is generated by Trayport and is not passed to us by the venue, it remains consistent within a single report for the day, but not consistent across multiple reports.
6.	The following deal actions will contain a `PersistentOrderId` of zero: • InsertDeal: All anonymous exchange deals for which you are not a counterparty. • InsertDeal: Deleted deals restored by a broker. • InsertDeal: Leg deals from broken spreads on both broker and exchange venues (deals on the ICE venue are an exception). • InsertDeal: Manual deals inserted by a broker. • UpdateDeal: Deals manually updated by a broker (including voice confirmation deal updates). • DeleteDeal: Deals deleted by a broker.
7.	An aggressor's ICE exchange private deal will be tagged with a `PersistentOrderId` that relates to the opposite side order that is created by the trader's deal action. The aggressor's private deals on other exchanges may yield a `PersistentOrderId` of zero.
8.	A broker cloned deal will be tagged with the `PersistentOrderId` of the trade from which it was cloned.

Issue	Description
9.	Occasionally, when a venue connector is restarted, permissions are received after the trade snapshot is sent. Under this circumstance, trades during this non-permissioned window will not be included in the MAR report. Orders will be reflowed when the permission is received.
10.	For exchanges connecting through GV Portal, the *InitiatorSide* is always Buy for anonymous public trades (EEX, Nasdaq, GME and IDEX).