



... WIENER BÖRSE ... ATX PRIME ... ATX ... WIENER BÖRSE ... VIENNA STOCK EXCHANGE ... ATX PRIME ... ATX ... WIENER

TTR[®] II User Manual

V 1.5 April 2019



Document Information

Contact

Name	Code	Contact information Note	
Alexander Racher	AR	alexander.racher@wienerborse.at	
Roland Rotsejdl	RR	Roland.rotsejdl@wienerborse.at	
Silvia Hirsch	SH	Silvia.hirsch@wienerborse.at	

Revision History

Version	Status	Date	Editors	Description
1.0	F	21.09.2017	AR	Final Version
1.1	F	20.10.2017	AR	Complete makeover,
				see marked changes in corresponding
				markup version document
1.2	F	07.11.2017	AR	Some smaller updates
1.3	F	05.03.2018	AR	Updates due to bug fixes according to
				customer feedback in production
1.4.	F	16.4.2018	AR	Chapter 5.5 on deferred trades
				corrected
1.5.	F	15.04.2019	SH	Portfolio Compression Cycle and
				individual reports service removed
Legend:	WIP: Wo	ork in progress		
	R: To be	reviewed		
	F: Appro	ved		

User Manual TTR® II (V1.5) Page 2 / 57



Table of Contents

Doc	cument Information		2
1.		ed Functionalities	
2.			
3.	 3.1. Automated data input via 3.1.1. Messages for Pre Trade 3.1.2. Messages for Post Trade 3.2. Manual data input via Wessages 	FIX Interface Publishing Transparency bGUI 1 / TOTV Check	10 10 10
4.			
7.	 4.1. General Input Checks 4.2. Check against ESMA DB 4.3. Who-needs-to-report 4.4. Reporting delay check 	I)	12 17 18 19
5.	Data Processing		20
6.	5.1. Normal processing	aiver Concept	
	6.3.1. Display of TTR [®] II transa 6.3.2. Display of public informat	ctions on website (15 minutes delayed) ion to the TTR [®] II system on website	48 48
7.	7.1. Pre-Trade Reporting7.2. Post-Trade Reporting7.2.1. Acceptable reporting dela	ays for equity and equity-like instrumentsays for non-equity instruments	49 49 50
8.	Data Storage		50
9.	9.1. Reporting to Customers9.1.1. Trade Details Report9.1.2. Price Offer & Quote Details	ils Report	51 52 52



9.2.	Means of report generation	.55
	Display of automatically generated reports within GUI - Submenu "Report	
	Overview"	.56
9.3.	Reporting to National Capital Market Authority (FMA)	.56
9.3.1.	General reporting obligations to FMA	.56



1. Introduction, Basics and Expected Functionalities

TTR[®] II is a MiFID II compliant transaction reporting /publication system, allowing customers of Wiener Börse AG to report OTC trades, price offers and quotes.

In the course of MiFID II / MIFIR (hereinafter "MM") transparency obligations for off-exchange transactions will be enhanced massively. MM now defines more financial institutions as Systematic Internalisers (SI) and at the same time defines rules, which information on their trading actions they have to publicly disclose. Besides the more rigid obligations for SIs all other financial institutions have to report their OTC activities not only in equities but all other instrument classes as well (fixed income / bonds, structured products, derivatives, ...).

Current WBAG solution for MiFID I is called Transparency Trade Reporting (TTR®) and focuses primarily post-trade data in equities. Future solution Transparency Transaction Reporting II (TTR® II) includes post-trade publication for all equity and non-equity asset classes and pre-trade publication as well.

MM furthermore defines the Approved Publication Arrangement (APA), entities, which are allowed to offer OTC publication services to financial institutions within the EU. In order to become an APA, an entity has to apply at its National Capital Market Authority (NCA, in Austria: FMA).

WBAG will offer the data to all interested stake holders in FIX protocol format (hereinafter "Tip/Fix Converter"). For this a FIX feed is set up and is feeded with ADH data. This allows offering the full scope of WBAG's and its partner exchange's data products also via FIX to interested customers.

Legal documents used for this functional description:

- MiFID II RL 2014 65 EU 15052014 CELEX-32014L0065-EN-TXT.pdf
- MiFIR Regulation (EU) No 600 2014 15052014 CELEX-32014R0600-EN-TXT.pdf
- RTS 1, 2, 3, 13 and 14 (parts of other RTS docs used in the text as well)

Many data correctness checks are done against the ESMA reference data base (FIRDS) as currently available for MiFID I OTC reporting. ESMA will substantially extend this DB for all non-equity reference data.



The overview of the $\mathsf{TTR}^{\$}$ II workflow of data input, data processing and data publishing is shown in the figure below:

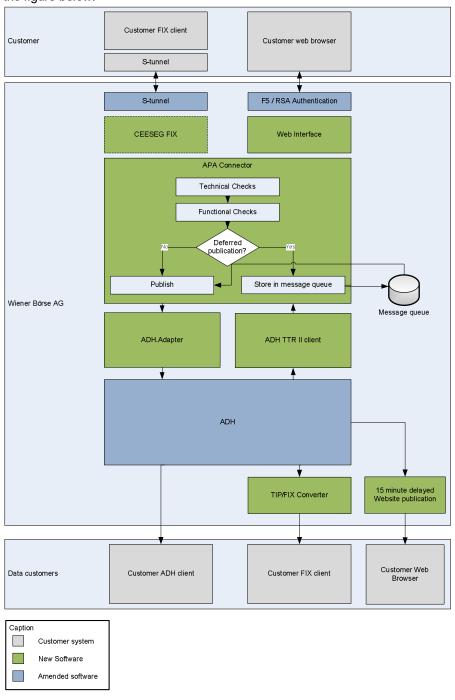


Figure. 1: TTR® II data processing



Application languageThe language of the TTR[®] II application is English.

1.1. Abbreviations and terms

Abbreviation, Term	Description
FIX	Financial Information eXchange Protocol
FMA	Finanzmarktaufsicht (Austria's NCA)
MiFID	Markets in Financial Instruments Directive
OTC	"Over the counter" – Transactions executed outside of a trading venue
ESMA DB / FIRDS	European Security and Markets Authority Database / Financial Instruments Reference
LOWA DD / I INDO	Data System

2. Asset Classes to be considered

Resources:

MiFIR Regulation 600-2014, Article 20 and 21

The TTR® II system allows the processing and publication of trades, price offers and quotes for all asset classes. Please refer to the tables below for details.

a) Equity and equity-like financial instruments (Annex III to RTS 1)

Asset Class	MiFIR Code	ADH BasicDataType
Shares	SHRS	BDSh
ETFs	ETFS	BDEt
Depositary Receipts	DPRS	BDSh
Certificates (funds, no structured		
products as defined by WBAG)	CRFT	BDEt
Other equity-like financial		
instruments	OTHR	BDSh



b) Non-equity financial instruments (Annex IV to RTS 2)

Asset Class	MiFIR Code	ADH BasicDataType
Securitised derivatives	SDRV	BDUt
Structured Finance Products (SFPs)	SFPS	BDUt
Bonds	BOND	BDBo
ETCs	ETCS	BDBo
ETNs	ETNS	BDBo
Emission Allowances	EMAL	BDSh
Derivative	DERV	BDDe

3. Data input

Two different data input sources for TTR[®] II are available:

- 1) Automated data input via FIX Interface (dedicated TTR® II FIX interface)
- 2) Manual data input via WebGUI

A defined set of fields shall be inserted by the customer via FIX and WebGUI for further publication. More information can be found in the following separate specifications:

- CEESEGFIX TTR II Specification
- WebGUI Specification

As a further improvement automatic population of some fields on basis of the ESMA DB within the WebGUI (the customer only has to insert the instrument identifier) is implemented. More details can be found within the separate Excel specification of the WebGUI.

The same applies to the FIX interface. In case it is not possible to use ESMA DB data, the sent transaction is rejected in case mandatory fields are missing.

Note: As FIRDS Reference and Transparency data do not deliver all fields as necessary for a new transaction (MiFIR Instrument Types), customers do need to enter this according to the following overview:

Code	Meaning
InstrumentTypeMiFIR	
Equity financial instrumer	nts (Annex III to RTS 1):
SHRS	shares
ETFS	ETFs
DPRS	depositary receipts
CRFT	certificates (funds, no structrured products as defined by WBAG)
OTHR	other equity-like financial instruments

User Manual TTR® II (V1.5)



Non-equity financial instruments (Annex IV to RTS 2):

SDRV Securitised derivatives

SFPS Structured Finance Products (SFPs)

BOND Bonds
ETCS ETCs
ETNS ETNs

EMAL Emission Allowances

DERV Derivative

InstrumentUnderlyingTypeMiFIR for SDRV and DERV

INTR Interest rate
EQUI Equity
COMM Commodity
CRDT Credit
CURR Currency

EMAL Emission Allowances

EMALSubTypeMiFIR for EMAL and DERV/EMAL

Emissions Allowances ('EMAL') sub type

CERE CER
ERUE ERU
EUAE EUA
EUAA OTHR Other

InstrumentSubTypeMiFIR for DERV

OPTN Options FUTR Futures

FRAS Forward Rate (FRA) Agreement

FORW Forwards SWAP Swaps

PSWP Portfolio Swaps SWPT Swaptions

FONS Futures on a swap
FWOS Forwards on a swap

FFAS Forward Freight Agreements (FFAs)

SPDB Spread betting

CFDS CFD OTHR Other

User Manual TTR® II (V1.5) Page 9 / 57



3.1. Automated data input via FIX Interface

The FIX communication is elaborated in detail in the "CEESEG FIX TTR II specification".

3.1.1. Messages for Pre Trade Publishing

For pre trade transparency the following messages are defined:

- New Order Single
- Cancel Order Request
- Cancel Replace Order Request
- Execution Report
- Quote
- Quote Status Report

Note all pre-trade messages ('orders and quotes') are only valid for the current trading day.

3.1.2. Messages for Post Trade Transparency

For post trade transparency the following messages are defined:

- Trade Capture Report
- Trade Capture Report Ack

Kindly note TTR[®] II requires customers to send the correct turnover (only in EUR!) for each trade in following cases (conditionally mandatory in FIX):

- 1. LRGS equity post-trade transparency waiver for deferred publication
- 2. Customer uses SI-threshold calculation

Turnover needs to be updated in the course of trade corrections if price or volume were changed!

Furthermore changes of ISIN may only be done via cancellations / send new trade, there is no trade correction of ISIN possible.

3.2. Manual data input via WebGUI

For manual data reporting a WebGUI is implemented with the following functionalities:

- Entry of transactions (trades, price offers and quotes, packages)
- Overview of all reported / published transactions
- Correction of transactions
- · Deletion of transactions
- Downloading of predefined reports
- ESMA Instrument Search / "TOTV Check FIRDS"

The WebGUI is implemented in HTML5, available via HTTPS and secured via TLS.

The WebGUI will be available in production via the URL https://ttr2.wienerborse.at in production and https://ttr2-simu.wienerborse.at in simulation.



Kindly note TTR[®] II requires customers to send the correct turnover in EUR for each trade in following cases (conditionally mandatory in WebGUI):

- 1. LRGS equity post-trade transparency waiver for deferred publication
- 2. Customer uses SI-threshold calculation

Turnover needs to be updated in the course of trade corrections if price or volume were changed! Furthermore changes of ISIN may only be done via cancellations / send new trade, there is no trade correction of ISIN possible.

Data input via WebGUI shall be done always in local time, TTR® II takes care of conversion to UTC.

3.2.1. ESMA Instrument Search / TOTV Check

WBAG provides an additional service called "TOTV Check".

In general, the TOTV check in FIRDS shall provide an enhanced search possibility, which is offered to customers as a separate service. With the help of this search customers shall have the possibility to check, if certain instruments (derivatives) are traded on a trading venue within the EU (TOTV) and are therefore mandatory to be published.

More details on the TOTV check may be found in the separate Excel specification

Editing or deleting of data within WBAG's database "ESMA Download DB", where all data from ESMA DB (FIRDS) is stored, is not possible any more (in comparison to the old TTR® system), as there will be a possibility to skip the ESMA check when entering transactions. Please refer to the separate specifications for the WebGUI and FIX for more information on this functionality.



4. Data Input Checks

Resources:

DVO 2017/571 (RTS 13): Article 10

4.1. General Input Checks

Applicable to:

✓ Pre-trade

✓ Post-trade

Resources:

MiFID2 Directive 2014 65, Article 64

RTS 13 Paragraph 14

RTS 13 Paragraph 25

RTS 13 Article 10 Paragraphs 4-8

Within FIX and the WebGUI some general checks are implemented. The subsequent fields are checked for validity.

Please note: Any checks are only triggered after the customer hits the send button in the GUI respectively sends the FIX trade report. Depending of the result of the checks, the report is sent to the TTR® II system or rejected (with corresponding rejection message). Excluded are of course any fields, where the customer can only select from dropdown menus in the GUI. The same applies for FIX in cases where only a predefined set of valid values is accepted.

Mandatory fields

All mandatory fields according to the CEESEG FIX TTR II specification respectively the WebGUI specification shall be populated by the customer.

Otherwise the reporting of the transaction is not possible within the GUI and in case of FIX the message is rejected.

ISIN (FIX tag 48)

Mandatory field.

A check, if the inserted ISIN is valid, is implemented.

The checks are done according to ISO 6166 and include:

- o Length of the ISIN is 12 characters
- o The last character (12) is the check sum

Please use the standard feature of quick fix for this check (also for the GUI).

Price (FIX tag 44 in Order messages, tags 132 and 133 in Quote messages, tag 31 in Trade message)

The inserted price needs to numeric according to RTS 1&2 (decimal 18, 17) and is mandatory.



Explanation for the format "decimal 18,17": According to MiFID II this notation means there is a maximum of 18 digits in total, whereas up to 17 digits may be used after the decimal point.

Exceptions:

- In case of pending prices the price field may also be empty (NULL). The pending price information is then transported in a separated field. For more details see CEESEG FIX TTR II specification.
 - This is a mandatory requirement from MiFID II. The purpose of a pending price: In case of forward pricing, a trade is done without the price being known. Therefore the price is published with "NULL" (not 0) and a corresponding flag PNDG (=Pending Price; only a flag, not a price!). Investment firms are obliged to publish the missing price in form of a correction of the originally reported trade as soon as possible.
- In case of supplementary deferral flags DATF (2672=12), VOLW (2672=16), COAF (2672=21), FWAF (2670=11) or IDAF (2670=15) the price is not checked, as the customer has to send a VWAP for aggregated transactions instead.

Date & Time of transaction (tag 60)

The inserted date & time shall not be in the future.

In general – for publication – the MiFID II compliant Date_Time shall be published: YYYY-MM-DDThh:mm:ss.ddddddZ (Z=UTC)

The customer does not need to insert MiFID II compliant Date Time fields.

- Via FIX the customer sends the format according to the FIX specification. The timestamp is UTC as per FIX specification.
- Via WebGUI the customers enters the format YYYY-MM-DD and hh:mm:ss. The conversion to a MiFID II compliant time stamp as well as to UTC is done by the TTR[®] II system.

The following MiFID II affected time stamps are necessary:

- Trading Date Time (to be consistent within the system, we use the format for price offers and quotes as well, not only for trades)
- Publication Date Time

In case there are further timestamps, which are generated within TTR[®] II, the format is not necessarily the MiFID II format.

Currency (tag 15 in all message types used)

The inserted / selected currency is checked against the ISO 4217 standard in FIX. Within the WebGUI the check is not necessary, as the currencies are available in a dropdown.



InstrumentTypeMiFIR (tag 12000)

Mandatory field; if missing or invalid, a rejection is triggered. This check is only relevant for FIX, as the GUI has a dropdown with all available values. Valid values:

Equity financial instruments (Annex III to RTS 1): SHRS, ETFS DPRS CRFT OTHR

Non-equity financial instruments (Annex IV to RTS 2): SDRV, SFPS, BOND, ETCS, ETNS, EMAL, DERV

InstrumentUnderlyingTypeMiFIR (tag 12001)

Conditionally mandatory field if InstrumentTypeMIFIR is SDRV or DERV.

If missing or invalid, a rejection is triggered. This check is only relevant for FIX, as the GUI has a dropdown with all available values.

Valid values:

INTR, EQUI, COMM, CRDT, CURR, EMAL

InstrumentSubTypeMiFIR (tag 12002)

Conditionally mandatory field if InstrumentTypeMIFIR is DERV.

If missing or invalid, a rejection is triggered. This check is only relevant for FIX, as the GUI has a dropdown with all available values.

Valid values (with explanation):

OPTN = Options, FUTR = Futures, FRAS = Forward Rate (FRA) Agreement, FORW = Forwards, SWAP = Swaps, PSWP = Portfolio, SWPT = Swaptions, FONS = Futures on a swap, FWOS = Forwards on a swap, FFAS = Forward Freight Agreements (FFAs), SPDB = Spread betting, CFDS = CFD, OTHR = Other

Traded Quantity (tag 38 in Order messages, tags 134 and 135 in Quote messages, tag 32 in Trade messages)

The inserted Traded Quantity needs to be numeric according to RTS 1 and 2 (decimal 18, 17). The field Traded Quantity is mandatory, if the instrument is **not**

- a commodity derivative (Instrument Type MiFIR = DERV & Instrument Underlying Type MiFIR = COMM), or
- emission allowance derivatives (InstrumentTypeMiFIR=DERV & InstrumentUnderlyingTypeMiFIR=EMAL), or
- emission allowances (InstrumentTypeMiFIR=EMAL).

Explanation for the format "decimal 18,17": According to MiFID II this notation means there is a maximum of 18 digits in total, whereas up to 17 digits may be used after the decimal point.

User Manual TTR® II (V1.5)



QuantityInMeasurementUnits (tag 1147)

Conditionally mandatory field for instruments, for which the following combinations of classifications are applicable:

InstrumentTypeMIFIR	InstrumentUnderlyingTypeMiFIR	
DERV	COMM	
DERV	EMAL	
EMAL	-	

If the field QuantityInMeasurementUnits is missing or invalid, a rejection is triggered.

NotationMeasurementUnit (tag 12007)

The check is only done in FIX, as within the WebGUI the fields are filled automatically.

In FIX it is checked, if a valid combination is inserted.

For the following combinations of classifications "TOCD" or "Free text" has to be provided.

InstrumentTypeMIFIR	InstrumentUnderlyingTypeMiFIR	
DERV	COMM	
DERV	EMAL	
EMAL	-	

In all other cases UNITS is the valid value.

If the field NotationMeasurementUnit is missing or invalid, a rejection is triggered.

Valid values:

- o UNITS
- o TOCD tons of carbon dioxide equivalent or
- Otherwise <Free Text> {ALPHANUM-25}

Open question to FMA on codes for "Otherwise" sent.

Price Notation (e.g. percentage notation ...) (tag 423)

The field is mandatory.

Possible values:

- o MONE Monetary
- o PERC Percentage
- o YIEL Yield
- o BAPO Basis Points

In case of mismatch, a rejection is triggered.

Reprint (tag 570)

The field is mandatory.

Valid values: ORGN, DUPL

In case of mismatch, a rejection is triggered.



Explanation:

ORGN if not reported on any other APA and customer is responsible for reporting. DUPL if other party has to report / trade was reported at another APA earlier. Note any trade reports using DUPL are not published (not forwarded to ADH for publication) but only processed for SI threshold calculation service! Note TTR[®] II accepts "DUPL" for nonequity instruments for the purpuose of SI calculations although "DUPL" is not specified in RTS

Nominal Value (tag 231 ContractMultiplier)

The field is mandatory for non-equity instruments with InstrumentTypeMIFIR = SDRV, SFPS, BOND, ETCS, ETNS, EMAL, DERV In case of mismatch, a rejection is triggered.

Nominal Currency (tag 10015)

2 / for non-equity instruments.

The field is mandatory for non-equity instruments with InstrumentTypeMIFIR = SDRV, SFPS, BOND, ETCS, ETNS, EMAL, DERV In case of mismatch, a rejection is triggered.

Type (FIX: tag 12006 EMALSubTypeMiFIR; WebGUI: EMAL Sub Type MiFIR) Conditionally mandatory field for instruments, for which the following combinations of classifications are applicable and result in following valid values:

InstrumentTypeMIFIR	InstrumentUnderlyingTypeMiFIR	Valid values
DERV	EMAL	EUAE, CERE, ERUE or
		EUAA, OTHR
EMAL	-	EUAE, CERE, ERUE or
		EUAA, OTHR

In case of mismatch, a rejection is triggered.

• Transaction To Be Cleared (tag 577 ClearingInstructions)

The field is mandatory for derivatives (InstrumentTypeMiFIR = DERV). In case of mismatch, a rejection is triggered.

TTR[®] II rejects any reports which do not fulfil the requirements. In case a check is unsuccessful, the reported transaction is rejected.

User Manual TTR® II (V1.5)



4.2. Check against ESMA DB

Applicable to:

✓ Pre-trade

✓ Post-trade

TTR® II performs checks against the ESMA DB before accepting a new report. These checks depend on the availability of an according reference in ESMA DB. According to the national authority FMA an APA does not have to check each and every input. The checks are therefore performed with best effort.

To fulfill the best effort approach, the following process is implemented within TTR® II:

By default each transaction is being checked against the ESMA DB. In case of a rejection caused by a mismatch of information or by a lack of information in ESMA DB, the customer has two possibilities to proceed:

- The customer can double check the entries and sends a corrected report.
- In case the information is correct from the customer's point of view, the affected transaction shall be sent with the "Skip ESMA Check" flag.

More details to rejection messages can be found in chapter 5.3.

Fields to be checked against ESMA DB

• Instrument Identifier (ISIN)

If ESMA check is used (check box in GUI ticked or FIX tag 22 sent with value "4") and the inserted instrument identifier does not match the ESMA DB, a rejection is triggered. Following FMA confirmation from Sept 21, 2017 only ISINs are applicable.

Nominal Currency

If ESMA check is used and the inserted nominal currency (only mandatory for non-equity instruments) does not match the ESMA DB, a rejection is triggered.

Nominal Value

If ESMA check is used and the inserted nominal value (only mandatory for non-equity instruments) does not match the ESMA DB, a rejection is triggered.



4.3. Who-needs-to-report

Applica	able to:
	Pre-trade
\square	Post-trade

For this the following mandatory input fields need to be filled by the customer (tags 453/452/448/570):

- SI status of customer (stati: SI, Non-SI)
- SI status of counterpart (stati: SI, Non-SI)
- Side of the customer (stati: Buyer, Seller)
- Reprint (stati: ORGN, DUPL) tag 570

Originally TTR[®] II only covered checks / automatic population of tag 570 Reprint (ORGN / DUPL) for trades between MiFID II Investment Firms (IF). In latest ESMA Q&A on transparency https://www.esma.europa.eu/sites/default/files/library/esma70-872942901-

<u>35 qas transparency issues.pdf / Chapter 2</u>, Answer 3a) ESMA explains the obligation in other cases (IF against client which can be a private investor or corporate - both not covered by MiFID II obligations – and delegated publication):

Trade	Buyer	Seller	IF that reports to APA
Trade 1	IF A	Client of IF A	IF A
Trade 2	Client of IF A	IF A	IF A
Trade 3	IF A	IF B	IFB
Trade 4	SI A	IF B	SI A
Trade 5	IF A	Client of IF B (IF B on behalf of a client)	IF B

As TTR[®] II cannot know each individual role of all included parties automatic population of field Reprint with ORGN or DUPL is discontinued.

Instead, customers can enter following fields freely but are then fully responsible for the correct population of all fields:

- Buy / Sell / Undisclosed
- Client and Client Counterparty SI-Status
- ORGN / DUPL

All mentioned fields stay mandatory as on ADH we deduct the Venue of Execution from population of field 448, all other fields are mandatory following MiFID II.



4.4. Reporting delay check

Applicable to: ☐ Pre-trade ☑ Post-trade	
	Pre-trade
\square	Post-trade

This check only applies for transactions, which have to be published immediately (NO deferral waivers applicable).

If the time difference between the trade matching (time-stamp of trade provided by customer, tag 60) and the reporting time (time of reception in TTR® II, returned to the customer in tag 60) of the trade exceeds the limits defined in 7.2.1 and 7.2.2, the affected message is not rejected, but triggers a warning in the reply message of TTR® II as defined in chapter 5.3.

Accordingly TTR® II issues a warning

- if an equity instrument reporting time stamp is more than 1 min later than the timestamp trade matching (time-stamp of trade provided by customer)
- if a non-equity instrument reporting time stamp is more than 15 min (as of Jan 1, 2020: 5 min) later than the timestamp trade matching (time-stamp of trade provided by customer)

The trade is published immediately if such a warning is issued nonetheless.

Please note: This check only helps in case a customer is too late with reporting a transaction. For the limits defined in 7.2.1 and 7.2.2 of course also the difference between the trading time and the publication time (= reporting time + TTRII processing) is relevant, see chapter 5.2.

Please note that for trade corrections and cancellations no reporting delay check applies.

4.5. Legal Entity Identifier (LEI)

Applicable to: ☑ Pre-trade					
	Pre-trade				
	Post-trade				

The Legal Entity Identifier (LEI) is a 20-character, alpha-numeric code, to uniquely identify legally distinct entities that engage in financial transactions.

Systematic Internalisers (SI) are obliged to disclose their identity when publishing price offers or quotes (Regulation C(2016) 2860).

Please note: Only SI's are obliged to report pre-trade information, therefore the LEI has to be published in any case for pre-trade.

Process:

- If a new customer is registered for TTR[®] II, also the LEI is stored once within the database.



Therefore the customer doesn't need to insert the LEI with every pre-trade transaction reported, as it is already stored in the database.

- The customer needs to inform WBAG via the contract and WBAG sets up the LEI
- This can be done for all customers. However, the system publishes the LEI **only** in case of pre-trade.

5. Data Processing

This chapter describes the processing of transactions within the TTR® II system, after they have successfully passed all checks as described in the previous chapter.

5.1. Normal processing

Resources:

RTS 13 Article 10 RTS 13 Recital 17

Definition of necessary fields for normal processing:

TIC Code (in tags 37, 20050, 20051 for Orders and Quotes, tag 880 for Trades):

TTR[®] II generates unique ID's. To facilitate reliable communication between an APA and the customer reporting a transaction, particularly in relation to cancellations and amendments of specific transactions, an APA should include in the confirmation messages to the reporting customer the "Transaction Identification Code" (TIC), which has been assigned by TTR[®] II when making the information public. An APA shall refer to the TIC in any subsequent communication with the customer in relation to a specific trade report. This means all TTR[®] II customers need to be able to store the TIC and provide it with any cancellation or amendment of the originally reported data.

Processing Steps:

- 1. Customer sends trade, price offer or quote
- 2. TTR[®] II generates a TIC (Transaction Identification Code) for the transaction.

(NOTE: Following ESMA Q&A on Transparency a TIC shall not be generated if one of the following flags for initial aggregated publication is used:

DATF, VOLW, FWAF or IDAF.)

a. TIC Code is generated uniquely.

It is generated as described below:

The TIC code comprises up to 52 characters and it is generated as a combination of the trading date, the trading time stamp and a sequence number, which is unique for each reporting day.



- b. Besides this no amendment or further enrichment of the inserted customer data takes place
- 3. Performance of data input checks as defined in chapter 4.
- 4. TTR® II confirms acceptance of transaction (in tag 150) as ACCEPTED = "PENDING_NEW" OR rejects in case of missing or wrong input data as "REJECTED" (both including TIC). In case of duplicate trades (flagged with "DUPL") these shall not published. Reception of correct trade in TTR® II are confirmed with ACCEPTED = "NEW". There is no further processing but for SI threshold calculations for trades flagged "DUPL".
- 5. Check for deferral logic
 - Before publishing the transaction, the TTR^{\otimes} II system checks, if potential deferrals are applicable. For more details, please refer to chapter 5.4
- Enrichment with defined reference data from ESMADB (please see the WebGUI specification respectively the CEESEG FIX TTR II specification for more details on the enriched data).
 Generation of Basic Data Message for ADH (technically mandatory, no functional impact on TTR[®] II) is done on ADH side.
- 7. Sending reported data from TTR[®] II to ADH for publication:
 - a. Sending & immediate publication
 - i. Sending of reported data incl. TIC to ADH
 - b. Deferring and sending publication
 - i. Deferring of reported data, incl. TIC
 - ii. After the end of the deferral time, the publication is triggered through a scheduler process, please refer to 5.4.
- 8. Feedback Loop

As ADH is used as the publishing system for TTR[®] II a feedback loop is set up to confirm dissemination to TTR[®] II customers.

- An "ADH feed handler" (part of TTR® II) constantly monitors ADH output and checks, if ADH published the received TTR® II transaction.
- If a TTR[®] II transaction is received from ADH a confirmation is sent to TTR[®] II ("PUBLISHED" ="NEW").

Please note: The APAConnector sends a TIC Code and a sequence number (ApplSeqNum=1181) to the ADH system. Only with the help of these two fields a transaction may be marked as unique. Those two fields have to be sent back from ADH to the APAConnector, to be able to identify the transactions of the APAConnector uniquely.

The sequence number is generated by the APAConnector and is unique per day. If a transaction is deferred for more than one day, the same mechanism applies, as the sequence number is only added while sending to ADH.

Please note: ADH data (as the data dissemination system for TTR[®] II) is only available one way. There is no possibility to manipulate pre- or post-trading data.



5.2. Publication delay check

Applicable to:				
	Pre-trade			
\square	Post-trade			

Please note: The check described hereafter is very similar to the check described in chapter 4.4 ("reporting delay check"). The main difference is: the <u>reporting</u> delay check from chapter 4.4 refers to a possible late <u>reporting</u> by the customer. The hereafter described "<u>publication</u> delay check" refers to a potential late <u>publishing</u> caused by a late TTR[®] II processing.

The publication delay check only applies for transactions, which have to be published immediately (NO deferral waivers applicable).

If the time difference between the trade matching (time-stamp of trade provided by customer, sent in tag 60) and the publication time (returned to customer in tag 60 in published message) of the trade exceeds the limits defined in 7.2.1 and 7.2.2, a warning as defined in chapter 5.2 is triggered together with the final publication confirmation after the processing of the feedback loop.

Accordingly TTR® II issues a warning

- if an equity instrument publication time stamp is more than 1 min later than the timestamp trade matching (time-stamp of trade provided by customer)
- if a non-equity instrument publication time stamp is more than 15 min (as of Jan 1, 2020: 5 min) later than the timestamp trade matching (time-stamp of trade provided by customer)

5.3. Exception processing

Publication with warning

In certain cases as e.g. used in chapter 7.2, a warning is returned to the customer, but the transaction is still published. The customer should double-check the transaction and may send a correction.

Rejection with "reject reason"

In case data in the report appears to be erroneous as used in chapter 4, the transaction is rejected with a message specifying the reason. The customer should double-check the provided data and correct erroneous fields to enable the publication.

5.4. Trade flags

TTR[®] II customers may refer to the separate Excel-specification "All_Flags_APA_Overview" for further details on the functional implications of trade flags in TTR[®] II.

Following MiFID II / MiFIR there are quite some trade flags to be used under different circumstances. In $TTR^{@}$ II these are separated in non-functional flags (from $TTR^{@}$ II perspective) as available in field



MiFID2TradeFlags and functional flags, e.g. post-trade deferral flags. Both fields are available in the WebGUI accordingly, in the FIX interface several fields are available following the FIX standard.

This chapter defines the allowed combinations of flags as published by ESMA Q&A "On MiFID II and MiFIR transparency topics" ESMA70-872942901-35.

As a general approach, flags should only be applied in case the circumstances described in Table 1 apply. If none of the specified circumstances apply, the transaction should be published without a flag.

Flag	Name	Description	RTS 1	RTS 2 non-
			equity	equity
BENC	Benchmark	RTS 1: Transactions executed in reference to a price	У	У
	transaction flag	that is calculated over multiple time instances according		
		to a given benchmark, such as volume-weighted		
		average price or time-weighted average price		
		RTS 2: All kinds of volume weighted average price		
		transactions and all other trades where the price is		
		calculated over multiple time instances according to a		
		given benchmark.		
ACTX	Agency cross	RTS 1+2: Transactions where an investment firm has	у	у
	transactions flag	brought together customers price offers with the		
		purchase and the sale conducted as one transaction and		
		involving the same volume and price		
TNCP	Transactions not	Transactions not contributing to the price discovery	у	
	contributing to the	process MiFIR Art 23 and as set out in RTS 1 Art 2		
	price discovery			
	process (MiFIR			
	Art 23)			
SDIV	Special dividend	Transactions that are either:	у	
	flag	Executed during ex-dividend period where the dividend		
		or other form of distribution accrues to the buyer instead		
		of the seller (or vice versa in the cum-dividend period)		
LRGS	Post-trade large	RTS 1: Transactions that are large in scale compared	у	у
	in scale	with normal market size for which deferred publication is		
	transaction flag	permitted under RTS 1 Art 14		
		RTS 2: Transactions executed under the post-trade		
		large in scale deferral.		
SIZE	Transactions	RTS 1: Transactions executed on a systematic	у	у
	above the	internaliser where the size of the incoming price offer		
	standard market	was above the standard market size RTS 1 Art 11		
	size flag	RTS 2: Transactions executed under the post-trade size		
		specific to the instrument deferral.		



ILQD	Illiquid instrument	RTS 1: Transactions in illiquid instruments as	У	У
	transaction flag	determined in accordance with Art 1-9 Commission	,	,
		Delegated Regulation executed on a systematic		
		internaliser		
		RTS 2: Transactions executed under the deferral for		
		instruments for which there is not a liquid market.		
RPRI	Transactions	Transactions executed on a systematic internaliser with	у	
	which have	a price improvement MiFIR Art 15 (2)		
	received price			
	improvement flag			
TPAC	Package	Package transactions which are not exchange for		у
	transaction flag	physicals as defined in RTS 2 Art 1		
XFPH	Exchange for	Exchange for physicals as defined in RTS 2 Art 1		у
	physical			
	transaction flag			
CANC	Cancellation flag	RTS 1+2: When a previously published transaction is	у	у
		cancelled		
AMND	Amendment flag	RTS 1+2: When a previously published transaction is	у	у
		amended		
DUPL	Duplicative trade	When a transaction is reported to more than one APA in	y, but not	not required
	reports flag	accordance with Art 17 (1) of Commission Delegated	published	by RTS 2
		Regulation		but needed
				for SI
				calculations,
				will not be
				published

Table 1: MiFID II Trade Flags

CANC and AMND:

The flags 'CANC' and 'AMND' apply in the same way for equity and non-equity instruments. The flags 'CANC' and 'AMND' should **not** be used when publishing all the details of a transaction after the lapse of the supplementary deferrals for non-equity instruments.

5.5. Deferred publishing = Waiver Concept

In the TTR[®] II waiver solution WBAG makes available all possible deferral waivers for post trade for equity & equity-like instruments (RTS 1) and for non-equity instruments (RTS 2).

Pre-trade waivers are not supported in TTR[®] II. Pre-trade flags are not applicable to APA data or transactions are not to be flagged as such (see below an abstract from ESMA Q&A on Transparency Chapter 2, Answer 2a): *Pre-trade waiver flags: 'RFPT', 'NLIQ', 'OILQ' and 'PRIC' [Regulated Market*

User Manual TTR® II (V1.5) Page 24 / 57



only]. Those flags should only be used in case of the effective use of the reference price waiver or the negotiated transaction waiver. Transactions benefitting from a LIS waiver are not flagged as such.

Post-trade deferral waivers / their flags may be entered in field 'Post Trade Deferral' in the WebGUI or in according fields as described in the CEESEG FIX TTR II specification.

Non-functional flags, e.g. ACTX or BENC, may be entered in field "MiFID II Trade Flag".

The deferred publication of a record is achieved by setting a scheduled job in a scheduler to publish the record at the respective time. The publication is continued at the set time. The job data is stored in the database to ensure the functionality of deferred publication also in case of a short time outage of the application server.

The timespan of the publication can't be influenced by the customer. It is preset by the MiFID II threshold table or defined by a NCA. Should a trade be cancelled during the deferral period, the following procedure applies:

If a trade is cancelled during the deferral period, no data is sent to ADH / published.

Please note deferred trades cannot be amended (only cancelled) during the deferral period.

Following ESMA Q&A on MiFID II and MiFIR transparency topics (Chapter 8 Data reporting service providers), "[...] investment firms should report the transaction to the APA as soon as technically possible after the execution, regardless of the application of any deferrals.

Please contact you National Compentent Authority on the legal requirements for using deferrals. In Austria the Handelstransparenzausnahmeverordnung 2018 applies.

Deferral processing:

In general all trades are disseminated immediately.

Deferrals are the exemption and are only possible if a waiver is used by the customer.

Processing during data input by customer via WebGUI:

- a. If no waiver is applicable, the transaction is published immediately.
- b. If a waiver is used via multi-select dropdown, the system automatically defers the publication according to the rules below.

Special note:

- i. The field "Average Daily Turnover (ADT)" is activated in case a LRGS = Large in Scale Waiver is selected.
- ii. The customer needs to insert the ADT mandatorily if it is not provided by the system with FIRDS data.



5.5.1. Deferrals for equity and equity-like instruments

The only possible waiver for deferrals for equity or equity-like instruments is LIS-transaction (LRGS). LIS means "Large in Scale".

If a transaction with LRGS is sent via FIX or entered into the WebGUI, TTR[®] II uses following fields inserted by the customer or automatically populated from FIRDS, to determine the deferral period applicable:

- Average Daily Turnover (ADT) not applicable if Instrument Type MiFIR = ETFS
 This field is automatically populated by FIRDS; if no value is available, it needs to be inserted by the customer mandatorily.
 - The value needs to be inserted in EUR.
- Turnover
 This field needs to be inserted by the customer. The value needs to be inserted in EUR.

The TTR[®] II system determines the ADT class in the first column of the following tables (depending on the Instrument Type MiFIR) and then determines the deferral time based on the turnover of the transaction entered.

- for shares, depositary receipts, certificates and other similar financial instruments (SHRS, DPRS, CRFT, OTHR): ADT & turnover are processed
- for ETFs: only turnover is processed

Average daily turnover (ADT) in EUR	Minimum qualifying size of transaction for permitted delay in EUR	Timing of publication after the transaction	
	10 000 000	60 minutes	
> 100 m	20 000 000	120 minutes	
	35 000 000	End of the trading day	
	7 000 000	60 minutes	
50 m – 100 m	15 000 000	120 minutes	
	25 000 000	End of the trading day	
	5 000 000	60 minutes	
25 m – 50 m	10 000 000	120 minutes	
	12 000 000	End of the trading day	
	2 500 000	60 minutes	
5 m – 25 m	4 000 000	120 minutes	
	5 000 000	End of the trading day	
	450 000	60 minutes	
1 m – 5 m	750 000	120 minutes	
	1 000 000	End of the trading day	

	75 000	60 minutes		
500 000 – 1 m	150 000	120 minutes		
	225 000	End of the trading day		
	30 000	60 minutes		
100 000 – 500 000	80 000	120 minutes		
	120 000	End of the trading day		
	15 000	60 minutes		
50 000 – 100 000	30 000	120 minutes		
	50 000	End of the trading day		
	7 500	60 minutes		
< 50 000	15 000	120 minutes		
	25 000	End of the <u>next</u> trading day		

Table 2: Deferred publication thresholds and delays for shares and depositary receipts (SHRS, DPRS)

Average daily turnover (ADT) in EUR	Minimum qualifying size of transaction for permitted delay in EUR	Timing of publication after the transaction	
ADT < 50 000	15 000	120 minutes	
AD1 < 50 000	30 000	End of the trading day	
ADT ≥ 50 000	30 000	120 minutes	
AD1 2 50 000	60 000	End of the trading day	

Table 3: Deferred publication thresholds and delays for certificates and other similar financial instruments (CRFT, OTHR)

Minimum qualifying size of transaction for permitted delay in EUR	Timing of publication after the transaction
10 000 000	60 minutes
50 000 000	End of the trading day

Table 4: Deferred publication thresholds and delays for ETFs (ETFS)



Any LRGS trade with

- 60 min deferral executed
 - o < 18:00 are published after 60 min
 - o >= 18:00 are published at 07:30 on the following trading day
- 120 min deferral executed
 - o < 17:00 will be published after 120 min
 - o >= 17:00 will be published at 07:30 on the following trading day
- End-of-the-trading-day deferral that is executed
 - o < 17:00 will be published at 19:00
- >= 17:00 will be published at 12:00 on the following trading day.

For the identification of working days and trading days 2 calendars should be used:

- Working days are all weekdays where there is no public holiday in Austria. They shall be used for deferral calculations if mentioned accordingly / depending on the used deferral flag.
- Trading days are all working days except Saturdays, Good Friday, Dec 24 and 31.
 Publications are only possible on WBAG and/or partner exchange working days



5.5.2. Overview of non-equity flags (RTS2)

	Flag	Name	Description
al flags	LRGS (FIX 2670=6)	Post-trade large in scale transaction flag	Transactions executed under the post-trade large in scale deferral.
Post-trade deferral flags	ILQD (FIX 2670=7)	Illiquid instrument transaction flag	Transactions executed under the post-trade size specific to the instrument deferral.
Post-tra	SIZE (FIX 2670=8)	Transactions above the standard market size flag	Transactions executed under the post-trade size specific to the instrument deferral.
S	DATF (FIX 2670=1012)	Daily aggregated transaction flag	Publication of daily aggregated transaction in accordance with Art 11 (1) (a) (ii)
al flag	FWAF (FIX 2670=1003)	Four weeks aggregation flag	Publication of weekly aggregated transactions in accordance with Art 11(1) (c)
deferra	IDAF (FIX 2670=1004)	Indefinite aggregation flag	Transactions for which the publication of several transactions in aggregated form for an indefinite period of time has been allowed in accordance with Article 11(1)(d).
tary	VOLO (FIX 2670=1014)	Volume omission flag	Transactions for which limited details are published in accordance with Art 11 (1) (b)
Supplementary deferral flags	VOLW (FIX 2670=1016)	Volume omission flag	Transaction for which limited details are published in accordance with Article 11(1)(b) and for which the publication of several transactions in aggregated form for an indefinite period of time will be consecutively allowed in accordance with Article 11(2)(c).
S	LMTF (FIX 12672=1010)	Limited details flag	First report with publication of limited details in accordance with Art 11(1) (a) (i)
	FULF (FIX 12672=1011)	Full details flag	Transaction for which limited details have been previously published with Art. 11 (1) (a) (i)
ags	FULA (FIX 12672=1013)	Full details flag	Individual transactions for which aggregated details have been previously published in accordance with Art 11 (1) (a) (ii)
ails fl	FULV (FIX 12672=1015)	Full details flag	Transactions for which limited details have been previously published in accordance with Art 11 (1) (b)
Full details flags	COAF (FIX 12672=1017)	Consecutive aggregation flag	Transactions for which limited details have been previously published in accordance with Article 11(1)(b) and for which the publication of several transactions in aggregated form for an indefinite period of time has consecutively been allowed in accordance with Article 11(2)(c).
	FULJ (FIX 12672=1018)	Full details flag	Individual transaction which have previously benefited from aggregated publication in accordance with Art. 11 (1) (c)
Package transaction flags	TPAC (FIX 12672=1001)	Package transaction flag	Package transactions which are not exchange for physicals as defined in RTS 2 Art 1
Package t	XFPH (FIX 12672=1002)	Exchange for physical transaction flag	Exchange for physicals as defined in RTS 2 Art 1
Descriptive flags	ACTX (FIX 12671=1008)	Benchmark transaction flag	All kinds of volume weighted average price transactions and all other trades where the price is calculated over multiple time instances according to a given benchmark.
Descrip	BENC (FIX 12671=1009)	Agency cross transactions flag	Transactions where an investment firm has brought together clients price offers with the purchase and the sale conducted as one transaction and involving the same volume and price

Table 5: Overview of non-equity flags (RTS 2)



Note following FMA Handelstransparenzausnahmeverordnung 2018 (applicable to all Austrian investment firms) all non-equity waivers / flags may be used freely / without confirmation of FMA:

- LRGS, ILQD, SIZE, TPAC or XFPH and
- [VOLO and FULV], [FWAF and FULJ], IDAF, [VOLW and COAF], [LMTF and FULF] and [DATF and FULA].





There are 7 deferral regimes applicable for non – equity instruments:

		Deferral regimes Non-equity						
		Real time	D+1 before 09:00	D+2 before 19:00	D+4 before 19:00	Next Tuesday before 09:00	4 weeks later before 09:00	Next Tuesday after 4 weeks before 09:00
Post-trac	de deferral							
Example 1	D+2 deferral (LRGS or ILQD or SIZE)			No flag Full details				
Example 1a	D+4 deferral (Combination LRGS + ILQD)				No flag Full details			
Example 1b	D+4 deferral (Combination ILQD + SIZE)				No flag Full details			
Supplem	nentary deferral							
Packages	s							
Example 2	Ordinary D+2 deferral with daily aggregation		DATF Daily aggregated transaction	FULA Full details				
Example 3	Extended period of deferral with weekly aggregation					FWAF Four weeks aggregation	FULJ Full details	
Example 4	Aggregation the following week					IDAF Indefinite aggregation		
Combina	ations							
Example 5	Ordinary D+2 deferral with publication of limited details	LMTF Limited details	>>>	FULF Full details				
Example 6	Extended period of deferral without aggregation			VOLO Volume omission	> 2	>>	FULV Full details	
Example 7	Volume omission and aggregation 4 weeks following the observation week			VOLW Volume omission		>>>		COAF Consecutive Aggregation



Example 1:

D+2 deferral – simple case Art.8(1) or RTS2 + Art. 11(1) of MIFIR

Post-trade deferral flags: LRGS, SIZE, ILQD

	Time of					Price		Notional	
Trade Date	publication	Trading date and time	Identifier	Price notation	Price o	currency	Quantity	amount	Flag
17.06.2016		17.06.2016, 11:00:50	AT0000000000	Percentage	100	EUR	30	30,000,000	LRGS

non public information

					Price		Notional	
Time of publication	Trading date and time	Identifier	Price notation	Price	currency C	Quantity	amount	Flag
21.06.2016 before 19:00	17.06.2016, 11:00:50	AT0000000000	Percentage	100	EUR	30	30,000,000	LRGS

The post trade deferral flags may be combined with:

All other RTS 2 flags but not SIZE, LMTF, DATF, VOLO, FWAF, IDAF, VOLW, COAF (See also the corresponding table "Overview Combination of Trade Flags")

A deferred trade which is already reported but not published may be cancelled but not amended. If the cancel is sent via FIX protocol the values of the previously reported repeating group NoTrdRegPublications (2668) and the corresponding fields TrdRegPublicationType (2669),

TrdRegPublicationReason (2670), TrdRegPublicationRegulatoryType (12671), TrdRegPublicationDescription (12672) has to be sent.

A deferred trade which is already published can be cancelled or cancelled and amended.

As the trade is already published the repeating group NoTrdRegPublications (2668) and all the corresponding tags are no longer valid. Therefore the repeating group should not be sent via FIX protocol otherwise it will be rejected.

Example 1a:

D+2 deferral – simple case Art.8(1) or RTS2 + Art. 11(1) of MIFIR

Post-trade deferral flags: LRGS + ILQD

Deferrals with combinations of flags:

If post-trade deferral flags are combined, the trade is published after 4 days at 18:45.

	Time of					Price		Notional	
Trade Date	publication	Trading date and time	Identifier	Price notation	Price	currency	Quantity	amount	Flag
17.06.2016		17.06.2016, 11:00:50	AT0000000000	Percentage	100	EUR	30	30.000.000	LRGS + ILQD



					Price		Notional	
Time of publication	Trading date and time	Identifier	Price notation	Price	currency	Quantity	amount	Flag
23.06.2016 before 19:00	17.06.2016, 11:00:50	AT0000000000	Percentage	100	EUR	30	30.000.000	LRGS + ILQD



Example 1b:

D+2 deferral – simple case Art.8(1) or RTS2 + Art. 11(1) of MIFIR

Post-trade deferral flags: ILQD + SIZE Deferrals with combinations of flags:

If post-trade deferral flags are combined, the trade is published after 4 days at 18:45.

	Time of					Price		Notional	
Trade Date	publication	Trading date and time	Identifier	Price notation	Price	currency	Quantity	amount	Flag
17.06.2016		17.06.2016, 11:00:50	AT0000000000	Percentage	100	EUR	30	30.000.000	ILQD + SIZE
no	on public inforr	nation							

					Price		Notional	
Time of publication	Trading date and time	Identifier	Price notation	Price	currency	Quantity	amount	Flag
23.06.2016 hefore 19:00	17.06.2016. 11:00:50	ΔΤΩΩΩΩΩΩΩΩΩ	Percentage	100	FLIR	30	30 000 000	II OD + SIZE

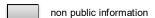
Example 2:

Ordinary D+2 deferral (daily aggregated form Art.11(1)(a)(ii) of RTS2 + Art. 11(3)(a) of MIFIR in 2 steps **Supplementary deferral flags (Package):** DATF / FULA

Background information:

Trading day 17.06.2016 - Client Y reported information

	Time of	Trading date				Price		Notional	
Trade Date	publication	and time	Identifier	Price notation	Price	currency	Quantity	amount	Flag
17.06.2016		11:00:40	AT0000000000	Percentage	100	EUR	10	10,000,000	
17.06.2016		12:09:30	AT0000000000	Percentage	100	EUR	10	10,000,000	
17.06.2016		12:33:48	AT0000000000	Percentage	100	EUR	5	5,000,000	
17.06.2016		13:40:00	AT0000000000	Percentage	100	EUR	7	7,000,000	
17.06.2016		17:09:00	AT0000000000	Percentage	100	EUR	3	3,000,000	



Attention: The DATF Trade has to be reported within the actual trading day (17.06.2016)

Step 1:

	Time of					Price		Notional	
Trade Date	publication	Trading date and time	Identifier	Price notation	Price	currency	Quantity	amount	Flag
20.06.2016	before 09:00	17.06.2016	AT0000000000	Percentage	vwap=100	EUR	35	35,000,000	DATF

non public information

User Manual TTR® II (V1.5)



For the tags price and the quantity a value of "0" is mandatory also a minimum of 5 trades in the same instrument have to be reported otherwise the transaction will be rejected. No check on reporting delay.

Step 2:

Date of	Time of					Price		Notional	
Publication	publication	Trading date and time	Identifier	Price notation	Price	currency	Quantity	amount	Flag
21.06.2016	before 19:00	17.06.2016; 11:00:40	AT0000000000	Percentage	100	EUR	10	10,000,000	FULA
21.06.2016	before 19:00	17.06.2016; 12:09:30	AT0000000000	Percentage	100	EUR	10	10,000,000	FULA
21.06.2016	before 19:00	17.06.2016; 12:33:48	AT0000000000	Percentage	100	EUR	5	5,000,000	FULA
21.06.2016	before 19:00	17.06.2016; 13:40:00	AT0000000000	Percentage	100	EUR	7	7,000,000	FULA
21.06.2016	before 19:00	17.06.2016; 17:09:00	AT0000000000	Percentage	100	EUR	3	3,000,000	FULA

Article 11(3) of MiFIR allows competent authorities to make use of supplementary deferrals in conjunction with an authorisation for deferred publication. One of the possibilities for a supplementary deferral is the publication of transactions in an aggregated form. DATF offers a supplementary deferral allowing for an extended period without full post-trade transparency. The deferral applicable will be D+2 with daily aggregation.

Transactions have to be aggregated per ISIN-code. A minimum number of five transactions executed in the same instrument and in the course of one trading day are required. The DATF transaction reported by the client has to cover the current trading day. Where several transactions are published in such an aggregated form, this report should not include a transaction identification code (Trade ID) as required under Table 2 of Annex II of RTS 2 since this report is only meant to provide temporary information pending the publication of the full details of the transactions on an individual basis. Those subsequent single-transaction reports (FULA) should incorporate a trade ID as required for all other transactions. Furthermore these single-transactions should incorporate a trade link id in order to show the connection to the corresponding DATF.

The publication of the aggregation of several transactions executed over the course of one day (DATF) is scheduled for the next trading day at 08:45 CET time. The FULAs and subsequently all the details of the transactions have to be reported and published on an individual basis once the deferral time period of the corresponding DATF lapses.

DATF transactions are mutually exclusive – no combinations with other trade flags are allowed. Furthermore no reporting delay and price check is applicable. DATF transactions may be combined with: CANC A reminder is sent to the clients in the case that not all corresponding FULA trades have been delivered until 17:00 CET time the day before the deadline (D+2). A warning message (alert) is sent as a reply to DATF if the corresponding FULA trades have not yet been sent after 2 days before 17:00 local time compared to the date of the transaction. Where the weekday foreseen for the publications is not a working day, the publications shall be effected on the following working day before 9:00 CET time.

In case the full number of transactions is reported in time the last TradeCaptureReport (AE) will include a descriptive flag (TPAC/XFPH) and the package is closed otherwise the package is closed incompletely.

FULA trades may be combined with the flags (LRGS, ILQD, SIZE, TPAC, XFPH, ACTX, BENC). For further details see also the table Overview Combination of Trade Flags. If a FULA trade is combined with a post-trade deferral flag (LRGS, ILQD, SIZE) the maximum deferral time is the end of the deadline for reporting all trades for the corresponding DATF transaction (D+2 days).

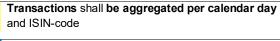
User Manual TTR® II (V1.5) Page 34 / 57

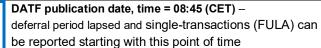


Time table



Legend:





Reminder for missing FULA detail trades, time = 09:00 CET

Latest delivery date, time < 19:00 (CET) for FULA trades of 17.06.2016, in case of missing data an alert message will be sent and the transaction is closed

User Manual TTR[®] II (V1.5)



Example 3:

Extended period of (weekly aggregated form Art.11(1)(c) of RTS2 + Art. 11(3)(c) of MIFIR in 2 steps **Supplementary deferral flags (Package):** FWAF / FULJ

Background information:

Calendar week 24 / 2016 - Client X

		Trading date / trading					Nominal
Trade #	Weekday	time	ISIN	Price	Quantity	Price notation	currency
1	MO	13.06.2016;11:00:54	AT000B091889	101.00	10	Percentage	EUR
2	TU	14.06.2016;12:30:35	AT000B091889	99.00	10	Percentage	EUR
3	TH	16.06.2016;15:35:39	AT000B091889	98.00	5	Percentage	EUR
4	FR	17.06.2016;14:22:25	AT000B091889	100.00	7	Percentage	EUR
5	FR	17.06.2016;15:04:34	AT000B091889	102.00	5	Percentage	EUR



non public information

17.06.2016:

Client X reports the trades of the instrument AT000B091889 (bond) in the form of the four weeks aggregation flag FWAF.

Reporting					Volume Weighted	Total Traded	Total Number	
Date	Weekday	ISIN	Price	Quantity	Average	Volume	Transactions	Flag
17.06.2016	FR	AT000B091889	0	0	100	37	5	FWAF

For the tags price and the quantity a value of "0" is mandatory also a minimum of 2 trades in the same instrument have to be reported otherwise the transaction will be rejected. No check on reporting delay.

Step 1:

Once the deferral time of FWAF lapses in this example 21.06.2018 (Tuesday of the following calendar week at 08:45 CET) the transaction is published.

Publication	ublication				Volume Weighted	Total Traded	Total Number	
Date	Weekday	ISIN	Price	Quantity	Average	Volume	Transactions	Flag
21.06.2016	TU	AT000B091889	0	0	100	37	5	FWAF

Step 2:

Publication						Trading Date and		
Date	Weekday	ISIN	Price	Quantity	Time of publication	time	Notional amount	Flag
21.06.2016	MO	AT000B091889	101	10	before 09:00	13.06.2016; 11:00:54	10000000	FULJ
21.06.2016	TU	AT000B091889	99	10	before 09:00	14.06.2016; 12:30:35	10000000	FULJ
21.06.2016	TH	AT000B091889	98	5	before 09:00	16.06.2016; 15:35:39	5000000	FULJ
21.06.2016	FR	AT000B091889	100	7	before 09:00	17.06.2016; 14:22:25	7000000	FULJ
21.06.2016	FR	AT000B091889	102	5	before 09:00	17.06.2016; 15:04:34	5000000	FULJ

User Manual TTR® II (V1.5)



Starting with this point in time also the corresponding FULJ (Full detail trades) may be reported by the client. The mapping of the FULJ trades to the corresponding package FWAF is done via the TradeLinkID (820) which refers to the internal TradeMatchID (880). The trades will be published immediately (only exception is the combination with an additional deferral flag). In case that not all FULJ trades are reported the day before the latest delivery date a reminder is sent via FIX news message (18.07.2016 at 09:00 CET). In case the data is not delivered in time (19.07.2016 before 09:00) an alert is sent via FIX news message at this time. The transaction is closed incomplete then.

Already reported data will not be cancelled, but it will no longer be possible to report the missing data. In case the full number of transactions is reported in time the last TradeCaptureReport (AE) will include a descriptive flag (TPAC/XFPH) and the package is closed.

Article 11(3) of MiFIR allows competent authorities to make use of supplementary deferrals in conjunction with an authorisation for deferred publication. One of the possibilities for a supplementary deferral is the publication of transactions in an aggregated form. FWAF offers a supplementary deferral allowing for an extended period without full post-trade transparency. The deferral applicable will be D+4 weeks with weekly aggregation.

Transactions shall be aggregated per ISIN-code. A minimum number of two transactions executed in the same instrument and in the course of a week are required. The FWAF transaction reported by the client shall always cover the current calendar week (MO-FR). Where several transactions are published in such an aggregated form, this report should not include a transaction identification code (Trade ID) as required under Table 2 of Annex II of RTS 2 since this report is only meant to provide temporary information pending the publication of the full details of the transactions on an individual basis. Those subsequent single-transaction reports (FULJ) should incorporate a trade ID as required for all other transactions. Furthermore these single-transactions should incorporate a TradeLinkID (820) which refers to the in this case only used internally TradeMatchID (880) of the corresponding FWAF in order to define the connection between them.

The publication of the aggregation of several transactions executed over the course of one calendar week (FWAF) is scheduled for Tuesday of the following calendar week at 08:45 CET time. The FULJs and subsequently all the details of the transactions should be reported and published on an individual basis once the deferral time period of the corresponding FWAF lapses.

FWAF transactions are mutually exclusive – no combinations with other trade flags are allowed. Furthermore no reporting delay and price check is applicable. FWAF transactions may be combined with: CANC A reminder is sent to the clients in case that not all corresponding FULJ trades have been delivered until 09:00 CET time the day before the deadline (D+4 weeks). A warning message (alert) is sent as a reply to FWAF if the corresponding FULJ trades have not yet been sent after 4 weeks before 9:00 local time compared to the date of the transaction. Where the weekday foreseen for the publications is not a working day, the publications are effected on the following working day before 9:00 CET time.

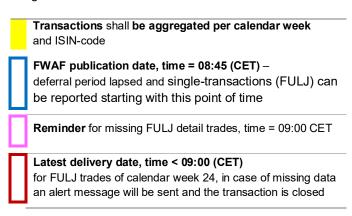
FULJ trades may be combined with the flags (LRGS, ILQD, SIZE, TPAC, XFPH, ACTX, BENC). For further details see also the table Overview Combination of Trade Flags. If a FULJ trade is combined with a post-trade deferral flag (LRGS, ILQD, SIZE) the maximum deferral time is the end of the deadline for reporting all trades for the corresponding FWAF transaction (D+4 weeks).



Time table



Legend:





Example 4:

Extended period of deferral (sovereign debt weekly aggregated form Art.11(1)(d) of RTS2 + Art. 11(3)(d) of MIFIR in 1 step

Supplementary deferral flag: IDAF

Background information:

Calendar week 24 / 2016 - Client X

		Trading date / trading					Nominal
Trade #	Weekday	time	ISIN	Price	Quantity	Price notation	currency
1	MO	13.06.2016;11:00:54	AT000B091889	101.00	10	Percentage	EUR
2	TU	14.06.2016;12:30:35	AT000B091889	99.00	10	Percentage	EUR
3	TH	16.06.2016;15:35:39	AT000B091889	98.00	5	Percentage	EUR
4	FR	17.06.2016;14:22:25	AT000B091889	100.00	7	Percentage	EUR
5	FR	17.06.2016;15:04:34	AT000B091889	102.00	5	Percentage	EUR

non public information

Step 1:

17.06.2016:

Client X reports the trades of the instrument AT000B091889 (bond) in the form of the four weeks aggregation flag IDAF.

Publication					Volume Weighted	Total Traded	Total Number	
Date	Weekday	ISIN	Price	Quantity	Average	Volume	Transactions	Flag
21.06.2016	TU	AT000B091889	0	0	100	37	5	IDAF

For the tags price and the quantity a value of "0" is mandatory also a minimum of 2 trades in the same instrument have to be reported otherwise the transaction will be rejected. No check on reporting delay.

Article 11(3) of MiFIR allows competent authorities to make use of supplementary deferrals in conjunction with an authorisation for deferred publication. One of the possibilities for a supplementary deferral is the publication of transactions in an aggregated form. IDAF offers a weekly aggregation and a supplementary deferral allowing for an indefinite period without full post-trade transparency. Transactions have to be aggregated per ISIN-code. The IDAF transaction reported by the client shall always cover the current calendar week (MO-FR). Where several transactions are published in such an aggregated form, this report should not include a transaction identification code (Trade ID) as required under Table 2 of Annex II of RTS 2 since this report is only meant to provide temporary information. No further details are required. Therefore no reminder or alerts are necessary.



Example 5:

Ordinary D+2 deferral (publication of limited details Art.11(1)(a)(.) of RTS2 + Art. 11(3)(a) of MIFIR in 2 steps Supplementary deferral flags (Combination): LMTF / FULF

Background information:

Calendar week 24 / 2016 - Client X

	Time of						Price		Notional
Trade Date	publication	Trading date and tir	me Identifier	Price notation		Price c	urrency Q	uantity	amount
17.06.2016		17.06.2016, 11:00:40	AT000B09	1889 Percentage		100	EUR	30	30.000.000
nor	n public inform	ation							
Reporting dat	te					Price		Notiona	ıl
and time of p	ublication	Trading date and time	Identifier	Price notation	Price c	urrency	Quantity	amoun	t Flag
17.06.2016, 11	L:00:40	17.06.2016, 11:00:40	AT000B091889	Percentage	100	EUR			LMTF
non	public informa	ation							

In case a customer sends the LMTF flag, the customer has to publish all details but volume immediately. For the tag quantity a value of "0" is mandatory

NOTE: In case of LMTF or FULF no automatic deferral is done in TTR® II

Step 2:

Reporting date					Price		Notional	
and time of publication	Trading date and time	Identifier	Price notation	Price	currency	Quantity	amount	Flag
19.06.2016 before 19:00	17.06.2016, 11:00:40	AT000B091889	Percentage	100	EUR	30	30.000.000	FULF

In case FULF the standard reporting delay check does not apply. A warning message is sent as a reply to LMTF trade if FULF has not yet been sent after 17:00 local time on the second working day after the date of the transaction. An additional check applies: check, if Trade Date = t - 2 working days and if the Reporting Date Time is <= 19:00. If FULF is sent later, an alert is issued.

In case of the final publication via FIX the full detail trade (FULF) is sent with the same TrdMatchID (880), the TradeReportTransType (487) value=2 (normally amend in this case full details) and with TrdRegPublicationDescription (12672) value=1011 (FULF).

FULF trades may be combined with the flags (LRGS, ILQD, SIZE, TPAC, XFPH, ACTX, BENC). For further details see also the table Overview Combination of Trade Flags. If a FULF trade is combined with a post-trade deferral flag (LRGS, ILQD, SIZE) the maximum deferral time is the end of the deadline for reporting.

Where the weekday foreseen for the publications is not a working day, the publications shall be effected on the following working day before 19:00 CET time. In case the full number of transactions is reported in time the last TradeCaptureReport (AE) will include a descriptive flag (TPAC/XFPH) and the package is closed otherwise the package is closed incompletely.

User Manual TTR® II (V1.5) Page 40 / 57



Example 6:

Extended period of deferral (Volume omission Art.11(1)(b) of RTS2 + Art. 11(3)(b) of MIFIR in 2 steps **Supplementary deferral flags (Combination):** VOLO / FULV

Background information:

Calendar week 24 / 2016 - Client X

	Time of					Price		Notional
Trade Date	publication	Trading date and time	Identifier	Price notation	Price	currency	Quantity	amount
17.06.2016	11:00:40	17.06.2016, 11:00:40	AT000B091889	Percentage	100	EUR	30	30.000.000

Step 1:

Reporting date					Price		Notional	
and time of publication	Trading date and time	Identifier	Price notation	Price	currency	Quantity	amount	Flag
21.06.2016. before 19:00	17.06.2016. 11:00:40	AT000B091889	Percentage	100	EUR			VOLO

In case a customer sends the VOLO flag, the customer has to report all details but Volume immediately. In this case, no check on volume is done. For the tag quantity a value of "0" is mandatory.

The reported VOLO trade will be automatically deferred by TTR[®] II. The publication is scheduled for D+2, before 19:00.

Step 2:

R	eporting date					Price		Notional	
а	nd time of publication	Trading date and time	Identifier	Price notation	Price	currency	Quantity	amount	Flag
1	5.07.2016 before 09:00	17.06.2016, 11:00:40	AT000B091889	Percentage	100	EUR	30	30.000.000	FULV

The reporting of the full details has to be done by the client by using the FULV flag. In case of the final publication via FIX the full detail trade (FULV) is sent with the same TrdMatchID (880), the TradeReportTransType (487) value=2 (normally amend in this case full details) The FULV trade has to be reported after 4 weeks on the next working day before 9:00 at the latest.

In this case the standard reporting delay check does not apply. A warning message is sent as a reply to the VOLO trade in case that the corresponding FULV trade has not been delivered until 17:00 CET time the day before the deadline. FULV trades may be combined with the flags (LRGS, ILQD, SIZE, TPAC, XFPH, ACTX, BENC). For further details see also the table Overview Combination of Trade Flags. If a FULV trade is combined with a post-trade deferral flag (LRGS, ILQD, SIZE) the maximum deferral time is the end of the deadline for reporting.

In case the FULV trade has been delivered in time the last TradeCaptureReport (AE) will include a descriptive flag (TPAC/XFPH) and the package is closed otherwise the package is closed incompletely.



5.6. Combinations of Trade Flags

Overview Combination of Trade Flags

				and the same				1	1 22	1 22	0.0			120			T												
			ity (R	TS1) ty (RTS2) \	X	х	Х	Х	Х	Х	Х	Х	X	X	v	v	X	V	×	X	х	Х	v	x	v	×	х	
	ac	INOI	Lyui	Ly (11132	-1				-					A:	- X	X	Х	· A	Х	A	_ A	Α	A	Х	A	Х	A		
	uity						Defe rm tag 20		-			escript tag 12								(FIX to	g 2670)				(ED	(tag 12	672)		
Equity (RTS1)	n Eq S2)	Ī				11.50	ш Б 21	070,				. шБ 12	20719							(1 EX ta	5 ZU/U)				T	. шБ 12	012)		
Eq.	Non Equity (RTS2)					LRGS	ILQD	SIZE	ILQD	SIZE	SDIV	RPRI	TNCP	АСТХ	BENC	VOLO	VOLW	FWAF	IDAF	DATE	LMTF	TPAC	XIPPH	RULF	FULA	FULV	COAF	FULL	Dependency
х	х	_		6 =	LRGS																								
		Deferral	(FIX tag 2670)	-																									
	Х	8	Ē Ñ	7 =	ILQD															-									
	Х			8 =	SIZE																	X							
Х				7 =	ILQD																								
Х		_		8 =	SIZE																								
Х		Descriptive	₩ ,	1005 =	SDIV																								
Х		Ž	(FIX tag 12671)	1006 =	RPRI																								
Х		Ž	_ "	1007 =	TNCP															_									
Х	Х			1008 =	ACTX																								
Х	Х			1009 =	BENC										_														
	х			1014 =	1601.0																								FULV
		1	670)																										
	Х	+	2		VOLW																								COAF
	X	_	(FIX tag 2670)		FWAF	-			-																				FULL
	Х	- E	=	1004 =																									
	Х	\$		1012 =																									FULA
	X	Ĕ		1010 =																									FULF
	X	Ě	ñ	1001 = 1002 =																+									
	X	Supplementary Flags	1267	1011 =																_									LMTF
	X	1	50 20	1011 =	1																								DATE
	X		(FIX tag 12672)	1015 =																									VOLO
	X	†	_	1015 =																									AOTO
	Х	†		1017 =	1																								FWAF



5.6.1. Combinations of Trade Flags – Equity RTS 1

Valid for:

Equity or equity-like financial instruments (Annex III to RTS 1):

SHRS shares

ETFS ETFs

DPRS depositary receipts

CRFT certificates (funds, no structrured products as defined by WBAG)

OTHR other equity-like financial instruments

All flags applicable to TTR[®] II (BENC, ACTX, TNCP, SDIV, LRGS, SIZE, ILQD, RPRI, CANC, AMND, DUPL) can be combined with each other. For details see below:

For more details to Equity flags, as specified in Table 7, please refer to the ESMA Q&A. Hereafter a short abstract, with amendments for TTR[®] II:

- 1. **Descriptive flags:** 'BENC', 'ACTX', 'TNCP' and 'SDIV'. They can be combined with each other and with the flags under 2., 3., 4., 5. and 6.
- 2. **Post-trade flag:** 'LRGS'. The application of the deferred publication is an option and not an obligation, therefore the 'LRGS' flag has to be used only in case of the effective use of the deferred publication. It can be applied alone or in combination with the flags under 1., 3., 4., 5. and 6.
- 3. Pre-trade waiver flags: 'RFPT', 'NLIQ', 'OILQ' and 'PRIC'. Not applicable for TTR® II.
- 4. **Algorithmic trading flag**: The 'ALGO' flag ... Not applicable for TTR[®] II.
- 5. **Flags related to Systematic Internalisers:** 'SIZE', 'ILQD' and 'RPRI'. They can be combined among each other and with the flags under 1., 2. and 6.
- 6. Flag related to reporting to APAs: 'DUPL'. In accordance with Article 16(2) of RTS 13/10 APAs should require reporting firms that intend to make public the transaction via more than one APA to flag the original report for publication with 'ORGN', and all consecutive duplicative reports concerning the same transaction sent to other APAs as 'DUPL'. The flag 'ORGN' is only used for the communication between the investment firm and the APA that receives the original report. APAs are not expected to use 'ORGN' when making a transaction public. However, in accordance with Article 16(1) of RTS 1 APAs should always use the flag 'DUPL' where the published trade is a duplicate, that is the transaction was flagged as 'DUPL' when the reporting firm sent it to the APA 'for publication. The flag can be combined with the equity flags under 1., 2. and 5.



5.6.2. Combinations of Trade Flags – Non-Equity RTS 2

Valid for:

Non-equity financial instruments (Annex IV to RTS 2):

SDRV Securitised derivatives

SFPS Structured Finance Products (SFPs)

BOND Bonds ETCS ETCs ETNS ETNs

EMAL Emission Allowances

DERV Derivative

Combined usage of Trade Flags for RTS 2 / non-equity transactions is restricted to the rules set out hereafter:

Non-equity flags specified in Table 3 of Annex II of RTS 2 relevant for APA

- i. **Descriptive flags:** 'BENC' and 'ACTX'. Descriptive flags can be combined with each other, as well as with flags under ii) and iv).
- ii. **Post-trade deferral flags:** 'LRGS', 'ILIQ, 'SIZE'. The application of the deferred publication is an option and not an obligation; Post-trade deferral flags should only be used in case of the effective use of the deferred publication. In case of the use of supplementary deferrals under iv), these flags should be used after the supplementary deferral period has lapsed and all the details of the transactions on an individual basis are published. These flags can be combined among each other, except 'LRGS' + 'SIZE' and with flags under i), iii) and v).
- iii. **Package transaction flags:** 'TPAC' and 'XFPH': These flags are mutually exclusive. In case of the use of supplementary deferral under iv), these flags should be used after the supplementary deferral period has lapsed and all the details of the transactions on an individual basis are published. These flags can be combined with flags under i), ii) and v).
- iv. Supplementary deferral flags: 'LMTF', 'DATF', 'VOLO', 'FWAF', 'IDAF', 'VOLW' and 'COAF'. These flags are mutually exclusive. They cannot be combined with flags under i), ii), iii) and v). For components of a package transactions, only the supplementary deferrals providing for volume omission under Article 11(3)(a) and (b) of MiFIR should be used. In case a package transaction benefitted from a deferral, all components should use the applicable flags under ii) and iv) (except DATV, FWAF and IDAF) regardless of whether those components would have qualified for such a deferral if they had been traded outside a package.
- v. **Full details flags:** 'FULF', 'FULA', 'FULV' and 'FULJ'. They should be reported once the deferral time period lapses and all the details of the transactions on an individual basis are published. As they all cover a specific case, the full details flags cannot be combined with each other. Full details flags shall NOT be using CANC or AMND flags following RTS 2! The

User Manual TTR® II (V1.5)



same trade shall only be sent again incl. full details (e.g. volume) and with the according full details flag.

Deferrals with combinations of flags:

If post-trade deferral flags are combined, the trade is published after 4 days at 18:45.

If post-trade deferral flags are combined with supplementary deferral flags, then the deferral of the supplementary deferral flag is applied (trades with full details flags published!) before the post-trade deferral flag.

5.7. Data correction possibilities

Resources:

RTS 1, Article 12 and Table 4 of Annex I

Applicable to:

✓ Pre-trade

✓ Post-trade

Pre-trade:

Price offers and quotes shall be available historically up to 2 months in the past and may be amended or cancelled during this period.

For QuoteCancel in FIX there is a TIC allocated. There can be only one quote per SecurityID. For cancellations clients only need to send the SecurityID and the quote is cancelled.

Post-trade (for customer input):

Transaction (only post-trade) cancellations shall be sent as follows:

- 1. Original transaction (already published)
- 2. New transaction report with all original information + cancel flag ("CANC").

Transaction (only post-trade) corrections shall be sent as follows:

- 1. Original transaction (already published)
- 2. New transaction report with all corrections + amendment flag ("AMND")

Post-trade (for publication – not relevant for customer input!):

Transaction (only post-trade) cancellations are disseminated as follows:

- 1. Original transaction (already published)
- 2. New transaction report with all original information + cancel flag ("CANC").

Transaction (only post-trade) corrections are disseminated as follows:

- 1. Original transaction (already published)
- 2. New transaction report with all original information + cancel flag ("CANC").
- 3. New transaction report with all corrections + amendment flag ("AMND")



Please note: In case of transaction cancellations or trade corrections as described above, the TIC Code is unchanged. (CANC or CANC followed by AMND, both referencing the original transaction report's TIC). Furthermore note that for trade corrections and cancellations no reporting delay check applies.

Cancellations and amendments are possible up to 2 months in the past.

More details on the possible amendments (fields) can be found in the WebGUI specification.

On Behalf amendments & cancellations by WBAG

Resources:

RTS 13 Paragraph 16

WBAG staff is able to amend or delete information upon request from the reporting customer.

In case a customer has technical problems preventing him from reporting transactions, the customer may ask WBAG for help. The request for amendment or cancellations needs to be sent in written form by the customer. For this purpose a form with mandatory fields to be filled out is published on the website.

Only authorized customers shall be able to ask for amendments or cancellations. Before the amendment or cancellation on behalf is performed by WBAG, it shall be checked, if the customer is authorized (possible only for registered users).

On behalf penalties:

WBAG acting as an APA shall publish non-discretionary policies on cancellation and amendment in trades. These policies contain the handling of amendments and cancellations of incomplete or erroneous reported transactions by WBAG by order of the customer. WBAG will charge penalties as set out below for amending or cancelling incomplete or erroneous reported transactions:

- If reported data is obviously wrong or incomplete, it will be rejected and the customer himself has to correct or complete and send it again. This is free of charge.
- Should a customer experience extraordinary circumstances (IT outage on customer side or similar where customer cannot correct or complete) then WBAG will manually edit (correct or cancel) the transaction and charge EUR 50* per manual action. These penalties have to be non-discriminatory.
- In case the WBAG system experiences a (partial) outage, the client may also ask WBAG for an on behalf transaction amendment or cancellation. This is of course free of charge.
- As additional service WBAG can also enter new transactions on order of the customer. In this
 case WBAG will also charge EUR 50* per entered transaction.

User Manual TTR® II (V1.5)

^{*} Prices: no VAT included



Customer can place orders via phone on the IT Helpdesk (+43-1-53165-170) of Wiener Börse AG and are obliged immediately, however not later than 17:30, to e-mail the orders in written form by using the TTR[®] II form from the website (https://www.wienerborse.at/uploads/u/cms/files/technology/ttr-apa/TTR_II_OBOT_Formular.xlsx) to IT Helpdesk it helpdesk@wienerborse.at. Please note that Wiener Börse AG can only offer this service to the extent that is organizationally possible.

6. Data Output

Resources:

RTS 13 Article 14 Paragraphs 1-4 and Article 19

The inserted data is published through the following channels:

- ADH
- Tip/Fix Converter as MiFID II requires the data to be published in FIX
- Website (15 minutes delayed)

These systems have to process ALL data (either from trading system, WBAG APA or partner exchange APA) with the same priority.

APA data is disseminated to all market data customers. The customers can choose, if they would like to receive the data via ADH TIP protocol or converted to FIX format (Tip/Fix Converter).

6.1. ADH

All data is sent in real-time.

The following TTR® II data may be received via ADH:

- OTC trades can be published for past days this is possible due to deferred publication following a post-trade transparency waiver.
- OTC trades cancellation/amendment for past days
- OTC trades cancellation/amendment for today
- OTC trades reported for past days, cancelled today this is possible, as there may be a cancellation today for a trade executed in the past but published (deferred) today.

6.2. Tip/Fix Converter

All data is provided to customers in FIX format ("Tip/Fix Converter"). More information may be found on the website, where a detailed TipFix specification is published:

https://www.wienerborse.at/uploads/u/cms/files/technology/ttr-apa/TTRII FIX Output V1.0.pdf



Page 48 / 57

6.3. Website

6.3.1. Display of TTR[®] II transactions on website (15 minutes delayed)

The transactions reported via TTR® II are published on the website of Wiener Börse.

6.3.2. Display of public information to the TTR® II system on website

Resources:

RTS 13 Article 14 Paragraph 5

The public is informed in following cases:

- Instructions explaining how and where to easily access and use the transaction data, published via TipFix Converter, including the identification of the electronic format (FIX protocol) plus a link to these instructions (CEESEG Fix Specification & Quick Fix link) on the homepage.
- 2. Any **changes in the TipFix Output** have to be announced at least three months before they come into effect, unless there is an urgent and duly justified need for changes in instructions to take effect more quickly;
- 3. Information on **Service disruptions** of the system / service need to be published on the website, including ETA (estimated time of arrival, when the system will be available again).

The information will be displayed via the public available website of WBAG (not in Closed User Group).



7. Information to be made public

Resources:

RTS 1, Article 9, 17 and 18

7.1. Pre-Trade Reporting

Resources:

MiFIR Title III, Art 14, 18

General information on pre-trade reporting obligation:

Systematic Internalisers (SI's) have to publish pre-trade information on

- equity and equity-like instruments (shares, depositary receipts, ETFs, certificates or other similar financial instruments) if there is a liquid market
- non-equity (bonds, structured finance products, emission allowances and derivatives) if there
 is a liquid market

SI's may use an APA for equity and equity-like pre-trade data.

The asset classes, which are considered, are defined in chapter 2.

Further details on relevant fields for TTR[®] II / ADH are available within the "WebGUI specification" and within the "CEESEG FIX TTR II specification".

See also chapter 4.3 for further reporting obligations (SI Identity)!

7.2. Post-Trade Reporting

Resources:

MiFID2 Directive 2014 65, Article 64, MiFIR Art 20 and 21 RTS 1, Article 13, 14 + Annex I, RTS 2 Article 7 + Annex I, RTS 13 Paragraph 17

All investment firms incl. Sl's trading OTC either on own account or on behalf of customers **have** to use an APA to publish post-trade reports. The asset classes, which are considered, are defined in chapter 2.

Further details on relevant fields for TTR[®] II / ADH are available within the "WebGUI specification" and within the "CEESEG FIX TTR II specification".



7.2.1. Acceptable reporting delays for equity and equity-like instruments

Publication of post-trade information on equity and equity-like instruments has to be made available

- as close to real-time as technically possible and in any case within one minute of the relevant transaction (if the transaction takes place during the daily trading hours of the most relevant market in terms of liquidity; this is defined by ESMA).
- If the transaction takes place outside of above mentioned hours then immediately upon the commencement of the investment firm's daily trading hours and at least before the opening of the next trading day of the most relevant market.

The TTR® II system processes every transaction as close to real-time as possible, at a maximum within 2 seconds.

The TTR $^{\circ}$ II system is available from 07:30 – 19:00 (on WBAG and Partner Exchange trading days). This is communicated to the (potential) customers.

7.2.2. Acceptable reporting delays for non-equity instruments

Publication of post-trade information on **non-equity instruments** is made available as close to real time as is technically possible and in any case:

- within 15 minutes after the execution of the relevant transaction from 3 January 2018 until 1 January 2020;
- within 5 minutes after the execution of the relevant transaction after 1 January 2020.

The TTR[®] II system processes every transaction as close to real-time as possible, at a maximum within 2 seconds.

8. Data Storage

Resources: RTS 13 Art 19 RTS 3 Art 5 (2)

TTR® II stores all reported data.

According to legal requirements it needs to be stored for at least 3 years.

Due to customer preferences all data is stored within the TTR[®] II system for 7 years. This means also the reports are available for 7 years.

After 7 years passed the data is archived.



9. Reporting

TTR[®] II is able to generate a set of reports for customer.

Customers can access their respective reports via the WebGUI. Reports can also be accessed outside the TTR^{8} II operating hours.

9.1. Reporting to Customers

There are reports available for TTR® II customers within the WebGUI.

These reports are generated automatically by the system once a month. Each customer can only see his own reports.

All data within the reports are shown sorted by Trading Date / Time.



9.1.1. Trade Details Report

CSV & XML - Report:

All available fields from reported trades are shown, which are saved in the database.

In a head line the title, the from-to information (dates), the customer name, the report creation date and the column titles are included.

PDF-Report:

The pdf report shows the following information in the header area: title, from-to information (dates), customer name, report creation date and column titles.

For the table of trades only a subset of fields from the database is displayed. The following fields are relevant (headlines may be shown in 2 lines):

- "Transaction Identification Code (TIC Code)"
- "Trade Report ID (Customer)"
- "Trading Time"
- "Reporting Time"
- "Publishing Time"
- "Transaction Status" => possible stati: New, Amend, Canceled
- "Status"=> possible stati: Accepted, Queued (trades only), Published
- "ISIN"
- "Currency"
- "Traded Price"
- "Traded Quantity"
- "MiFID II Flags"
- "Applied Waivers"
- "User Type" => possible stati: FIX, GUI
- "UserID"

9.1.2. Price Offer & Quote Details Report

The Price offers and quotes are available in separate reports.

CSV & XML - Report:

All available fields from reported price offers & quotes are shown, which are saved in the database. In a head line the title, the from-to information (dates), the customer name, the report creation date and the column titles are included.

PDF-Report:

The pdf report shows the following information in the header area: title, from-to information (dates), customer name, report creation date and column titles.



For the table of price offers & quotes only a subset of fields from the database is displayed. The following fields are relevant:

- "Transaction Identification Code (TIC Code)"
- "Client Order ID" (ClOrdID) resp. "Quote ID" (QuoteID)
- "Entry Time"
- "Reporting Time"
- "Publishing Time"
- "Transaction Type" => possible stati: Price offer, Quote
- "Transaction Status" => possible stati: New, Amend, Cancel
- "Status"=> possible stati: Accepted, Published
- "ISIN"
- "Currency"
- Price:
 - o Price (in case of Price Offers)
 - "Bid Price" (in case of quotes = BidPx)
 - "Ask Price" (in case of quotes = OfferPx)
- Quantity
 - Quantity (in case of Price Offers)
 - "Bid Quantity" (in case of quotes = BidSize)
 - "Ask Quantity" (in case of quotes = OfferSize)
- LE
- "User Type" => possible stati: FIX, GUI
- "UserID"

9.1.3. SI Status Report

Applica	ble to:
	Pre-trade
	Post-trade

TTR® II checks if cumulated volumes within 6 months of a non-SI customer could exceed the threshold value regarding volume per instrument (as SI an investment firm has to report pre-trade information as well!). This is done via a notification system similar to a traffic light (green – yellow when approaching the threshold – red = now you are SI).

NOTE: TTR® II can only support the client with SI threshold calculations if the turnover is sent by the customer.

SI-status warning is made available as a report for the customer within the GUI.



Traffic light SI-status warning system:

Below 75% of threshold value - green 75% of threshold value reached – yellow 100% of threshold value reached – red

There are 2 groups of threshold values:

- 1. Frequent and systematic basis (can fully be checked in TTR® II system (note remark on "DUPL" below!) and
- 2. Substantial basis

Only one threshold value (comparison against ESMA DB turnover) can be checked, customer turnover needs to be checked on customer's side due to lack of data in APA system. (Reason: we have no allocation to the customers of the turnover in ESMA DB.)

As SI status only applies if ALL thresholds are exceeded, customers can easily analyze using TTR[®] II checks **and** own turnover comparison.

Details on SI-check in TTR® II can be found within the separate Excel file "SI Criteria".

All trades per customer (incl. "DUPL") are taken into account. Criteria Substantial Basis / customer turnover on- and off-exchange in one specific instrument has to be checked by customer itself due to lack of data in TTR® II.

Customer comparison is set up like this:

- Accumulate all OTC transactions in one instrument (receivable by TTR II system, in case all DUPL have been reported)
- 2. Accumulate all on- AND off-exchange transactions in one instrument (customer has to find out himself)
- 3. Compare both values, thresholds:
 - a. Equity (SHRS, ETFS, DPRS, CRF and OTHR) 15%
 - b. Bonds (BOND, ETCS and ETNS) 25%
 - c. Structured Finance Products (SDRV and SFPS) 30%
 - d. Derivatives (DERV) 25%
 - e. Emission Allowances (EMAL) 30%
- ⇒ If all TTR[®] II thresholds are exceeded AND customer comparison is exceeded, only then customer is SI.

Additional information for customers – Class of Bonds:

(from

 $https://www.bafin.de/SharedDocs/Veroeffentlichungen/EN/Fachartikel/2017/fa_bj_1704_Internalisierung_en.html; jsessionid=6ACE1A59EF646388EFAAF8FF184DA5F6.2_cid298?nn=8249098\#doc9216614bodyText3)$

Article 13 of <u>Commission Delegated Regulation (EU) 2017/565</u> sets out how the threshold above which an investment firm is regarded as a systematic internaliser for bonds is calculated. If a firm is a



systematic internaliser for a bond issued by an entity, it is also regarded as a systematic internaliser for all bonds belonging to the same class issued by the entity itself or any entity within the same group. This is also referred to as the trigger mechanism.

Report definition:

Each line of the report represents one Instrument. The report does only list instruments which have reached a certain threshold value:

- Potential SI Instruments (100% of all threshold values reached)
- SI Warning Instruments (75% of threshold value reached)
- SI Relevant Instruments (25% of threshold value reached)

It will be possible to parametrize the threshold values above. For each of the above categories, there is a separate table in the report with a separate headline.

The calculation is done by the following parameters:

Systematic basis (>/= x% of total number of transactions in EU)

- Number of OTC Trades reported via TTR[®] II by the customer
- Total number of transactions in EU
- The percentage of the customers OTC Trades in relation to the total number of transactions in EU

Frequent basis (on average once a day / once a week)

- Number of OTC Trades / 365 or 366 (Leap year) or
- Number of OTC Trades / 52

Substantial basis (>/=y% of the total nominal amount traded in this ISIN in EU)

- Turnover of OTC Trades reported via TTR® II by the customer
- Total turnover in EU
- The percentage of the customers OTC Trades in relation to the total turnover in EU

For the above parameters, the ORGN and DUPL reported trades must be cumulated.

9.2. Means of report generation

TTR[®] II generates predefined reports automatically at scheduled times.

There are two products available:

• Standard Reporting (including SI Reporting)

This includes all reports, which are automatically generated by the system and stored within the submenu "Report Overview".

SI Reporting



This includes also the possibility to receive the SI Status Reports, whenever the customer needs them. The reports can be generated within an own menu item "SI Status Report".

9.2.1. Display of automatically generated reports within GUI – Submenu "Report Overview"

For each customer only the own reports are shown within the Web GUI.

The GUI displays a table where each row represents the automatically generated reports. The following columns are necessary:

- Company Name
- Report Type (= name of the report)
- Year
- Month
- Report format (pdf | csv | xml)

There is a paging after 20 reports. Furthermore the table columns should be sortable.

Above the table, which shows the last 20 reports available, there are filter possibilities:

- Month
- Year
- Report Type (drop-down)

The default is set to once a month for all reports but the SI status report.

The SI status report is generated once every quarter.

9.3. Reporting to National Capital Market Authority (FMA)

Resources:

RTS 13 Paragraphs 9, Article 7 Paragraph 5

9.3.1. General reporting obligations to FMA

The FMA has to be informed in following cases (and only FMA regardless of the home member state of any APA customer):

- 1. **Significant changes** to the TTR® II system (includes ADH and TTR® II); for more details please refer to the TTR® II Release Management Process.
- 2. **Service disruptions** to the TTR[®] II and ADH system; the information sent to FMA, as well as to the TTR[®] II customers, shall include also the estimated time, when the system will be available again; for more details please refer to the TTR[®] II Incident Management Process.



3. **Security breaches** incl. incident report to FMA (including the nature of incident, measures adopted to cope with the incident and the initiatives taken to prevent similar incidents, applicable to ADH as well) AND information to affected customers.