



STORM-7 CONSULTING

**MIFID II**

**APPROVED REPORTING MECHANISM  
REPORT**

# **MiFID II**

## **APPROVED REPORTING MECHANISM (ARM) REPORT**

**STORM-7 CONSULTING**

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# MiFID II Transaction Reporting

## 1 MARKETS IN FINANCIAL INSTRUMENTS TRANSACTION REPORTING

### 1.1 European Union Legislation

Revised Markets in Financial Instruments Directive (**MiFID II**) (2014/65/EU).

Markets in Financial Instruments Regulation (**MiFIR**) (No 600/2014).

### 1.2 Report Overview

This MiFID II and MiFIR Approved Reporting Mechanism (**ARM**) report seeks to provide an overview of the ARM operational framework that is set to take effect on 3<sup>rd</sup> January 2018 across the European Union (**EU**). It sets out the MiFIR Article 26 and technical standards requirements relating to ARMs, as well as providing a review of existing ARM firm offerings. It seeks to provide a review of the features of existing ARM offerings with a view to providing a single source of information for firms to review ARM technology and solution offerings.

### 1.3 MiFIR Article 26 Requirements

MiFIR Article 26 sets out the obligation for MiFID II Firms to report transactions. MiFIR Article 26(1) states that Investments Firms which execute transactions in Financial Instruments (**FIs**) must report complete and accurate details of such transactions to the competent authority as quickly as possible, and no later than the close of the following working day (**T+1**). This transaction reporting obligation applies to:

- (1) FIs admitted to trading or traded on a Trading Venue (**TV**) or for which a request for admission to trading has been made;
- (2) FIs where the underlying is a FI traded on a TV; and
- (3) FIs where the underlying is an index or a basket of FIs traded on a TV.

The transaction reporting obligation applies regardless of whether or not the transaction is actually carried out on the TV. Transaction Reports that are reported must include the following information:

- (1) details of the names and numbers of FIs bought or sold;
- (2) the quantity;
- (3) the dates and times of execution;
- (4) the transaction prices;
- (5) a designation to identify the clients on whose behalf the Investment Firm has executed that transaction;
- (6) a designation to identify the persons and the computer algorithms within the Investment Firm responsible for the investment decision and the execution of the transaction;
- (7) a designation to identify the applicable waiver under which the trade has taken place;
- (8) a means of identifying the Investment Firms concerned; and

(9) a designation to identify a short sale in respect of any shares and sovereign debt.<sup>1</sup>

#### **1.4 Non-TV FIs Post-Trade Disclosure (EQUITY)**

For transactions that are not carried out on a TV, Transaction Reports must include a designation identifying the types of transactions (post-trade disclosure by Investment Firms, including Systemic Internalisers (**SIs**), in respect of shares, depositary receipts, ETFs, certificates, and other similar FIs), and distinguishing between those determined by factors linked primarily to the valuation of the FIs, and those determined by other factors.

#### **1.5 Non-TV FIs Post-Trade Disclosure (BONDS)**

For transactions that are not carried out on a TV, Transaction Reports must include a designation identifying the types of transactions (post-trade disclosure by Investment Firms, including SIs, in respect of bonds, structured finance products, emission allowances and derivatives), and distinguishing between those determined by factors linked primarily to the valuation of the FIs, and those determined by other factors.

#### **1.6 Commodity Derivatives**

Transaction Reports must indicate where the transaction reduces risk in an objectively measurable way under Article 57 MiFID II. A transaction in derivatives is considered as objectively measurable as reducing risks directly relating to the commercial activity or treasury financing activity when one or more of the following criteria is met:

- (1) the transaction reduces the risks arising from the potential change in the value of assets, services, inputs, products, commodities or liabilities that the person or its group owns, produces, manufactures, processes, provides, purchases, merchandises, leases, sells, or incurs or reasonably anticipates owning, producing, manufacturing, processing, providing, purchasing, merchandising, leasing, selling or incurring in the normal course of business;
- (2) the transaction covers the risks arising from the potential indirect impact on the value of assets, services, inputs, products, commodities or liabilities in (1) resulting from fluctuation of interest rates, inflation rates, foreign exchange rates or credit risk; and
- (3) the transaction qualifies as a hedging contract pursuant to International Financial Reporting Standards adopted in accordance with Article 3 of Regulation (EC) No 160/2002 of the European Parliament and of the Council.

#### **1.7 Transmission of Orders by Investment Firms**

Investment Firms which transmit orders must include in the transmission of that order all the details specified for Transaction Reporting on a T+1 basis. Alternatively an Investment Firm may choose to report the transmitted order, if it is executed, as a transaction under the Transaction Reporting process. If an Investment Firm wishes to do this the Transaction Report must state that it pertains to a Transmitted Order (i.e. the MiFID II Application must have the capacity to be able to refer to Transaction Reports and Transmitted Orders).

#### **1.8 Legal Entity Identifiers**

Investment Firms must use a Legal Entity Identifier (**LEI**) to identify clients that are legal persons.

#### **1.9 Transaction Reporting Entities**

Transaction Reports can be made to a National Competent Authority (**NCA**) via:

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<sup>1</sup> Within the scope of Articles 12, 13, and 17 Of Regulation (EU) No 236/2012 on short selling and certain aspects of credit default swaps.

- (1) the Investment Firm;
- (2) an Approved Reporting Mechanism (**ARM**) acting on its behalf; or
- (3) the TV through whose system the transaction was completed.

### **1.10 Transaction Reporting by Branches**

Where Investment Firms operate in another EEA Member State through a branch, the branch will have to make Transaction Reports to the Host State Regulator. For services that are provided by branches outside the territory of the host Member State, Transaction Reports will have to be made to the National Regulator of the home Member State.

### **1.11 Transaction Reporting Responsibility**

Investment Firms retain full responsibility for the completeness, accuracy, and timely submission of Transaction Reports submitted to a NCA.

Unless Investment Firms report via an ARM (acting on the Firm's behalf or on behalf of a TV), and then the Investment Firm is not responsible for failures in the completeness, accuracy, or timely submission of Transaction Reports that are attributable to the ARM (or TV). In such cases the ARM (or TV) is responsible for those failures. ARMs must:

- (1) put in place within the ARM legal terms and conditions the extent to which an ARM will be liable for failures;
- (2) state whether or not an ARM wishes to put in place a legal limitation clause;
- (3) state whether or not an ARM wishes to take out a specific insurance policy to limit its financial liability in the case of such failures;
- (4) put in place systems that can effectively check Transaction Reports for completeness, and identify omissions and obvious errors caused by the Investment Firm;
- (5) put in place systems that enable them to detect errors or omissions caused by the ARM itself.

Article 26(7) MiFIR states that "Investment firms must nevertheless take reasonable steps to verify the completeness, accuracy and timeliness of the transaction reports which were submitted on their behalf." ARMs should ideally put in place a boilerplate statement that specifies that the Investment Firm acknowledges that it has independently taken reasonable steps to verify the completeness, accuracy and timeliness of the transaction reports which are submitted on their behalf.

### **1.12 Regulation (EU) No 648/2012**

Article 26(7) MiFIR states that trade-matching or reporting systems (including Trade Repositories (**TRs**) registered or recognised under Title VI (Regulation (EU) No 648/2012 of the European Parliament and of the Council of 4 July 2012 on OTC derivatives, central counterparties and trade repositories Text with EEA relevance), may be approved by a NCA as an ARM in order to transmit Transaction Reports to the NCA. Where Transactions have been reported to a TR in accordance with Article 9 Regulation 648/2012 (and where the TR has been approved as an ARM), and where those reports contain details required under the Transaction Reporting framework, and are transmitted to the NCA by the TR within the time limit (T+1), the Investment Firm's Transaction Reporting obligation is considered to have been complied with. ARMs may therefore consider also applying to become a TR in order to provide TR and ARM services together.

### **1.13 Regulation (EU) No 648/2012**

Where errors or omissions are identified in Transaction Reports, the reporting entity (ARM, TV, Investment Firm) must correct the information and submit a corrected report to the NCA. ARMs must

therefore have audit systems in place that can review submitted Transaction Reports and identify post-submission whether those submitted Transaction Reports had contained any errors or omissions.

### **1.14 ARM Authorisation**

A Data Reporting Services Provider (**DRSP**) seeking authorisation to provide data reporting services must submit to the relevant NCA:

- (1) all information relating to the organisation;
- (2) all information relating to corporate governance;
- (3) all information relating to the members of the management body;
- (4) all information on organisational requirements.

### **1.15 ARM Information Relating to the Organisation**

ARMs must submit:

- (1) A programme of operations which shall include:
  - (a) information on the ARM's organisational structure (including an organisational chart and a description of the human, technical and legal resources allocated to its business activities;
  - (b) information on the ARM's compliance policies and procedures, including:
    - (i) the name of the person or persons responsible for the approval and maintenance of those policies;
    - (ii) the arrangements to monitor and enforce the compliance policies and procedures;
    - (iii) the measures to be undertaken in the event of a breach which may result in a failure to meet the conditions for initial authorisation;
    - (iv) a description of the procedure for reporting to the competent authority any breach which may result in a failure to meet the conditions for initial authorisation;
  - (c) a list of all outsourced functions and resources allocated to the control of the outsourced functions.

ARMs that offer services other than data reporting services must describe those services in the organisational chart.

### **1.16 ARM Information Relating to Corporate Governance**

ARMs must provide information on its internal corporate governance policies and the procedures which govern its management body, senior management, and, where established, committees. This information must include:

- (1) a description of the processes for selection, appointment, performance evaluation and removal of senior management and members of the management body;
- (2) a description of the reporting lines and the frequency of reporting to the senior management and the management body; and

- (3) a description of the policies and procedures on access to documents by members of the management body.

### **1.17 ARM Information on the Members of the Management Body**

ARMs must provide the following information in respect of each member of the management body:

- (1) name, date and place of birth, personal national identification number or an equivalent thereof, address and contact details;
- (2) the position for which the person is or will be appointed;
- (3) a curriculum vitae evidencing sufficient experience and knowledge to adequately perform the responsibilities;
- (4) criminal records, notably through an official certificate, or, where such a document is not available in the relevant Member State, a self-declaration of good repute and the authorisation to the competent authority to inquire whether the member has been convicted of any criminal offence in connection with the provision of financial or data services or in relation to acts of fraud or embezzlement;
- (5) a self-declaration of good repute and the authorisation to the competent authority to inquire whether the member:
  - (i) has been subject to an adverse decision in any proceedings of a disciplinary nature brought by a regulatory authority or government body or is the subject of any such proceedings which are not concluded;
  - (ii) has been subject to an adverse judicial finding in civil proceedings before a court in connection with the provision of financial or data services, or for misconduct or fraud in the management of a business;
  - (iii) has been part of the management body of an undertaking which was subject to an adverse decision or penalty by a regulatory authority or whose registration or authorisation was withdrawn by a regulatory authority;
  - (iv) has been refused the right to carry on activities which require registration or authorisation by a regulatory authority;
  - (v) has been part of the management body of an undertaking which has gone into insolvency or liquidation while the person held such position or within a year after which the person ceased to hold such position;
  - (vi) has been otherwise fined, suspended, disqualified, or been subject to any other sanction in relation to fraud, embezzlement or in connection with the provision of financial or data services, by a professional body;
  - (vii) has been disqualified from acting as a director, disqualified from acting in any managerial capacity, dismissed from employment or other appointment in an undertaking as a consequence of misconduct or malpractice;
- (6) an indication of the minimum time that is to be devoted to the performance of the person's functions within the ARM; and
- (7) a declaration of any potential conflicts of interest that may exist or arise in performing the duties and how those conflicts are managed.

### **1.18 ARM Organisational Requirements: Conflicts of Interest**



An ARM must operate and maintain effective administrative arrangements, designed to prevent conflicts of interest with clients using its services to meet their regulatory obligations and other entities purchasing data from DRSPs. Such arrangements shall include policies and procedures for identifying, managing and disclosing existing and potential conflicts of interest and must contain:

- (1) an inventory of existing and potential conflicts of interest, setting out their description, identification, prevention, management and disclosure;
- (2) the separation of duties and business functions within the ARM including:
  - (i) measures to prevent or control the exchange of information where a risk of conflicts of interest may arise;
  - (ii) the separate supervision of relevant persons whose main functions involve interests that are potentially in conflict with those of a client;
- (3) a description of the fee policy for determining fees charged by the ARM and undertakings to which the ARM has close links;
- (4) a description of the remuneration policy for the members of the management body and senior management;
- (5) the rules regarding the acceptance of money, gifts or favours by staff of the ARM and its management body;
- (6) the inventory of conflicts of interest must include conflicts of interest arising from situations where the ARM:
  - (i) may realise a financial gain or avoid a financial loss, to the detriment of a client;
  - (ii) may have an interest in the outcome of a service provided to a client, which is distinct from the client's interest in that outcome;
  - (iii) may have an incentive to prioritise its own interests or the interest of another client or group of clients rather than the interests of a client to whom the service is provided; and
  - (iv) receive or may receive from any person other than a client, in relation to the service provided to a client, an incentive in the form of money, goods or services, other than commission or fees received for the service.

### **1.19 ARM Organisational Requirements: Outsourcing**

The ARM organisational requirements governing outsourcing include the following:

- (1) where an ARM arranges for activities to be performed on its behalf by third parties, including undertakings with which it has close links, it shall ensure that the third party service provider (TPSP) has the ability and the capacity, to perform the activities reliably and professionally;
- (2) an ARM must specify which of the activities are to be outsourced, including a specification of the level of human and technical resources needed to carry out each of those activities;
- (3) an ARM that outsources activities shall ensure that the outsourcing does not reduce its ability or power to perform senior management or management body functions;
- (4) an ARM shall remain responsible for any outsourced activity and shall adopt organisational measures to ensure:

- (i) that it assesses whether the TPSP is carrying out outsourced activities effectively and in compliance with applicable laws and regulatory requirements and adequately addresses identified failures;
  - (ii) the identification of the risks in relation to outsourced activities and adequate periodic monitoring;
  - (iii) adequate control procedures with respect to outsourced activities, including effectively supervising the activities and their risks within the ARM;
  - (iv) adequate business continuity of outsourced activities;<sup>2</sup>
- (5) the ARM must ensure that the TPSP cooperates with the competent authority of the ARM in connection with outsourced activities;
- (6) where the ARM outsources any critical function, it shall provide the competent authority of its home Member State with:
- (i) the identification of the TPSP;
  - (ii) the organisational measures and policies with respect to outsourcing and the risks posed by it; and
  - (ii) internal or external reports on the outsourced activities.

A function shall be regarded as critical if a defect or failure in its performance would materially impair the continuing compliance of the data reporting services provider with the conditions and obligations of its authorisation or its other obligations under MiFID II.

## **1.20 ARM Organisational Requirements: Business Continuity and Back-Up Facilities**

The ARM organisational requirements governing business continuity and back-up facilities include the following:

- (1) an ARM must use systems and facilities that are appropriate and robust enough to ensure continuity and regularity in the performance of the services provided;
- (2) the ARM must conduct periodic reviews, at least annually, evaluating its technical infrastructures and associated policies and procedures, including business continuity arrangements. It must remedy any deficiencies identified during the review;
- (3) the ARM must have effective business continuity arrangements in place to address disruptive incidents, including:
  - (i) the processes which are critical to ensuring the ARM's services, including escalation procedures, relevant outsourced activities or dependencies on external providers;
  - (ii) specific continuity arrangements, covering an adequate range of possible scenarios, in the short and medium term, including system failures, natural disasters, communication disruptions, loss of key staff and inability to use the premises regularly used;
  - (iii) duplication of hardware components, allowing for failover to a back-up infrastructure, including network connectivity and communication channels;

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<sup>2</sup> The ARM must obtain information on the business continuity arrangements of the TPSP, assess its quality and, where needed, request improvements.

- (iv) back-up of business-critical data and up-to-date information of the necessary contacts, ensuring communication within the ARM and with clients;
  - (v) the procedures for moving to and operating data reporting services from a back-up site;
  - (vi) the target maximum recovery time for critical functions, which shall be as short as possible and in any case no longer than six hours (APAs, CTPs) and until the close of business of the next working day in the case of ARMS;
  - (vii) staff training on the operation of the business continuity arrangements, individuals' roles including specific security operations personnel ready to react immediately to a disruption of services;
- (4) the ARM shall set up a programme for periodically testing, reviewing and, where needed, modifying the business continuity arrangements; and
  - (5) the ARM shall publish on its website and promptly inform the competent authority of its home Member State and its clients of any service interruptions or connection disruptions as well as the time estimated to resume a regular service. Such notification shall also be made to any competent authority to whom the ARM submits Transaction Reports.

### **1.21 ARM Organisational Requirements: Testing and Capacity**

ARM Organisational requirements relating to testing and capacity specify that:

- (1) an ARM shall implement clearly delineated development and testing methodologies, ensuring that:
  - (i) the operation of the IT systems satisfies the ARM's regulatory obligations;
  - (ii) compliance and risk management controls embedded in IT systems work as intended;
  - (iii) the IT systems can continue to work effectively at all times.
- (2) an ARM shall also use these methodologies prior to and following the deployment of any updates of the IT systems;
- (3) an ARM shall promptly notify the competent authority of its home Member State of any planned significant changes to the IT system prior to their implementation. Such notifications shall also be made to any competent authority to whom the ARM submits transaction reports;
- (4) an ARM shall set up an on-going programme for periodically reviewing and, where needed, modifying the development and testing methodologies;
- (5) an ARM shall run stress tests periodically at least on an annual basis. An ARM shall include in the adverse scenarios of the stress test unexpected behaviour of critical constituent elements of its systems and communication lines. The stress testing shall identify how hardware, software and communications respond to potential threats, specifying systems unable to cope with the adverse scenarios. The ARM shall take measures to address identified shortcomings in those systems;
- (6) the ARM must have sufficient capacity to perform its functions without outages or failures, including missing or incorrect data; and
- (7) the ARM must have sufficient scalability to accommodate without undue delay any increase in the amount of information to be processed and in the number of access requests from its clients.

## 1.22 ARM Organisational Requirements: Security

ARM Organisational requirements relating to security specify that:

- (1) an ARM must set up and maintain procedures and arrangements for physical and electronic security designed to:
  - (i) protect its IT systems from misuse or unauthorised access;
  - (ii) minimise the risks of attacks against the 'information systems'<sup>3</sup> as defined in Article 2(a) of Directive 2013/40/EU of the European Parliament and of the Council;
  - (iii) prevent unauthorised disclosure of confidential information;
  - (iv) ensure the security and integrity of the data;
- (2) where an investment firm (**Reporting Firm**) uses a third party (**Submitting Firm**) to submit information to an ARM on its behalf, an ARM shall have procedures and arrangements in place to ensure that the Submitting Firm does not have access to any other information about or submitted by the Reporting Firm to the ARM which may have been sent by the Reporting Firm directly to the ARM or via another Submitting Firm;
- (3) the ARM must set up and maintain measures and arrangements to promptly identify and manage the above security risks;
- (4) for breaches in the physical and electronic security measures an ARM shall promptly notify:
  - (i) the competent authority of its home Member State and provide an incident report, indicating the nature of the incident, the measures adopted to cope with the incident and the initiatives taken to prevent similar incidents; and
  - (ii) its clients that have been affected by the security breach;

Such notification shall also be made to any competent authority to whom the ARM submits Transaction Reports.

## 2 ARM OPERATIONAL REQUIREMENTS

### 2.1 ARM Connectivity

An ARM shall have in place policies, arrangements and technical capabilities to comply with the technical specification for the submission of Transaction Reports required by the competent authority of its home Member State and by other competent authorities to whom the ARM sends transaction reports.

An ARM must also have in place adequate policies, arrangements and technical capabilities to receive Transaction Reports from clients and to transmit information back to clients. The ARM shall provide the client with a copy of the Transaction Report which the ARM submitted to the competent authority on the client's behalf.

### 2.2 ARM Organisational Requirements: Management of Incomplete or Potentially Erroneous Information

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<sup>3</sup> 'Information system' is defined to mean a device or group of inter-connected or related devices, one or more of which, pursuant to a programme, automatically processes computer data, as well as computer data stored, processed, retrieved or transmitted by that device or group of devices for the purposes of its or their operation, use, protection and maintenance.

ARM Organisational requirements relating to management of incomplete or potentially erroneous information specify that:

- (1) an ARM must set up and maintain appropriate arrangements to identify Transaction Reports that are incomplete or contain obvious errors caused by clients. An ARM shall perform validation of the Transaction Reports against the requirements established under MiFIR for field, format and content of fields in accordance with **Annex I Table 1**;
- (2) an ARM shall set up and maintain appropriate arrangements to identify Transaction Reports which contain errors or omissions caused by that ARM itself and to correct, including deleting or amending, such errors or omissions. An ARM shall perform validation for field, format and content of fields in accordance with **Annex I Table 1**;
- (3) an ARM must continuously monitor in real-time the performance of its systems ensuring that a transaction report it has received has been successfully reported to the competent authority in accordance with MiFIR;
- (4) an ARM shall perform periodic reconciliations at the request of the competent authority of its home Member State or the competent authority to whom the ARM submits Transaction Reports between the information that the ARM receives from its client or generates on the client's behalf for transaction reporting purposes and data samples of the information provided by the competent authority;
- (5) any corrections, including cancellations or amendments of Transaction Reports, that are not correcting errors or omissions caused by an ARM, shall only be made at the request of a client and per transaction report. Where an ARM cancels or amends a transaction report at the request of a client, it shall provide this updated transaction report to the client;
- (6) where an ARM, before submitting the Transaction Report, identifies an error or omission caused by a client, it shall not submit that Transaction Report and shall promptly notify the investment firm of the details of the error or omission to enable the client to submit a corrected set of information;
- (7) where an ARM becomes aware of errors or omissions caused by the ARM itself, it shall promptly submit a correct and complete report;
- (8) an ARM shall promptly notify the client of the details of the error or omission and provide an updated Transaction Report to the client. An ARM shall also promptly notify the competent authority of its home Member State and the competent authority to whom the ARM reported the Transaction Report about the error or omission;
- (9) the requirement to correct or cancel erroneous Transaction Report or report omitted transactions shall not extend to errors or omissions which occurred more than five years before the date that the ARM became aware of such errors or omissions.

### **2.3 Methods and Arrangements for Reporting Financial Transactions**

The methods and arrangements for generating and submitting Transaction Reports by Investment Firms must include:

- (1) systems to ensure the security and confidentiality of the data reported;
- (2) mechanisms for authenticating the source of the Transaction Report;
- (3) precautionary measures to enable the timely resumption of reporting in the case of a failure of the reporting system;
- (4) mechanisms for identifying errors and omissions within Transaction Reports;

- (5) mechanisms to avoid the reporting of duplicate Transaction Reports (including where an Investment Firm relies on a TV to report the details of transactions executed by the Investment Firm through the TV's systems in accordance with Article 26(7) MiFIR);
- (6) mechanisms to ensure that a TV only submits reports on behalf of those Investment Firms that have chosen to rely on the TV to send reports on their behalf for transactions completed through the TV's systems;
- (7) mechanisms to avoid reporting of any transaction where there is no obligation to report under Article 26(1) MiFIR (either because there is no transaction or because the instrument does not fall within the scope of Article 26(2) MiFIR);
- (8) mechanisms for identifying unreported transactions for which there is an obligation to report under Article 26 MiFIR (including cases where Transaction Reports rejected by a NCA have not been successfully re-submitted).

The Investment Firm must promptly notified the relevant NCA when it becomes:

- (1) aware of any error or omission within a Transaction Report submitted to a NCA;
- (2) any failure to submit a Transaction Report (including any failure to resubmit a rejected Transaction Report) for transactions that are reportable;
- (3) aware of the reporting of a transaction for which there is no obligation to report.

Investment Firms must put in place arrangements to ensure that Transaction Reports are **complete and accurate**. This includes testing of the reporting process and regular reconciliation of front-office trading records against data samples provided by NCAs.<sup>4</sup>

Investment Firms must put in place arrangements to ensure that, when viewed collectively, their Transaction Reports reflect all changes in their position and in the position of their clients in the FIs concerned at the time transactions in the FIs are executed.

Investment Firms must retain details of any corrections and cancellations to Transaction Reports carried out by ARMs on instruments from the Investment Firm.

## 2.4 Requirements for the Management Body of a DRSP

Article 63(1) MiFID II specifies that all members of the management body of a DRSP shall at all times be of **sufficiently good repute, possess sufficient knowledge, skills and experience and commit sufficient time to perform their duties**.

It also specifies that the management body shall **possess adequate collective knowledge, skills and experience to be able to understand the activities of the DRSP**. Each member of the management body must **act with honesty, integrity and independence of mind to effectively challenge the decisions of the senior management where necessary**, and to effectively oversee and monitor management decision-making where necessary.

The management body of a DRSP must define and oversee the implementation of governance arrangements that ensure effective and prudential management of the organisation, including the segregation of duties in the organisation, and the prevention of conflicts of interest, and in a manner that promotes the integrity of the market and the interest of its clients.

NCAs must refuse authorisation if they are not satisfied that the person or the persons who shall effectively direct the business of the DRSP are of sufficiently good repute. Alternatively NCA must

<sup>4</sup> If NCAs do not provide data samples Investment Firms have to reconcile their front-office trading records against the information contained in the Transaction Reports they have submitted to the NCAs (or in the Transaction Reports that ARM or TVs have submitted on their behalf). This reconciliation includes checking the timeliness of the report, the accuracy and completeness of the individual data fields and their compliance with the standards and formats specified in **Annex I Table 2**.

refuse authorisation if there are **objective and demonstrable grounds for believing that proposed changes to the management body pose a threat to its sound and prudent management**, and to the adequate consideration of the interest of its clients and the integrity of the market.

## **2.5 Consultation Paper (Guidelines on specific notions under MiFID II related to the management body of market operators and data reporting services providers)**

The '**Suitability Matrix**' is a tool that has been devised by ESMA to evaluate periodically or annually the collective suitability of the members of the management body. The Matrix assesses the knowledge, skills, and experience of the individual members of the management body in order to assess the strengths and weaknesses in the management body. This allows a DRSP to identify the collective knowledge, skills, and experience of the management body of the DRSP.

The Matrix is to be aligned with the specific characteristics of the DRSP regarding:

- (1) the business model and strategy and activities;
- (2) risk appetite;
- (3) risk strategy and actual risk profile; and
- (4) outsourcing arrangements.

Table 1: Suitability Matrix A. Governance

A. Governance												
<i>This section maps how the responsibilities are divided within the management body in its management function or in its supervisory function. This section can be tailored to the responsibilities within the organisation.</i>												
Please fill in a score for each member as follows: L (Low) = is at a minimum aware of the subject M (Medium) = has good understanding of the subject but is not expert H (High) = can make a balanced independent judgement on the subject (expert)	Name	Name	Name	Name	Name	Name	Name	Name	Name	Name	Name	Name
Is capable of assessing the setup and functioning of the administrative organisation (AO) and internal control (IC).												
Is capable of setting up the compliance function and/or assessing its setup, functioning and effectiveness.												
Is capable of setting up the internal audit function and/or assessing its setup, functioning and effectiveness.												
Is capable of setting up the risk management function and/or assessing its setup, functioning and effectiveness.												
Is capable of understanding and implementing the remuneration policy (either to the members of the management body in its management function or market operator/DRSP-wide) and using incentives to influence behaviours.												
Is capable of understanding and implementing the policy on outsourcing.												
Is capable of assessing whether the careful treatment of clients has been safeguarded.												
Is capable of implementing a succession planning.												
Is capable of assessing the setup and functioning of Human Resources.												
Other relevant responsibilities and roles can be included below (e.g. the setup and functioning of sales and services or of the IT).												
*												

Table 2: Suitability Matrix B. Competence of risk management, compliance and audit

B. Competence of risk management, compliance and audit												
<i>This section maps the knowledge of members of the management body with regard to strategy, risk management, compliance and internal audit.</i>												
Please fill in a score for each member as follows: L (Low) = is at a minimum aware of the subject M (Medium) = has good understanding of the subject but is not expert H (High) = can make a balanced independent judgement on the subject (expert)	Name	Name	Name	Name	Name	Name	Name	Name	Name	Name	Name	Name
Has knowledge of and experience with setting and implementing the market operator/DRSPs strategy and risk appetite.												
Has insight in the market operator/DRSPs strategy and business models.												
Is capable of understanding the policy on risk management and corresponding procedures and measures and of raising critical questions about this topic.												
Has insight into the most relevant risks facing the company, spread out over time and across the market operator/DRSP.												
Has knowledge of and experience with relevant laws and regulations.												
Is capable of setting up or overseeing the audit plan and of raising critical questions about it.												



Table 3: Suitability Matrix C. Managerial competence

C. Managerial competence												
<i>This section maps the managerial knowledge, expertise and skills of the members of the management body.</i>												
Please fill in a score for each member as follows: L (Low) = is at a minimum aware of the subject M (Medium) = has good understanding of the subject but is not expert H (High) = can make a balanced independent judgement on the subject (expert)	Name	Name	Name	Name	Name	Name	Name	Name	Name	Name	Name	Name
Has knowledge of and experience with managing processes and tasks and providing direction and guidance to others.												
Is consistent in word and deed and acts in accordance with the own stated values and beliefs (tone at the top).												
Has knowledge of and experience with oversight (either over the members of the management body in its management function or the day-to-day management).												
Has knowledge in the areas of social, ethical and professional standards.												
Has experience with complying with and upholding applicable laws and regulations, governance and conduct codes, and internal rules and regulations.												
Has knowledge of and experience with engaging external experts for the proper execution of his/her task.												
Has experience with communicating the strategy, policies and objectives within the market operator/DRSP or group in a clear and transparent way.												
Has experience with external communication and knows when stakeholders (such as supervisory authorities, shareholders, clients and external auditors) have to be informed.												
Other relevant knowledge and areas of experience which is required by national law or regulation or is required in view of the nature and activities of the market operator/DRSP.												
*												

Table 4: Suitability Matrix D. Products, services and markets within the market operator/DRSP's scope of activities

D. Products, services and markets within the market operator/DRSPs scope of activities												
<i>This section maps the knowledge of the members of the management body with regard to the main activities of the market operator/DRSP.</i>												
Please fill in a score for each member as follows: L (Low) = is at a minimum aware of the subject M (Medium) = has good understanding of the subject but is not expert H (High) = can make a balanced independent judgement on the subject (expert)	Name	Name	Name	Name	Name	Name	Name	Name	Name	Name	Name	Name
Has knowledge of and experience with the market(s) in which the company operates and the relevant developments in that market/these markets.												
Has knowledge of and experience with the company's financial aspects of products and services.												
Has insight into the internal expertise of the company (in the management body and at the internal audit department) with respect to the match of products with specific target groups.												
Is capable of identifying the long-term interests of the company in assessing products, services and markets in which the company operates and to act accordingly.												
Has knowledge of other relevant business areas and/or activities of the market operator/DRSP, consisting of:												
To be completed and, if relevant, to be assigned a score												

Table 5: Suitability Matrix E. Sectoral and Financial Competence

* E. Sectoral and Financial Competence													
<i>This section maps the knowledge and expertise of the members of the management body of the main sectors in which the market operator/DRSP operates.</i>													
Please fill in a score for each member as follows: L (Low) = is at a minimum aware of the subject M (Medium) = has good understanding of the subject but is not expert H (High) = can make a balanced independent judgement on the subject (expert)	Name	Name	Name	Name	Name	Name	Name	Name	Name	Name	Name	Name	Name
Has knowledge of and experience with financial markets.													
Has knowledge of and experience with finance.													
Has knowledge of and experience with accounting.													
Has knowledge of and experience with the operation of trading venues.													
Has knowledge of and experience with data services.													
Has knowledge of other relevant business areas and/or activities of the market operator/DRSP, consisting of (e.g. clearing and settlement, asset management, securities administration):													
* 													

Table 6: Suitability Matrix F. Balanced and consistent decision-making

F. Balanced and consistent decision-making.													
<i>This section assesses the collective decision making skills of the members of the management body.</i>													
Please fill in a score for each member as follows:  L (Low) = is at a minimum aware of the subject  M (Medium) = has good understanding of the subject but is	Name	Name	Name	Name	Name	Name	Name	Name	Name	Name	Name	Name	Name
Knows how the internal decision-making process is organised.													
Knows when to ask for information (internally or externally) in order to take timely and well-informed decisions.													
Is capable of and has experience with ensuring that sufficient alternatives are being weighed in a decision-making process.													
Acts with independence of mind by providing constructive and robust challenge of proposals and decisions.													
Knows how in a decision-making process the interests of all stakeholders are weighed and has experience with this.													
Has knowledge of and experience with recognizing and raising the issue of conflicts of interests in the decision-making process.													
Is capable of sufficiently assessing whether decisions have been taken in line with the company strategy.													
Knows how decision-making is carefully taken and has experience with this.													
Other relevant knowledge and areas of experience in this field:  <i>To be completed, if and insofar as present</i>													

Table 7: Suitability Matrix G. Overall picture of the collective suitability

G. Overall picture of the collective suitability	
This section assesses the collective suitability of the members of the management body, taking into account the mapping of the knowledge, skills and experience of all members in the context of the overall management body composition.	
What are the strengths of the management function or of the supervisory function?	
What are the weaknesses of the executives / management function or of the non-executives / supervisory function? How will these be managed or mitigated?	
Considerations regarding the overall composition of the management body.  Explain why the market operator/DRSP assumes this composition of the executives / management function and of the non-executives / supervisory functions and why this composition is considered adequate and effective  - How is the collaboration between members?	

### 3 FCA'S ARM APPLICATION PROCESS

- **Application Deadline:** 3<sup>rd</sup> July 2017. This is for Data Reporting Services Providers applying for authorisation (with the exception of a non-equity CTP where firms should apply for authorisation by March 2019).
- **One-off fee:** FCA has a £100,000 non-refundable application fee for firms seeking to become an ARM.
- **Periodic fees:** FEES 4 Annex 3A Fees relating to the direct reporting of transactions to the FCA under SUP 17 for the period 1 April 2016 to 31 March 2017.

**Technical Support Fee:** £4,444

**Testing Environment Fee:** £3,333

**Variable Transaction-based Fee:** 4.56 per 100,000 transaction reports or part 100,000 transaction reports processed during the calendar year ending 31 December before the fee year to which the fee relates.

- Firms must email the FCA (MRT@fca.org.uk) who will send the firm a Non-Disclosure Agreement to sign and return. The FCA will then send the firm the ARM Technical Specification and the ARM Application Form.
- The FCA assesses all applicant firms against the requirements of Article 12 of the MiFID II Level 2 Regulations. Firms must demonstrate to the FCA how they propose to satisfy all of the requirements specified therein.
- In order to grant approval the FCA must: (1) be confident that the requirements have been fully met; (2) have fully successfully completed testing and integration processes with the FCA's technology; and (3) received written confirmation that the requirements (including the ARM Technical Specification) have been fully met and that there are no further issues that the FCA should be aware of in the firm's systems or business.
- The FCA will conduct a high level review of the firm's business continuity and network security policies of each applicant.

## 4 MiFID II APPROVED REPORTING MECHANISMS

### 4.1 Overview of Existing MiFID II ARM Offerings

There are currently six firms registered with the FCA that offer MiFID ARM capabilities.

Organisation	System	ISIN	OTC	All
Euroclear UK & Ireland (EUI)	CREST	Approved (Restricted)	Approved	Approved
TRAX	TRAX	Approved	Approved	Approved
London Stock Exchange	UNAVISTA	Approved	Approved	Approved
Getco Europe Limited	GETCO	Approved	Approved	Approved
Abide Financial Limited	TransacPort	Approved	Approved	Approved
Bloomberg Finance L.P.	Bloomberg TOMS	Approved	Approved	

Only certain ARMs can provide the FCA with over-the-counter (**OTC**) data. Restricted means that a firm cannot submit Transaction Reports for (1) non-exchange instruments (**OTC**) and (2) instruments identified using the Alternative Investment Identifier (**All**) codes. Owing to a lack of available information, Getco Europe Limited will be excluded from this report.

### 4.2 MiFID II ARMs undergoing testing with the Central Bank of Ireland

There is currently one firm that is undergoing testing with the Central Bank of Ireland and will be passporting their services across the European Union.

Organisation	System	ISIN	OTC	All
AQMetrics	To Be Confirmed	To Be Confirmed	To Be Confirmed	To Be Confirmed

### 4.3 Benefits of Registering as an ARM

- (1) An ARM allows firms to reduce the cost of Transaction Reporting and to improve their efficiency.
- (2) Registering as an ARM provides instant credibility and cachet within the regulatory compliance market.
- (3) ARM clients are likely to be long term clients as these firms are obliged to report MiFID II transaction data every year for the foreseeable future.
- (4) ARM clients are likely to prove receptive to cross-selling practices, e.g. additional MiFID II Application services offered, or if APA or TR services are offered, or potentially CRD IV reporting services.
- (5) The deadline for registering as an ARM in the UK is 3<sup>rd</sup> July 2017. Therefore that leaves essentially two months to put together an ARM application and registration application that contains all the information required and supporting evidence.
- (6) If intending to register as an ARM the decision to register must be made as soon as possible. MiFID II takes effect from January 2018 and therefore this leaves only 6 months within which to put in place aggressive marketing, business development and sales strategies to capture new ARM clients. Once MiFID II takes effect the likelihood is that most firms will have already chosen an ARM to report with.

- (7) Implementing the correct ARM marketing strategy is absolutely essential if a firm wishes to capitalise on ARM status and onboard new clients in comparatively short space of time, i.e. 6 months.
- (8) An ARM may prove to be a significant up-front investment but a firm that operates an ARM can likely recoup such sunk costs quite rapidly if it is able to onboard the right ARM reporting firms in the right markets in the EU in 2017. Subsequent cross-selling practices might then allow the firm operating the ARM to significantly increase revenues in 2018 and beyond.

#### 4.4 Registering as Both an Arm and an APA

There are a number of firms that are seeking to register as both an ARM and an Approved Publication Arrangement (**APA**). For these firms they will have to follow different specifications and create different systems and entities.

However, the advantage for such firms is that they will be seen as a "one-stop-shop" for Investment Firms (i.e. Article 26 MiFIR Transaction Reporting data, ARMs; Articles 20, 21 MiFIR Trade Reporting data, APAs, price, volume, time of trade).

#### 4.5 ESMA Register of MiFID Investment Firms

There are currently 8,862 MiFID registered firms operating in the EU.

No	Country	Number of Firms
1.	Austria	75
2.	Belgium	46
3.	Bulgaria	7
4.	Croatia	30
5.	Cyprus	129
6.	Czech Republic	37
7.	Denmark	167
8.	Estonia	13
9.	Finland	64
10.	France	452
11.	Germany	2,382
12.	Greece	61
13.	Hungary	39
14.	Iceland	0
15.	Ireland	97
16.	Italy	563
17.	Latvia	4
18.	Liechtenstein	118
19.	Lithuania	11
20.	Luxembourg	122
21.	Malta	114
22.	Netherlands	269
23.	Norway	150
24.	Poland	65
25.	Portugal	72
26.	Romania	33
27.	Slovakia	16
28.	Slovenia	17
29.	Spain	259
30.	Sweden	136
31.	United Kingdom	3,314

## 4.6 FCA'S Transaction Reporting Events

Transaction Reporting Events provide an opportunity for authorised firms and industry trade bodies to directly engage with the Markets Reporting Team (**MRT**) on related developments and issues. This event is held periodically when there are developments or items of interest to discuss. The event takes place in two venues, the FCA's Canary Wharf office and an additional external venue in the City of London. The FCA encourages firms to attend this event to keep up to date with transaction reporting developments and issues. Firms must be authorised with the FCA. If firms would like to be notified of future events they can send an email confirming their interest to [mrt@fca.org.uk](mailto:mrt@fca.org.uk). The FCA can only accept one representative from each firm. However, if you provide the names of additional colleagues, we will try to accommodate them if there is space available. Due to venue limitations, individuals will be registered on a first come first served basis.

## 4.7 FCA'S Transaction Reporting Forum (December 2016)

The FCA carried out periodic data quality analysis of Transaction Reports under MiFID I. It was found that there were a large quantity of data quality alerts relating to particular areas:

- (1) late reporting of transactions;
- (2) central counterparty transaction using 'XOFF' MIC code;
- (3) default time was used instead of trade time;
- (4) quantity was less than 1; and
- (5) the unit price was missing.

However there had been some improvements in these areas since the first periodic data quality analysis. It is therefore likely to be the same with MiFID II that the initial periodic quality analysis of submitted reports under MiFID II will likely highlight a number of problematic areas which Investment Firms and ARMs must be particularly on the lookout for in order to ensure that they do not make the same mistakes.

## 4.8 Periodic Changing of Liquidity Categories

Non-Equity instruments will be periodically assessed for their liquidity. If they are deemed to be sufficiently liquid, the instruments will receive a waiver from the reporting pre-trade transparency information and granted permission to defer publication of post-trade transparency reporting. Therefore reporting firms and ARMs must monitor the liquidity status of traded non-equity instruments and switch between reporting pre-trade transparency and real-time post-trade transparency. Some instruments may frequently change status and this may present some operational difficulties.

## 4.9 Current FCA Registered ARM Firms

Organisation	System	ISIN	OTC	All
Euroclear UK & Ireland (EUI)	CREST	Approved (Restricted)	Approved	Approved
TRAX	TRAX	Approved	Approved	Approved
London Stock Exchange	UNAVISTA	Approved	Approved	Approved
Getco Europe Limited	GETO	Approved	Approved	Approved
Abide Financial Limited	TransacPort	Approved	Approved	Approved
Bloomberg Finance L.P.	Bloomberg TOMS	Approved	Approved	

## 5 MiFID II FIRM ARM STRATEGIC CONSIDERATIONS

Some strategic considerations when developing and finalising an ARM solution are listed below.

- Must provide a highly cost-effective service.
- Can seamlessly report to multiple NCAs.
- Comprehensive connectivity to Transaction Reporting services.
- In-depth and wide-ranging Management Information tools and reports available.
- Easy to use and logical GUI.
- Ultra low NCA transaction rejection rate.
- Designed with high volume users in mind.
- ARM solution enable the reduction of integration risk (i.e. by supporting ISO 15022/20022, XML and flat formats, real-time and batched messaging options).
- Potential to offer multiple access-controlled and audited desktop installations.
- Easy cancellation, amendment, and re-submission of Transaction Reports.
- Modular, flexible service platform.
- Dedicated service delivery manager.
- Monitoring of Trade Reporting process end-to-end.
- The firm providing ARM services must be responsive to both compliance and technology questions.
- ARM solution should be able to easily integrate with existing order management solutions and trading platforms.
- Working with an established IT partner in the banking and financial services sector that can quickly and easily promote DataTrack's agenda and services.
- Comprehensive exception management issues.
- Analytics capabilities, e.g. summary benchmarking against peers and other industry types, volumes by asset class, volumes by time window, and statue of reportable information.
- Development of additional 'added-value' services such as Trax Insight+, a tool that allows firms to see whether they classify as a Systemic Internaliser under MiFID II. Trax also offers a tool that allows firms to identify Liquid Markets in Financial Instruments. Other potential tools that might be developed include tools to calculate position limits, messaging tools, transaction cost analysis services, client suitability assessment, waivers and deferrals engine, liquidity status classification, commission management solutions, best execution solutions, identification of reporting responsibility, integration functions, execution quality reports, pre-trade credit checks.

# EUROCLEAR UK & IRELAND (EUI)

## 6 EUROCLEAR UK & IRELAND (EUI)

Euroclear UK & Ireland is the central securities depository (**CSD**) of the United Kingdom (**UK**), Jersey, Guernsey and the Isle of Man for all domestic securities, and of Ireland for equities. It provides advanced, low-cost settlement facilities for a wide range of investment funds, corporate and government securities, and equities including those traded on the London Stock Exchange (**LSE**) and the Irish Stock Exchange. Euroclear UK & Ireland is part of the Euroclear Group, which is the world's largest provider of domestic and cross-border settlement and related services for bond, equity, derivatives and fund transactions.



*Post-trade made easy*

Euroclear UK & Ireland operates the CREST system, one of the largest and most technically advanced real time settlement systems in the world. Each day it receives around 1.8 million transactions for settlement in over 17,000 securities in real time, with a daily value in excess of £1 trillion. The CREST system provides advanced, Straight-Through Processing (**STP**) settlement and related services for a wide range of corporate and government securities. Euroclear UK & Ireland is an ARM offering transaction reporting to the UK Financial Conduct Authority (**FCA**) through the CREST system.

Euroclear UK & Ireland is part of the Euroclear group, a provider of post-trade services. The firm aims to help their clients to be more successful by making it easier for them to settle domestic and cross-border securities transactions, and to safe keep their investments. The firm also help clients manage the risks and exposures arising from their transactions. Their clients are spread across more than 90 countries and include some of the world's most important financial institutions. The Euroclear group settles more than 150 million transactions a year in over 40 currencies. The assets they hold for their clients are valued at €23 trillion. The total value of securities transactions settled by the Euroclear group is over €540 trillion per annum.

### 6.1 The CREST System

CREST is designed specifically for the UK and Irish domestic markets, settling transactions in dematerialised or certificated securities:

- securities held directly on CREST accounts are dematerialised;
- securities held outside CREST are represented by certificates issued by the issuer's registrar.

Euroclear UK & Ireland is neither a custodian nor a depository in the traditional sense, as it does not hold UK, Irish, Jersey, Guernsey and Isle of Man securities on behalf of participants. Instead, it provides a means for the owners of those securities to hold them securely in an electronic dematerialised form and receive all shareholder benefits, such as dividends and participation in other corporate actions.

### 6.2 CREST Operations

CREST operations cover a broad range of areas including:

- maintaining details of members and their account structures;
- book keeping;
- authenticating and seeking to match electronic settlement instructions from CREST participants;



- settling transactions and maintaining the obligations;
- providing information to registrars and payments banks;
- providing information to LCH and its clearing members for SETS trades;
- support to Securities Lending and Borrowing (**SLB**), Corporate Actions, claims calculation and settlements;
- providing information to system regulators;
- calculation and collection of applicable transfer tax for the Inland Revenue Commissioners;
- reconciling balances with registrars;
- providing support for settlement of certificated securities;
- real-time settlement (on trade date if required), allowing to monitor and manage transactions in real time throughout the day;
- Delivery Versus Payment (**DVP**) (**DVP model 1**) in GBP and EUR central bank money, ensuring the simultaneous transfer of securities to the buyer and payment to the seller. This eliminates the risk of paying a counterparty and not receiving the asset being bought;
- transfer of full legal title at the point of settlement for all UK uncertificated registered securities, including government bonds, through a direct holding model and transparency of name on the legal register;
- securities borrowing/lending and collateral management facilities to support funding and liquidity management, with real-time trading and settlement of collateral management operations;
- full participation in corporate actions through a direct relationship with the issuer or agent.

Securities held in the CREST system are fully dematerialised and can only be transferred by means of electronic instructions sent to the CREST system across highly secure and resilient networks.

### **6.3 CREST Participants**

CREST participants include:

- Users;
- Members, Sponsored members and Personal Members;
- Payment Banks;
- Regulations and the HMRC Inland Revenue;
- Information Providers;
- Central Securities Depositories;
- Product Providers;
- Central Counterparties (**CCPs**);
- Clearing Members.

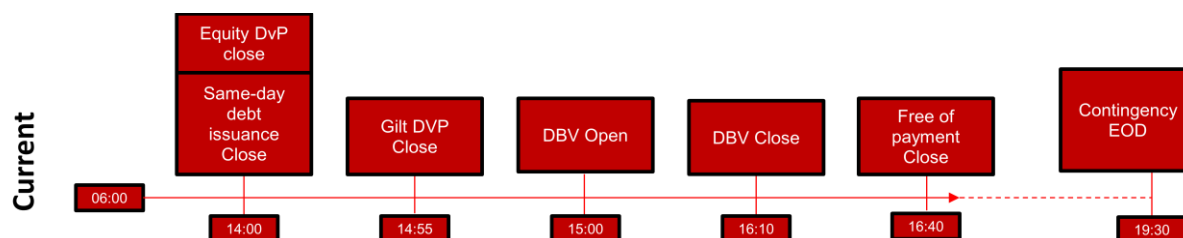
## 6.4 Settlement

The CREST system provides for the simultaneous exchange of payment and securities at the moment of settlement. Transactions may be the result of stock market bargains or off-market transactions and may consist of deliveries of securities against cash, securities free of payment or cash-only movements. The process of settlement begins with the parties to a transaction sending their electronic instructions to the CREST system as soon as possible after dealing. The transaction is then alleged to the relevant counterparty for matching. This means that the counterparty needs to input a corresponding instruction that matches a number of fields describing the transaction (security traded, consideration, intended settlement date, etc.). Once a matching transaction is matched, it cannot be deleted unilaterally by either party.

## 6.5 Settlement Instruction

Bilateral Input	Single Input	System Generated	Others
<ul style="list-style-type: none"> <li>• Deliveries</li> <li>• Complex Deliveries</li> <li>• Stock Loans</li> <li>• Residuals</li> <li>• Repo Transactions</li> <li>• Repo Substitutions</li> <li>• DBVs</li> <li>• Cross Border Deliveries – (Crest receiving UK/Irish Securities)</li> </ul>	<ul style="list-style-type: none"> <li>• Own Account Transfers</li> <li>• Registrars Adjustment</li> <li>• Unmatched Stock Events</li> <li>• Transfer to Escrow</li> <li>• Transfer from Escrow</li> <li>• Escrow Account Adjustments</li> <li>• Strip Requests</li> <li>• Strip Reconstruction Requests</li> <li>• Cross Border Deliveries (non UK/Irish Securities)</li> <li>• Stock Deposits</li> <li>• Stock Withdraws</li> </ul>	<ul style="list-style-type: none"> <li>• Bad Withdrawal Reversals</li> <li>• Claims</li> <li>• DBV Returns</li> <li>• DBV Interest Payments</li> <li>• Interest Payments</li> <li>• Cross Border Confirmations</li> <li>• Cross Border Reversals</li> <li>• Stock Loan Revaluation</li> <li>• Stock Loan Returns</li> <li>• Repo Returns</li> <li>• Stamp Duty Payments</li> </ul>	<ul style="list-style-type: none"> <li>• System Controller Generated</li> <li>- Bad Delivery Reversal</li> <li>- System Controller's Adjustment</li> <li>• On response to system processes</li> <li>- Self Collateralising Repo</li> </ul>

## 6.6 Real Time Settlement



Real-time settlement (on trade date if required) means that customer can monitor and manage his transactions throughout the day to improve settlement performance. The CREST system provides real-time direct access to live data through its wide range of flexible messaging enquiries and the GUI. The CREST system accepts input between 04:00 and 20:00, and handles enquiries between 04:00 and 22:00. Settlement against payment for equities, gilts, eligible debt securities and notional fund units starts at 06:00. Settlement against payment stops at 14:00 for equities and notional fund units, and at 14:55 for gilts, eligible debt securities and cash. Customer can continue to deliver equities and notional fund units to other members free of payment until 16:30, and gilts and eligible

debt securities until 16:40. The period between 15:00 and 16:10 is used solely for collateral movements.

## 6.7 International Settlement

EUI international service provides straightforward, low cost settlement and asset servicing for a wide range of international markets including the US, Australian, Canadian and European markets. Customers use the same client interface and system framework as for UK and Irish securities. Corporate actions facilities are available, with processing carried out in the same way as for UK and Irish securities. EUI also provide relief at source taxation services for US and Canadian securities.

## 6.8 Reports and Monitoring Settlement

The CREST system does not provide printed reports to members. Members can decide what information they require from the system, and how often you receive it. There are many possible queries, most with selection criteria. Customers can construct the appropriate query to download the information, and format it for analysis and printing locally. All enquiries are also available through the GUI. Customers will need to monitor settlement for exceptions, such as transactions that have not settled or matched, or which have a delayed status that prevents them from settling.

## 6.9 Transaction Reporting

Euroclear UK & Ireland is an Approved Reporting Mechanism (ARM), offering transaction reporting to the UK Financial Conduct Authority (**FCA**) through the CREST system. The EUI tailored services enable members to meet your reporting responsibilities in a flexible and cost-effective manner.

## 6.10 Stamp Duty

Transactions in UK and Irish equities may be subject to stamp duty or Stamp Duty Reserve Tax (**SDRT**). Exemptions are available for specific types of transfer, and some types of firms (e.g. charities). Securities lending activity and the business of market intermediaries may also be relieved of duty. The CREST system assesses all transactions for duty, relief or exemption, and enables members to claim certain reliefs and exemptions accurately and systematically.

Generally, members do not have to make additional reports or payments to the revenue authorities. The CREST system automatically calculates and collects any necessary payments of duty, and ensures that the money is paid to the authorities. The CREST system also provides full reporting to the authorities.

## 6.11 Asset Classes

EUI accept wide range of asset classes for settlement:

- Equities;
- Warrants including Covered Warrants and Listed Contracts for Difference (**CFDs**);
- Government Bonds (UK Gilts - British Government Stock) and Corporate Bonds;
- Money Market Instruments: Treasury Bills (including Local Authority Bills), Bankers' Acceptances (or 'Bank Bills'), Bank of England Bills, Certificates of Deposit (**CDs**) and Commercial Paper (**CP**);
- Funds such as Unit Trusts and Exchange Traded Funds (**ETFs**);
- various international securities via links with three International Central Securities Depositories (**ICSDs**): Euroclear Bank, DTCC and SIX SIS AG; and
- Structured Products.

Holding securities in CREST supports the local market practices with, for example, the principle of registration or certification of securities holding via a participating CREST registrar. EUI distinguish the following asset categories:

- Equities and debt instruments.
- Depository Interests (**DI**) – foreign securities.
- Money Market Instruments (**MMI**) – held directly in dematerialised, registered form in CREST (no external registrar).
- CREST Depository Interests (**CDI**) – a representation of an international security held indirectly with an ICSD.
- Domestic Depository Interests (**DDI**) – a representation of a domestic security held indirectly with an ICSD.
- Investment funds.

## 6.12 Central Counterparty Services

EUI operate Central Counterparty (**CCP**) services, which together with the relevant CCP provide full counterparty anonymity and improved counterparty risk protection.

In cooperation with LCH.Clearnet, SIS x-clear and the London Stock Exchange, EUI operate a central counterparty service for electronically executed trades on the SETS platform, including SETSqx, as well as trades executed on Equiduct and PLUS markets (which are cleared by LCH.Clearnet).

Together with Eurex Clearing AG and the Irish Stock Exchange, EUI offer central counterparty services for securities traded on the ISE Xetra order book of the Irish Stock Exchange.

Together with Eurex Clearing AG, EUI offer central counterparty services for the delivery of the securities underlying UK and Irish equity options traded on Eurex exchanges or entered bilaterally into the clearing process of Eurex Clearing AG.

The central counterparty services allow customers to take advantage of central sponsor arrangements and settlement netting. A central sponsor is the mechanism by which transactions in the CREST system are created on a participant's behalf in relation to trades conducted on a particular trading platform. This eliminates the need for customer (or customer's sponsor) to input securities transaction instructions into the CREST system and provides for straight-through processing.

With settlement netting, the CREST system can replace a number of transactions between the same participants in the same security with a net transaction, which can in turn be matched automatically using direct input. With this cross-platform netting service, CCPs can generate a single net position per security for each of their participants across multiple trade venues. This net position can then be instructed for settlement in the CREST system.

## 6.13 Comprehensive Corporate Actions Processing

EUI have successfully striven to create paperless corporate actions processing, and many of our initiatives in this field now form industry standards. Moreover the EUI provides a full range of facilities for registrars to deliver securities and/or cash directly to members and for members to accept voluntary corporate actions by delivering securities and/or cash to a registrar. The CREST system facilitates transaction management processes, automating the production of market claims, transformations of open transactions during company reorganisations and buyer protection for all relevant corporate actions.

The CREST system also provides services which allow you to appoint and instruct proxies at company meetings electronically. Additionally system allows fast same-day issuance of eligible debt securities for next day (or potentially even same-day) maturity, on a straight-through processing basis.

Customer can receive automated dividend and interest payments directly into your cash memorandum accounts, as well as electronic tax vouchers. Customer can make dividend elections electronically.

## **6.14 Collateral Management**

Collateral management facilities are available through our Delivery By Value (**DBV**) service. This enables you to give and receive packages of securities as collateral against the creation of a cash payment. You can enter into DBVs with maturities of up to two years. Enhanced features include intra-day mark-to-market and substitutions functionalities.

## **6.15 Delivery by Value (DBV)**

Our term DBV product allows you to obtain liquidity to finance your daily activity while ensuring you do not sit on idle collateral. DBV is a Euroclear UK and Ireland collateral product that allows firms to borrow cash on a fully collateralised and secure basis. Product specifics include:

- a loan is agreed bilaterally between two counterparties;
- the cash amount is exchanged, DVP, versus one or more predetermined baskets of collateral;
- we perform a daily stock-based mark-to-market which maintains the correct collateral value relative to the cash borrowed;
- should our system identify an imminent settlement transaction that requires stock pledged as collateral, a substitution will be processed replacing this required line of stock with another of equal value, in line with the criteria of the basket;
- when the counterparties agree to close the loan, stock is returned line by line, DVP, in order to ensure the entirety of the loan does not remain open due to one line of missing stock.

EUI also offer you the ability to borrow and lend securities using stock loans. We process and update loan valuations on a daily basis, saving you the operational effort. Since the CREST system handles same-day settlement, you can arrange, execute and settle your borrowing needs within a matter of minutes.

## **6.16 Paper Interface**

EUI offer an efficient process (known as dematerialisation) for moving certificated securities into the CREST system. A holding of certificated securities can be converted into a holding of electronic securities with no change in the legal ownership of the securities. The CREST system is a voluntary solution and shareholders can choose to keep their securities in certificated form.

## **6.17 Funds**

The Euroclear UK & Ireland investment funds service is the first integrated, electronic order routing, settlement and reconciliation solution for UK fund transactions. Orders placed with fund managers are settled through the CREST system on a T+4 basis. Orders placed via the EMX Message System can be routed into the CREST system and transactions created by direct input. It is possible to monitor funds positions throughout the day and reconcile in real time. The full range of automated corporate action functionalities, as well as switches and transfers, is also provided. Transfer of legal title takes place outside of the CREST system, when the product provider or its registrar updates the legal register.

## **6.18 Payments**

Clients are able to settle in sterling, euros and US dollars. The CREST system settles euro transactions on every TARGET2 business day. Customers need to have an arrangement with one of the payment banks that have agreed to offer credit and liquidity to CREST members. The CREST

system maintains a cash memorandum account (**CMA**) for each member, in one or more of the settlement currencies, as required by the member. A CMA shows the net balance of payments made and received by the member at any time during the course of the settlement day. Payment obligations between the payment banks are settled in real time through arrangements with the Bank of England for sterling, the Central Bank of Ireland for euro and at the end of day for US dollars.

## 6.19 CREST Features

CREST offers the following features:

- (1) the CREST system provides efficient and low-risk settlement. If a firm financial strikes a trade in a security, a key moment is when the payment and the asset are exchanged. CREST settles these transactions by arranging the change of ownership and the transfer of securities and cash on behalf of each side;
- (2) CREST offers real-time settlement (on trade date if required), allowing firms to monitor and manage transactions in real time throughout the day;
- (3) Delivery Versus Payment (**DVP**) (DVP model 1) in GBP and EUR central bank money, ensuring the simultaneous transfer of securities to the buyer and payment to the seller. This eliminates the risk of paying a counterparty and not receiving the asset being bought;
- (4) transfer of full legal title at the point of settlement for all UK uncertificated registered securities, including government bonds, through a direct holding model and transparency of name on the legal register;
- (5) securities borrowing/lending and collateral management facilities to support funding and liquidity management, with real-time trading and settlement of collateral management operations;
- (6) full participation in corporate actions through a direct relationship with the issuer or agent;
- (7) determines which securities are eligible - the CREST system settles exchange-traded and Over-The-Counter (**OTC**) securities transactions, with services for: UK, Irish, Jersey, Guernsey and Isle of Man equities, warrants and covered warrants; UK government bonds and money market instruments; investment funds, including ETFs.

Solid cash management - they support multiple currencies, GBP, EUR and USD. When you join the CREST system, you need to choose a payment bank to provide intra-day credit for your settlement activity. The CREST system maintains a cash memorandum account for you. This shows the net balance of payments you have made and received at any time during the course of the settlement day. Payment takes place between the payment banks across the books of the Bank of England (for GBP) and TARGET2 (for EUR).

## 6.20 Firm Membership

Firms that wish to settle their securities transactions and hold their securities with Euroclear UK & Ireland have two main options:

- (1) become a direct member (with the option of acting as a sponsor); or
- (2) become a sponsored member, operating through a sponsor.

Direct members are firms that have invested in the hardware and software to connect directly to the CREST system. They interact with the CREST system using dedicated secure networks to exchange electronic messages. A direct member of the CREST system can act as a sponsor for sponsored members that do not have a direct connection.

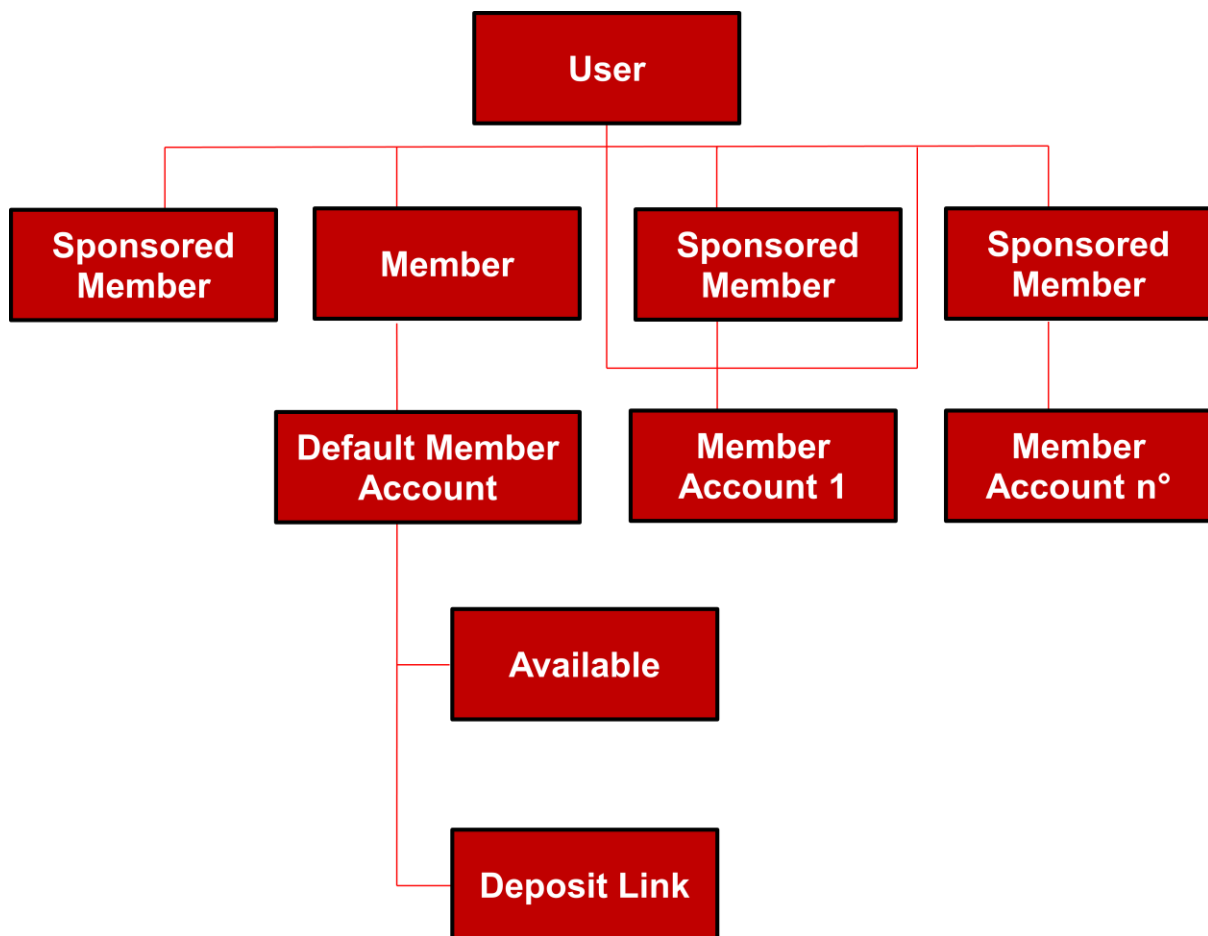
A member (whether direct or sponsored) has securities and cash functionalities in the CREST system, and is the legal owner of the securities recorded in its name in the CREST register.

A wide range of brokers, international banks, custodians and investment houses connect directly to Euroclear UK & Ireland, which operates the CREST settlement system. These institutions provide access for companies without a direct connection that wish to hold and settle securities transactions electronically.

Firms that wish to settle their securities transactions and hold securities in the CREST system have two main options. They can:

- (1) become a Direct Member; or
- (2) become a Sponsored Member.

**Figure 1: Member Account Structure**



Direct Members are firms that have invested in the hardware and software to connect directly with them. They interact using dedicated secure networks to exchange electronic messages.

Sponsored members do not have a direct connection to the CREST system and operate through another member or 'sponsor'.

Both types of member are the legal owners of the securities in the system. A private individual wishing to become a Euroclear UK & Ireland client can:

- (1) open an account in their own name with a stockbroker; or
- (2) transfer their securities into a nominee account with a stockbroker or bank, where they are held with the assets of their other clients.

## 6.21 End-to-end Funds Processing Solution

Euroclear UK & Ireland's funds service is the first integrated electronic order routing and settlement solution for UK investment fund transactions. Orders placed with fund managers are notionally settled through the CREST system on a T+4 basis. Orders placed via the EMX Message System can be routed into the CREST system and transactions created by direct input.

CREST system key facts:

- 1.7 million gross transactions processed every day;
- over 16,000 eligible securities;
- daily settlement value in excess of £1 trillion;
- approximately 88% of UK equities by value held in electronic form.

The CREST system enables individuals to hold and settle:

- UK, Irish, Jersey, Guernsey and Isle of Man equities, warrants and covered warrants;
- UK government bonds and money market instruments;
- corporate debt securities;
- investment funds, including unit trusts, OEICs and Exchange-Traded Funds (**ETFs**).

The CREST system enables individuals to:

- manage their transactions;
- manage their payments in English Sterling, European Euros and US dollars;
- manage their collateral;
- receive all the benefits of their investments;
- vote on their shares.

## 6.22 Contact Details

### ADDRESS

**Euroclear UK & Ireland**  
**Euroclear Bank local communication support**  
**Euroclear SA/NV Branch**

33 Cannon Street  
London EC4M 5SB  
United Kingdom

**Switchboard:** +44 (0)20 7849 0000

**Facsimile:** +44 (0)20 7849 0130

**Euroclear UK & Ireland Client Contact Centre**

**Telephone:** +44 (0)845 9645 648



**Email:** [client\\_service\\_london@euroclear.com](mailto:client_service_london@euroclear.com)

**Euroclear Bank local communication support**

**Telephone:** +44 (0)20 7283 2992

## **PRODUCT AND SERVICES - WEBPAGE CONTACTS**

**North America and South America**

<https://www.euroclear.com/contacts/en.html>

**Europe**

<https://www.euroclear.com/contacts/en.html>

**Africa**

<https://www.euroclear.com/contacts/en.html>

**Asia-Pacific**

<https://www.euroclear.com/contacts/en.html>

**Other**

<https://www.euroclear.com/contacts/en.html>

**Web related questions**

[webinfo@euroclear.com](mailto:webinfo@euroclear.com)

# XTRAKTER

## 7 XTRAKTER

Xtrakter is a leading provider of capital market data, trade matching and regulatory reporting services to the global securities market. It has an established track record in providing innovative, secure, and reliable solutions to the financial services sector. Xtrakter provides capital market firms with information to assist them in conducting net asset valuations, mark-to-market calculations, fixed-income portfolio mapping, liquidity and volume modelling, and reference data population updates. Xtrakter also provides a wide range of market (pricing) data for approximately 53,000 international securities and internationally traded government bonds, as well as securities reference data for 290,000 government bonds, corporate bonds, medium-term notes, and private issues. In 2012 Xtrakter employed 70 people and was based in London.

Xtrakter was an ARM for the UK's FSA, France's the Autorité des Marchés Financiers (**AMF**), and the Netherland's Authority for the Financial Markets (**AFM**). Xtrakter was established in 1985 and has been a part of the Euroclear group of companies since April 2009. On 2<sup>nd</sup> February 2011 it had 300 clients located around the world and processed more than 3 million transactions daily. Xtrakter has a long standing record as collector and provider of information to the non-equity markets offering services to both wholesale and retail markets.

On 2<sup>nd</sup> November 2012 MarketAccess Holdings Inc. (Nasdaq: MKTX), the operator of a leading electronic trading platform for US and European corporate bonds, emerging markets bonds, and other types of fixed-income securities, agreed to acquire Xtrakter Limited. Xtrakter was a wholly owned subsidiary of Euroclear SA/NV. The purchase price was £26 million (approximately \$42.0 million) in cash, plus transaction costs. The purchase price of £26 million highlights that in the three years following the purchase of Xtrakter by Euroclear the value of Xtrakter's solutions rose significantly. Notwithstanding this increase in value, the disposition of Xtrakter by Euroclear can be seen to highlight Euroclear's intention to concentrate on its core offerings (i.e. clearing services) rather than to start developing a new ARM solution for MiFID II again in 2018.

### 7.1 MARKET ACCESS



MarketAxess was formed in April of 2000 in response to investors' need for a single trading platform with easy access to multi-dealer competitive pricing in a wide range of credit products. Their award-winning, patented trading technologies are used by the world's most demanding institutional clients to provide a streamlined, high performance trading experience. They feature trading technologists which combine deep fixed-income and derivatives market expertise with proven capabilities in technology development to deliver an efficient, reliable trade execution platform. They define their connectivity solutions to provide access to the broadest network of institutional clients and broker-dealers. MarketAccess notes that it has \$10 billion in average order flow per day, 1,300 active investor and dealer firms, and has one global marketplace.

### 7.2 TRAX



Trax is an Approved Publication Arrangement (**APA**) for MiFID II and also features unique tools for Systematic Internaliser (**SI**) determination. Trax is also an Approved Reporting Mechanism (**ARM**) under MiFID II. Trax offers ARM approved reporting software, called Trax insight, which is a suite of three programmes, Match, Transparency and Report. Based in London, Trax is a trading name of Xtrakter, which was acquired by MarketAxess. Trax is a subsidiary of MarketAxess. Trax has been on the ARM market for more than ten years as the company has a strong position and a stable client base.

Trax has significant experience in the development of regulatory reporting solutions to global financial institutions. Leveraging its history of providing reliable and innovative solutions, Trax has designed its Report solution to enable clients to manage their regulatory risk by securely delivering reports to European Competent Authorities and Trade Repositories. As a trusted industry partner, Trax processed 1.1 billion transactions on behalf of its clients in 2015.

Trax can help clients to increase efficiency, reduce risk and improve their operating margin. Trax is a leading provider of capital market data, trade matching and regulatory reporting services to the global securities market. In 2016 Trax processed 1.2 billion transactions on behalf of its user community and has over 30 years' experience in providing innovative, secure and reliable systems for the financial services sector. Trax estimates that it processes approximately 65% of all fixed income transactions in Europe as part of its post-trade service offering.

Trax has designed a reporting solution to enable clients to manage their regulatory risk by securely delivering reports to European Competent Authorities and Trade Repositories. Trax Insight is online operational tool to monitor the status of clients reporting activity, clients can identify exceptions and data quality issues.

### 7.2.1 Trax Match

Trax Match is designed to reduce operational risk by giving firms the ability to confirm and reconcile cash and repo transactions in near real-time. Trax Match helps reduce risk by allowing firms to:

- confirm all economic details within minutes of execution via Trax Insight;
- auto-pairing of potential matches to identify discrepancies;
- ability to match both trade economics and SSIs, including Pset;
- analytics for trend analysis to drive operational efficiency.



Extensive analytics allow firms to benchmark their performance against the industry.

### 7.2.2 Trax Transparency

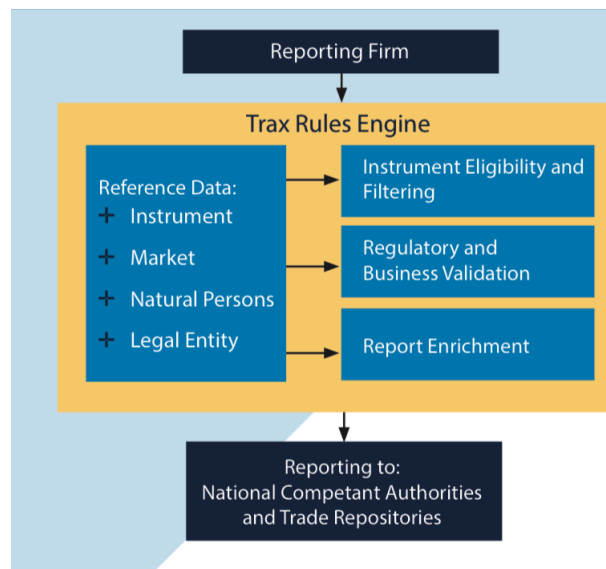
The Trax Transparency solution includes a range of tools to enable investors and dealers to meet their pre- and post-trade transparency obligations. Trax transparency Solution includes:

- APA (approved Publication Arrangement);
- rules engine simplifies challenges of pre-trade waivers and post – trade deferrals;
- assessment of the liquid status of instruments based on a comprehensive reference data service;
- SI services to help firms assess whether they will be deemed a Systematic Internaliser at instrument level;
- critical mass of participation from leading investment firms.

### 7.2.3 Trax Report

Trax Report is a multi-regulation, multi-asset class regulatory reporting solution designed for all market participants. Failure to meet transaction reporting requirements can lead to significant financial penalties and reputational damage to the firm. The fully MiFID-compliant Trax Report service provides a cost-effective and efficient means for to comply with the transaction reporting obligations, allowing:

- translation, consuming and formatting data to meet cross-asset class regulatory reporting obligations;
- filtering, a rules engine powered by industry leading reference data to filter raw transaction data leaving just MiFIR or EMIR reportable trades;
- enrichment, reference data solutions to enrich reporting fields to include instrument, legal entity, natural persons and transparency data;
- validation, intuitive exception management tools and validation to reduce regulatory risks;
- visibility, identify exceptions and data quality issues through the Trax Insight web-based front-end.



### 7.2.4 Specialities

Fixed Income, Capital Markets, Transaction Reporting, Trade Matching, Securities Market and Reference Data, Net Asset Valuation Services, Securities Volume Data, Illiquid Asset Data, ARM, and TRAX.

### 7.2.5 Trax Insight (Trax's ARM)

Failure to meet transaction reporting requirements can lead to significant financial penalties and reputational damage to firms. The fully MiFID-compliant Trax Report service provides a cost-effective and efficient means for each customer to comply with his transaction reporting obligations.

### 7.2.6 A single hub for regulatory reporting

Processing millions of reports every day, Trax Report is a one-stop regulatory reporting solution that can help clients to increase efficiency and reduce risks. Whether supporting a single central reporting hub or rolling out multiple access-controlled and audited desktop installations, Trax represents a

solution to suit clients' needs. Clients can easily integrate trading systems with the assurance that Trax will report each transaction to the appropriate authority in accordance with their individual submission formats and validation rules.

### **7.2.7 Fully MiFID-compliant Approved Reporting Mechanism**

Trax is compliant with the most recent extensions of the Markets in Financial Instruments Directive. It supports all mandated reporting instruments, including Alternative Instrument Identifiers (**AII**s) for derivative reporting. Trax Report facilitates the reporting to the following competent authorities:

- Financial Conduct Authority (**FCA**) of the United Kingdom;
- Autorité des Marchés Financiers (**AMF**) of France;
- Authority for the Financial Markets (**AFM**) of the Netherlands.

Trax also provide primary dealers with an onward reporting facility to the Belgian Financial Services and Markets Authority (**FSMA**) in accordance with FSMA and Securities Regulation Fund regulatory requirements.

### **7.2.8 Trax Insight Advantages**

These are the Trax Insight advantages:

- 30+ years of capital market expertise;
- 5+ million securities in the Trax cross-asset class reference database;
- pre-MiFID II reporting and transparency tools;
- control via advanced analytics and preference configurations through Trax Insight;
- Competent Authority transaction rejection rate of 0.002%;
- Trax Report is designed with high volume users in mind;
- it supports ISO 15022/20022, XML and flat formats, via real-time and batched messaging options, enabling a reduction in integration risk and investment cost;
- Trax is an ARM under MiFID I and has a legacy of developing comprehensive operational tools since 1985;
- users can cancel or amend transactions submitted via any ARM. Trax eases the process and allows for resubmissions to be handled through a single portal;
- Trax Report is designed with high volume users in mind. It supports ISO 15022/20022, XML and flat file formats, via real-time and batched messaging options, enabling customers to reduce integration risk and investment cost.

### **7.2.9 Trax Insight Features**

These are the Trax Insight features:

- individual connectivity to Transparency and Report services;
- a dynamic web-based operational interface, including reporting flow monitoring and management, alerting and search functions;

- reconciliation of transaction reports across counterparties;
- transparency rules engine and deferral/waiver management;
- comprehensive connectivity to Transparency and Report services by managing raw transaction data;
- Systematic Internaliser (**SI**) determination and reference data reporting services;
- cross population and reconciliation of data for trade and transaction reports;
- storage and enrichment of reporting rules and bespoke validation parameters;
- management information: industry analytics and peer benchmarking;
- Trax MiFID List (MiFID II instrument reference data service), near real-time MiFID instrument eligibility and reference data service (allows firms to overcome the regulatory challenge of correctly identifying MiFID reportable instruments for MiFID I and an early indication of MiFID II eligibility).

### 7.2.10 Trax Insight Solution

Trax Insight is a b-based operational tool to monitor the status of the reporting activity. Trax Insight is a rules engine to ingest, format and filter raw-transaction data into MIFID or G20 formats, report enrichment and natural person reference data solutions, including exception management tools and validation to reduce regulatory risk, customisable analytics and benchmarking tools and online self-directed access to five year historic transaction reports.

Figure 2: Trax Insight Solution



Figure 3: Trax Insight

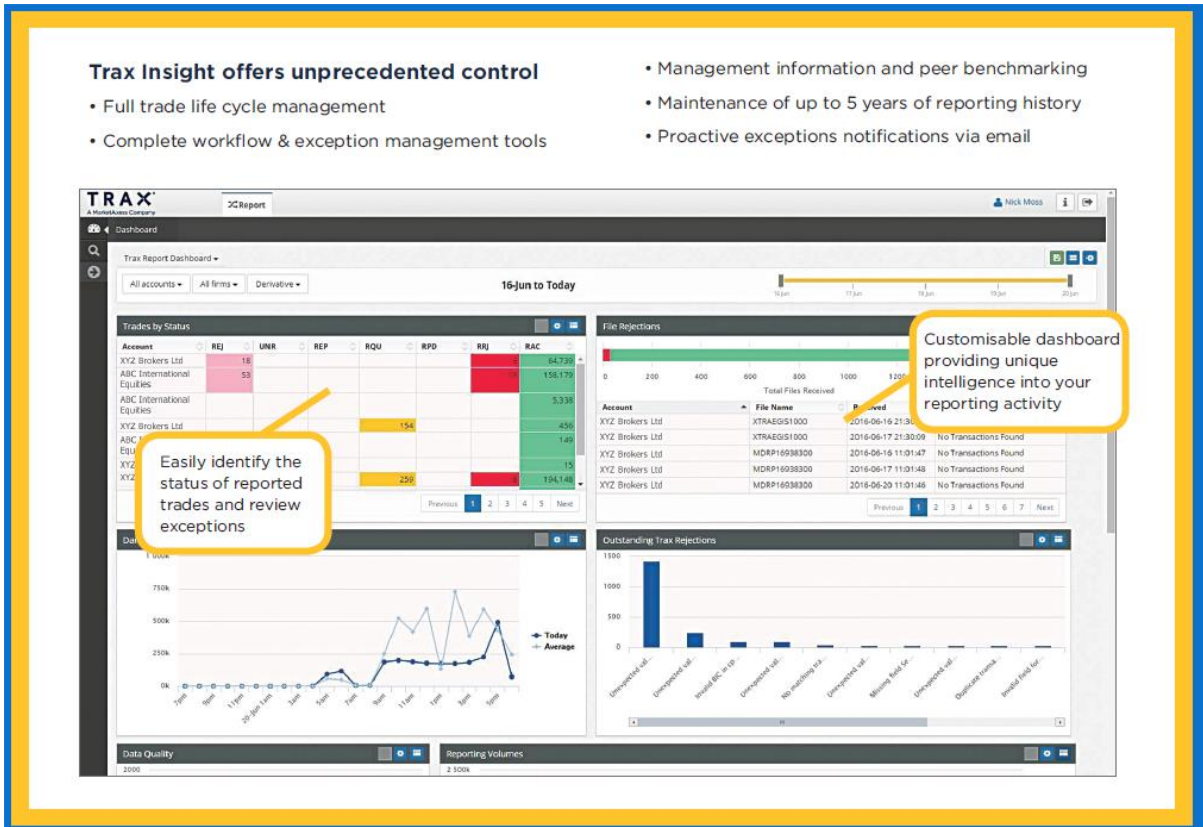


Figure 4: Trax Insight Operational Flexibility

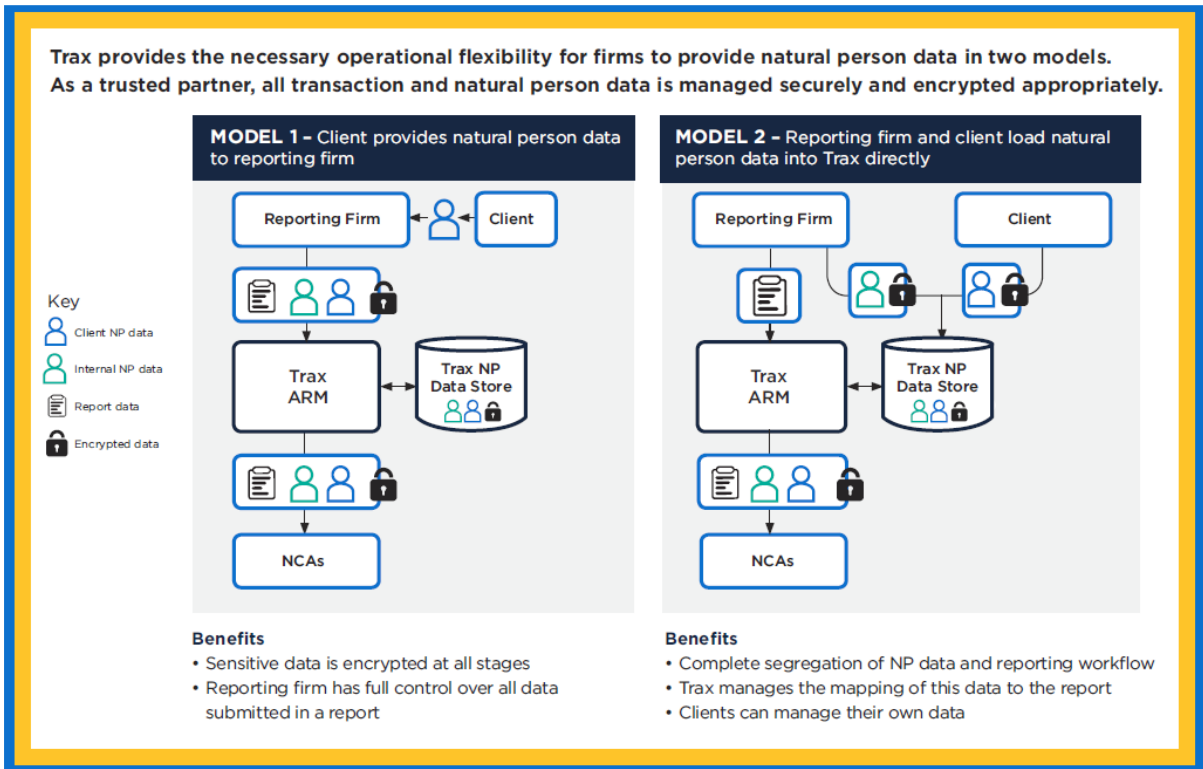


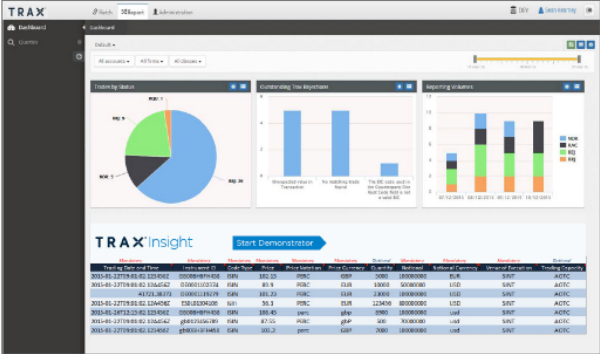
Figure 5: Trax ARM Rules Engine

**ARM RULES ENGINE**

**What Trax offers:**  
Trax has developed a MiFID II ARM rules engine to provide clients with a testing environment to validate various reporting scenarios.

**Benefits:**

- Provides an early opportunity to view the impact of transaction reporting.
- Test technical readiness ahead of implementation deadline.



**INTELLIGENT DATA ENRICHMENT**

**What Trax offers:**  
In addition to being able to assess whether an instrument is MiFID I or MiFID II eligible, Trax can also enrich reporting fields to include instrument, legal entity, natural person and transparency data.

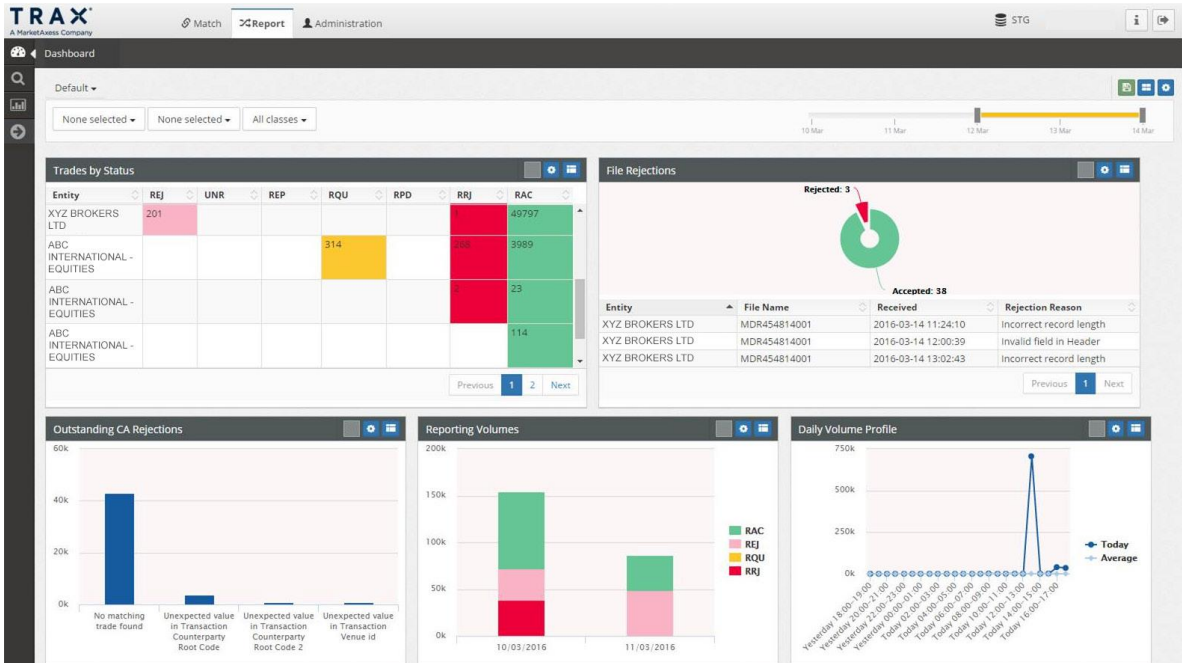
**Benefits:**

- Minimises technical input for clients to source and generate transaction reports.

**MIFID II Transaction Report**

Client	Trax Enrichment
<b>22 Fields</b>	<b>43 Fields</b>
<p><b>Client supplies:</b></p> <ul style="list-style-type: none"> <li>• Trading capacity</li> <li>• Up-front payment</li> <li>• Short selling indicator</li> <li>• Transaction Reference Number</li> </ul>	<p><b>Trax can enrich fields, including:</b></p> <ul style="list-style-type: none"> <li>• Buyer - first name(s) and surname(s)</li> <li>• Instrument classification</li> <li>• Underlying instrument code</li> <li>• Maturity date</li> <li>• Seller decision maker - date of birth</li> <li>• OTC post-trade indicator</li> <li>• Price multiplier</li> <li>• Notional currency</li> </ul>

Figure 6: Trax Report Insight



The dashboard displays the following components:

- Trades by Status:** A table showing trade counts for various entities across different status codes (REJ, UNR, REP, RQU, RPD, RRJ, RAC).
- File Rejections:** A summary showing 3 rejected files and 38 accepted files, with a table of rejection reasons.
- Outstanding CA Rejections:** A bar chart showing the number of outstanding rejections for different categories.
- Reporting Volumes:** A stacked bar chart comparing reporting volumes for two dates (10/03/2016 and 11/03/2016).
- Daily Volume Profile:** A line chart showing daily trading volume over time, with a peak on 11/03/2016.



Figure 7: The Trax Advantage



**The Trax Advantage**

- **Trax Insight™ gives you control** over your regulatory reporting (MiFID, MiFID II, EMIR and G20 derivatives), transparency and matching activity through a single operational platform
- **MiFID II ARM rules engine** provides a testing environment for MiFID II transaction reporting
- **Comprehensive MiFID instrument database** enables firms to identify MiFID I and II eligible instruments
- **Trax Report simplifies the challenges** of the reporting requirements by managing deferrals/waivers and filtering, such as identifying reporting responsibility
- **Extensive analytics** allow firms to benchmark their performance against the industry
- **Defined levels of service** with Service Level Agreements and out of hours support

### 7.3 Trax Coverage

Challenge	Legal Text and Regulatory Technical Standards	The Trax Solution
<p><b>Data Sourcing and Transformation</b> Data required to fulfil the full transaction report will need to be sourced from multiple different and new systems.</p>	<ul style="list-style-type: none"> <li>• MiFIR article 26(3) – Scope of reportable fields.</li> <li>• RTS 22 Article 1 – Data standards and formats.</li> <li>• MiFIR article 26(1) – Requirement to report on T+1.</li> </ul>	<ul style="list-style-type: none"> <li>• OMS integration.</li> <li>• Translation tools.</li> <li>• Data normalisation.</li> <li>• Single monitoring tool across all flows and regulations.</li> </ul>
<p><b>Regulatory Burden and Rules Interpretation Risk</b> The transaction reporting obligation rests with each individual firm, creating potential risks for market participants across several different regulations.</p>	<ul style="list-style-type: none"> <li>• MiFIR article 26(2) – MiFIR eligible instruments.</li> <li>• RTS 22 Article 2 – Meaning of transaction.</li> <li>• RTS 22 Article 3 – Meaning of execution.</li> <li>• ESMA/2015/1909 – Reporting Scenarios CP</li> </ul>	<ul style="list-style-type: none"> <li>• Benefit from industry level reporting rules.</li> <li>• Community based working groups.</li> <li>• Proven regulatory expertise.</li> <li>• Dedicated client on-boarding team.</li> </ul>
<p><b>Broad Asset Class Requirement</b> Among the different new regulations, the scope of instruments covered increases dramatically to include non-equities and derivatives.</p>	<ul style="list-style-type: none"> <li>• MiFIR article 26(2) – MiFIR eligible instruments.</li> </ul>	<ul style="list-style-type: none"> <li>• Extensive reference data to support MiFID I and II eligibility and validation.</li> <li>• Manage bespoke reference data within the Trax Insight™ user interface.</li> </ul>
<p><b>Natural Person (NP) Data Requirements</b> MiFIR will bring about new requirements for the inclusion of natural person data in transaction reports. General Data Protection Regulation (GDPR) will also require more</p>	<ul style="list-style-type: none"> <li>• MiFIR article 26(3) – Scope of reportable fields.</li> <li>• MiFIR article 26(4) - RTO.</li> <li>• MiFIR article 26(6) – Natural Person identifier.</li> </ul>	<ul style="list-style-type: none"> <li>• Data masking.</li> <li>• Storage and enrichment of NP data.</li> <li>• Data encryption.</li> <li>• Data segmentation models.</li> </ul>

Challenge	Legal Text and Regulatory Technical Standards	The Trax Solution
stringent management of personal data.		

## 7.4 Contact Details

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<http://www.traxmarkets.com/contactform.aspx#>

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**Telephone:** UK +44 (0)20 3655 3440

# LONDON STOCK EXCHANGE (UNAVISTA)

## 8 LONDON STOCK EXCHANGE GROUP



### London Stock Exchange Group

management. LSEG operates an open access model, offering choice and partnership to customers across all of its businesses. The Group can trace its history back to 1698.

London Stock Exchange Group (**LSEG**) is an international markets infrastructure business. Its diversified global business focuses on capital formation, intellectual property and risk and balance sheet

The Group operates a broad range of international equity, ETF, bond and derivatives markets, including London Stock Exchange; Borsaitaliana; MTS (Europe's leading fixed income market); and Turquoise (a pan-European equities MTF). Through its platforms, LSEG offers market participants, including retail investors, institutions and SMEs unrivalled access to Europe's capital markets. The Group also plays a vital economic and social role, enabling companies to access funds for growth and development.

Through FTSE Russell, the Group is a global leader in financial indexing, benchmarking and analytic services with approximately \$10 trillion benchmarked to its indexes. The Group also provides customers with an extensive range of data services, research and analytics through Mergent, SEDOL, UnaVista, XTF and RNS.

Post trade and risk management services are a significant part of the Group's business operations. In addition to majority ownership of LCH, a multi-asset global CCP operator, LSEG owns CC&G, the Italian clearing house; Monte Titoli, a leading European custody and settlement business; and globeSettle, the Group's CSD based in Luxembourg.

LSEG is a leading developer and operator of high performance technology solutions, including trading, market surveillance and post trade systems for over 40 organisations and exchanges, including the Group's own markets. Additional services include network connectivity, hosting and quality assurance testing. Millennium IT, GATElab and Exactpro are among the Group's technology companies.

### 8.1 London Stock Exchange



### London Stock Exchange

The London Stock Exchange (**LSE**) is a stock exchange located in the City of London, England. As of December 2014, the Exchange had a market capitalisation of US\$6.06 trillion (short scale), making it the third-largest stock exchange in the world by this measurement (the largest in Europe, ahead of Euronext). The Exchange was founded in 1801 and its current premises are situated in Paternoster Square close to St Paul's Cathedral in the City of London. The Exchange is part of the London Stock Exchange Group.

London Stock Exchange is one of the world's oldest stock exchanges and can trace its history back more than 300 years. London Stock Exchange Group was created in October 2007 when London Stock Exchange merged with Milan Stock Exchange, Borsaitaliana. London Stock Exchange is the world's most international exchange. Nearly 2,500 companies from more than 90 countries are quoted across its markets, with a combined value of £4.4 trillion.

London Stock Exchange's markets include the Main Market – London's flagship venue for equity, debt and exchange traded products, offering businesses access to Europe's most liquid pool of capital – and AIM – the world's leading market for small and growing companies. Since its launch in 1995 AIM has helped 3,500 companies raise £87 billion.

Trading participants access London Stock Exchange markets via a range of secure, low latency interfaces, including the Order book for Retail Bonds (ORB), which since its launch in 2010 has allowed private investors to trade bonds in small denominations, and has helped companies raise over £4 billion.

London Stock Exchange also offers a range of real-time and reference data services, facilitating the trading and reporting of over £1 trillion of securities by 400 members annually. London Stock Exchange is part of London Stock Exchange Group, which incorporates a range of pan-European trading, technology, post-trade and index businesses. Normal trading sessions on the main orderbook (**SETS**) are from 08:00 to 16:30 local time every day of the week except Saturdays, Sundays and holidays declared by the exchange in advance. The detailed schedule is as follows:

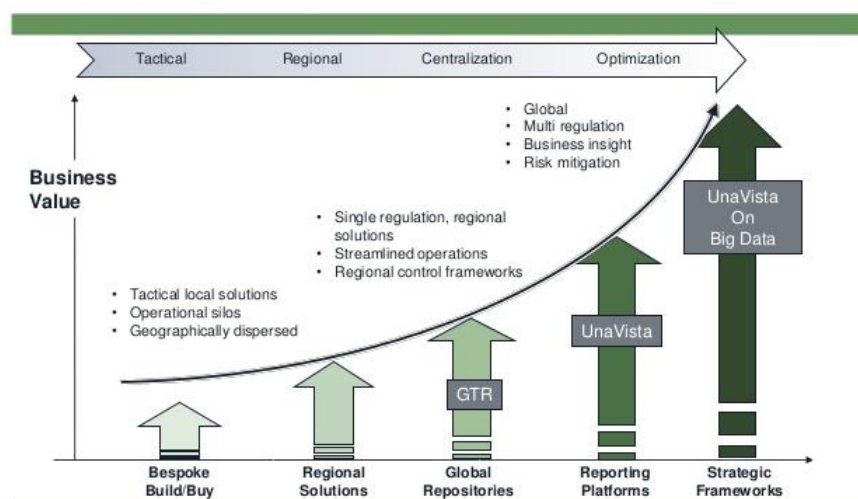
Trade reporting 07:15–07:50  
 Opening auction 07:50–08:00  
 Continuous trading 08:00–16:30  
 Closing auction 16:30–16:35  
 Order maintenance 16:35–17:00  
 Trade reporting only 17:00–17:15

## 8.2 ARM Service – UnaVista

London Stock Exchange has been transaction reporting since its inception in 1989. In 2010, working with major institutions, LSE created UnaVista Transaction Reporting. The service is more flexible, developed a wider choice of interfaces, and improved its validation. Now, it does not just meet the regulator's requirements – it exceeds them, reducing the risk of incorrect, late or duplicate reporting. This helps clients to spot and correct the errors before the regulator.

UnaVista is London Stock Exchange Group's global hosted platform for all matching, validation and reconciliation needs. It offers a range of business solutions through one interface designed to help firms become more efficient and reduce operational and regulatory risk across all asset classes. London Stock Exchange Group has the complete MiFID II reporting solution – and provides the experience, knowledge, technology and support infrastructure to ensure a comprehensive, accurate and fast MiFID II implementation to the clients.

Figure 8: Risk Management Evolution

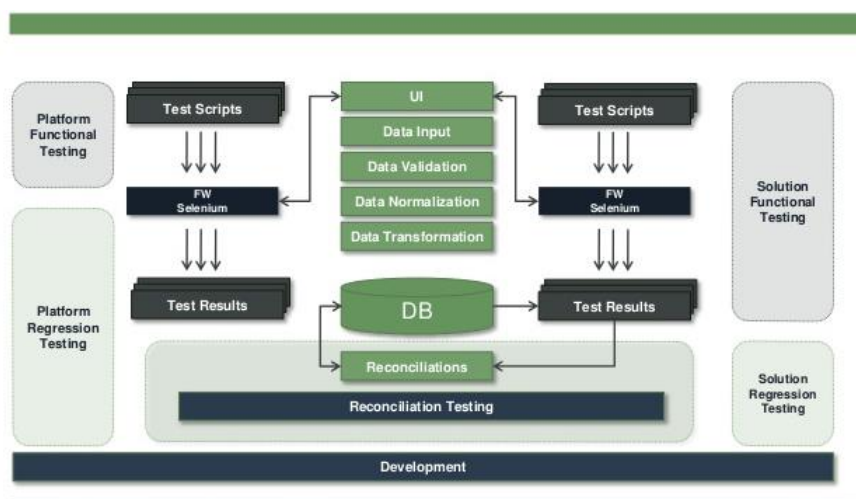


## 8.3 Overview

UnaVista is one of the largest ARMs in Europe under the current MiFID regime and is now ideally positioned to offer an enhanced service, covering the broader scope of instruments and the increased number of reportable fields under MiFIR. UnaVista's ARM will be connected to all European National Competent Authorities (**NCA**s), so its customers will not need to build and manage connections to each of the NCAs themselves. Using the ARM service, customers can send in all of their data from

multiple sources and UnaVista will determine which transactions are reportable and which competent authorities to send it to. UnaVista will also be offering an assisted reporting model for customers who want to connect via their broker or technology partner. The ARM is part of LSEG's MiFID II and MiFIR reporting services, which also include an APA service for trade reporting provided through TRADEcho, a partnership between London Stock Exchange and Boat Services. UnaVista has a range of solutions that it offers firms.

**Figure 9: Software Testing for UnaVista**



## 8.4 Regulatory Solutions

UnaVista is the only approved EMIR Trade Repository and MiFID Approved Reporting Mechanism. Over 700 customers report more than a 1.5 billion transactions per year for MiFID alone. Other regulatory solutions include and AIFMD, short selling & financial transaction tax amongst others.

## 8.5 Data Solutions

London Stock Exchange is an approved Pre-LOU to allocate Legal Entity Identifiers via UnaVista, which also hosts a consolidated view of all global LEIs as well as SEDOL Masterfile, corporate actions, historical trading data and analytics.

## 8.6 Post Trade Matching

UnaVista can preform trade confirmation and affirmations across multiple asset classes (including swaps).

## 8.7 Reconciliations

UnaVista is a hosted reconciliations platform that can perform a variety of reconciliations including cash, stock, system-system, Net Asset Value, Exchange, Exchange Traded Derivatives, client money, Front to Back Office (finance).

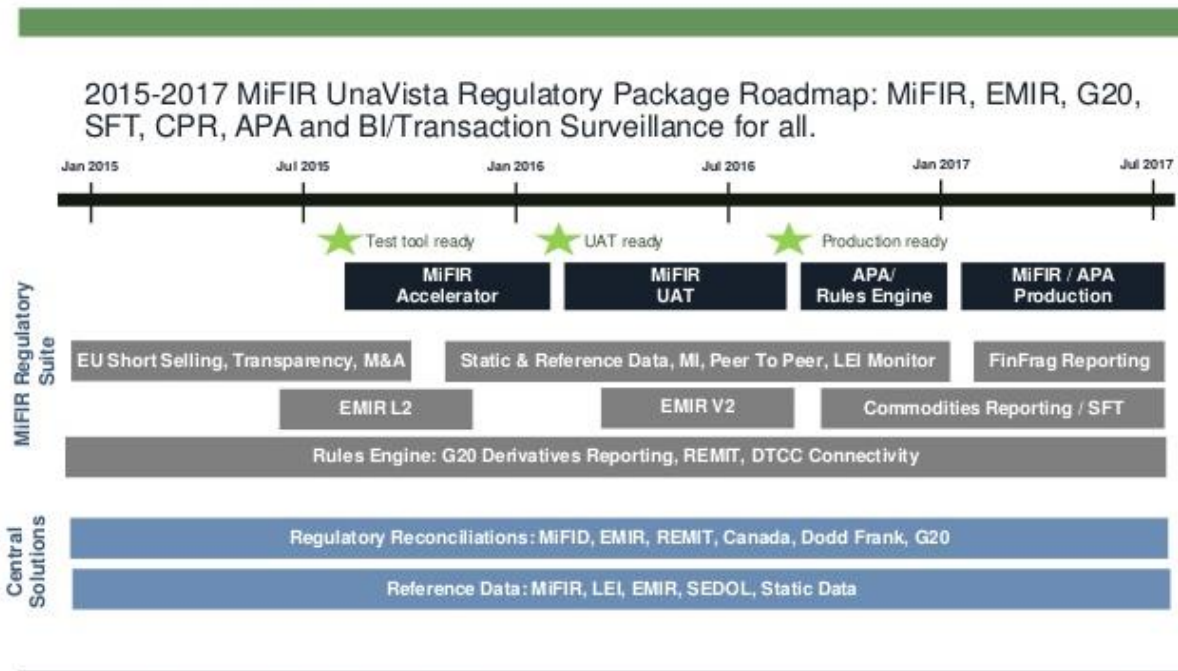
## 8.8 MiFID II Reporting Solutions

London Stock Exchange Group provides clients with a complete MiFID II trade and transaction reporting service. Firms can enjoy the benefits of seamless reporting with one connection, one sales contact, one contract and one on-boarding process.

Through UnaVista firms can be fully compliant with MiFID II trade and transaction reporting, MiFID II commodities position reporting, reference data reporting, EMIR reporting, MAR surveillance and more.

LSE technology gives clients the needed business insight, helping them to stay compliant and giving them competitive edge. Through the LSE hosted platform clients can make more out of MiFIR and turn it into an opportunity.

**Figure 10: UnaVista Technology Offerings**



### 8.9 MiFIR Transaction Reporting ARM

UnaVista is an MiFID ARM that can help clients to meet all their regulatory transaction reporting obligations. UnaVista helps firms not only comply but turn reporting into a opportunity to improve their business processes. Data will be validated against the latest data sources to help clients spot errors before the reports reach the regulator, as well as assisting in the analysis of over- and under-reporting. UnaVista can be rolled out quickly, without the burden of unnecessary back-office, infrastructure and software costs.

### 8.10 Report for MiFID and MiFIR

UnaVista is already trusted by thousands of firms for reporting their MiFID transactions. UnaVistaMiFIR reporting UAT is available for clients to test in now to ensure they will be ready for the January 2018 go-live. UnaVista has applied to be an ARM for MiFIR reporting and aims to be approved once the approval system opens.

### 8.11 LSE Transaction Reporting

London Stock Exchange has been transaction reporting since its inception in 1989. In 2010, working with major institutions, we created UnaVista Transaction Reporting. The service is more flexible, developed a wider choice of interfaces, and improved its validation. Now, it does not just meet the regulator's requirements – it exceeds them, reducing the risk of incorrect, late or duplicate reporting. This helps clients to spot and correct the errors before the regulator.

### 8.12 Key Benefits

Key benefits include the following:

- UnaVista allows clients to report on every reportable asset class and to all NCAs. Clients can also use UnaVista for reporting for other global regulations including global derivative trade

reporting regimes in the EU, Asia and North America. All their regulatory reporting data in one place, with one connection;

- the regulators "encourage firms to regularly review the integrity of the transaction reporting to ensure they have been successfully submitted". UnaVista assists with this process by enabling firms to reconcile between their own back-office data, the data held by UnaVista and the data held by the NCA;
- UnaVista Transaction Reporting does all the mandatory validation clients would expect. But it also validates the data by checking it against the reference data sources clients choose, such as ESMA's list of regulated markets, MiFID eligible securities and the London Stock Exchange's SEDOL Masterfile. UnaVista enables users to correct exceptions manually, export selected reports, clear non-relevant exceptions, as well as a number of other exception management tools;
- clients can submit transaction reports in any structured format, which UnaVista then standardizes for FSA reporting. This reduces the need for expensive middleware;
- clients can receive alerts based on their custom tolerances and thresholds for things like transaction volumes or transaction size. This ensures clients are never surprised late on by a problem of which they were unaware;
- clients can set different levels of access for individuals or groups, so people only see the information clients want them to see. Clients can also set as many mandatory audit steps as clients like. As a result, clients will know that the right checks are in place. Clients will also have a full audit trail if clients need to check back over things later on;
- clients can use UnaVista to monitor trends within their transaction reporting, helping them to identify where errors are recurring. Clients can use UnaVista to take a snapshot of all their transactions at any time, choose from a variety of report templates, or create their own custom report. Clients can even include a variety of charts from the dashboard;
- London Stock Exchange plc has today received regulatory approval from the UK's Financial Conduct Authority (**FCA**) to be authorised as an Approved Reporting Mechanism (**ARM**) through its UnaVista platform. The approval means that UnaVista is able to offer transaction reporting services for its customers to help them in meeting their reporting obligations under MiFIR.

### **8.13 How UnaVista can help clients navigate the regulatory landscape**

In today's complex regulatory environment, UnaVista's Rules Engine can help many organizations to find solutions to manage the risks associated with connections, formatting and validation of raw data. Using the UnaVista Rules Engine we can take in their data from multiple internal sources and validate it using our own reference data and rule logic. The rules engine will then normalize, convert and format imported information as desired. UnaVista's Rules Engine has the logic built in to assist clients with multiple regulations, below is an example of just some of these regulations, but as new regulations emerge UnaVista may be able to be configured to assist clients with these as well.

### **8.14 UnaVista Rules Engine**

The UnaVista Rules Engine provides firms with a simplified route to address multiple regulations, offering a central hub for managing and routing data. We manage the connections so when requirements change or new regulations emerge, it can be adjusted or added quickly and simply in UnaVista.

### **8.15 How the Rules Engine Works**

Using the UnaVista Rules Engine we can take in their raw data from multiple internal sources and validate it using our own reference data and rule logic. The rules engine will then normalise, convert and format imported information as desired.

UnaVista's Rules Engine has the logic built in to help clients with multiple regulations, below is an example of just some of these regulations, but as new regulations emerge UnaVista can be configured to assist clients with those as well. For further details on how we can help clients with different regulations, please check our regulation page. Examples of regulations the UnaVista Rules Engine can assist with:

#### **MiFiD**

See which transactions are eligible for MiFiD transaction reporting. As an ARM UnaVista will also do the reporting on their behalf.

#### **EMIR**

Identify the transactions that are eligible for EMIR reporting and send their data to the UnaVista Trade Repository or route to another one if desired.

#### **Short selling**

Calculate their firm's net short position in each relevant instrument and get a graphical overview of their positions.

#### **AIFMD**

Consolidate their data and report to multiple European competent authorities.

### **8.16 UnaVista Platform Benefits**

UnaVista Platform benefits include:

- one system for all the regulatory reporting, giving clients unique insights and efficiency.
- enrich and validate the data using our reference data sources, such as LEI, eligibility files and ISIN.
- save clients the cost of middleware as transaction reports can be submitted in any standard format.
- improve management information with our advanced dashboards.
- improving the workflow by setting different levels of access for individuals or groups in the client's organization.

### **8.17 UnaVista's Partner Programme**

UnaVista's Partner Programme gives firms an opportunity to be part of one of the largest RegTech communities in the world. UnaVista is an industry leading regulatory compliance and data integrity platform helping firms reduce their operational and regulatory risk. With over 60,000 users across 6 continents in the financial services, energy and corporate sectors, UnaVista clients benefit from a flexible technology, a renowned customer service and the regulatory expertise of the London Stock Exchange Group.

Firms wishing to partner with UnaVista and be part of the community can leverage this expertise to enhance their own offerings and to provide a more integrated approach for clients' regulatory needs. UnaVista's partner programme was launched in response to MiFiD II however the programme has now been extended to other upcoming regulations including:

MiFIR Transaction Reporting - 3 January 2018, EEA;

MiFiD II Commodities Positions Reporting - 3 January 2018,

EEA and the G20 Derivative Reporting (ASIC - Live, Australia; Bank of Israel – Live, Global; Canada - Live, Canada; CFTC - Live, USA; EMIR revised RTS - 1 November 2017;



HKMA - Live, Hong Kong; MAS - Live, Singapore; Swiss FMIA (FinfraG) - Phased go-live starting; Securities Financing Transaction Reporting (**SFTR**) - 2019, EEA; Consolidated Audit Trail (**CAT**) - Phased go-live starting 2018, USA;

Market Abuse Regulation (**MAR**) - Live, EEA)

UnaVista's Partner Programme seeks to bring together the world's leading financial services technology and consultancy firms to help the markets become more efficient and reduce operational and regulatory risk. The types of firms in the Partner Programme include:

- OMS and Front End System Providers.
- Middleware Vendors.
- RegTech Providers.
- RiskTech Providers.
- FinTech Providers.
- Platform Providers.
- Consultants.

The Partner Programme provides a host of benefits to augment partners' products and services; it is designed with the aim of providing support and enablement capabilities along with marketing opportunities including:

- UnaVista platform software specification.
- User Acceptance Testing (**UAT**) environment.
- Access to TRADEcho Trade Reporting Client Portal.
- On-Boarding Technical support.
- Client training rates for regulatory workshops.
- Rich content repository with videos, webinars, presentations, brochures etc.
- 50% discount for 'Train the Trainer' technical training service on UnaVista's platform.
- Bi-lateral logo usage on website and other digital content.
- Participation in UnaVista targeted campaigns.
- Access to the UnaVista Ambassador Network programme.
- The programme enables partners.
- Access UnaVista's market-leading technology to broaden solution offerings.
- Powerful marketing through joint branding programmes to drive increased sales in new markets.
- Leverage UnaVista's resources and enablement programmes to increase revenues.

- Harness the power of the London Stock Exchange brand value.

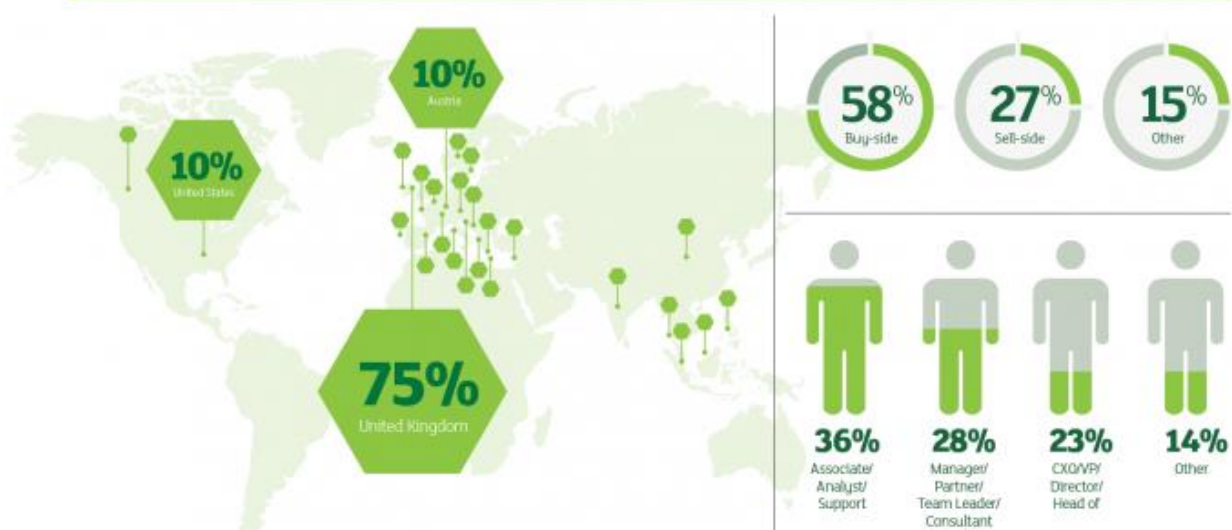
## 8.18 Statistics

London Stock Exchange Group's industry-leading regulatory reporting solution, UnaVista, has the largest ARM user-base and already helps thousands of firms to optimize MiFID II reporting.

Over 5 billion transactions reported are processed annually with UnaVista and 90% of the top 20 investments banks have chosen UnaVista for MiFID II. More than 1500 firms already using UnaVista for regulatory reporting and more than 3,000 companies globally across 86 countries. UnaVista has been approved by ESMA to be a trade repository across all asset classes for both exchange traded derivatives and OTC derivatives.

Figure 11: UnaVista Customer Satisfaction Survey 2016

## 26 COUNTRIES



## 8.19 LSE Regulatory Reporting Suite

The London Stock Exchange has been assisting firms with their reporting duties since the practice began. We have developed a close relationship with regulators and have accumulated years of experience in the field. UnaVista has been designed using this experience to help firms improve their non-revenue generating processes to become compliant in a more efficient manner.

The UnaVista regulatory reporting suite provides clients with a comprehensive group of products and services that will help clients reduce their operational risk through meeting all of their regulatory reporting needs. It is designed to provide clients with all the key elements that regulators look for when auditing firms.

## 8.20 Transaction Reporting

UnaVista offers two methods of regulatory reporting, Standard Reporting and Direct Reporting. Standard Reporting provides a higher than mandated service for all transaction reporting needs. Direct Reporting gives clients everything Standard Reporting offers but goes one step further and resolves the most common issues seen in reporting, which are created at the data translation layer.

## 8.21 Standard Reporting

The following are standard reporting features:

- ARM for multiple European Regulators (FCA, AFM, AMF, BaFin);
- processes all asset types and multiple data formats;
- Hosted service with data storage for 7 years;
- Exceeds mandatory validation.

## **8.22 Direct Reporting**

The following are direct reporting features:

- remove costly middleware;
- UnaVista Rules Engine generates, transforms and submits reports from their source data;
- full visibility of process including data enrichment and normalization using multiple static sources;
- remove the cost and risk of software upgrades as a result of regulatory changes.

## **8.23 MiFID eligible reference data feed**

Features include an ability to:

- cross reference to ISIN, SEDOL Aii codes.
- access to global SEDOL Masterfile with over 5m multi asset class traded instruments.

## **8.24 Management Dashboards**

Understand every element of their business with UnaVista's flexible dashboards, customizable reporting and charting, all of which are exportable to PDF and excel.

## **8.25 Monthly, weekly and daily reports**

These include:

- volume metrics and trends;
- risk analysis and trends.

## **8.26 Daily Reconciliation**

Ensure clients get to their exceptions before they become a problem:

- daily back office reconciliations against UnaVista to identify data omissions;
- reporting and sign off functions;
- reconciliations with FCA reported data.

## **8.27 APA Service – TradEcho and BOAT**

TRADEcho is the London Stock Exchange Group's (LSEG) real-time pre and post-trade publication service for MiFID II. The service brings together ten years of trade reporting



experience and regulatory expertise to provide firms with a world class solution for their MiFID II transparency obligations.



With MiFID II on the horizon, the LSEG and Boat Services chose to combine their strengths to form a team of industry, regulatory and technical experts, bringing together the complementary strengths of Boat's OTC reporting and LSEG's primarily on exchange reporting. By combining the two existing reporting platforms, the partnership can offer an unparalleled breadth and quality of service.

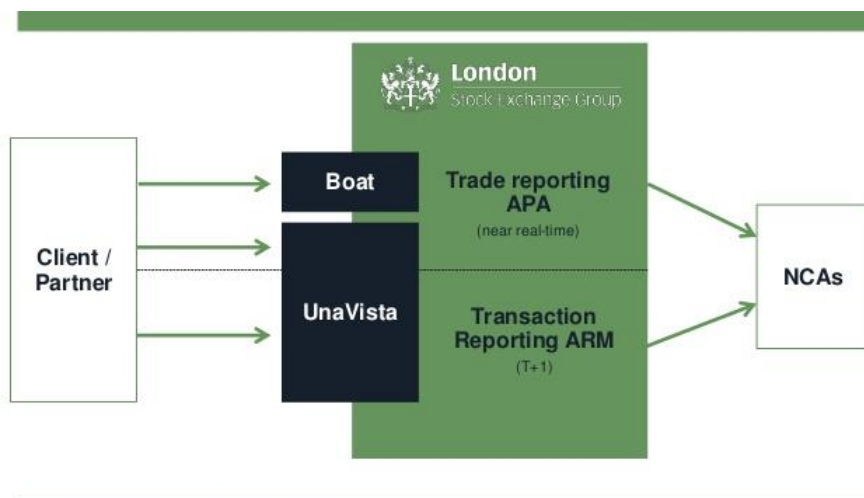
TRADEcho's services cover all MiFID II asset classes and provide firms with the tools to meet their pre- and post-trade transparency obligations. This includes SI Determination, SI Quoting, Smart Report Routing and Trade Publication.

TRADEcho will be operated as an APA applying relevant deferrals to provide the market with a clear and concise tape of a firms' trades. TRADEcho's APA provides Investment Firms with a mechanism to publish trades they have executed and thereby meet their MiFIR/MiFID II post-trade transparency obligations. Trades will be published across all asset classes in line with the regulatory reporting timeframes. Together with UnaVista firms can enjoy seamless trade and transaction reporting in one experience; helping ease the regulatory burden for financial firms.

### 8.28 MiFID II Trade Reporting APA

London Stock Exchange's APA service, TRADEcho, is a real-time pre- and post-trade publication service reaching across all MiFID II asset classes. Offered alongside UnaVista, TRADEcho provides an unparalleled level of experience and expertise, helping ease the regulatory burden for financial firms.

Figure 12: LSEG MiFID II Reporting Services



### 8.29 One connection for MiFID II reporting

Firms can enjoy the benefits of seamless reporting for both trade and transaction with one connection to the LSEG, one sales contact, one contract and one on-boarding process.

### 8.30 Multi-asset class service across the full trade life cycle

Pre- and post-trade transparency services across asset classes. Meaning clients can have all of their reporting in one place.

### 8.31 Partner with one of the most experienced teams in the industry

LSEG and TRADEcho have decades of experience helping firms with trade reporting, and already have solutions for Fixed Income, Equity and ETF reporting.

### **8.32 Understand if clients have a pre-trade transparency requirement**

The level of the pre-trade transparency depends on a number of factors, including the product for which quotes are being provided and size of the quote. TRADEcho can help clients determine their Systematic Internaliser (**SI**) status per instrument and report quotes and trades within the required time frames.

### **8.33 On and Off Exchange post-trade transparency**

LSEG provides post-trade reporting services for on and off exchange trades to help customers manage investment mandates, counterparty risk through buy-in & default regime as appropriate.

### **8.34 Full reconciliation capabilities**

The TRADEcho data seamlessly flows into the UnaVista platform for MiFIR transaction report enrichment and reconciliation.

### **8.35 Determine if it is client's obligation to report**

TRADEcho's Smart Router gives firms access to the reporting rules of our experienced team to automatically determine if it is their obligation to report a trade. The Smart Router incorporates a vast amount of reference data and adapts as the regulation and data changes.

Utilising experience gained as a market leading MiFID Transaction Reporting service for over 700 companies reporting over 1.5 billion transactions per year, UnaVista is the only Trade Repository that is also an ARM. LSE entered the Transaction Reporting market in 2010.

In October 2007, the Financial Services Authority (**FSA**) confirmed that the London Stock Exchange's Exchange Reporting Service (**ERS**) had been approved as an ARM for the provision of Transaction Reports under MiFID. The LSE covered a range of transactions which required to be reported to regulators, including on-exchange and OTC trading, equities, debt, derivatives, and trades done on Regulated Markets or on prescribed markets, e.g. Alternative Investment Market (**AIM**).

In July 2016, it was noted that the service had approximately 50,000 users and was processing around 5 billion transactions per year. UnaVista's clients include banks, buy-side firms and market infrastructure providers. UnaVista is also registered as a Trade Repository (**TR**) under EMIR.

In September 2015, Unavista noted that it was the largest MiFID ARM in Europe and helped 1,000 reporting firms and 10,000 of their counterparties report over 2 billion transactions annually.

Unavista's MiFIR Accelerator Tool allows users to import data from multiple sources and compare it with regulatory technical standards to determine any gaps that must be addressed, and to quantify the number of new LEIs they, and their clients, need to obtain for MiFIR.

The UnaVista system validates the trade data, compares it to the reference data to make sure it is accurate, it then reconciles the trades across their own systems, the client's system, and the regulator's system. This reduces regulatory risk and provides a more valuable service to the client.

### **8.36 UnaVista Features**

UnaVista features:

- allows reporting on every reportable asset class and to all NCAs;

- can be used for reporting for other global regulations including global derivative trade reporting regimes in the EU, Asia and North America;
- validates the data by checking it against the reference data sources (such as ESMA's list of regulated markets, MiFID eligible securities and the London Stock Exchange's SEDOL Masterfile);
- enables users to correct exceptions manually, export selected reports, clear non-relevant exceptions, as well as a number of other exception management tools;
- customers can submit transaction reports in any structured format; Unavista will standardize it for FCA reporting;
- customers can set different levels of access for individuals or groups, so people only see information you want them to see;
- customers can set as many mandatory audit steps as they like;
- customers have full audit trail if they need to check back over things later on;
- customers can use UnaVista to monitor trends within the transaction reporting, helping them to identify errors that are recurring;
- customers can take a snapshot of all transactions at any time, choose from a variety of report templates, or create their own custom report;
- LSE provides technical training on how to use the UnaVista platform to create transaction reporting.

### **8.37 Transaction Reporting**

UnaVista offers two methods of regulatory reporting, Standard Reporting and Direct Reporting. Standard Reporting provides a higher than mandated service for all transaction reporting needs. Direct Reporting gives you everything Standard Reporting offers but goes one step further and resolves the most common issues seen in reporting, which are created at the data translation layer.

### **8.38 Standard Reporting**

Standard reporting features:

- ARM for multiple European Regulators (FCA, AFM, AMF, BaFin);
- processes all asset types and multiple data formats;
- hosted service with data storage for 7 years;
- exceeds mandatory validation.

### **8.39 Direct Reporting**

Direct reporting features:

- remove costly middleware
- UnaVista Rules Engine generates, transforms and submits reports from your source data
- full visibility of process including data enrichment and normalisation using multiple static sources

- remove the cost and risk of software upgrades as a result of regulatory changes.

#### **8.40 Static Reference Data**

To help you meet your regulatory reporting obligations, they can provide you with the following:

- MiFID eligible reference data feed
- Cross reference to ISIN, SEDOL Aii codes
- Access to global SEDOL Masterfile with over 5 million multi asset class traded instruments.

#### **8.41 Management Dashboards**

These help customers to:

- understand every element of your business with UnaVista's flexible dashboards, customisable reporting and charting, all of which are exportable to PDF and excel.
- monthly, weekly and daily reports
- volume metrics and trends
- risk analysis and trends.

#### **8.42 Daily Reconciliation**

Daily reconciliation features:

- ensure you get to your exceptions before they become a problem;
- daily back office reconciliations against UnaVista to identify data omissions;
- reporting and sign off functions;
- reconciliations with FCA reported data.

#### **8.43 Training**

We want to help you improve how you use UnaVista. We will provide you with training on:

#### **8.44 UnaVista platform**

- Creating an efficient reporting process;
- regulatory updates and clarification.

#### **8.45 Health Check**

They can help you improve how you report, so to assist we will send an expert consultant to your firm to provide advice in a number of areas:

- Review of your processes, systems and control;
- assist with your data quality and reporting timeliness;
- comprehensive set of recommendations.

## **8.46 Contact Details**

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# ABIDE FINANCIAL LIMITED

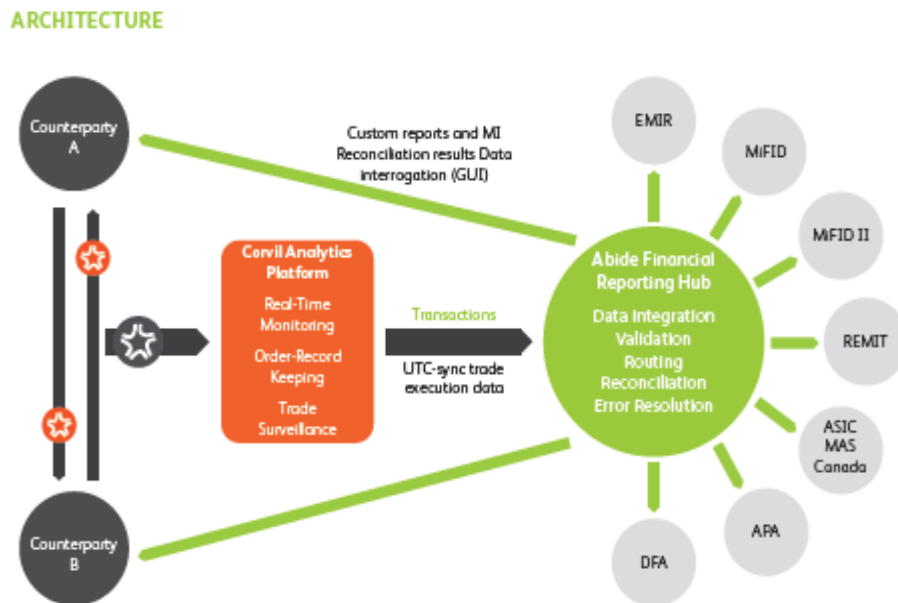
## 9 NEX GROUP AND THE NEX REGULATORY REPORTING (ABIDE FINANCIAL)



Abide Financial, which was founded in 2011 and with an office located in the City of London, is a company licensed to provide Approved Reporting Mechanism (ARM) services and is now part of the Nex Group. It is a reporting partner

to a variety of clients including banks, asset managers, hedge funds, brokerage houses and trading firms and venues. Their services cover local European regulatory environments such as European Market Infrastructure Regulation (EMIR), Markets in Financial Instruments Directive Level 2 (MiFID II) and Markets in Financial Instruments Regulation (MiFIR), Securities Financing Transactions Regulation (SFTF) and Regulation for Wholesale Energy Markets Integrity and Transparency (REMIT).

Figure 13: Abide Financial ARM Architecture



Abide Financial, the award-winning regulatory reporting specialist, and Corvil, the leading real-time data analytics company for financial markets, have established a partnership to create a complete reporting solution which ensures accuracy, reduces ambiguity and risk leading to faster compliance. Widely used by the largest banks and exchanges globally, Corvil's real-time analytics enables market participants and venues to gain transparency into their digital business services, allows them to optimize the performance and customer experience of those services, detects cyber-threats and provides high-fidelity transaction information for business intelligence use.



Award-winning market leader, Abide Financial, acts as an ARM processing the 24% of all MiFID reportable trades.

## 9.1 Nex Group plc

NEX Group plc has added a new compliance-focused product to its NEX Optimisation solution: NEX Regulatory Reporting platform, which is the result from the acquisition of Abide Financial in October 2016. The acquisition of Abide Financial by NEX Group is a major step for the company to deliver to its clients an end to end suite of products. From electronic trading to compliance automation, many clients in the industry are facing substantial changes that have taken place in a relatively short period of time.

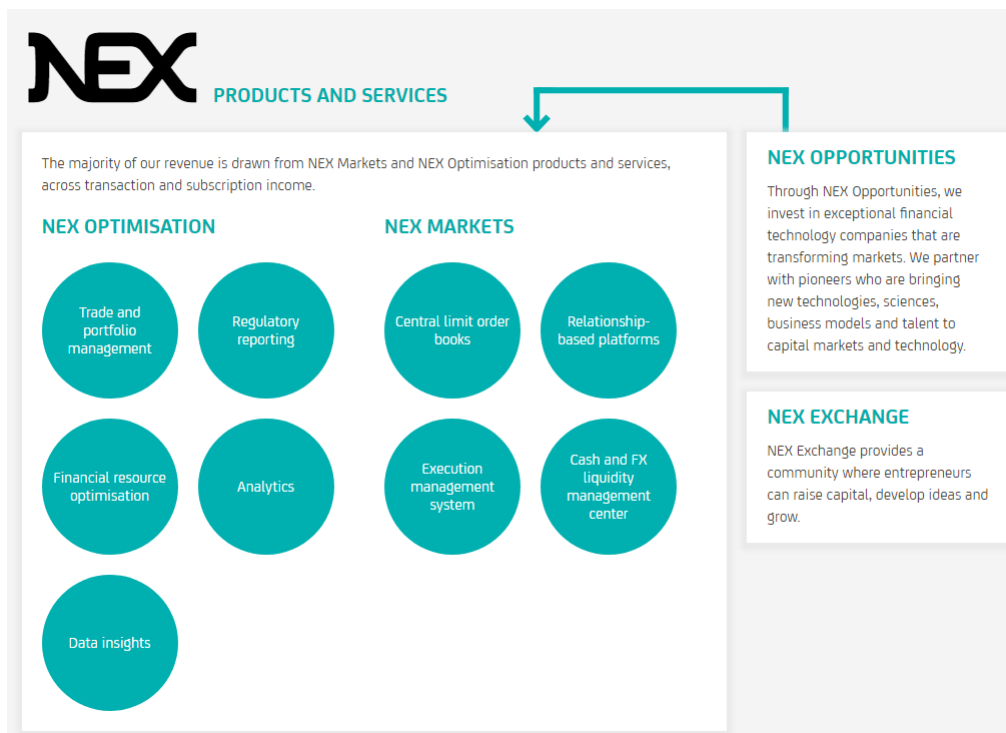
NEX Group plc, formerly known as ICAP plc, is a UK-based business focused on electronic markets and post trade business. The company is listed on the London Stock Exchange and is a constituent of the FTSE 250 Index. In an era of rapid regulatory and technological change, one constant needed is the ability to help customers be ready for whatever is around the corner. Nex Group provides platforms, tools and expertise that enable the clients to execute efficiently and optimise resources throughout the transaction lifecycle. Encouraging technological advancement to improve the markets, Nex group invests in companies that challenge convention and operate an exchange to help entrepreneurs raise capital on the public market.

NEX Group plc offers customers better ways to execute trades and manage risk. Their products and services underpin the entire trade lifecycle, pre, during and post execution. Their electronic trading platforms are industry standards and customers use Nex's lifecycle management and information services to optimise portfolios, control risk and reduce costs. Nex also partners with emerging technology companies to bring greater efficiency.

## 9.2 Nex Business Model

NEX provides platforms, services, tools and expertise that enable their clients to execute efficiently and optimise resources throughout the transaction lifecycle.

Figure 14: Nex Products and Services



### 9.3 Nex Markets

Nex allows to access liquidity and execute efficiently through the connection of the financial community, including banks, asset managers, hedge funds and corporates globally. NEX Markets supplies the electronic execution platforms that the professional trading community wants. Their prominence in electronic trading stems from their aptitude for anticipating new needs. Trusted for their stability, liquidity and market insights, their platforms and services are premier venues for an increasingly diverse mix of Foreign Exchange Market (FX) and fixed income products.



### 9.4 Nex Optimisation

Nex is dedicated to mitigating risk, increasing efficiency, reducing costs and streamlining increasingly complex processes for their clients. They offer the opportunity to optimise both regulatory and financial resources. Their established multilateral networks and subject matter expertise enables us to provide a suite of services to their clients to optimise their financial resources, reduce their costs, simplify their workflows whilst giving them confidence in their own data. Nex offers solutions that are a prerequisite for any client operating in an increasingly capital and regulatory intensive environment.

### 9.5 ENSO

ENSO is the leading treasury and portfolio finance solution for the Hedge Fund industry with over 1 Trillion in Assets Under Administration (AUA).

### 9.6 Nex Data

Nex Data delivers pricing, analytics, Index and regulatory reporting solutions to a global and diverse client base providing innovative insights in pre and post trade services that enable confident trading decisions and market analysis.

### 9.7 NEX Regulatory Reporting (formerly Abide Financial)

Powered by Abide Financial, the NEX Regulatory Reporting platform lowers costs, eliminates operational risk and provides regulatory reporting effectiveness. In addition to local European regulatory environments (EMIR, MiFID/II, SFTR, REMIT), NEX Regulatory Reporting provides specialised reporting services for entities subject to international regulatory regimes such as Dodd Frank, ASIC (Australia) and MAS (Singapore). For its MiFID II reporting service checklist, the firm lists the following requirements that firms should be seeking from their MiFID II vendors:

- (1) reporting hub;
- (2) MiFID II ARM;
- (3) MiFID II APA;
- (4) reconciliation;
- (5) natural persons detail reporting;
- (6) reference data reporting;
- (7) commodities position reporting;
- (8) specialist consultancy;
- (9) managed onboarding;
- (10) next generation user interface;

(11) 24/6 support.

## 9.8 RESET

RESET is a provider of risk mitigation services that manage basis risk in trading portfolios for the derivatives marketplace.

## 9.9 Traiana

Traiana enables global market participants to automate cross-asset risk management and pre/post-trade processing, for both listed and over the counter transactions.

## 9.10 TriOptima

TriOptima is the award-winning provider of critical post trade infrastructure and risk management services for the OTC derivatives market.

- **triReduce** multilateral portfolio compression;
- **triResolve** portfolio reconciliation, repository reconciliation and margin management;
- **triCalculate** XVA risk analytics;
- **triBalance** counterparty risk rebalancing.

## 9.11 Nex Euclid Opportunities

Euclid Opportunities invests in exceptional financial technology companies that are transforming markets. They partner with pioneers who are bringing new technologies, sciences, business models, and talent to capital markets technology.

They are backed and fully supported by the NEX Group and operate with a global footprint. Euclid offers opportunities for challenge convention and accelerate growth.



Euclid Opportunities, NEX Group's financial technology investment business, announced in February 2017 that it has made a strategic investment in RSRCHXchange, a cloud-based marketplace and MiFID II workflow solution for accessing institutional research. The investment enabled RSRCHXchange to continue to expand its global footprint and to accelerate growth.

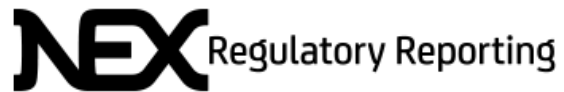
## 9.12 Nex Exchange

NEX Exchange is more than a source of capital – they define themselves as a platform for growth. Nex Exchange is useful for investors, which will be allowed to access to a diverse range of dynamic companies, as well as for financial institutions and large corporates, which entrepreneurs can use NEX to manage their biggest financial challenges. Whether choosing to offer equity or debt products, once admitted onto their stock exchange, small and medium-sized companies have easier access to investors. Admission is simple and Nex fully support the transition to a public market environment.



## 9.13 ARM - NEX Regulatory Reporting

Abide Financial provides advice and consultancy as well as technology based solutions in order for clients to stay fully compliant with all trade and transaction reporting obligations. The company powered NEX regulatory Reporting platform,



which set the standard for range, quality and value of trade and transaction reporting services in the industry. NEX Regulatory Reporting, powered by Abide Financial, is an award-winning provider at the forefront of transaction services innovation. The firm is part of NEX Group, a FTSE 250 company. This platform is the 3rd largest reporting entity by EMIR reportable FX transactions and it processes more than 25% of all MiFID reportable trades.

NEX Regulatory Reporting platform lowers costs, eliminates operational risk and provides regulatory reporting effectiveness, helping clients to simplify complexity and to optimise resources. In particular, NEX Regulatory Reporting Platform reduces the amount of human resources needed and the time needed to report accurate data. In addition, this service provides regulatory reporting effectiveness by constant monitoring to identify and correct any inconsistency, helping clients to comply with regulatory reporting requirements that are modified over time by also providing advice and ensuring that the reports are precise. Last but not least, Nex Regulatory Reporting provides specialised reporting services for entities subject to international regulatory regimes such as Dodd Frank, ASIC (Australia) and MAS (Singapore).

The company is an approved ARM for MiFID / MiFID II, a reporting hub for EMIR and Regulatory Reporting Mechanism (**RRM**) for REMIT. Abide Financial also services clients subject to international regulatory regimes like Dodd Frank (US), ASIC (Australia), MAS (Singapore) and Canada. The company acts as a compliance partner for a broad range of market participants like Jupiter Asset Management, ICAP, BNP Paribas, Investec, CMC Markets, Instinet Nomura, GAIN Capital, Saxo Bank, LMAX and others.

Everything that Abide Financial offers is customisable to clients and the entire process is tailored towards each individual client and starts by an analysis of the clients reporting environment and is done by the industry experts. The team of highly intelligent professionals provides ongoing service where the client has access to advice at any time in the process. Abide financial allows also for the possibility to book for free consultations.

The platform runs a complex data aggregation system to handle the variety of data types and formats that the clients require with nanosecond precision timestamp to meet MiFID II requirements and future regulations. Hence, they *"take shared responsibility for client outcomes specifically to make sure that clients are compliant with reporting rules, both at the point of onboarding...and over time as their businesses change."*

### 9.13.1 Nex Regulatory Reporting Features

NEX Regulatory Reporting safeguards organisations against regulatory misreporting and helps reporting counterparties to:

- **Comply with Evolving Regulatory Reporting Requirements:** Ensure full compliance with the latest regulatory rules and changes.
- **Optimise Resources:** Outsource to an expert to reduce the amount of time and human resources dedicated to complex reporting tools.
- **Enhance Control of Reporting Process:** Monitor, identify and correct discrepancies within reporting workflows.
- **Stay Protected:** Receive guidance on the ever-changing regulatory landscape. Stay insulated from regulatory change.

### 9.13.2 Nex Regulatory Reporting Regimes

Nex Regulatory Reporting is an End-to-end solution for all your regulatory reporting. Their specialist consultancy, proven technology and exceptional service addresses the needs of reporting parties across global regimes, including:

- **EMIR (European Market Infrastructure Regulation):** NEX Regulatory Reporting combines faster on-boarding, specialist consultancy and support, agile technology and global regulatory end-point connectivity, to ensure OTC and ETD trading counterparties to stay fully compliant with EMIR, and the EMIR RTS Rewrite reporting requirements at the 30 October 2017 go-live and beyond. Over the past three years, NEX Regulatory Reporting has remained among the top three largest entities by total EMIR processed volumes, which reflects the trust clients have in their robust solution design, its implementation and ongoing client support.
- **SFTR (Securities Financing Transactions Regulation):** NEX Regulatory Reporting will deploy a solution that builds on the expertise gained in other reporting regimes to deliver a service that exceeds market standards. NEX Regulatory Reporting provides clients with tools to efficiently manage the reporting requirements imposed by the Securities Financing Transactions Regulation (SFTR). The regulation requires financial and non-financial counterparties to report their Securities Financing Transactions (SFTs) to authorised SFTR Trade Repositories (TR) for direct and immediate data access to NCAs.
- **MiFID/ MiFID II/ MiFIR (Markets in Financial Instruments Directive/ Markets in Financial Instruments Regulation):** As an ARM, they evaluate individual reporting situations and implement customised solutions compliant with all MiFID, MiFID II, and MiFIR reporting rules. NEX Regulatory Reporting processes MiFID eligible transactions efficiently to the FCA and other European regulators. They have developed a robust and mature control framework around the MiFID transaction reporting process designed to meet all of the obligations dictated by the Transaction Reporting User Pack (TRUP). NEX Regulatory Reporting combines faster on-boarding, specialist consultancy and support, agile technology and global regulatory end-point connectivity, to ensure clients stay fully compliant with trade and transaction reporting requirements under MiFID II/ MiFIR at go-live and beyond.
- **REMIT (Regulation for Wholesale Energy Markets Integrity and Transparency):** As a Registered Reporting Mechanism (RRM), they efficiently process REMIT-eligible transactions to ACER and to other RRM for onward transmission to ACER. As a Regulatory Reporting Mechanism (RRM), NEX Regulatory Reporting offers a single reporting solution for regulatory obligations under MiFID, EMIR, MAS, ASIC and Canada.
- **ASIC Reporting:** NEX Regulatory Reporting provide customised solutions that ensure clients meet their Australian Securities and Investments Commission (ASIC) reporting requirements without having to dedicate too much time, effort and resource, allowing them to focus on the core business. The solution combines guided onboarding, specialist consultancy and support, agile technology and regulatory end-point connectivity.

### 9.13.3 NEX Regulatory Reporting Process

Their flexible, but complete, regulatory reporting service has is based on a process which follows in an order of obtaining the data, normalizing, validating, identifying and tracking anomalies in the end to publish. The process steps can be summarized as follows:

- **Transaction Capture:** Provision of real-time monitoring and passive capture of complete order lifecycle / precision time-stamping. Hence, this rich data is streamed into a cloud-based reporting hub with other data collected from other systems.
- **Enrichment, Validation and Justification:** Authentication of data from other sources based on elements such as formatting, completeness as well as user-defined, workflow-based, and product-based fundamentals. In addition, providing accurate time stamps.

- **Reconciliation and Error Resolution:** Identification and management of errors and evaluation of reportability through the use of a rules engine.
- **Routing and Publishing:** Formatting and transfer of messages to the suitable endpoints.
- **Ongoing Metrics and Monitoring:** Tools for ongoing trade lifecycle performance management, cyber-risk detection, and control and enhancement of the transaction reporting process.

### 9.13.4 NEX Regulatory Reporting Hub

Figure 15: Nex Regulatory Reporting Hub

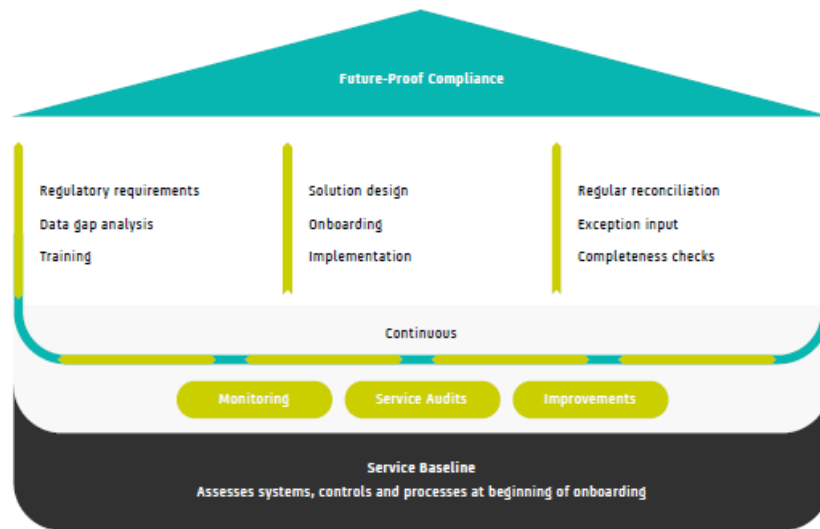


The NEX Regulatory Reporting HUB is a single solution for all reporting obligations which has been designed to receive, process, enrich and distribute transaction data, routing it to relevant regulatory bodies under multiple global regimes: MiFID, EMIR, REMIT, ASIC, MAS and others. Controlled from a single, secure and intuitive user interface, clients are able to submit their transactional data, into the NEX Regulatory Reporting Hub in multiple formats and from multiple sources, for data normalisation, enrichment, determination, reconciliation and validation. It is then delivered to the relevant regulatory end point.

The Hub and the accompanying user interface has been designed to offer full transparency of the transaction lifecycle process along with powerful insights into underlying reporting timeliness and data quality. A unique element of NEX Regulatory Reporting is the upfront provision of expert consultancy to assess individual client reporting requirements within the context of MiFID II reporting regime.

The team of expert consultants carry out a thorough evaluation of the reporting requirements of each client depending on its geographic jurisdiction, client classification, transaction types and technology infrastructure. The NEX Regulatory Reporting Hub automatically determines the reportability of trades, which are then enriched, validated, reported to relevant regulatory end-points and, if needed, reconciled.

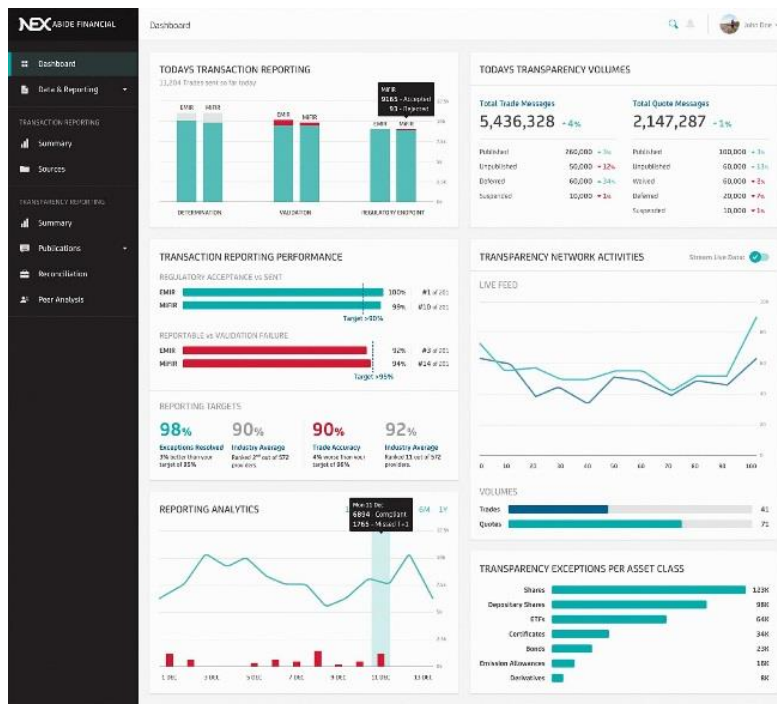
Figure 17: Nex Regulatory Reporting Features



### 9.13.5 NEX Regulatory Reporting Navigator

NEX Regulatory Reporting Navigator, the platform's graphical user interface, creates full transparency across the transaction lifecycle, while providing insight into reporting timeliness and data quality. The Navigator allows you to analyze reportable data, but it also gives you the ability to set your own targets for reporting accuracy, weighed against the industry average, for example, by viewing the anonymized analytics of your coworkers.

Figure 18: Nex Regulatory Reporting Navigator





NEX Regulatory Reporting will guide you through the ever-changing regulatory landscape. You will receive on-going notifications of upcoming regulatory changes. Dedicated team of seasoned regulatory experts and relationship managers provide on-going regulatory updates, notifying clients of any regulatory changes and actions that need to be taken at any given situation. A demo of NEX Regulatory Reporting can be downloaded from the website of the company.

### 9.13.6 APA – Trade Reporting

As well as transaction reporting requirements, firms may also be subject to additional trade reporting (transparency) obligations to publish trade data via an Approved Publication Arrangement (**APA**) as soon as practically possible after execution (**T0**). Abide Financial trade reporting solution benefits from a long history in providing authoritative and independent data to the investment banking community. With its robust processing and normalisation systems, to its 20-year pedigree in multi-asset, real-time data distribution, the regulatory reporting infrastructure is extremely well-placed to help you confidently comply with your firms' MiFID II Trade Reporting requirements.

**Table 8: NEX MiFID II Trade Reporting Services**

Rules	Impacted Firms	Impacted Instruments	NEX Service
Pre-trade Transparency	Systemic Internalisers Trading Venues	Liquid MiFID II Instruments	Yes
SI Determination	Investment Firms	MiFID II Instruments	Yes
Reference Data Reporting	Systemic Internalisers Trading Venues	MiFID II Instruments, admitted to trading or traded on a trading venue	Yes
Post-Trade Transparency	Investment Firms Systemic Internalisers Trading Venues	MiFID II Instruments	Yes
Data Quality	All Reporting Firms	All Pre-Trade and Post-Trade Eligible Instruments	Yes

### 9.13.7 Services

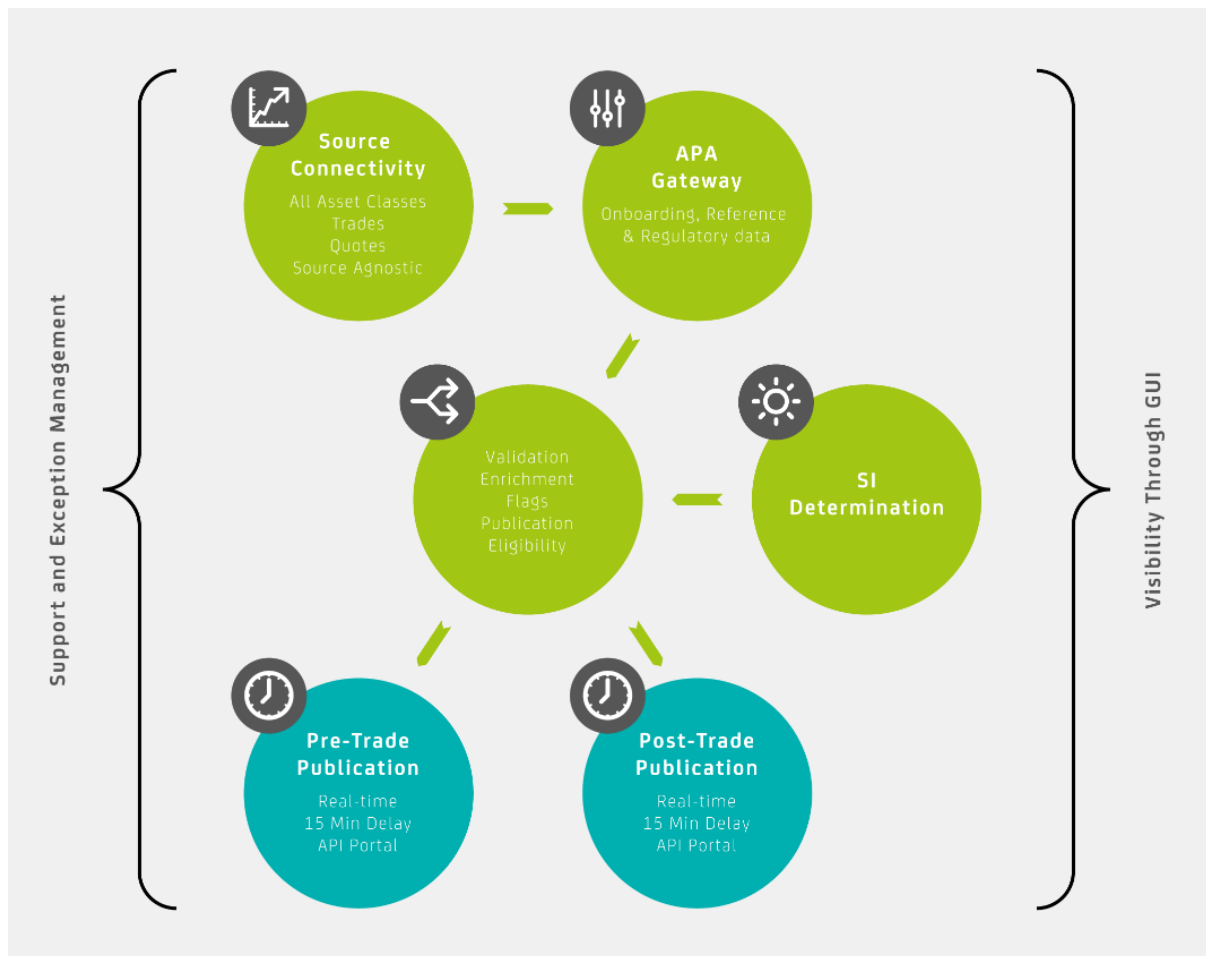
Nex Regulatory Reporting MiFID II Transparency solutions leverage intelligent technology, compliance focus and decades of real-time data publication experience to support simple, low-touch transparency reporting with minimal impact on your trading flow. The trade reporting solution of Abide Financial features different services, such as:

- **SI Determination.** Their tools will help firms to determine whether they are an SI on an instrument-by-instrument basis. They are working closely with other APAs and data providers to provide a reliable calculation of “frequent and substantial basis” against total EU-wide volume.
- **Pre-Trade Publication:** Their publication channels handle 400 million quotes a day from their internal execution venues; they have extended this capability to handle pre-trade quoting from other Trading Venues and Systematic Internalisers. They can also ingest SI status from ESMA and help you with your end of day instrument reference data reporting.
- **Eligibility Determination:** They will use multiple regulatory and reference data sources to filter out eligible quotes and trades for publication. These tools will also flag quotes and trades

which are eligible for waiver and deferral according to LIS and SSTI thresholds per instrument.

- **Validation:** Historical market data parameters and reference data sources ensure validity and quality of published information and counterparties.
- **Pre-Trade Publication:** Publication of trades from Investment Firms, Systematic Internalisers and Trading Venues on both a real time and 15-minute delayed basis.
- **Post-Trade Publication:** Publication of trades from Investment Firms, Systematic Internalisers and Trading Venues on both a real time and 15-minute delayed basis.
- **Visibility:** Their GUI allows access to monitor the Trade Reporting process from end-to-end, as well as informative MI on your publications:
  - (1) publication information, including: publications, waived and deferred information, exception management issues;
  - (2) reference data, including: liquid instrument look-up, registered Systematic Internaliser database, ISIN database (subject to licensing arrangements);
  - (3) analytics, including: summary benchmarking against peers and other industry types, volumes by asset class, volumes by time window, and status of reportable information.

**Figure 19: MiFID II Transparency Solution**



### 9.13.8 A Fully-Managed MiFID II and MIFIR onboarding programme

A critical first consideration for investment firms is whether there are sufficient internal resources available to evaluate the new reporting requirements. Secondly, it is important to determine how internal systems and processes might be adapted to deploy a compliant and efficient MiFID II solution (within a multi-regime reporting framework). For many firms, the most effective route to MiFID compliance will be through partnership with a specialist service provider like NEX Regulatory Reporting.

Through a guided approach to MiFID II compliance, the NEX Regulatory Reporting onboarding programme provides investment firms with a guided approach and fully managed solution for MiFID/MiFIR reporting. Driven by client demand, and building on extensive EMIR and MiFID I client on-boarding experience, the programme provides reporting parties with:

- full compliance with MiFID II/MiFIR obligations at go-live;
- solid foundation for managing MiFID II (and other) reporting regime developments post go-live
- guidance for managing operational, compliance and technology risk across multiple reporting regimes
- Optimised operational resources and compliance costs for transaction reporting.

The programme encompasses in-depth data gap analysis, a pilot reporting profile and early stage data validations through to file submission to the beta reporting test system. Clients benefit from the highest levels of specialist expertise, customised advice and assurance of being in the top tier of fully MiFID II compliant participants at go-live (and beyond).

NEX Regulatory Reporting is a strategic compliance partner for multi-regime reporting. NEX Regulatory Reporting acts as a single regulatory reporting service provider for clients with transaction reporting needs across all European regulatory regimes, as well as international regimes such as Dodd Frank (US), ASIC (Australia), MAS (Singapore) and Canada. A reporting hub for EMIR, ARM for MiFID and Registered Reporting Mechanism (RRM) for REMIT, we focus exclusively on addressing transaction reporting challenges.

All NEX Regulatory Reporting solutions begin with a thorough evaluation of each client's requirements by geographic jurisdiction, client classification and transaction type. Periodic audit of requirements ensures that the reporting solution not only meets current and impending compliance obligations, it also insulates clients from future regulatory change.

### 9.13.9 Additional benefits

- **Centralised reporting hub:** This brings together client data from multiple sources, validates it against all applicable reporting requirements and distributes relevant data to appropriate regulatory end points. It is built on and enhanced by knowledge gained from regulatory reporting implementation for a broad client base for MiFID, EMIR and other reporting regimes (e.g. REMIT). All clients benefit from continual refinement of the reporting hub for assured compliance with evolving reporting regulation.
- **Automated transaction reporting workflow:** Automating transaction reporting workflows for MiFID/MiFIR and other regulatory regimes significantly reduces the risk of reporting errors, non-compliance and associated financial penalty.
- **Modular, flexible service platform:** A modular service platform offers clients a wide range of transaction reporting options from a standard interface with the NEX Regulatory Reporting ARM to deliver messages to local regulators through to fully managed regulatory reporting services supported by bespoke client-side reporting GUIs.

- **Dedicated service delivery manager:** A key element of the NEX Regulatory Reporting client experience is the hands-on support available to a client as new regulations and regimes go live. Clients benefit from a dedicated service delivery manager and direct access to their Compliance Bureau of subject matter experts and Support Desk of specialist technical and product staff.

## 9.14 Contact Information

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# BLOOMBERG FINANCE L.P.

## 10 BLOOMBERG FINANCE L.P.

Bloomberg L.P. is a privately held financial software, data, and media company headquartered in Midtown Manhattan, New York City. Bloomberg L.P. was founded by Michael Bloomberg in 1981 with the help of Thomas Secunda, Duncan MacMillan, Charles Zegar, and a 30% ownership investment by Merrill Lynch. The company provides financial software tools such as an analytics and equity trading platform, data services, and news to financial companies and organizations through the Bloomberg Terminal (via its Bloomberg Professional Service), its core revenue-generating product. Bloomberg delivers also business and markets news, data, analysis, and video to the world, featuring stories from their magazines (Bloomberg Businessweek, Bloomberg Markets and Bloomberg Pursuits), a global television network (Bloomberg Television) and their wire service (Bloomberg News).

In 2014, Bloomberg L.P. launched Bloomberg Politics, a multiplatform media property that merged the company's political news teams, and has recruited two veteran political journalists, Mark Halperin and John Heilemann, to run it. Following the financial crisis in 2008, European policymakers began to review and update the MiFID I, and accompanying regulation, seeking to increase market stability and confidence, and bolster consumer protections, and on 3rd January 2018, Europe will see the update to the MiFID II and the accompanying Regulation come into force. Focusing on core principles of the creation of fairer, safer and more efficient markets, this arguably is the broadest piece of financial industry legislation ever and has the potential to significantly change market structures.

Bloomberg is uniquely positioned to help clients navigate the regulatory maze and transition into the MiFID II environment. As a partner to both the buy-side and the sell-side, they have built upon their current solutions for data, analytics, order management, reporting and trading platforms to provide a holistic suite of solutions from front to back-office that integrate seamlessly and work independently. The Bloomberg Professional Services connect decision makers to a dynamic network of information, people and ideas. At the core of this network is Bloomberg's ability to deliver data, news and analytics through innovative technology, quickly and accurately to individuals and across enterprises. These services include:

- Bloomberg Terminal, to turn knowledge into action: Provides real-time data on every market, unparalleled news and research, powerful analytics, communications tools and world-class execution capabilities—in one fully integrated solution.
- Execution and Order Management, essential to streamline the trading flow: Multi-asset order and execution management solutions and investment cycle analytics for buy-side and sell-side firms that connect to the global capital markets, drive regulatory compliance and lower total cost of ownership.
- Data and Content in an optimized data supply chain: The highest-quality data scrubbed, verified and continually updated as markets, instruments and entities evolve.
- Financial Data Management to provide insight and gain a competitive advantage: Effective enterprise data management is about oversight and control—knowing what you have and knowing what it means. Bloomberg offers two managed services that leverage innovative technologies for smarter data governance and regulatory compliance.
- Integration and Distribution to take control of the data: Deploy smarter technologies, streamline costs and maintain flexibility to minimize risk and comply with complex regulatory requirements.
- The Bloomberg Tradebook: A leading global agency broker and multi-asset execution technology platform that provides anonymous direct market access and algorithmic trading to more than 125 global liquidity venues across 43 countries.



Bloomberg counts also for a wide range of sponsors which develop digital tools needed to protect the client's financial future. For instance, they are currently promoting an innovative and dynamic app developed by Zurich that allows individuals to assess their financial health, accurately project their exposure to the income protection gap, and plan for their future; especially in the modern sharing economy, where benefits and protections are diminishing, concerns are growing.

## 10.1 Sell-Side Execution and Order Management Solution



Flexibility and scalability are two characteristics needed to sell-side firms need to convert expertise into action at a relentless pace. Bloomberg's global order and execution management solutions for equities and equity derivatives span your entire workflow, delivering functionality and connectivity designed to increase revenue, optimize efficiency, improve direct market access and manage risk.

These solutions are fully integrated for an efficient workflow and Bloomberg's SSEOMS (**SSEOMS**) delivers global, multi-asset execution and order management solutions for the front, middle and back offices. With SSEOMS clients can optimize their workflow, increase direct market access, manage risk and compliance, and improve operational efficiency.

Bloomberg's integrated suite of solutions includes: idea generation, liquidity management, electronic order flow, market execution, positions and P&L, risk management, compliance, connectivity, middle office and back office tools. SSEOMS is a premium service that is fully integrated with the Bloomberg's Terminal so you can take advantage of Bloomberg news, data and analytics.

With the aim of optimizing Workflow, SSEOMS allow to order flow capture and execution management with trading and sales workflows, trade processing solutions and customer account management and provide automatic trade reporting and real-time alerts for handling trading breaches.

These solutions are thought to Increase Direct Market Access, enhancing the connectivity to exchanges and diverse liquidity pools, including IOI capabilities to target institutional holders and the management of Care or DMA client orders with automatic routing rules with true "no touch" capabilities.

To manage Risk and Compliance, Bloomberg promotes firm-wide transparency into real-time positions and P&Ls, setting out real-time alerts on trading breaches, trading limits and thresholds and periodically drawing global regulatory and trade history reporting.

Through real-time integration with back office providers and management of allocation via full integration to Omgeo and direct FIX connectivity to clients' OMS, Bloomberg succeeded also in improving operational efficiency.

## 10.2 Asset and Investment Manager

# BLOOMBERG AIM

Quick adaptation to evolving markets is a must for companies operating in Banking and Financial Service Sectors. Bloomberg's AIM services allow to stay ahead of fast-moving markets. Whether the client company is focused on achieving alpha, reducing portfolio costs, managing risk and compliance, or optimizing execution, Bloomberg provides solutions that meet critical business needs across the entire trading workflow.

For buy-side firms, Bloomberg AIM delivers global, multi-asset solutions for portfolio management, trading, compliance and operations. AIM is designed to offer the most scalable asset management technology in the market — one that allows AIM clients to grow assets on existing investments and to quickly expand into new asset classes, markets or investment styles without disruption. AIM is used

by more than 13,000 professionals in nearly 90 countries at over 800 client firms, including some of the largest asset managers, hedge funds, insurance companies, pension funds and government agencies.

Bloomberg delivers AIM on a hosted platform eliminating the need to have dedicated workstations or servers on the client's premises, so that he can lower its total cost of ownership. Bloomberg takes on the development inherent with changing markets, instruments and technologies, such as infrastructure build-outs, version upgrades, data sourcing, continual tuning and system maintenance. Trading workflows typically require users to interact with many disparate systems to complete essential tasks. AIM is a premium enterprise service that is fully integrated with the Bloomberg Terminal so you can take advantage of Bloomberg news, data and analytics.

With AIM the client can move effortlessly from the Terminal to tools for portfolio management, trading and operations, such as: management of Portfolio and Risk (Benchmarking, rebalancing and scenario analysis tools, and decision support and portfolio management), optimization of workflow (Customizable workspace, Order and execution management solutions, electronic trading with Bloomberg Fixed Income Trading (FIT), Foreign Exchange Electronic Trading (FXET) and third-party electronic execution platforms, and Execution management solutions with the ability to route to more than 2,300 equity destinations, including DMA and dark pools), Enhance Compliance (Pre-trade, post-execution and end-of-day compliance, Advanced compliance rule building, reporting and complete audit history, and Scalability to support high volumes of trades, compliance rules, accounts and account groups), Lower Operational Risk (Post-trade matching, settlement and reconciliation, Portfolio accounting, Performance measurement, Data aggregation and reporting), and finally the Global Multi-Asset Coverage (U.S. and international equities, Fixed income, FX, Listed equity options, Futures, OTC derivatives).

Sitting on the desks of 325,000 of the world's most influential decision makers, the Bloomberg Terminal is a modern icon of financial markets. Launched in 1981, long before PCs and the internet became ubiquitous, the Bloomberg Terminal brought transparency to financial markets. It connected market participants to a ground-breaking data, analytics and information-delivery service, and revolutionized an industry.

More than three decades on, the Bloomberg Terminal remains at the cutting edge of innovation, delivering fast access to indispensable news, data and trading tools from any internet-connected PC or mobile device, and helping its subscribers turn knowledge into action. Awareness, context and analysis make Bloomberg the primary source for those who need to know what's happening now and what might happen next. The Bloomberg Terminal delivers unparalleled coverage of markets and securities with information across asset classes, from fixed income to equities, to foreign exchange, commodities and derivatives, integrated in one place and delivered in real time to your desktop or mobile device.

Bloomberg, with its broad range of research offerings, provides up-to-the-minute access to the news that matters, that moves markets and that changes the course of a business can make all the difference. Our news is reported when it happens, from where it happens. With more than 2,700 news professionals in 120 countries, Bloomberg's award-winning coverage of companies, markets, economies, politics and governments ensures that you get the information you need when you need it most.

### **10.3 Bloomberg's ARM Solution**

Bloomberg's sell-side trading solution was granted approval by the FCA on 1<sup>st</sup> December 2014 to report securities with an International Securities Identification Number (ISIN) and OTC derivatives as part of the ARM framework. Bloomberg's sell-side trading solution is an award winning global multi asset order management solution that is relied upon by over 375 firms to provide trade reporting services to regulatory authorities across the globe. The Bloomberg reporting solution is undertaken directly via the trade ticket so no middleware, manual re-keying, or file conversions are required. Bloomberg aims to offer a single trading platform regulatory reporting suite that covers EMIR, MiFID, MiFID II, TRACE and off-exchange transaction reporting.

## 10.4 Trade Order Management Solutions (TOMS)

Financial firms face the challenge of not only keeping up with changes to existing regulatory requirements, but also understanding and addressing new requirements. For the sell-side, there are multiple requirements for regulatory and exchange reporting. Bloomberg provides real-time solutions to meet those needs. Bloomberg Trade Order Management Solutions (**TOMS**), the global, multi-asset class solution suite for sell-side inventory, trading and middle and back office operations, delivers real-time solutions to manage regulatory requirements.

With TOMS, sell-side fixed income firms can automatically report trades directly to the appropriate authority as part of the normal ticket flow operation. Firms can report TRACE-eligible trades to FINRA, customer trades to MSRB, FCA-eligible trades to the FCA via the Bloomberg TOMS ARM, and local Brazilian corporates to REUNE. In addition, LSE and SIX members can report eligible fixed income trades conducted away from an order book. Firms can also automatically report their trades executed on alternate platforms via TOMS. As regulatory mandates finalize and pending regulations such as IRROC 2800c and MiFID II evolve, TOMS will strive to help clients meet their compliance needs.

TOMS offer the following features:

- reporting of both electronic and voice trades;
- monitoring trade activity in a real-time blotter;
- receive confirmation numbers back into TOMS in real time and monitor in one regulatory blotter;
- receive end-of-day batch file to detail all trades reported;
- receive email alerts for trade statuses for early detection of issues;
- resend any rejections after the proper modification has been made by the trader;
- view all reporting activity for TRACE and LSE via the TOMS transaction reporting scorecard.

As a fully hosted solution, Bloomberg TOMS alleviates the need for firms to maintain multiple lists of eligible securities. TOMS automatically updates security records on an intraday basis. For trades executed after hours, TOMS queues the trades and submits them once the reporting venue is open.

Bloomberg TOMS not only helps address the needs firms have today, but also prepares firms for those to come. One of Bloomberg's main aims is to generate revenue and optimize execution. Sell-side fixed income cash and derivatives trading firms need to make incisive decisions — and act on them — with speed and efficiency. Bloomberg helps make this happen with global, multi-asset solutions for front-end inventory, trading, and middle-office and back-office operations. Their innovative solutions help generate revenue, drive efficiency, increase global distribution, and manage risk and compliance.

This System allows for an optimization of workflows, through a multi-asset coverage with workflows for trading and sales, trade processing solutions and management of regulatory connections and an integration with third-party back offices and downstream systems. TOMS allows to increase Global Distribution to Markets through the largest network of buy-side and sell-side investors, raising the connectivity to a variety of cash (D2D or D2C) markets and electronic platforms and giving support for electronic and voice trades via Bloomberg Fixed Income Electronic Trading platform.

The System allows firms to manage risk and compliance through real-time P&L and sophisticated risk management tools and analytics, including an aggregate view of enterprise risk. This management is based on global regulatory reporting to TRACE, MSRB, LSE and others and on real-time monitoring capabilities that show the status of all reportable trades. Eventual trading violations are captured in a live blotter to enable compliance to research and approve or reject violations and the system



automatically reports trades directly to the appropriate authority as part of the normal ticket flow operation.

**Figure 20: TOMS Portal**

View:	Security	Sec ID	1	TRACE	Acct	Typ	Tricket	Time	Status	Comm	Net	Yield	Memo	Give up	AGU	Factor	P/A	Confirm
1.	ARMEN 6.0 20200930	042207A48	B	2	MSRB	C	CTT 37302	11:12:32	research	0	0	0		0	0	0	P	
2.	BA 6.125 20330215	097023AU9	S	4	REUNE	C	COS36826	11:16:42	2000000093	0	0	0		0	0	0	P	2000000
3.	BA 6.125 20330215	097023AU9	S	225	127	TRACECUT	C	COS36841	11:35:44	2000000115	0	0		0	0	0	P	2000000
4.	BA 6.125 20330215	097023AU9	S	225	127	TRACECUT	C	COS36878	15:09:49	2000000213	0	0		0	0	0	P	2000000
5.	BA 6.125 20330215	097023AU9	S	225	127	TRACECUT	C	COS37026	11:50:29	2000000060	0	0		0	0	0	P	2000000
6.	BACR 0.0 20140228	06739H461	S	1000	10.02	TRACE4	C	COS36834	11:19:00	2000000110	0	0		0	0	0	P	2000000
7.	BACR 0.0 20140228	06739H461	S	1000	10.02	TRACE4	C	COS37034	11:52:46	2000000083	0	0		0	0	0	P	2000000
8.	BACR 0.0 20140228	06739H461	S	1000	10.02	TRACE4	C	COS37695	11:04:41	2000000135	0	0		0	0	0	P	2000000
9.	FDO 5.0 20210201	307000AA7	S	1000	104.877	TRACE4	C	COS36832	11:18:39	2000000108	0	0		0	0	0	P	2000000
10.	FDO 5.0 20210201	307000AA7	S	1000	104.877	TRACE4	C	COS37032	11:52:24	2000000080	0	0		0	0	0	P	2000000
11.	FDO 5.0 20210201	307000AA7	S	1000	104.877	TRACE4	C	COS37693	11:04:18	2000000133	0	0		0	0	0	P	2000000
12.	HD 4.875 20440215	437076BD3	B	800	101.584	BU_2JPN	C	COS37898	07:15:27	not rqstd	0	0		0	0	0	P	2000000
13.	JCP 6.375 20361015	708130AC3	B	1200	86	TRACE1	C	COS35973	14:19:56	2000000520	0	0		0	0	0	P	2000000
14.	JCP 6.375 20361015	708130AC3	B	1200	86	TRACENT1	C	COS37330	14:29:35	2000000617	0	0		0	0	0	P	2000000
15.	NEM 5.125 20191001	651639A0	S	1000	114	TRACECUT	C	COS36828	11:16:56	2000000095	0	0		0	0	0	P	2000000
16.	NEM 5.125 20191001	651639A0	S	1000	114	TRACECUT	C	COS36843	11:35:57	2000000117	0	0		0	0	0	P	2000000
17.	NEM 5.125 20191001	651639A0	S	1000	114	TRACECUT	C	COS37028	11:59:43	2000000062	0	0		0	0	0	P	2000000
18.	PFE 7.25 20230301	026669AC1	B	1000	139.293	TRACE4	C	COS36833	11:18:49	rejected	0	0		0	0	0	P	
19.	PFE 7.25 20230301	026669AC1	B	1000	139.293	TRACE4	C	COS37033	11:52:35	rejected	0	0		0	0	0	P	
20.	PFE 7.25 20230301	026669AC1	B	1000	139.293	TRACE4	C	COS37694	11:04:30	rejected	0	0		0	0	0	P	
21.	WMT 5.875 20270405	931142CH4	S	2000	103.796	BU_1	C	MT 37948	16:39:13	not rqstd	0	0		0	0	0	P	
22.	WMT 5.875 20270405	931142CH4	S	2000	103.796	BU_1	C	XOS37886	15:14:03	not rqstd	0	0		0	0	0	P	
23.	WMT 5.875 20270405	931142CH4	S	2000	103.796	BU_1	C	XOS37886	15:14:03	not rqstd	0	0		0	0	0	P	

TOMS allows firms to engage the Electronic Fixed Income Markets, through a high connectivity to electronic trading venues in the US and Europe, an aggregated market liquidity and order execution tools for price taking and a real-time price generation tools for market making. Finally, improvements of Operational Efficiency are achieved through the integration with third-party providers for best-of-breed solutions, an automated trading system feeds, both inbound and outbound and through buy-side matching, confirmation and allocation.

### 10.4.1 Execution and Order Management

Bloomberg TOMS provides fixed income sell-side firms the capabilities to efficiently manage inventory, risk, P&L, compliance and straight-through processing. The enterprise suite of solutions includes electronic trading tools and market connectivity to help firms synchronize their front office risk and trading with middle-office, operations and enterprise applications in real-time.

TOMS is a premium service that is fully integrated with the Bloomberg Terminal so you can take advantage of Bloomberg news, data and analytics. Delivered on a hosted platform, TOMS eliminates the need to have dedicated workstations or servers on firm's premises, so you can lower total costs of ownership. It incorporates the needs on the developments inherent with changing markets, instruments and technologies, such as infrastructure build-outs, version upgrades, data sourcing, continual tuning and system maintenance.

### 10.4.2 Optimized Workflow

- Multi-asset coverage with workflows for trading and sales.
- Trade processing solutions and management of regulatory connections.
- Integration with third-party back offices and downstream systems.

### 10.4.3 Increased Global Distribution to Markets

- Largest network of buy-side and sell-side investors.
- Connectivity to a variety of cash (D2D or D2C) markets and electronic platforms.
- Support for electronic and voice trades via Bloomberg Fixed Income Electronic Trading platform.

#### 10.4.4 More Efficient Management of Risk and Compliance

- Real-time P&L and sophisticated risk management tools and analytics, including an aggregate view of enterprise risk.
- Global regulatory reporting to TRACE, MSRB, LSE and others.
- Real-time monitoring capabilities that show the status of all reportable trades.
- Trading violations captured in a live blotter to enable compliance to research and approve or reject violations.
- Automatically reports trades directly to the appropriate authority as part of the normal ticket flow operation.

#### 10.4.5 Increased Engagement of Electronic Fixed Income Markets

- Connectivity to electronic trading venues in the US and Europe.
- Aggregated market liquidity and order execution tools for price taking.
- Real-time price generation tools for market making.

#### 10.4.6 Improved Operational Efficiency

- Integration with third-party providers for best-of-breed solutions.
- Automated trading system feeds, both inbound and outbound.
- Buy-side matching, confirmation and allocation.

#### 10.4.7 Demos of Bloomberg Professional Services

Managing complex trading strategies, Bloomberg offers solutions across the entire MIFID II spectrum, and these capabilities are seamlessly integrated with Bloomberg's order management systems Test Operation Management System (TOMS), Sell-side Execution and Order Management Solutions (SSEOMS) and Asset and Investment Manager (AIM). Demos of these systems can be requested directly in the company website and people can also visit MIFID II on the Terminal to receive the latest updates on the regulation roll out and Bloomberg's MiFID II solutions.



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# AQMETRICS

## 11 AQMETRICS

AQMetrics is a leading RegTech company focused on delivering regulatory risk and compliance solutions for financial professionals. AQMetrics recognised that the accepted methods of managing risk and compliance were slow, outmoded, and inefficient, and they drew upon their deep experience in innovation, technology, law, and financial services to build a platform that performs markedly better. It helps clients leverage technology to more efficiently meet regulatory obligations. The AQMetrics platform has been tested, proven and perfected with the Central Bank of Ireland.



AQMetrics Limited provides cloud based integrated regulatory compliance, risk, and surveillance management software to financial services companies. It offers its solutions for analysis and reporting, risk management, data management, quantification, and evaluation activities to corporate boards, investors, and regulators. The company also provides analytics in the areas of market abuse detections, back testing and stress testing, sensitivity analysis, and value at risks, as well as offers access via personal computers, laptops, smartphones, or tablet devices. It provides historical data services, pre-flight checks, guided tours, consultancy services (mapping per jurisdiction and staff augmentation services), and training services. The company provide Legal Governance, Risk & Compliance (**GRC**) software for financial services firms trading on the global financial markets.

### 11.1 Specialities

AI, Market Surveillance, Regulatory Reporting, Consulting, Data Analytics, Form ADV, MiFID II, Form PF, AIFMD, CPO-PQR, Albourne OPERA, 13F, Solvency II, KYD, and Annex IV.

### 11.2 Features

- AQMetrics provides integrated capital markets surveillance and compliance solutions to alternative investment management and broker/dealer companies. Through its suite of cloud based solutions, AQMetrics supports a full range of global regulatory reporting for recent and emerging directives including MAD II, MiFID II and the AIFM Directive. The firm also provides a complete reporting solution that enables risk aggregation and is based on OPERA.
- AQMetrics proprietary risk analytics empowers the automation of traditionally resource-intensive and error-prone processes to ensure intuitive, fast, and cost effective electronic compliance risk management, regulatory reporting and document management.
- AQMetrics provides integrated compliance and risk management software to fund administrators, asset managers, investment managers and broker/dealer companies. Their consolidated platform delivers data management, risk profiling and monitoring, compliance workflows and reports all in one place.

### 11.3 Enhancements

The new enhancements will help both buy-side and sell-side firms better prepare for the new regulations a year in advance of the deadline, the company said in a statement. As firms around the globe prepare for MiFID II, there is an increasing focus on finding ways to leverage modern technology to ensure proper compliance with evolving regulations:

- An updated Supervisory Control Portal and Risk Register to provide client classification and product appropriateness factors and scoring.
- Additional Risk Monitoring analytics to cater to Best Execution and Transaction Cost Analysis (**TCA**).

- A new regulatory reporting solution whereby AQMetrics is authorising as an ARM (Approved Reporting Mechanism) under MiFID II. AQMetrics is currently reviewing several MDP (Market Data Processor) specifications from National Competent Authorities to enable passporting of MiFID II regulatory reporting into all European Regulators.
- With the new solution, buy-side and sell-side users globally will be able to prove they have made best efforts to ensure their clients are classified correctly; that appropriate products are being sold to those clients; and that best execution is achieved. Furthermore, transaction reporting through the AQMetrics ARM will ensure that end-to-end MiFID II obligations are appropriately met, the company added.
- With a comprehensive solution encompassing an efficient user interface, automated data validation, data analytics and an approved reporting mechanism, they deliver economies of scale to customers while still maintaining information and cyber security, data management, analytics and regulatory reporting.
- An updated Supervisory Control Portal and Risk Register to provide client classification and product appropriateness factors and scoring.
- Additional Risk Monitoring analytics to cater to Best Execution and Transaction Cost Analysis (TCA).

AQMetrics was named 'Best Compliance Product for Small and Start Up Firms' at the 2017 HFM US Technology Awards ceremony on 13<sup>th</sup> February, 2017.

#### 11.4 MiFID II Meetups



Due to the success of AQMetrics Dublin based MiFIDII meetups in 2016, AQMetrics not only continued with the Dublin meetups into 2017, it further took the meetups to London and plans to launch them in New York in September 2017.

The meetup has been established by fellow professionals to bring together the MiFID II community across the globe and in so doing bring value by connecting people from the worlds of compliance, technology, financial services and beyond.

At the most recent London meetup hosted by AQMetrics in July 2017, Stephen Hanks represented the FCA and reassured attendees that the FCA are taking a pragmatic approach to firms who can demonstrate they have made 'honest efforts' to comply with the new legislation.

Stephan Hanks warned that while the FCA recognises the challenges faced by the market, it will still require firms to make reasonable efforts to comply. To help them with this, he said the FCA will be hosting a number of roundtables covering specific aspects of the new rules – such as transaction reporting, which it covered in its Supervision Roundtable on 17<sup>th</sup> July 2017.

As firms around the globe prepare for the January 2018 MiFID II deadline, there is an increasing focus on finding ways to leverage modern technology to ensure proper compliance with evolving regulations. By leveraging AQMetrics advanced technology and extensive understanding of the regional and global regulatory landscape, financial firms can be better prepared for regulatory changes as and when they happen.

Leading RegTech company, AQMetrics, announced new enhancements to its end-to-end risk and compliance solution as part of its award-winning cloud-based platform.

These enhancements will help both buy-side and sell-side firms better prepare for MiFID II (Markets in Financial Instruments Directive II), a year in advance of the regulatory deadline of January 2018.

## 11.5 AQMetrics ARM

As AQMetrics continues to add enhancements to meet evolving client needs, the company has received a number of industry accolades noting its success in delivering innovative products to financial professionals.

The company was recently voted the best compliance product for small and start up (Hedge Fund) firms at the 2016 HFM European Hedge Fund Technology Awards. AQMetrics was recently chosen by KPMG and H2 Ventures as one of the 50 emerging fintech stars in the annual 2016 Fintech 100 list and was listed by Irish Tech News as one of the Top 20 Irish Fintech companies in 2016.

AQMetrics achieved the ISO27001 Certification Europe which reaffirmed its commitment to data protection. The recent enhancements include a new regulatory reporting solution whereby AQMetrics is authorising as an ARM (Approved Reporting Mechanism) under MiFID II. AQMetrics is currently reviewing several MDP (Market Data Processor) specifications from National Competent Authorities to enable passporting of MiFID II regulatory reporting into all European Regulators.

Alternative investment fund managers, fund management companies (ManCos) and fund administrators use AQMetrics automated regulatory reporting service for AIFMD Annex IV, Form PF, CPO-PQR, Solvency II TPT, FATCA and Form 13F. Asset managers and fund administrators use AQMetrics for EMIR reporting and from 3rd January 2018, MiFIDII reporting will be provided via AQMetrics ARM (Approved Reporting Mechanism).

With AQMetrics MiFID II solution, buy-side and sell-side users, globally, will be able to prove they have made best efforts to ensure their clients are classified correctly; that appropriate products are being sold to those clients; and that best execution is achieved. Furthermore, transaction reporting through the AQMetrics ARM will ensure that end-to-end MiFID II obligations are appropriately met.

Of course, operational considerations are also significant in making an informed choice, including classification of what is reportable or non-reportable, exception handling etc. ultimately, knowing that what you are reporting is correct. The risk of non-compliance amounts to more than regulatory fines, it is your data, your customers and your brand that are at risk.

The focus is analysing all Regulatory Technical Specifications for MiFID II holistically to provide the clients with a better way to be ready for next year's deadline. Through a comprehensive solution encompassing an efficient user interface, automated data validation, data analytics and an approved reporting mechanism, AQMetrics is able to deliver economies of scale to their customers while still maintaining information and cyber security, data management, analytics and regulatory reporting.

Whether acting as a primary ARM or in the role of backup ARM for regulatory reporting under MiFID II, firms choosing AQMetrics can rest secure in the knowledge that they are covering off the risk inherent with choosing a vendor and ensuring regulatory reporting compliance come January and beyond.

## 11.6 ARM Methodology

AQMetrics is a specialist service provider with established expertise in understanding ESMA regulation. They help clients protecting their reputation and meeting their regulatory clearing, publication and reporting obligations in an accurate, efficient and flexible manner, capturing records, in context, across multiple channels from all approved devices. The service allows firms to:

- Always understand your risks across current and emerging regulations.
- Calculate exposure to complex products that embed derivatives.
- Data capture total communications including email, social media, instant messaging including data that did not end in a transaction.
- Reconstruct past events accurately.

- Maintain an accurate and reliable data thus avoiding fines from National Competent Authorities.
- Retain data for 7 years.
- Provide a full audit trail.

<b>1</b>	<b>Step 1 Gap analysis</b> We provide you with a detailed risk analysis, mapping out the required processes and procedures required under MiFID II. This risk-based analysis is documented and kept as a decision process audit trail.
<b>2</b>	<b>Step 2 Data analysis</b> AQMetrics works with firms to identify the source of data points required to run automated MiFID II best execution rules and transaction reporting. On completion of the data mapping, data capture begins. The data is contextualised for Enhanced Due Diligence (EDD) rules.
<b>3</b>	<b>Risk dashboard configuration</b> We create a dashboard to provide a holistic view across all disparate systems, thus providing a full picture of your firm's overall business but also across markets and asset classes.
<b>4</b>	<b>Rules configuration</b> We work with you to provide commercial insights on how best to configure and parameterise rules based on the jurisdictions, portfolios, trading strategies and compliance objectives of your organisation.
<b>5</b>	<b>Workflow configuration</b> We recognise that every firm has a unique business operating model and so AQMetrics automated workflow is configured for each individual client.
<b>6</b>	<b>Parameterise Reports</b> AQMetrics provides all necessary reports in compliance with MiFID II.
<b>7</b>	<b>Define data storage</b> MiFID II regulations state that data must be archived for up to seven years. This includes pre-trade data that didn't become a transaction. In The AQMetrics platform enables configurable documentation management in line with your storage requirements and workflow.

**Figure 21: AQMetrics Workflow**

One of the leading benefits of adopting the AQMetrics platform is that it provides a cross-jurisdictional regulatory risk and reporting hub. The combined insights from multiple regulatory control checks via one platform ensures that AQMetrics is a best in class solution. Knowledge management, best practice risk management processes, efficient regulatory reporting and seamless enhancements for evolving and emerging regulations makes AQMetrics the platform of choice for fund managers, management companies (ManCos) and fund administrators.

## **11.7 Platform**

There are three main components to the AQMetrics platform.

## 11.8 Auto-Data Integration for a Golden Data Source

Figure 22: AQM Auto

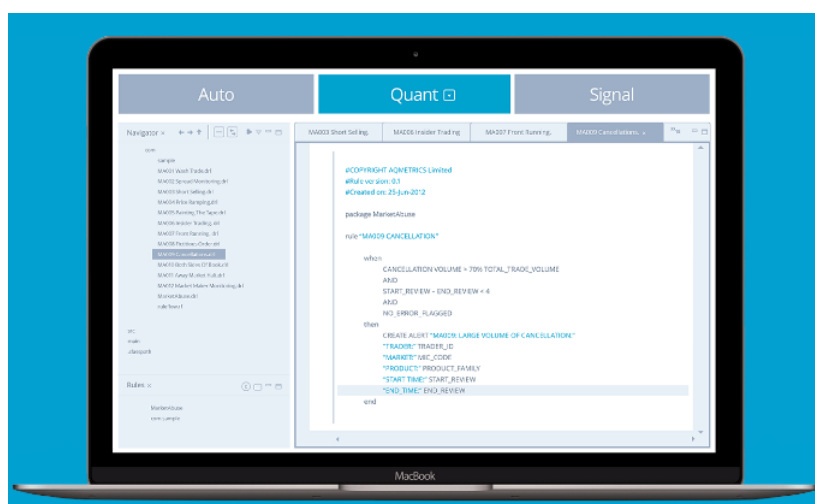


AQM Auto extracts, transforms and loads positions, instruments and market data from multiple data sources. It also features key partnerships with fund administrators, prime brokers, custodians, trade repositories and market data providers. AQM collaborate with industry data providers so clients do not have to. AQM Auto functions include:

- Market data.
- Corporate actions.
- Watchlists.
- Sanctions and PEPs lists.
- 3rd party APIs.
- Partner APIs.

## 11.9 Quant for Risk Analytics and Insight to Buy and Sell Side

Figure 23: AQM Quant

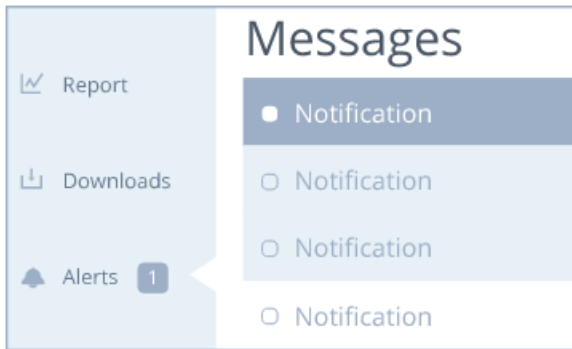




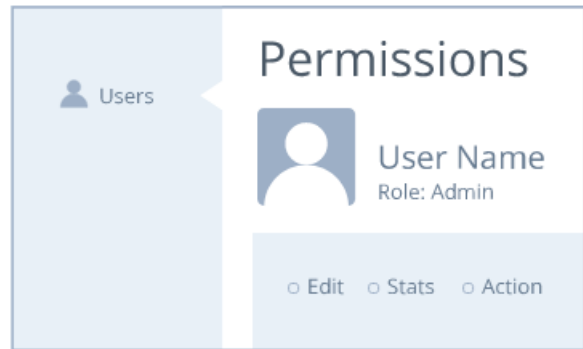


- Regulatory filings.

## 11.11 Features



**Figure 25: Alerts - Alerts via any method and any device, including email, text message, dashboard, or instant message.**



**Figure 26: Permissions - Role based security increases network security and minimizes unauthorized users privileges.**



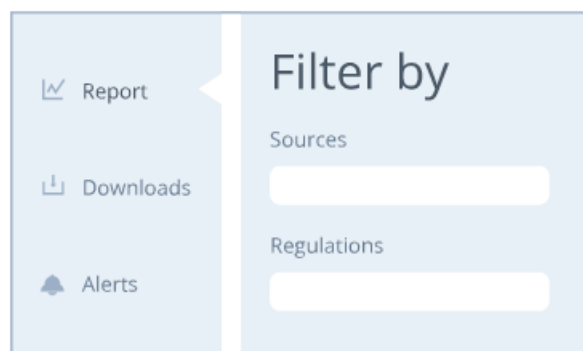
**Figure 27: Analytics - Real time market data feeds integrated with risk analytics per securities and at aggregated levels.**



**Figure 28: Downloads - Documentation management keeps all documents and associated audit trails in one place.**

Instrument Code	Instrument Type	Instrument Code	Instrument Code	Price	Vol of Day Price
X50605553856	SEC_BND_BND	X50605553856	X50605553856	X50605553856	100.46
X50647288140	SEC_BND_BND	X50647288140	X50647288140	X50647288140	105.17
X51134519120	SEC_BND_BND	X51134519120	X51134519120	X51134519120	105.6
X51091654761	SEC_BND_BND	X51091654761	X51091654761	X51091654761	106.92
Dec 15 DAX	DER_EQD_FINIIQ	DAX 12/18/15	DAX 12/18/15	SX1238712395	972.6
SXSE 12/18/15	DER_EQD_FINIIQ	SXSE 12/18/15	SXSE 12/18/15	SXSE 12/14/15	164.55
SXSE 12/18/15	DER_EQD_FINIIQ	SXSE 12/18/15	SXSE 12/18/15	SXSE 12/14/15	164.55

**Figure 29: Reports - Reports for boards, employees, investors and regulators – in the format they want, and when they need them the most.**



**Figure 30: Filters - All embedded information is transformed into easy to find knowledge asset filters**



to use, robust and quality software products that are automatically kept up to date with regulatory change so that clients will always be aware of the risk and will always be compliant.

### **11.12.5 Reducing third party involvement and costs**

Regulatory risk and compliance used to suggest an army of outside lawyers and consultants to help your firm keep up. The AQMetrics platform reduces the need for third party involvement. With AQMetrics outside consulting costs and legal fees decrease dramatically.

### **11.12.6 Transparent pricing and predictable invoicing**

The pricing model for AQMetrics is transparent and coherent. Firms can sign-up for the AQMetrics cloud-based service and pay as you go and for filing events. It is simple and predictable. An updated Supervisory Control Portal and Risk Register can provide client classification and product appropriateness factors and scoring. AQMetrics will provide ARM (Approved Reporting Mechanism) services under MiFID II. It is currently testing its system with the Central Bank of Ireland in order to provide transaction reporting services when MiFID II goes live in January 2018. It aims to ensure that end-to-end MiFID II obligations of clients are appropriately met, and it will be seeking to passport its regulatory authorised MiFID II services throughout Europe.

## **11.13 Contact Details**

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Press: [press@aqmetrics.com](mailto:press@aqmetrics.com)

# DEFINITIONS

Item	Meaning
Annex I Table 1	Annex I Table 1 of Annexes to the Commission Delegated Regulation (EU) .../... of XXX supplementing Regulation (EU) No 600/2014 of the European Parliament and of the Council with regard to regulatory technical standards for the reporting of transactions to the competent authorities.
Annex I Table 2	Annex I Table 2 of Annexes to the Commission Delegated Regulation (EU) .../... of XXX supplementing Regulation (EU) No 600/2014 of the European Parliament and of the Council with regard to regulatory technical standards for the reporting of transactions to the competent authorities.
Execution	Means any action that results in a transaction and includes so-called "compressions" of derivatives where offsetting derivative transactions are wholly or partly terminated and replaced by fewer transactions with a reduced notional value.
Investment Firm	Means any legal person whose regular occupation or business is the provision of one or more investment services to third parties and/or the performance of one or more investment activities on a professional basis.
Short Sale	<p>Means in relation to a share or debt instrument means any sale of the share or debt instrument which the seller does not own at the time of entering into the agreement to sell including such a sale where at the time of entering into the agreement to sell the seller has borrowed or agreed to borrow the share or debt instrument for the delivery at settlement, not including:</p> <ul style="list-style-type: none"> <li>(i) a sale by either party under a repurchase agreement where one party has agreed to sell the other a security at a specified price with a commitment from the other party to sell the security back at a later date at another specified price;</li> <li>(ii) a transfer of securities under a securities lending agreement; or</li> <li>(iii) entry into a futures contract or other derivative contract where it is agreed to sell securities at a specified price at a future date.</li> </ul>
Sovereign debt	Means a debt instrument issued by a sovereign issuer.
Sovereign issuer	<p>Means any of the following that issues debt instruments:</p> <ul style="list-style-type: none"> <li>(i) the Union;</li> <li>(ii) a Member State, including a government department, an agency, or a special purpose vehicle of a Member State;</li> <li>(iii) in the case of a federal Member State, a member of the federation;</li> <li>(iv) a special purpose vehicle for several Member States;</li> <li>(v) an international financial institution established by two or more Member States which has the purpose of mobilising funding and provide financial assistance to the benefit of its members that are experiencing or threatened by severe financing problems; or</li> <li>(vi) the European Investment Bank.</li> </ul>

Item	Meaning
Transaction	<p>The conclusion of an acquisition or disposal of a FI shall constitute a transaction.</p> <p>An acquisition includes:</p> <ul style="list-style-type: none"> <li>(i) a purchase of a FI;</li> <li>(ii) entering into a derivative contract;</li> <li>(iii) an increase in the notional amount of a derivative contract.</li> </ul> <p>A disposal includes:</p> <ul style="list-style-type: none"> <li>(i) sale of a FI;</li> <li>(ii) closing out of a derivative contract;</li> <li>(iii) a decrease in the notional amount of a derivative.</li> </ul> <p>This includes actual trades, as well as any change (not related to corporate actions or valuations) in an Investment Firm's and/or their client's position in a reportable instrument.</p> <p>Transaction also includes a simultaneous acquisition and disposal of a FI where there is no change in the ownership of the FI but post-trade publication is required under MiFIR (Articles 6, 10, 20, or 21).</p>

With regards to the definitions it is essential that within the MiFID II Application these definitions are made explicit so that for example, those Users reporting short sales understand what will constitute a short sale and what are excluded from the scope of short sales.


For the purposes of the MiFID II Application, certain types of transaction are excluded from the Transaction Reporting framework and need to be specifically identified for Users:

- (1) securities financing transactions under Regulation (EU) 2015/2365 (Article 3(11)).
- (2) a contract arising exclusively for clearing or settlement purposes.
- (3) a settlement of mutual obligations between parties where the net obligation is carried forward.
- (4) an acquisition or disposal that is solely a result of custodial activity.
- (5) a post-trade assignment or novation of a derivative contract where one of the parties to the derivative contract is replaced by a third party.
- (6) a portfolio compression.
- (7) the creation or redemption of units of a Collective Investment Undertaking (CIU) by the Administrator of the CIU.
- (8) the exercise of a right embedded in a FI, or the conversion of a convertible bond and the resultant transaction in the underlying FI.
- (9) the creation, expiration or redemption of a FI as a result of pre-determined contractual terms, or as a result of mandatory events which are beyond the control of the investor where no

investment decision by the investor takes place at the point in time of the creation, expiration, or redemption of the FI.


- (10) a decrease or increase in the notional amount of a derivative contract as a result of a pre-determined contractual terms or mandatory events where no investment decision by the investor takes place at the point in time of the change in the notional amount.
- (11) a change in the composition of an index or a basket that occurs after the execution of a transaction.
- (12) an acquisition under a dividend re-investment plan.
- (13) an acquisition or disposal under an employee share incentive plan or arising from the administration of an unclaimed asset trust, or of residual fractional share entitlements following corporate events or as part of shareholder reduction programmes where all the following criteria are met:
  - (i) the dates of the acquisition or disposal are pre-determined and published in advance;
  - (ii) the investment decision concerning the acquisition or disposal that is taken by the investor amounts to a choice by the investor to enter into the transaction with no ability to unilaterally vary the terms of the transaction;
  - (iii) there is a delay of at least ten business days between the investment decision and the moment of execution;
  - (iv) the value of the transaction is capped at the equivalent of a thousand euros for a one off transaction for the particular investor in the particular instrument or, where the arrangement results in transactions, the cumulative value of the transaction shall be capped at the equivalent of five hundred euros for the particular investor in the particular instrument per calendar month.
- (14) an exchange and tender offer on a bond or other form of securitised debt where the terms and conditions of the offer are pre-determined and published in advance and the investment decision amounts to a choice by the investor to enter into the transaction with no ability to unilaterally vary its terms.

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