



Ref.: CESR/06-551

**PUBLICATION AND CONSOLIDATION OF MIFID MARKET
TRANSPARENCY**

PUBLIC CONSULTATION

October 2006

1. EXECUTIVE SUMMARY

Introduction

- 1.1 The Directive 2004/39/EC on Markets in Financial Instruments (MiFID) was adopted by the European Parliament and Council on 21 April 2004 (OJ L145/1 of 30 April 2004). It will replace the Investment Services Directive 93/22/EEC. The Level 2 implementing measures were adopted 10 August 2006. The MiFID directive and the level 2 measures are due to be transposed into the national laws of Member States by January 2007 and apply by November 2007.
- 1.2 In the vast majority of Member States today, trading in shares is concentrated on a Regulated Market (RM) or, where it is permissible to transact away from an RM's systems, it is typically reportable to an RM. This has the effect of concentrating trade information for each share in one (or a few) places, which means that market participants benefit from a consolidated view of trading in a particular share
- 1.3 MiFID breaks down these concentration rules and aims to facilitate competition between different types of trading venues: RMs, Multilateral Trading Facilities (MTFs), Systematic internalisers and investment firms trading away from RMs and MTFs (i.e. over the counter (OTC)). To support price formation and investor protection in a potentially more fragmented trading environment, it also introduces universal transparency requirements across the European Economic Area (EEA) to help facilitate price formation. The intention being that an adequate level of pre- and post-trade information contributes to the effective operation of a market and to investor protection. Greater transparency would also help to minimise the potential consequences of fragmentation in trading, such as inefficient price formation.
- 1.4 In addition to opening up competition among trading venues, MiFID introduces competition in trade publication services by giving investment firms, when trading OTC, choice in where they publish their transparency information¹. This introduces a possibility that trade information will fragment. Fragmentation of transparency information, if not addressed properly, could undermine the overarching transparency objective in MiFID, and may even result in less transparent markets than is the case today. In order to achieve efficient price discovery and facilitate achievement and monitoring of best execution, trade information published through different sources needs to be reliable and brought together in a way that allows for comparison between the prices prevailing on different trading venues. It should be available in a format that is easy to consolidate and that is capable of being readily understood and be available at a reasonable cost.
- 1.5 Ideally, market forces would lead to efficient consolidation of reliable trade information, and indeed, there are already a number of private sector initiatives underway. However, this is an area where the private commercial interests of market participants are not necessarily aligned with the overall interest of the market. Accordingly, we believe there may be barriers to the market achieving broad based data consolidation on its own.
- 1.6 In December 2005, CESR held a roundtable with market participants to discuss these issues for the first time. In March 2006, CESR sought broader market participant views by issuing a call for evidence accompanied by an open hearing. Based on the responses to the call for evidence² and feedback we received from the roundtable, open hearing and subsequent discussions with market participants, CESR decided in May 2006 that it would consider what action it could take to help remove the barriers to transparency data consolidation.

Purpose

¹ In this paper, the term 'transparency information' refers to pre- and post-trade information required to be made public under MiFID.

² Responses to the call for evidence are available on the CESR website at www.cesr-eu.org/index.php?page=responses&id=72



1.7 This paper outlines the action CESR members plan to take to reduce barriers to consolidation of transparency information. This includes joint interpretations of the transparency publication provisions and proposed CESR level 3 guidance on the following areas:

- Ultimate responsibility for compliance with the MiFID transparency publication requirements;
- Third parties offering publication arrangements to investment firms;
- Timing of post-trade publication – 'as close to real time as possible';
- Availability of transparency information in the Community;
- The point at which a trade should be considered concluded for post-trade publication purposes; and
- Bundling of transparency information.
- Data quality – erroneous trades and duplication;
- Publication arrangements – contingency arrangements;
- Publication arrangements – the use of websites;
- Identifying new sources of transparency data;
- Data standards for transparency publications;
- Amendments to published post-trade information;

1.8 The proposals in this consultation paper contribute to the fulfilment of the obligation on Member States to remove any obstacles which may prevent consolidation³. In addition, the outcomes of this consultation process may assist the European Commission with its report to the European Parliament and the Council on the state of the removal of the obstacles (due by April 2008)⁴.

Call for comments

1.9 Comments are welcome on all aspects of the paper. However, we have included a number of questions to draw your attention to those areas where it would be particularly helpful to receive your views.

Consultation period

1.10 The consultation closes on **15 December 2006**. Responses to the consultation should be sent via CESR's website (www.cesr.eu) under section "Consultations".

³ Recital 34 of MiFID

⁴ Article 65(4) of MiFID

2. THE CURRENT LANDSCAPE IN MEMBER STATES – for domestic shares

- 2.1 The following discussion is based on information supplied by 22 Member States as part of a stocktaking exercise CESR conducted earlier this year. We undertook the stocktaking exercise in response to comments received at the April 2006 open hearing on barriers to consolidation of transparency information.

EXISTING MARKET STRUCTURES

- 2.2 All EEA Member States have at least one RM in shares operating in their territory today. The majority of Member States have only one RM. Germany (with 7 RMs) is the only Member State with more than 3 RMs for shares.
- 2.3 Considerably fewer Member States currently have Alternative Trading Systems (ATSS) (or Multilateral Trading Facilities as they are known in MiFID) operating within their jurisdiction. However, this is likely to increase under MiFID.
- 2.4 Over half of Member States have an existing OTC market of sorts, which in some instances allows for internalisation. The majority of this OTC trading however, is actually bilateral trading conducted under the rules of an RM – which technically deems it on-exchange. This bilateral trading accounts for over 50 per cent of turnover in many Member States.

EXISTING TRANSPARENCY REGIMES

- 2.5 In the vast majority of Member States, high level pre- and post-trade transparency requirements are set by the legislator and/or regulator which are often specified in more detail through the rules of the exchanges and ATSS. The exchange and ATS rules are usually subject to approval by the regulator. In other jurisdictions (e.g. Iceland, Ireland, Netherlands), the transparency requirements are imposed directly by the RM only and can then be subject to approval by the regulator.
- 2.6 With regard to pre-trade transparency, for markets that operate a central order book, prices and quantities of at least the five best bid and ask levels are continuously disseminated in a majority of Member States. For market-making models, the market makers are generally required by the exchanges to provide bid and offer prices (i.e. two way prices) at a minimum size for all stocks in which they act as market-makers.
- 2.7 With regard to post-trade information, generally the obligation is to make price and volume information public in real-time. Large block trades are often entitled to be published with delays, subject to certain conditions being fulfilled. Trades carried out outside the normal trading hours of RMs are usually made public before the market opening on the next trading day.
- 2.8 In the majority of Member States, transparency requirements only relate to order-book trading on the one hand and off-order book trading conducted under the rules of an RM on the other. In some cases, all trading by members of an exchange (irrespective of where they are executed) are obliged to report their trades to the RM, and they are considered as executed under the rules of the exchange and are published by the exchange. Therefore, transparency obligations frequently apply to exchange members undertaking internal crossings and crossings with others outside the order-book.
- 2.9 In some Member States, there are no post-trade transparency obligations relating to 'true' OTC trades that are executed outside the rules of an RM (e.g. Germany and the UK). In other Member States, for example France and Italy, OTC trades executed as an exemption to the concentration rule are reported to the exchange and directly published to the market by the exchange.

DATA QUALITY

- 2.10 As a general rule, transparency information about on-exchange trades is monitored for accuracy by the RMs. Off-exchange trades when reported to exchanges are usually also under their monitoring.
- 2.11 For pre-trade information, automated computer systems are typically in place that measure orders against a reference price or put a limit on daily price fluctuations and trigger an alert if certain thresholds are crossed. Some RMs' systems will not allow quotes/ orders or post-trade information to be entered if the price or volume is a certain percentage away from a benchmark (e.g. the best bid and offer on the order-book or the total number of shares in issue).
- 2.12 In respect of post-trade information, all main RMs have control mechanisms in place to check for price and volume anomalies, reporting in due time and compliance with deferred publication arrangements for block trades. The RMs have technical systems in place that trigger alerts when anomalies are identified and for potential double-reporting. For off-order book trades that are reported to an RM, there can be checks for compatibility of the details reported by both sides of the trade. In Germany, trades conducted via floor trading are checked for potential differences due to manually entered trade figures by a designated office.
- 2.13 Where inaccurate information is published to the market, the usual process for dealing with publication errors is as follows: the trade is re-published with a mark to indicate it is a correction with reference to the respective trade to be corrected. In some cases, but not all, data aggregators (i.e. data vendors) delete the incorrect trade for historical analysis purposes.
- 2.14 With regard to trade cancellation, they are rarely permitted. Time limits apply to requests for cancellations, for example in some RMs it is 10 or 15 minutes after the trade or 30 minutes after the end of the trading hours.
- 2.15 Some exchanges publish cancellations occurring within normal trading hours through the ordinary publication facilities. Cancellations outside the trading hours are not specifically published but historical data is adjusted accordingly.

AVAILABILITY OF TRANSPARENCY DATA

- 2.16 For the vast majority of Member States, transparency information is made public as follows.
- 2.17 Real time market data relating to on-book pre-trade information (orders and quotes) is sold/ licensed by the RMs to data distributors (i.e. data vendors) as well as directly to end users. This usually includes the number of orders, price and size to a certain number of levels (i.e. 5, 10 or full depth). In auctions, the indicative auction price or the best bid and/or ask limit are usually displayed.
- 2.18 Regarding post-trade information, a vast amount of information is currently made public by the RMs, in many cases this includes: the instrument identification; date and time of trade; price; volume and trade conditions. The RMs sell/ license the post-trade data to data distributors as well as directly to end users. The RMs tend to provide this information in their own proprietary format and the data distributors convert the data into their proprietary format and disseminate it to the market participants.
- 2.19 Cross and basket trades are normally published with special indicators and VWAP trades are also identified as such.
- 2.20 In most Member States, market participants have access to a consolidated view of trading in a particular share. In many cases, this consolidated view is achieved due to there being only one trading venue on which to trade a particular share. This may be due to a regulatory imposed concentration rule, where all trading must be executed on an exchange, or because there is insufficient demand for competing trading venues. In these circumstances, the trading venue arranges for the publication of trades executed on its systems or under its rules and the market sees a consolidated view of trading in each share.

- 2.21 In a number of other Member States, there is more than one trading venue for a particular share. These include Austria, Germany, Italy, Luxembourg and the UK. In most of these Member States, information about trading in a particular share from different trading venues is aggregated by the exchanges and/ or data distributors. Bilateral trading is often conducted under the rules of an RM due to an obligation on member firms to report their trades to an exchange and/or to more favourable taxation treatment for on-exchange trading.
- 2.22 There are examples where a consolidated view of EEA cross-border trading in a particular share is achieved by data distributors, which provides their clients with a global picture of the trading activity of a given share. This is typically limited to the larger blue chip multi-listed shares, such as Nokia.
- 2.23 The charging structure for consolidated transparency information is usually a combination of different fees. They include a distribution license fee charged by trading venues to each data distributor that wishes to distribute its data. Some RMs have multiple licence fees that they charge data distributors according to the ‘depth of book’ made available, the time delay in making data available, and other factors that affect the market value of data. An additional licence fee (often called a ‘per-terminal fee’) is typically charged by RMs per each end-user. These per-terminal fees are passed directly to the consumer. Many RMs make delayed information (typically 15 minutes) available for viewing on their website free of charge. In addition to trading venue fees, data distributors apply their own fees.

DATA PUBLICATION STANDARDS

- 2.24 At the present time, the level of data standardisation within the EEA securities industry is somewhat mixed. Industry participants publish/ report quotes and trades to a variety of interested parties (exchanges, regulators, data distributors) using a range of protocols. The use of proprietary protocols is often dictated by the major players – for instance, the vast majority of exchanges specify the messaging standards in which they should receive pre- and post-trade information, as well as those they will use to disseminate the data to consumers and data distributors. In other cases, the data standard to be used is negotiated between the parties (as is the case with some data distributors).
- 2.25 The equity exchanges also use a variety of different reference data and formats within a publication. Of the 43 exchanges we sampled, less than half provide data distributors with the International Security Identification Number. They used a combination of formats for time, date, price and volume. There was also a distinct lack of consistency in the mechanisms for managing amendments and cancellations, ranging from no formal procedures at all, to notifying data distributors via fax/ phone/ email, to the other extreme of being systematically supplied on the electronic feed.
- 2.26 While the market is clearly already dealing with many different standards and sources of data, the cost of mapping one standard to another can be significant and contributes to higher overall information costs for the industry. A number of data distributors have indicated that the cost of mapping to a new complex source of data (e.g. an exchange) is up to €100,000, with an additional €100,000 per annum for support, upgrades and maintenance. A 2-3 month implementation period would typically be anticipated. Less complex sources, that do not undergo frequent changes, would be quicker and cheaper to develop and maintain. These costs and timing issues create barriers to consolidation, which may be exacerbated under MiFID. This is because it is possible that many more sources of data will emerge, each potentially with their own proprietary standards. Data aggregators are likely to see little commercial value in collecting information from smaller players if it will be costly to map to and maintain connections with proprietary standards.
- 2.27 Data distributors also tend to use their own proprietary standards. That is, they take feeds from many different sources and convert it into their own standards rather than into industry standards. This can be problematic for some data distributors who take their consolidated feed from other data distributors rather than directly from the source. This is because there are often restrictions on their ability to store and display information in other data distributors' proprietary standards.



2.28 There has been a big push by investment firms to converge towards common standards to address this information fragmentation issue, but also to reduce their straight through processing costs. However, progress has been slow and the slow rate of adoption of data standards remains a costly barrier to consolidation.

3. WHAT IS CHANGING: MiFID Transparency Publication Rules

- 3.1 MiFID will end the discretion which Member States had under the Investment Services Directive (MiFID's predecessor) to require certain trades to be executed on one or a limited number of exchanges (the so called 'concentration rule'). This means that, in many Member States, exchanges will be exposed to competition for the first time from MTFs and investment firms trading OTC (including systematic internalisers). In some Member States, the exchanges are already exposed to such competition, however post-trade information about off-order book trading is still typically concentrated with the exchanges. This has the effect of concentrating trade information in one (or a few) places, which provides the market with a complete (or near to complete) consolidated view of trading in a particular share.
- 3.2 MiFID also introduces universal transparency requirements across the EEA for trading in shares admitted to trading on an RM. The intention being that an adequate level of pre- and post-trade information would help to minimise the consequences of trading fragmentation and help facilitate price formation. The provisions relating to the publication of transparency information are outlined below.
- 3.3 RMs and MTFs must make certain pre-trade information public, as must systematic internalisers for shares in which they are systematic internalisers; for which there is a liquid market; and when dealing in sizes below standards market size (SMS).⁵ The relevant RM or MTF is responsible for making the information public where the order/ quote is entered on the systems of the RM or MTF, or where the trade is executed on the RM or MTF. A systematic internaliser (where subject to pre-trade transparency) is responsible for publishing its quotes.
- 3.4 RMs, MTFs and investment firms trading OTC must also make certain information public about completed trades in shares admitted to trading on an RM, including price and volume information (see Article 27(1) of the Level 2 Implementing Regulation for the full list of requirements). Unless entitled to a delay, this information must be made public 'as close to real time as possible'. Where a trade is executed outside the rules of an RM or MTF, the parties to the trade should agree who will make the details of the trade public. In doing so, the parties must take all reasonable steps to ensure that the trade is made public as a single trade. For those purposes two matching trades entered at the same time and price with a single party interposed shall be considered to be a single trade⁶.
- 3.5 In the absence of agreement between parties over who will publish a trade, it should be determined by proceeding sequentially through the following list - the investment firm that:
- a) sells the share concerned;
 - b) acts on behalf or arranges the trade for the seller;
 - c) acts on behalf of or arranges the trade for the buyer;
 - d) buys the share concerned.
- 3.6 In addition to mandating what information needs to be disclosed and by whom, MiFID requires that the information must be made available in a manner which is easily accessible to other market participants. Furthermore, any publication arrangement must satisfy the following conditions⁷:
- it must include all reasonable steps necessary to ensure that the information to be published is reliable, monitored continuously for errors, and corrected as soon as errors are detected;

⁵ Articles 27(3), 28(1), 29(1), 44(1) and 45(1) of MiFID.

⁶ Article 27 of the Level 2 Implementing Regulation.

⁷ Article 32 of the Level 2 Implementing Regulation

- it must facilitate the consolidation of the data with similar data from other sources;
 - it must make the information available to the public on a non-discriminatory commercial basis at a reasonable cost.
- 3.7 Investment firms trading away from an RM or MTF (i.e. investment firms trading OTC) will have choice in their publication channel. Pre- and post-trade information shall⁸ be considered to be made public or available to the public if it is made available generally through one of the following to investors located in the Community:
- the facilities of an RM or an MTF;
 - the facilities of a third party;
 - proprietary arrangements.
- 3.8 As a result of the greater flexibility and choice in the permitted publication channels, the number of providers of trade information services for trades executed away from RMs and MTFs is likely to increase. While there are clear benefits and opportunities that competition could bring in this area, it also poses risks for the price formation process and the overall quality of market data.
- 3.9 If there were to be a substantial shift in the pattern of existing 'on-exchange' trading to the OTC space (i.e. to the bilateral trading conducted outside the rules of an RM), then greater choice, along with the ability for investment firms to assert ownership rights over their trade data, would increase the probability of data fragmentation. If information remains fragmented, it could reduce overall market transparency, hinder price discovery and undermine equity market efficiency generally. This would mean that market participants will not get as 'complete' a picture of their marketplace as they do today. This will make it harder for market participants to identify and assess trading interest and prices.
- 3.10 It may also make the MiFID best execution monitoring and review process⁹ more onerous for investment firms.
- 3.11 There is also a risk that the integrity of market data may deteriorate. As discussed in Chapter 2, by and large it is the RMs that currently monitor the trades executed under their rules for accuracy and duplication and arrange for corrections when errors are identified. If investment firms choose under MiFID to conduct and publish more of their trades away from RMs, it is important that data continues to be monitored effectively.
- 3.12 Deterioration in the price formation process and data quality would be detrimental to the market and would undermine MiFID's overarching transparency objective. We are consulting on proposed level 3 guidance in order to address these risks.

SCOPE OF APPLICATION

- 3.13 The above pre- and post-trade transparency provisions currently relate only to shares that are admitted to trading on an EEA RM. They do not apply to derivatives of shares (e.g. options, warrants), stock lending, bonds, depository receipts or any other class of financial instrument. The European Commission is undertaking a review (under Article 65(1)) on the possible extension of the scope of the provisions concerning pre- and post-trade transparency obligations to trades in classes of financial instruments other than shares. It is due to report its findings to the European Parliament and Council by October 2007.

⁸ Article 30 of the Level 2 Implementing Regulation

⁹ Article 21 of MiFID – an investment firm must take all reasonable steps to obtain the best possible result for its clients, taking into account price, costs, speed, likelihood of execution and settlement, size, nature or any other consideration relevant to the execution of the order.

4 CALL FOR EVIDENCE KEY MESSAGES

4.1 CESR held a roundtable with over 20 market participants in December 2005 to discuss for the first time the risk of transparency data fragmentation and the barriers to consolidation. It became quickly apparent that this issue was of interest to a much broader range of market participants and that there are conflicting views on how best to manage the barriers. To take into account the broader interests, in April 2006, CESR issued a call for evidence accompanied by an open hearing. Over 50 market participants from different interest groups and different jurisdictions participated in the open hearing. We received detailed written responses to the call from evidence from the following groups:

- 6 RMs and MTFs and their representative associations,
- 7 banking representatives,
- 4 investment firms and their representative organisations
- 2 asset management organisations
- 10 data distributor/ standards organisations/ infrastructure suppliers

Below is a summary of some of the main points made by participants of the roundtable and open hearing and written responses received to the call for evidence.

- 4.2 From the outset of this process, it was clear that there were different views on the importance of consolidated pre-trade data versus post-trade data.
- 4.3 A number of participants noted that although MiFID aims to enhance transparency across the EEA, the removal of the concentration rule in many Member States could actually reduce transparency. They were not convinced that market forces alone could deliver sufficient data consolidation - especially in relation to post-trade information. It was generally agreed that it may not be necessary to achieve 100% consolidation, but the aim should be to consolidate as much information as possible.
- 4.4 The likely data aggregators - RMs and data distributors - view publication of transparency information on websites (as the sole publication mechanism) as a major obstacle to consolidation. It was suggested the use of static websites would lead to additional costs and a significantly higher margin of error/ duplication. A number of data distributors suggested that in order for information published on websites to be consolidatable, the data should be 'structured, machine-readable and supported'. This was later confirmed to mean the following: 'machine-readable' it should not be necessary for human intervention; 'supported' the supply of instructions or advice on how to access information. Other respondents emphasised the importance of retaining the ability to publish on a website because it is a low cost option.
- 4.5 RMs and asset managers were particularly concerned about data quality and ensuring suitable monitoring arrangements are in place to identify and manage erroneous and duplicative data. This was also a concern for some data distributors.
- 4.6 The data distributors, standards bodies, infrastructure suppliers and some banks and investment firms strongly urged CESR to recommend the use of open, non-proprietary data standards. The recommendations included use of FIX Protocol and International Standard Organisation (ISO) messaging standards. RMs and investment firms, on the other hand, suggested the development and setting of technical data standards should be left to market forces. Some commented that CESR's role should be to coordinate initiatives for European standardisation.

- 4.7 Some banks and investment firm representatives suggested the primary goal of CESR should be to ensure supervisory convergence. The asset managers suggested there should be an EEA wide approach to managing the risk of data fragmentation. Some felt that any action by supervisors would be premature given the uncertainties surrounding market structure post-MiFID.
- 4.8 Some participants (primarily representing investment firms) suggested that a regulatory initiative should not be the main driver for consolidation. They pointed out that in many markets several liquidity pools already exist today and most markets have a consolidated view of trading. They suggested investment firms trading OTC would have a commercial incentive to make the information available (especially in relation to pre-trade). Others disagreed with these points, suggesting regulatory or quasi regulatory initiatives exist in those markets where there are multiple liquidity pools – which had the effect of concentration – and that there was equal incentive for investment firms to use obscure publication mechanisms to hide their post-trade information.
- 4.9 Several participants recommended that before deciding to intervene, CESR should collect more practical information on the data standards and/or industry based initiatives are currently in place and consider the market needs for consolidated information. In response to this suggestion, CESR members undertook a stocktaking exercise which looked at existing market structures, transparency regimes, data quality, availability of transparency information and data publication standards. The outcomes of which are reported in Chapter 2 of this consultation paper.
- 4.10 There was almost unanimous support for CESR to create a forum for discussion and debate among the various interested parties on this issue. The majority of respondents suggested that CESR should put in place guidance in one area or another.

5. AREAS OF CLARIFICATION & PROPOSED GUIDANCE

- 5.1 The call for evidence process highlighted a wide range of conflicting views among different groups of market participants on the issue of transparency data consolidation. There was consensus, however, for CESR members to harmonise their understanding and interpretation of certain aspects of the MiFID transparency publication provisions. In this chapter, we outline those areas where CESR members propose guidance to break down potential barriers to data consolidation and to promote high quality market data.

DATA QUALITY

- 5.2 Many respondents to the call for evidence cited data quality as their major concern, in particular: erroneous/ inaccurate information (which might result from the transmission of incorrect data to the trade publication arrangement, or even an error trade) and duplicate information. As mentioned in Chapter 3, the Level 2 Implementing Regulation requires all trading venues and investment firms trading OTC to take all reasonable steps necessary to ensure that published information is reliable, monitored continuously for errors, and corrected as soon as errors are detected. It is paramount that trade information is reliable to properly contribute to the price formation process, inform implementation of best execution requirements and facilitate accurate trend analysis. Erroneous data and duplication are discussed separately below.

Inaccurate pre- and post-trade publications

- 5.3 Market participants seem broadly satisfied with the current monitoring practices for pre- and post-trade information that the RMs, and to some extent ATs/MTFs, have in place. However, a number of market participants commented that data integrity monitoring would be new territory for some MTFs and investment firms (particularly for post-trade information).
- 5.4 Investment firms have a strong incentive to publish accurate pre-trade information, and to update the information regularly because inaccuracies or stale quotes could result in quotes being hit or avoided - to the detriment of the investment firm. If inaccuracies were to occur, they could have a harmful effect on the wider market.
- 5.5 On post-trade information, some respondents to the call for evidence predicted a 'race to the bottom', implying that non-market operators may be less concerned about data quality. It was suggested there may be a misalignment between the individual welfare of investment firms (who are trying to minimise costs) and the broader social welfare of the market. It was suggested that as a consequence, investment firms may not have the incentive to put in place appropriate post-trade data quality monitoring processes.
- 5.6 CESR recognises that, while many RMs, MTFs and investment firms may already have pre- and post-trade data monitoring processes in place, some guidance will be required to ensure minimum quality standards are upheld. CESR considers that it would be reasonable for the publication arrangements of RMs, MTFs and firms trading OTC to include a verification process that is independent from the trading process. This process should be systematic, have the capability to at least identify price and volume anomalies, and be conducted continuously as quotes and trades are published.
- 5.7 In this context, it is not necessary for the independent verification process to be external from the organisation. We recognise that the process may vary between different trading venues and investment firms, depending on the size and nature of their business. We expect the chosen process to be reasonable and proportionate in relation to the business. In some cases, this may involve an automated alerting system, while in others, it may involve a person (other than the trader) reviewing in a timely manner the publications.

Q1: In your opinion, will this additional guidance help to ensure high quality data monitoring practices?

Duplication of post-trade transparency information¹⁰

5.8 There is a risk that post-trade information may be duplicated (i.e. that the same trade is counted and published more than once). This is likely to result from the different means by which investment firms trading OTC can publish their transparency information. This could happen where:

- i) a single published trade is counted more than once during the consolidation process;
- ii) a single trade is published by both parties to a trade

Both of these scenarios would result in artificially inflating trading volumes. This would have implications for trend analysis and may have implications for the overall price formation process. It is also possible that inflated trading volumes may bias the assessment by market participants of the respective balance of market share and liquidity pools between RM, MTF and OTC trades, and as a result, this may lead investment firms to develop their execution policies based on inaccurate information (see paragraph 3.10 for details of execution policies). These scenarios are discussed separately below.

i) Single trade is counted more than once during the consolidation process

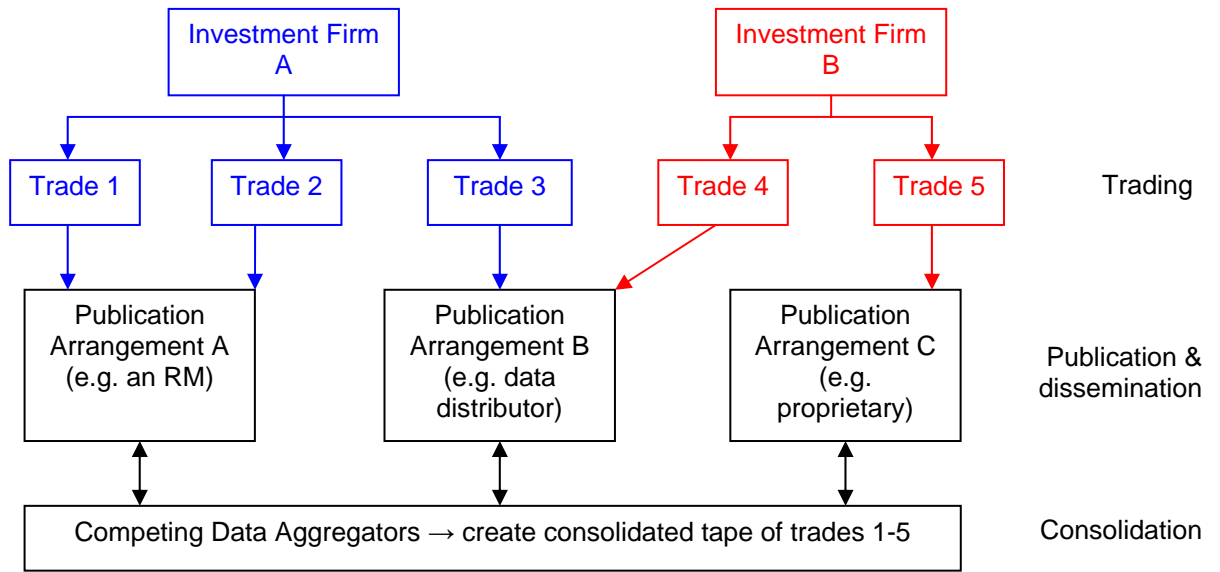
5.9 It is possible that information is duplicated during the consolidation process. This problem may arise because investment firms, when trading OTC, are entitled to publish their trade information through three mechanisms (i.e. an RM or MTF, third parties or proprietary arrangements). Some respondents to the call for evidence expressed concern that investment firms might publish each trade through more than one publication arrangement. This might result in their trade information being collected more than once and consequently released to the market in a consolidated way as more than one trade. While duplication may already occur today when trades are reported to the exchange for publication, it does so in relatively small quantities – primarily because of RMs have developed processes to manage data quality.

5.10 A number of possible solutions have been suggested to us to help address this concern. They are discussed below. We welcome your comments on these and any additional solutions.

5.11 **Option 1** - One possibility would be for investment firms to use only one publication arrangement (for each trade). Investment firms would choose for each trade which publication arrangement they want to use. It could be the same arrangement for every trade or a different arrangement for different types of trades. The advantage of this proposal is that anyone that collects information directly from the publication arrangement, whether an individual investment firm or a data aggregator, would know they are unlikely to receive the same information more than once. This option is illustrated in Figure 1 below.

Figure 1: Publication arrangements (on a per trade basis)

¹⁰ We also considered whether duplication of pre-trade transparency information would be problematic for the market. We concluded that it would not be sufficiently problematic to warrant CESR intervention.



- 5.12 It is important to note that the roles identified in the above diagram are not mutually exclusive. It is possible that a publication arrangement may also be an aggregator. This is likely to be the case for many RMs and possibly for some data distributors. Indeed, it is also possible that an investment firm may be a publication arrangement and an aggregator.
- 5.13 However, use of this option might not remove totally the possibility of duplication, if aggregators acquired information from several sources at different points in the processing chain. For example, an RM and data distributor may both collect trade information from a particular publication arrangement. If the data distributor also takes a feed of data from the RM, it is possible that it will receive a trade that it had already collected, and in turn, disseminate it to end users. On the other hand, this option is likely not to impose additional costs for investment firms. It has also been pointed out that this option should not be considered as an independent option but as prerequisite which would then be supported by other requirements (like option 2 or 3). Contrary to that view it has also been pointed out that a simple requirement to publish a trade only once would limit the choice of publication as allowed by MiFID.
- 5.14 As an alternative to the use of only one publication arrangement, and with the same objective of avoiding misleading trading volumes being published to the market, the following unique trade identification solutions could be envisaged.
- 5.15 **Option 2** – This option is based on a unique trade identifier. A unique identifier would be allocated to each trade by the source of the information (e.g. investment firms would be entitled to allocate a unique identifier to each of their trade). If a data aggregator or market participant saw an identical trade publication with the same unique identifier, they would know to disregard one of them.
- 5.16 In the example below, Trade 1 and Trade 2 are identical in every way, including the unique identifier. A data aggregator would know that they are duplicates and remove one of them from the consolidated tape. Trade 3 looks identical in every way, except it has a different unique trade identifier. A data aggregator would know this is actually a different trade and would retain it on the consolidated tape.

Table 1: Unique trade identifier

Fields	Trade 1	Trade 2	Trade 3
Day	20060901	20060901	20060901
Time	18:03:54	18:03:54	18:03:54
ISIN – Nokia	FI0009000681	FI0009000681	FI0009000681

Unit price	1632	1632	1632
Price notation	EUR	EUR	EUR
Quantity	1000	1000	1000
Venue identification	XPAR	XPAR	XPAR
Unique trade identifier	121L56	121L56	89753HGR

- 5.17 **Option 3** – This option would be based on trading time identifier. If trading time was recorded to milliseconds, that level of detail, together with the other information required by the level 2 Implementing Regulation, would enable data aggregators to detect potential duplicated trades and therefore remove them from the consolidated tape. If market participants themselves saw them, they would also know to disregard them. A number of data distributors have advised that publication to seconds only would not be adequate for this purpose.
- 5.18 In the example below, Trade 1 and Trade 2 are identical – to the millisecond '007'. Trade 3 is identical in all other aspects except the time, where it is '212' milliseconds. In this example, a data aggregator would presume that Trade 1 and Trade 2 are actually duplicates and probably represent only one trade. They could therefore choose to remove one of them from the consolidated tape. Trade 3 is probably not a duplicate, and therefore, should remain on the consolidated tape.

Table 2: Trade identifier - millisecond

Fields	Trade 1	Trade 2	Trade 3
Day	20060901	20060901	20060901
Time	18:03:54:007	18:03:54:007	18:03:54:212
ISIN – Nokia	FI0009000681	FI0009000681	FI0009000681
Unit price	1632	1632	1632
Price notation	EUR	EUR	EUR
Quantity	1000	1000	1000
Venue identification	XPAR	XPAR	XPAR

- 5.19 Trades that are executed electronically could automatically generate the time to milliseconds. Although this is not possible for non-automated trades, it should nonetheless be possible to generate a time identifier, measured in milliseconds, at the point at which the trade details are inputted into an electronic system for trade publication. This would suffice for the purposes of identifying duplicate reports.
- 5.20 Option 1 on its own that would require investment firms to choose only one publication arrangement, on a trade by trade basis, does not appear to be a full proof measure. A truly unique trade identifier, as proposed under option 2, is likely to be the most precise mechanism for identifying duplication. Its implementation is however likely to be difficult as it would certainly require a new field to be populated by investment firms. Harmonisation of the format (length and characters) of this field might also be necessary. Option 3 appears to be a workable option, but we are keen to receive your views on any costs and drawbacks associated with this option. We have been advised by those market participants that advocated Option 3 that this is a low cost option. There may be some costs in extending field lengths to cater for milliseconds - but many systems will already have the capability.
- 5.21 These options are more applicable to MTFs and investment firms trading OTC, than RMs. This is because many RMs already provide data distributors with unique trade identifiers.
- 5.22 For these reasons, where a trading venue already has a mechanism in place (e.g. a unique trade identification mechanism) to avoid this type of duplication, CESR feels that would be sufficient to avoid this type of duplication. However, trading venues and investment firms that do not already have an appropriate mechanism in place, should consider which of these options (or other options) best suits it and respond to CESR accordingly.

- Q2: Option 1 – (a) Would publishing each trade to only one publication arrangement help to address our concerns about duplication? (b) Would this option be sufficient on its own to address the issue, or should it be coupled with another solution? (c) Rather than being an option, should this option be seen a prerequisite (supported by other requirements), (d) Would this option limit unnecessarily the choice of publication channels for firms?,
- Q3: Option 2: - (a) Would a unique trade identifier address our concerns about duplication? (b) Do you think this is an appropriate solution? (c) How would the industry achieve this? (d) In your view, should this only apply to MTFs and investment firms trading OTC or should it also apply to RMs? (e) What costs would be involved and who would bare them? (f) would this solution request a recommendation on a common and single format for the trade identifier?
- Q4: Option 3: - (a) Would the use of time to milliseconds contribute to the identification of duplicate trades? (b) Do you think this is an appropriate solution? (c) How would the industry achieve this? (d) Are there circumstances where legitimate multiple identical trades (to the detail of milliseconds) could exist? (e) In your view, should this option only apply to MTFs and investment firms trading OTC or should it also apply to RMs? (f) What costs would be involved and who would bare them?
- Q5: What is your preferred solution? Do you believe that a combination of these different options is viable? Are there alternative solutions?

ii) Single trade published by both parties to a trade

5.23 Where the transaction is executed outside the rules of a regulated market or an MTF, the Level 2 Article 2 of the Implementing Regulation provides that both parties to a transaction should agree on who will be entitled to publish the trade. In the absence of such an agreement, it specifies a default list to determine where responsibility for publication should lie. The list is at paragraph 3.5 of this consultation paper. At times there may be some questions on the way this article should be implemented with regard to who will publish the trade, which might potentially result in both parties publishing the trade. In addition, investment firms could be entitled to generate revenue from their trade data and be keen to demonstrate their market share. This may incentivise them to publish most or all of their trades, irrespective of whether they are published by the other party.

Q6: In your opinion, is the list as set out by the article 27(4) of the regulation sufficient to alleviate confusion over whose responsibility it is to publish a trade (where there has been no agreement over who should publish)? Is there a need for CESR guidance? If so, in your opinion, what should that guidance cover?

5.24 While it is possible that this type of duplication does occur today, the RMs have systems and processes in place to monitor and eradicate double reporting. Typically, the RMs have systems that trigger alerts if more than one identical trade is reported for publication. The exchanges might also cross check counterparty information.

5.25 Also, many exchanges have very detailed rules for determining responsibility for submissions of trade information and have penalties for mis-reporting/ publication, depending on if they trade they allow to be reported and qualified as "on exchange". . In the UK for example, the responsibility for post-trade reporting off-book trading to the London Stock Exchange (LSE) varies between market makers and brokers depending on the capacity in which they are acting. Some exchanges

automatically issue fines for each erroneous trade they identify and can take further action against investment firms for repeated mis-publication. This, along with the ongoing trade publication fee, acts as an incentive for investment firms to ensure they publish only those trades where it is their responsibility to do so.

- Q7: Is there a need for CESR to put in place guidance to define more precisely what should be considered as a "single transaction" and a "matched transaction"? Additionally, is there a need to define the "reasonable steps" that firms should take in order to comply with their publication obligations?

PUBLICATION ARRANGEMENTS

- 5.26 RMs, MTFs and investment firms trading OTC must choose a publication arrangement that enables them to meet their publication obligations under the Level 2 Implementing Regulation (see paragraph 3.6). That is, the chosen publication arrangement would need to publish the transparency information and ensure that it is available in a way that is easily accessible and that facilitates its consolidation with similar data from other sources. While in practise the chosen publication arrangement may discharge these obligations, ultimate responsibility for complying with the MiFID requirements resides with the relevant RM, MTF or investment firm.

Third parties offering post-trade publication services

- 5.27 Third parties (including RMs and MTFs) may choose to offer a publication arrangement to investment firms trading OTC (i.e. purely a publication service so these trades would not fall under the rules of an RM or MTF). In these circumstances, the published venue identification should be the acronym 'OTC' or 'SI' (or the identify of the systematic internaliser if it has not published aggregate quarterly data on its trades¹¹). The third party must not record itself as the trading venue.

Contingency arrangements for pre- and post-trade publication

- 5.28 CESR considers that all entities with a transparency publication obligation should have adequate contingency arrangements in place in case their preferred publication arrangement becomes unavailable. This should cover publication and data quality monitoring. The precise content of these arrangements may vary depending of the firm in question and/or the preferred publication arrangement of the firm (For example, if this is a RM the firm may rely on the contingency arrangements of the RM). Adequate arrangements might include a policy outlining how they will continue to meet their transparency obligations if their preferred arrangement becomes unavailable or it may be a connection to a back-up publication arrangement.

Websites as a pre- and post-trade publication arrangement

- 5.29 Many respondents to the call for evidence suggested that publication to 'static' non-machine readable websites (i.e. websites which preclude accessing of information through an automated process) would pose a significant barrier to consolidation. It was also suggested that publication arrangements should not involve non-automated processes (such as requiring human intervention - e.g. to press a button to access the information), otherwise barriers to consolidation may be erected. Below are some examples of barriers that are particularly prevalent with static websites:

- Incomplete data set - search engines typically find only a portion of the sites containing the defined criteria.

¹¹ See Article 27(2) of the Level 2 Implementing Regulation

- Irrelevant data - search engines often retrieve information that matches the search criteria, but that has nothing to do with the actual intended search request. It would be difficult to accurately filter the irrelevant data.
- Duplication of data - search engines may retrieve the same information multiple times if it is published in more than one place.
- Timing – there are latency issues and it may be costly to identify whether the data has changed since the last visit to the site.
- Restricted access - data can be locked, stored at different levels in a database, written in different languages.
- Screen scraping technology can be slow and imprecise.
- Costly – many respondents to the call for evidence suggested website search costs would be high.

5.30 CESR recognised that websites may offer a low cost publication option, and therefore should not be prohibited all together. However, publication on ‘static’ websites may pose a significant barrier to consolidation. For this reasons, CESR is proposing that pre- and post-trade publications should:

- i) be accessible by automated electronic means in a machine readable way;
- ii) utilise technology that facilitates consolidation of data and permits commercially viable usage; and
- iii) be accompanied by instructions outlining how users can access the information.

5.31 Machine-readable in this context means data that is in a physical form that is designed to be read by a computer and not by a human being; in a physical location on a computer storage device where that physical location is known in advance by the party wishing to access the data; and in a format that is known in advance by the party wishing to access the data. CESR views that publication on a static website would not meet the MiFID requirements.

5.32 In coming to this recommendation, CESR has had regard to the costs in developing a machine readable website. It is our understanding that it may be only marginally more costly to develop a machine-readable website compared to a static website

Q9: Do you agree with our proposed approach for dealing with static websites?

5.33 It has been suggested to us that publication arrangements should go one step further than being machine readable – they should ‘push’ the information out to anyone who wants it via a ‘feed’.

Q10: In your view, is this necessary and reasonable? What additional costs would be involved? Who would bare the costs?

AVAILABILITY OF TRANSPARENCY INFORMATION

Timing of post-trade publication

5.34 Under articles 28, 30, and 45 of MiFID, RMs, MTFs and investment firms are required to publish post-trade information "as close to real time as possible". The Level 2 Implementing Regulation (Recital 18) provides that the information should therefore be published as close to instantaneously as technically possible and that the authorised limit of three minutes should only be used in exceptional cases. Many respondents to the call for evidence suggested it would be helpful if CESR

could express views on the way this requirement should be understood and particularly on the circumstances where the 3 minute cap should be permitted.

- 5.35 CESR considers that the three minute cap should not be interpreted as the standard time for publication but as an exception to be justified by the entity required to publish the information. In this context, we reiterate the requirement set out in Recital 18, which is to make the information

'...available as close to instantaneously as technically possible, assuming a reasonable level of efficiency and of expenditure on systems on the part of the person concerned. The information should only be published close to the three minute maximum limit in exceptional cases where the systems available do not allow for a publication in a shorter time period.'

RMs, MTFs or investment firms taking up to three minutes to publish their post-trade information (and who do not benefit from delayed publication) should be able to explain it based on the following considerations:

- i) where the available technology does not provide for publication in a shorter period of time. When comparing available means or mechanisms to publish trades, investment firms should take into consideration the technical capacity of a system to publish the information in real-time. Poor or inadequate technology will not be considered as an acceptable reason for publication with a delay of, or close to three minutes. CESR considers that an RM, MTF or investment firm fails to meet its requirements under MiFID if they choose publication mechanisms which do not allow for real-time publication of completed trades where such systems are available at reasonable cost;
- ii) in relation to portfolio trades, due to the need to allocate prices to particular shares: CESR recognises here that the process to allocate prices to each share of the portfolio may not be instantaneous.

Availability of pre- and post-trade transparency information in the Community

- 5.36 Many respondents to the call for evidence suggested that CESR should clarify the way in which entities should fulfil the requirement to make pre- and post-trade transparency information available to investors located in the Community, as required by Article 30 of the Level 2 Implementing Regulation.
- 5.37 CESR considers that RMs, MTFs and investment firms meet their requirements if the information is readily accessible to investors potentially interested in the information.
- 5.38 Any investor in the Community should be able to access the information on a non-discriminatory basis, whether or not they are located in the same Member State as the entity publishing the information. The information should be made available to all interested parties wishing to see it provided they are prepared to meet the commercial terms (i.e. in some circumstances this may mean pay for it).
- 5.39 This should not be interpreted as a requirement to publish the information in every Member State, but rather, as an obligation for RMs, MTFs and investment firms to adopt easily accessible publication arrangements. As a consequence, published information should be accessible to all interested parties on a reasonable commercial basis and be accessible with reasonable effort. CESR believes that this requirement could be easily met given the current information technology tools available to market participants.

At what point is a trade considered concluded/ executed for post-trade transparency purposes?

- 5.40 MiFID and the Level 2 Implementing Regulation require trades to be published as close to real time as possible. However, there is no provision governing the issue of when a trade should be

considered as concluded/ executed for trade publication purposes. In the absence of further clarification and harmonisation in this area, there is a risk that understanding among Competent Authorities and markets participants may differ, and therefore delay trade publication. Many respondents to the call for evidence commented that it would be useful for CESR to clarify this point.

- 5.41 For order book and other automated trades, CESR considers that a trade is concluded/ executed as soon as a buy and a sell order are automatically matched and confirmed. Post-trade information should be published immediately after automatic execution.
- 5.42 The bigger issue arises for trades conducted outside RMs and MTFs and for trades executed under the rules of RMs or MTFs but outside a central order book or other automated trading systems (e.g. negotiated trades, "telephoned" market-making trades). In these circumstances, CESR considers that the trade is concluded/ executed (and therefore should be published) as soon as the terms of the trade with regards to the price and volume are agreed between the buyer and the seller. As a consequence, CESR considers that investment firms would meet their MiFID publication requirements only once their chosen publication arrangement publishes the information consistent with the above mentioned parameters.
- 5.43 Where a trade includes multiple legs and where an agreement on the terms of each of the leg is a pre-condition to the completion of the trade, CESR recognises that the trade is completed when all the legs have been put in place and agreed.
- 5.44 CESR recognises that in some Member States other parameters may be taken into consideration when determining when a trade is concluded/ executed (for purposes other than post-trade transparency). For example, differences in legal and accounting requirements may impact the point at which a contract has been entered into (e.g. it may be at the point where the trade is matched, cleared or finally settled). However, CESR considers that such an approach would be inappropriate for the purpose of post-trade transparency. It is essential that trade information be available as soon as possible to gain the full benefits of broad based market transparency and allow for an efficient price formation process and delivery of best execution. The possibility to delay publication until a trade is matched, confirmed, cleared or settled would unduly defer publication or could even be abused..

Bundling of pre- and post-trade information

- 5.45 Some market participants called on CESR to clarify the meaning of reasonable commercial basis in the context of bundled services. The principle of reasonable commercial basis is embedded in the Level 1 Directive and Level 2 Implementing Regulation and is essential to ensure that market participants and end users can readily access transparency information and get a complete picture on trading activity.
- 5.46 CESR considers that RMs, MTFs, and investment firms should not make the supply of pre- and post-trade information conditional on the purchase of other bundled services and/or data. It would not be an acceptable practice, for instance, for an RM, when acting as a publication arrangement for an investment firm, to subject the re-sale of the investment firm's trade information to the acquisition of its own information flow. Similarly, an investment firm would not be able to bundle its transparency information to other services such as financial research.
- 5.47 This does not preclude RMs, MTFs and investment firms from making different levels or depths of pre and/or post-trade information available to the market on different commercial terms.

Identifying new sources of pre- and post-trade transparency data

- 5.48 Some respondents to the call for evidence (notably the data distributors), are concerned that it may be difficult to source transparency data from investment firms for the purpose of consolidating it with other data. Unlike the situation today, where the vast majority of information about share trading resides with well known RMs and MTFs, investment firms will have considerable choice

under MiFID in where they publish their information. If data aggregators are unaware of a particular data source, it is not possible for them to collect and consolidate the information with other trade data.

- 5.49 Accordingly, CESR considers that investment firms that use proprietary publication arrangements or arrangements that are relatively unknown to the market should have a mechanism in place to inform the market of where to collect their pre- and post transparency information. We view this as an important contributor to the obligation to adopt a publication arrangement that facilitates data consolidation and makes information easily accessible. While we do not intend to prescribe how this should be achieved, some examples include: issuing a press release or other corporate media notification or informing data aggregators directly.
- 5.50 RMs, MTFs and investment firms should expect, during their normal supervisory processes, to inform their Competent Authority of where they publish their transparency information.
- Q11: Do you foresee any difficulties in aggregators identifying key sources of data?
- Q12: Do you have a preferred means by which to identify sources of data/ collection points?
- Q13: Do you agree with our approach to facilitate the identification of new sources of transparency data?

PUBLICATION STANDARDS

Data formats, content and protocols

- 5.51 There is currently limited use of common field formats, reference data, protocols and messaging standards across the EEA financial sector. This poses a barrier, as well as a significant cost, to transparency data consolidation.

Field format - the structure in which the information is provided (e.g. a date format may be DDMMYY or YYYYMMDD etc).

Reference data - the information that is used to populate a field (e.g. EUR or GBP to denote euros or Great Britain pounds).

Protocols - the data communication standard used to transmit the information to another party.

Messaging standards – the structure of the individual data items within a message.

- 5.52 Data aggregators today acquire feeds from many different sources in many different forms. This is a costly and time consuming process because it involves converting the protocol or messaging language to a common language and mapping the proprietary formats to the data aggregators' own formats to ensure each field is represented accurately (e.g. that price does not appear as the date). When the source makes system changes, data aggregators also need to update their links and mapping, which adds time and cost. The current data of the RMs and MTFs is considered sufficiently valuable to justify this cost and effort. It is not clear, however, whether data aggregators will be equally incentivised to accept the cost and effort in collecting data from investment firms that trade OTC.
- 5.53 CESR sees considerable value in the industry converging to a single or limited number of interoperable data formats and protocols. Common data formats would promote full interoperability between systems for the exchange of information. They would not only reduce the cost of the data collection and consolidation process for the data aggregators (by improving the accessibility and ease of consolidation), but competitive pressures might mean that cost savings are

also passed on to the end users of this data.

- 5.54 While CESR does not propose to mandate the use of specific formats and protocols, we do think the industry should avoid the introduction of new standards, and in particular, avoid new entrants developing their own proprietary standards. In this context, we are proposing that new entrants should use, as far as possible, an existing open protocol. We are also recommending that they use, as far as possible, the International Standards Organisation (ISO)¹² standard formats for publishing their pre- and post-trade information (as outlined in Table 3 below). Where ISO standards also cover content (e.g. currency codes), we recommend that they also be used. The reason we are recommending ISO standards over others is because ISO is the international standard body, its standards are widely recognised within the EEA, it is a low cost open standard, and competent authorities have agreed to use these standards to share trade report information with one another (under Article 25 of MiFID). The relevant ISO standards and the associated costs are outlined below.
- 5.55 Importantly, we are not proposing that existing sources of transparency information (e.g. RMs and MTFs) must change their systems and data standards. This is because it is likely to be a timely and costly process for the entities concerned. However, when developing new systems or making systems changes, we do encourage them to consider the benefits of converging to open industry formats and protocols.

Table 3

Transparency publication fields	Formats	One off cost to download specification
Day Time	<i>ISO 8601</i> – 8 character numeric code YYYYMMDD <i>ISO 8601 to milliseconds</i> - 9 character numeric code HHMMSSMMM. .	CHF126 (c€80)
Instrument identification	<i>ISO 6166</i> - ISIN - 12-character alpha-numerical code Where ISIN is available, it should always be used.	CHF64 (c€40)
Unit price	An integer in cent (or other as appropriate) units to the appropriate number of decimal places.	
Price notation	<i>ISO 4217</i> - 3 character alpha currency code. This standards also covers content, so ISO content should be used e.g. EUR for Euros.	CHF126 (c€80)
Quantity	An integer expressing the number of whole units	
Venue identification	<i>ISO 10383</i> - MIC for RMs and MTFs. ISO 9362 (BIC) or ISO 16372 (IBED) if an SI chooses to identify itself. Otherwise the acronyms SI. And OTC.	CHF41 (c€26)

Q14: Do you agree with our recommendation to use ISO formats (and reference data where applicable) to ensure consistent publication of transparency information?

Under article 27(1) of the Level 2 Implementing Regulation, RMs, MTFs, and investment firms are also required to published additional information in relation to some trades. That includes an indication that the exchange of shares is determined by factors other than the current market valuation of the share. VWAPs and portfolio trades are two examples of such trades. Two other situations requiring additional information are negotiated trades and amendments to published information. For that information there are currently no common standards. CESR is recommending the adoption of specific flags to identify this information.

¹² It should be noted that this is consistent with the standards that Competent Authorities have agreed to use between them for the sharing of transaction report information (under Article 25 of MiFID).

Table 4

Determined by other factors	Flagged as 'C' for condition
Negotiated trade	Flagged as 'N' for negotiated
Amendments	Flagged as 'A' for amendment

Q15: Do you agree with our suggested flagging (i.e. C, N and A)?

Q16: Is there a need and appetite for additional guidance on what other trades should be regarded as being determined by factors other than the current market valuation of the share (e.g. cum dividend etc)?

5.56 Some respondents to the call for evidence suggested CESR should prescribe data formats to the detail of number of decimal places and field lengths. However, we believe that this should be defined by the ISO standards.

Structure of pre- and post-trade transparency information

5.57 Some respondents to the call for evidence cited the use of complex non-standard technology as a barrier to consolidation. It was also suggested that it would be difficult to collect pre- and post-trade information if the sources continually change the order and format of the information they publish. For example, in some circumstances, the time on a trade publication may be situated before the date and in others it may be after the date. This would make it difficult for data aggregator systems to map to the fields.

5.58 We agree that this would pose a barrier to consolidation. CESR is therefore proposing that information that is made public should conform to a consistent and structured format based on industry standards.

Q17: Do you agree with our assessment that there is a need for sources of data to have continuity in the structure of the transparency information they publish?

Amendments to post-trade published information

5.59 RMs, MTF or investment firms are required to monitor the information to be published for errors and to correct errors as soon as they are detected¹³. There is currently no common approach within the industry for dealing with amendments to published transparency information. RMs and MTFs tend to mandate through their own rules the circumstances in which published information should be corrected, the timeframes and mechanism for doing so. This ranges from formal process such as publishing exactly the same information again but flagging it as a correction or publishing a notice of intent to correct before publishing a correction. At the opposite extreme are venues with no formal process at all, which means amendments are not fed into the consolidated tape of trades and the market is not informed of them. As already discussed, inaccuracies may impact the price formation process.

5.60 The possibility for investment firms to publish their OTC business through third party or proprietary arrangements means that even more approaches to dealing with amendments may emerge. CESR is therefore proposing a common approach for dealing with amendments. RMs, MTFs and investment firms that do not already have formal processes in place to ensure amendments are successfully

¹³ Article 32 (a) of the Level 2 Implementing Regulation.

made public, should implement this approach. When an inaccurate publication has been identified, CESR is proposing that the following steps should be followed. Using the same publication arrangement as the original publication:

- i) Make a new publication including the full and correct details of the trade; and
- ii) Flag the new publication with "A" for amendment.

5.61 Data aggregators and users receiving this data directly from the source would recognise that the "A" flag indicates that the original publication is withdrawn in full because it was not correct in some way. They should then discard the original. Data aggregators should include the amendment in their consolidated feeds.

5.62 In order to identify the original (inaccurate) publication, ideally there should be a mechanism for uniquely identifying trades. As discussed earlier, this may include a unique trade identifier or trade execution timestamp to milliseconds.

Q18: Is re-publication the best approach for dealing with amendments?

Q19: Is 'A' an appropriate flag for amendments?

Q20: This approach implies that publication arrangements would need a mechanism for uniquely identifying trades to allow data aggregators and data users to effectively discard the inaccurate trades. Is this necessary? In your view, would the unique identifier and millisecond options discussed under the 'data quality' section above be effective identifiers?

Time zones for pre- and post-trade transparency information

5.63 A number of respondents to the call for evidence suggested that, where a share is traded in more than one time zone, there is a need to take account of the different time zones in pre- and post-trade publications. This is because, for shares that are traded in more than one territory, there may be some confusion over the price at any point in time. For example, trades executed in a particular share in France at 15:00 CET may be priced lower (e.g. 400) than the same share traded at 15:00 GMT in the UK (e.g. 450). The price differential is most likely due to the one hour time difference. According to Annex 1 to the implementing Regulation the time should be expressed as UTC +/- hours.

Atomic clock for pre- and post-trade transparency information

5.64 There is a risk that, once consolidated, post-trade publications may not appear on the consolidated tape in the correct sequence in which they were executed because of discrepancies in the clocks of different trading venues and investment firms. It has been suggested to us that trading venues and investment firms could synchronise their clocks (i.e. link to a Member State's national time service) in order to ensure trades are published in the correct sequence. However, it is our view that latency is likely to occur anyway between systems and in transmitting information cross-borders, which may create discrepancies in sequencing. Connecting to an atomic clock would add cost without necessarily resolving the issue.