

*Report*

## Trading in control

*Compliance with the ESMA Guidelines on automated trading:  
the expectations of the AFM*

May 2015

## *ESMA Guidelines*

The ESMA Guidelines on systems and controls in an automated trading environment (hereinafter, 'the ESMA Guidelines') took effect on 1 May 2012, and in the Netherlands they have been incorporated into an AFM Policy Rule.<sup>1</sup> The AFM places great value on compliance with the ESMA Guidelines by the market participants for whom they are intended. The AFM has accordingly carried out an assessment in the period from the summer of 2014 to May 2015. This document describes the key items of attention for investment firms that emerged from this assessment.

### *Purpose of this document*

The AFM's intention with this document is to provide clarity with respect to how it views internal controls in relation to automated trading, and the measures it expects current and future licensees to implement in order to ensure that their automated trading is sufficiently controlled. In addition, the AFM explains a number of specific issues from the ESMA Guidelines in this publication, since it has emerged that these specific provisions are regularly misinterpreted and in some cases are not sufficiently complied with.

### *Questions?*

If you have questions regarding the ESMA Guidelines, this document or what the AFM expects from you, please contact the AFM via [monitoring@afm.nl](mailto:monitoring@afm.nl). The AFM is also available for questions on this subject on business days from 10:00 to 17:00 hours by telephone on 020 797 3777.

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<sup>1</sup> In full: ESMA Guidelines on systems and controls in an automated trading environment for trading venues, investment firms and competent authorities. They can be found, amongst other, on the webpage <http://www.afm.nl/nl-professionals/onderwerpen/esa-richtsnoeren-bu>

### *What does the AFM expect from you?*

The AFM expects you to take measures to control your automated trading and the systems you use for that purpose. These control measures must prevent disruptions to the fair and orderly functioning of the financial markets. Disruptions and incidents may lead to damage for your own business, but potentially also for others. When significant changes present itself within your firm or your trading environment, you are required to revise your control measures

With regards to automatic trading and your trading systems, the AFM expects you in any case to record the measures you have taken and the manner in which you operate. Simply documenting your working practices and measures can already bring shortcomings to light. Such documentation also promotes a conscious approach to control measures and helps to ensure that processes are appropriately carried out in a uniform manner. If material changes are made to internal procedures, processes or control measures, the related documentation must of course be amended.

Further, the AFM expects firms to regularly (e.g. once a year) give thought to current circumstances and developments in the prior period and to consider whether your procedures and control measures provide you with a sufficient level of control and whether those procedures and measures need to be revised. Technological developments, both inside your firm and externally, and changes to the financial landscape make it necessary to devote energy to the renewal of control measures on a regular basis. For the evaluation to be useful and efficiently conducted, it is recommendable to be continually alert to shortcomings and opportunities for improving your current procedures and processes and to record ideas relating to that.

### *MiFID II*

The AFM advises you to take account of the stricter requirements that will take effect on 3 January 2017 under the revised version of the Markets in Financial Instruments Directive (MiFID II). The ESMA Guidelines will then be succeeded by Regulatory Technical Standards (RTS) with direct applicability. The RTS will provide specific details and elaboration of many of the provisions in the ESMA Guidelines and will establish threshold values. ESMA is engaged in establishing the final RTS at the time of publication of this document. The consultation version of the draft RTS (December 2014) is available on the ESMA website.<sup>2</sup> The final RTS will be published in the Official Journal of the European Union either towards the end of 2015 or in early 2016.

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<sup>2</sup> See [www.esma.europa.eu/consultation/Consultation-MiFID-II/MiFIR](http://www.esma.europa.eu/consultation/Consultation-MiFID-II/MiFIR). The document in question is 2014/1570 Annex B (RTS 13 on Organisational Requirements for Investment Firms and RTS 14 on Organisational Requirements for Trading Venues).

## 1. The ESMA Guidelines

The ESMA Guidelines were formulated at the end of 2011 in response to arising risks of disruption of the fair and orderly functioning of the financial markets as a result of the growth of automated trading. In the Netherlands, the ESMA Guidelines are incorporated into a Policy Rule of the AFM that took effect on 1 May 2012. ESMA's purpose is to provide a more practical explanation of the general requirements of the Markets in Financial Instruments Directive (MiFID) and the Market Abuse Directive (MAD), in order to help trading venues, investment firms and supervisory authorities bring internal controls relating to automated trading to a higher level.

### *Scope*

The ESMA Guidelines apply to:

- operators of trading venues (regulated markets and MTFs);
- investment firms trading for their own account or executing client orders (including firms offering DMA or SA<sup>3</sup> to clients).

The term 'investment firm' refers to businesses providing investment services and/or carrying out investment activities. The ESMA Guidelines therefore also apply to credit institutions executing orders on trading venues, be it for their own account or on behalf of clients. However, the provisions of the ESMA Guidelines do not cover the relation between retail or business clients and investment firms or credit institutions. Investment firms and trading venues do have a delegated supervisory responsibility with regards to the ESMA Guidelines when:

- a) a client makes use of the provision of DMA/SA by an investment firm; or
- b) a non-license holding firm is a member of a trading venue.

Lastly, it can be stated that the ESMA Guidelines have indirect consequences for developers of trading software, because the software they provide has to comply with the requirements of the ESMA Guidelines.

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<sup>3</sup> DMA: Direct Market Access. An arrangement whereby an investment firm allows specific clients to enter orders electronically in its internal electronic trading systems for automatic transfer to a specified trading venues using the investment firm's trading identification. SA: Sponsored Access. An arrangement whereby an investment firm allows specific clients to enter orders directly and electronically to a specified trading venue using the investment firm's trading identification without these orders having to first pass through the investment firm's own electronic trading systems.

The AFM has observed that some firms take the view that the ESMA Guidelines do not apply to them because they do not use HFT techniques. Consideration 7 to the ESMA Guidelines, however, clearly states that ESMA considers electronic systems for passing orders to trading venues to fall under electronic trading systems used by investment firms, as well as *'electronic systems that generate orders automatically, i.e. trading algorithms.'* This means that any firm sending orders to a trading venue by electronic means (either using algorithms and/or electronic trading systems, irrespective of whether the trading decision itself has been made by humans or not) falls within the scope of the ESMA Guidelines.

### *Status*

In the Netherlands, the ESMA Guidelines have been incorporated into an AFM Policy Rule. This means that the Guidelines clarify the AFM's expectations with respect to observance of the requirements regarding a controlled business operation as referred to in the Financial Supervision Act (Wft), the Market Conduct Supervision (Financial Institutions) Decree (BGfo) and the Market Abuse Decree.

## 2. Internal controls

### *The importance of internal controls*

Automated trading has contributed to a more efficient operation of the financial markets, partly due to more accurate calculations and cost savings. However, it also entails risks, such as unintended responses of algorithms and because high-speed trading and automated trading processes can rapidly lead to losses.

A number of incidents in recent years have demonstrated the importance of the need for well-functioning internal controls in relation to automated trading. In addition to the 'Flash Crash' in 2010<sup>4</sup> there have been the Facebook IPO<sup>5</sup>, the major trading losses suffered by Knight Capital<sup>6</sup>, and the collapse of HanMag Securities<sup>7</sup>. The AFM also regularly observes disruptions in the order books of European markets as well, caused by, among other things, unintended interactions between different algorithms, but also by the faulty use, or insufficient understanding of trading algorithms, by programming and 'fat finger' errors, and by inadequate internal controls, including the absence, failure, or faulty operation of pre-trade controls.

Incidents of this kind may not only cause serious financial losses for the firm in question, they also disrupt the fair and orderly functioning of the markets. Market disruptions have the potential to cause material losses for investors, and can moreover damage confidence in the proper functioning of the markets and as a consequence deter investors from entering those markets. Incidents do not necessarily have to have market-wide consequences, however, in order to cause serious harm. An incident for which the impact remains limited to a single firm can nonetheless have far-reaching consequences for the firm itself and its clients and business partners.

*Well-functioning internal control measures help the firm to protect itself against the financial and reputational risks associated with automated trading.*

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<sup>4</sup> On 6 May 2010, prices of a large number of equity-based assets in the U.S.A. dropped considerably within approximately 20 minutes, before recovering to their former level. A large number of trades in different assets were realised at price levels differing up to 60% of price levels just before. The SEC cited a large sell order by an investment manager in volatile market circumstances as the cause, which led to a downward spiral when high-frequency algorithms began aggressive selling. The decline came to an end when a futures market imposed a 5-second break, after which prices recovered. In April 2015 the CFTC and the Department of Justice accused a British trader of fraud and manipulation, which could have instigated the Flash Crash.

<sup>5</sup> Technical disruptions occurred around the initial public offering of Facebook on 18 May 2013, and the situation prompted investigations into the provision of information and potential market abuse.

<sup>6</sup> On 1 August 2012 the trading activities of Knight Capital led to losses of US\$460 million within 45 minutes as a result of human error. A programme that was used to check the operation of the algorithms was unintentionally activated in the production environment.

<sup>7</sup> On 12 December 2013, an employee of HanMag Securities bought call and put options for the purpose of a potential arbitrage, but placed the prices of the options in precisely the opposite direction on both sides, and they were filled immediately. HanMag suffered a loss of US\$ 55.5 million, more than the company could raise.

### *Substance of internal controls*

It is thus necessary for firms to have sufficient measures in place to ensure that automated trading does not create unnoticed and unintended risks. Such measures are not restricted to having pre-trade controls; they should also include, for instance, procedures for the development, testing and reviewing of trading systems and algorithms, human monitoring and visual checks, and staff training.

*The first step for establishing appropriate internal controls involves a critical review and documentation of the trading activities carried out and the potential risks that these activities entail.*

The AFM has seen on numerous occasions that firms are using certain control measures on the basis of operational considerations and experience. However, in the opinion of the AFM, achieving an adequate level of internal controls requires a more structural approach by investment firms. One of the risks noted by the AFM, for example, is the fact that knowledge of a firm's control measures is concentrated in a limited number of employees. This makes the firm vulnerable, since if these employees leave there is the risk that their knowledge will not have been adequately distributed within the firm. Sharing of knowledge is even more important, as it ensures that existing processes and procedures are known to and challenged by a greater number of people and can be improved in a timely manner if there is reason to do so.

In the AFM's view, the first step in a structural approach to the control of automated trading is to identify the substance of the control measures by documenting the related processes and procedures. If working methods and measures are not formally documented, there is the possibility that they will not be (or cannot be) implemented consistently in the same way and in full, or that they are put aside due to other priorities. Documentation also enables the firm to identify any gaps in its processes or procedures and to address them.

*Specific and practical documentation in particular adds considerable value, e.g. using flow charts, schedules, explicit definitions of the responsibilities of staff and functions within the organisation. It is also important to check whether the documentation as a whole provides adequate insight into the relevant processes, procedures, responsibilities and reporting lines.*

In order to bring the control of automated trading to a higher level and to avoid a situation in which firms are confronted with unexpected or new but avoidable risks, it is also necessary to regularly assess the effectiveness of measures and working practices, and to assess whether these provide adequate control of current and future risks. Developments have been rapid in recent years and one cannot rely on possibly outdated assessments. When new activities or new trading strategies are initiated, new products are traded or a firm moves into new markets, one must for instance first consider whether the pre-trade controls require adjustment. Developments in the field of control measures can also be reason for

adjustments: when using several different trading software packages, one should consider whether updating one of them means that the others need to be updated as well.

*In an optimal situation, any (significant) change at the firm or its environment should raise the question of whether control measures or working practices need to be adjusted.*

*In addition, thought should be given to smaller changes and whether cumulatively those changes give rise to control measures or working practices needing to be adjusted.*

This requires an alert approach, in-depth knowledge among employees, appropriate knowledge sharing (both internally and externally with e.g. the software vendors or brokers the firm uses) and adequate attention from the business lines and management. The advantage of this approach is that the firm will be more in control, and that periodic changes will need to be less radical (and therefore less time-consuming and less costly). We recommend that firms stay well-informed at all times regarding current developments in the market, and strive to reflect current industry best practices. Cooperative initiatives by national or international industry groups can assist in this respect.<sup>8</sup>

The AFM assesses internal controls on the basis of various levels of maturity:

<i>Scoring...</i>	<i>Maturity level of controls...</i>	<i>Criteria</i>
0 – non-existent	No awareness, control measures or documentation	
1 – ad hoc, starting	Ad hoc measures depending on individuals	
2 – repeated but intuitive	Requirements observed to some extent, Controls documented to some extent	Controls are informal and not documented, and standard to some extent
3 – defined	Structured controls, documentation, measures and procedures can be demonstrated	Critical processes and measures are identified on the basis of risk assessments. The investment firm complies with the ESMA Guidelines criteria.  All procedures and measures are fully documented.
4 – managed and measurable	Effectiveness of controls is regularly evaluated and improved if necessary. This can be demonstrated.	Evaluation and improvement items are documented.  Frequency is risk-oriented, at least annual.
5 – optimised	Control programme ensures continuous and effective controls	Continuous improvement, comparison with best practices

<sup>8</sup> A recent example of such an initiative is the FIA Guide to the development and operation of automated trading systems: <https://americas.fia.org/articles/fia-issues-guide-development-and-operation-automated-trading-systems>



### *External review*

Reviewing procedures and control measures and observance thereof is an appropriate way to bring the control of automated trading activities to a higher level. For some firms, it may be useful to have such reviews carried out by external parties with specialist knowledge and experience. Following such an external review, it is necessary to implement findings into the organisation as much as possible by the firm's own employees. The AFM also recommends that the actions taken as a result of the findings of the external party should be documented.

### *Responsibilities*

Another important element of internal controls is the definition and allocation of individual responsibilities within the organisation. This not only concerns the stating of responsibilities for matters such as the application of various strategies or the development of IT systems, it also includes the responsibility for reviewing existing working practices and control measures and monitoring internal controls.

*The RACI method (Responsible, Accountable, Consulted, Informed) for example is a practical way of clearly allocating responsibilities within an organisation, which firms may consider.*

In some cases, part of the business operation, for instance the development and maintenance of trading software, is outsourced to external parties. In these cases, it is important that the outsourcing firm is aware that it still retains responsibility for the controlled operation of these parts of its business. The firm must be able to assess whether both content and operation are adequate and make changes where necessary. This means that the firm must be able to monitor the agreements it has concluded with respect to the service provision in service level agreements (SLAs) and that the monitoring must be carried out by the party outsourcing the processes. The outsourcing party must at all times be able to state with certainty that its outsourced processes are properly controlled. Articles 38b – 38e of the Market Conduct Supervision (Financial Institutions) Decree (BGfo) provide for detailed requirements with regards to outsourcing of activities by investment firms.

*When outsourcing to external parties, clear and manageable agreements (SLAs) must be concluded with respect to matters such as information provision, availability, capacity, levels of service and review. These agreements must actually be carried out in practice. This requires continuous attention for the governance, monitoring and review of outsourced activities.*

*The inclusion of a general clause in an SLA, e.g. stating that the party to whom activities are being outsourced has to comply with laws and regulations provides insufficient assurance. For instance, software developers cannot be expected to possess sufficient knowledge of financial laws and regulation in this regard. Therefore, the requirements are to be explained and/or documented by the investment firm.*

Some of the firms assessed stated that they rely fully on the trading venue or clearing member that they use with respect to control measures. The AFM wishes to stress that the various players in the trading chain have their various responsibilities, which are clearly and explicitly stated in the ESMA Guidelines.

*An investment firm bears ultimate responsibility itself for its own orders. Control of its order flow cannot be fully entrusted to other elements in the trading chain.*

### *Proportionality, and the expectations of the AFM*

The AFM is fully aware that differences in the nature, size and complexity of the activities of each firm mean that the likelihood that risks will manifest varies widely for each firm. For instance, firms operating in a large number of markets or trading a wide range of products, with numerous algorithms operating simultaneously, with complex and high-speed trading infrastructures and handling large volumes, or fulfilling a specific role as a market maker have a risk profile that is very different from that of firms for which this is not the case. Furthermore, the AFM has noted that firms make different choices regarding the number of personnel or the presence of certain operational functions if the firm is established in multiple countries. In general, it can be stated that, the AFM has higher expectations with regard to control measures, such as the structure and size of the Compliance or Risk Management function, or the functionality of systems for the monitoring of market manipulation if activities conveying higher risks are involved.

*In order to ensure well-functioning internal controls, a firm needs to give thorough consideration to the nature, size and complexity of its activities and the associated risk profile, and implement suitable control measures and standard working practices on this basis. In all cases the firm should document these considerations and review them on a regular basis.*

*The AFM is willing to accept any operational approach that succeeds in realising the objectives of the ESMA Guidelines, provided that it suits the nature, size and complexity of the activities of the firm.*

*At the same time, the AFM would like to make clear that existing design of business management, or the presence of legacy-systems and -processes cannot be presented as an argument to hinder realisation of the purpose of the ESMA Guidelines.*

### 3. Explanation of specific detailed guidelines

The AFM has noted that some specific elements in the ESMA Guidelines are regularly misinterpreted or that firms are unsure as to what is expected of them. We therefore explain the main points that emerged during our assessment in more detail below.

#### *2a: Governance*

The AFM has noticed that some investment firms are not devoting sufficient attention to the governance of business processes with respect to trading systems and trading algorithms. The detailed guideline dealing with trading systems and algorithms distinguishes a number of phases: (1) development, (2) acquisition (including outsourcing), (3) monitoring. The detailed guideline calls for a clear and formal process that ensures that all the relevant considerations are given adequate attention. Relevant considerations in any case include commercial and technical issues, but in particular the principles of compliance and risk management. An example of where things can go wrong is the incident involving Knight Capital in 2012, which included the erroneous deployment of untested software in the live environment. If clear processes for development (such as the recognising of a need for a 'killswitch') had been in place, this could possibly have been prevented.

*The AFM expects processes for acquisition (including outsourcing), development and monitoring to be clearly established, and to include input from or consultation with compliance and risk management as an essential phase. The AFM does not necessarily expect compliance and risk management to be involved in every minor technical change, but it does expect potential compliance or risk management issues to always be considered in the event of changes.*

#### *2g: Staffing*

Detailed guideline 2g states that procedures and arrangements, including recruitment and training, should be in place to determine the staffing requirements and then to ensure that the firm employs a sufficient number of staff with the necessary skills and expertise to manage its electronic trading systems and trading algorithms. The AFM has noted that while firms do make an effort in practice to employ a sufficient number of staff, they often do not have a clear understanding of what is needed (in terms of skills knowledge and seniority) and that this is often not systematically documented.

*Detailed guideline 2g does not call for a particular outcome (availability of relevant staff), it calls for procedures designed to ensure this specific outcome. A matrix with desired and required competences and available employees and regular gap analyses could be used to establish whether anything is missing. In addition, the AFM would like to emphasize that this requirement is explicitly about staff that can manage trading systems and trading algorithms.*

*2a, 4i and 6a: Governance, close scrutiny by compliance staff and understanding, skills and authority of compliance staff*

The AFM notes that the role of compliance varies per investment firm. This is perhaps not surprising, given the differences in the nature, size, activities and culture of firms and differences in the background, knowledge and experience of personnel responsible for compliance. In general, the AFM noted that compliance with regards to order execution and automated trading has received insufficient attention until now.

The AFM wishes to draw attention to the need for having enough staff with sufficient understanding of the way in which trading systems and trading algorithms work, with adequate resources to monitor trading activity and sufficient expertise with regards to laws and regulations *and* skills to be able to intervene in the case of failures or infringements. In some cases, specific knowledge of electronic trading was either not sufficiently available or was excessively concentrated in one single employee or member of the board.

*The AFM expects investment firms to ensure that their staff responsible for compliance are able to intervene where necessary and have sufficient knowledge of the operation of electronic trading for that purpose, and have adequate means at their disposal to monitor trading activity. In order to ensure this is the case, they need to:*

- 1) Consider the role of the compliance function with regards to order execution and automated trading*
- 2) Ensure that compliance personnel build up and/or maintain sufficient in-depth knowledge and expertise of with regards to order execution and automated trading, for instance by having them be in regular contact with trading staff so that they truly understand the trading systems, -processes and -procedures and are capable of explaining it on an appropriate level of detail. Further measures to be considered are training, internal apprenticeships and software that explains trading activity.*
- 3) Task compliance personnel with using the abovementioned knowledge in combination with their expertise on law and regulations to analyse compliance of the firm and to address any shortcomings.*

*2e, 4h and 6c: Monitoring*

The ESMA Guidelines contain three separate requirements with respect to monitoring by investment firms. Since the AFM has noted that this has led to some confusion, we are pleased to provide a further explanation.

Detailed guideline 2e states that investment firms should monitor their electronic trading systems, including trading algorithms, in real time. In relation to this, firms must be able to provide solutions to identified problems as quickly as possible and adjust, wind down or shut down their trading systems or trading algorithms if necessary. The incident involving Knight Capital in 2012 is a practical example of a

situation where this did not happen. Knight Capital initially did not realise for some time that things had gone wrong, and when it did its employees were not able to properly identify the problem and therefore could not provide an immediate solution.

Detailed guideline 4h states that investment firms should monitor their orders for potential signs of disorderly trading during the hours they are sending orders to trading venues (as far as possible in real time). The underlying principle is that investment firms are thus in a position to identify orders that cause an anomaly in prices and take corrective action quickly. Another example would be the situation where a firm observes an abnormal price movement (for instance where stop-loss orders are triggered) and it would like to be able to make specific choices, such as delaying of buying (on orders of clients) or to widen the spreads of its quotes (market makers).

Detailed guideline 6c calls for monitoring of the trading activity of the investment firm itself and of its clients (if applicable) by means of systems that identify behaviour likely to give rise to suspicions of market abuse (in particular, market manipulation). This detailed guideline, in other words, specifically focuses on the detection of disruptions to the orderly operation of the market.

Detailed Guideline 2e is about real-time monitoring of the firm's trading systems and algorithms.

Detailed Guideline 4h is about monitoring of orders for potential signs of disorderly trading.

Detailed Guideline 6c is about monitoring of orders and transactions for potential signs of market abuse or market manipulation.

These three categories of monitoring can be partially integrated or conducted separately, but require – aside from adequate monitoring systems – separate, specific (escalation) procedures and knowledge.

#### *4g: Training on order entry procedures*

Detailed guideline 4g calls for training on order entry procedures before staff are allowed to use order entry systems. This reflects the requirement in detailed guideline 3d, which states that trading venues should have standards covering the knowledge possessed by persons at members who enter orders.

*For detailed guideline 4g, one could include training on order entry procedures in a standard introduction programme for new staff and the scheduling of regular refresher training for all employees. The training should be provided in a format that achieves an effective result for the target group, using case studies, role play and interactive or online resources. Some software vendors and trading venues also offer training courses.*

*Changes in the terms and conditions of trading venues or changes to order entry systems should also lead to (1) revision of the training documentation and (2) a review of the need for refresher training. The training programme should formulate clear expectations with respect to the target level of knowledge of employees, which should also be adequately assessed.*

#### *4e, 6d: Reporting requirements – fair and orderly market operation*

On the basis of detailed guideline 4e, investment firms should inform supervisory authorities of ‘significant risks that may affect fair and orderly trading and major incidents where those risks crystallise’. Detailed guideline 6d deals with the reporting of suspicious transactions that could involve market abuse. The AFM has noted that there are doubts regarding the meaning of ‘risks to orderly trading’.

*By way of example, risks could refer to a situation in which a firm observes that a client is building a position in the market that could have consequences for the client’s ability to meet his obligations, or a failure of the operation of infrastructure that could also occur at other firms.*

*Incidents affecting orderly trading could include, for instance, the erroneous entry of an order that influences the price of a financial instrument to such an extent that an exceptional jump in price in the order book occurs and triggers a circuit breaker.*

#### *6b Training in market abuse*

Detailed guideline 6b calls for initial and regular refresher training on what constitutes market abuse for all individuals involved in executing orders on behalf of clients and dealing on own account.

*This could include training on market abuse in a standard introduction programme for new staff and the scheduling of regular refresher training for all employees. The training should be provided in a format that achieves an effective result for the target group, using case studies, role play and interactive or online resources.*

*Current events or insights could also be reason to (1) review the training documentation and (2) to assess the need for refresher training. The training programme should formulate clear expectations with respect to the target level of knowledge of employees, which should also be adequately assessed.*

#### *8a Due diligence*

Detailed guideline 8a calls for due diligence to be carried out for DMA/SA clients by firms offering DMA/SA. Detailed guideline 7d also states the requirement for trading venues to require providers of DMA/SA to conduct due diligence on their clients. This due diligence assessment should be periodically reviewed.

The AFM has noted that in some cases, firms only observe this requirement in relation to anti-money laundering (AML) standards. While this can contribute to the total picture, detailed guideline 8a goes further than this. Specifically, it states that the nature of clients and the scale and complexity of their future trading activities must be considered. Other examples mentioned in detailed guideline 8a are also sensible, such as the training and competence of individuals who enter orders, access controls for order entry, the historical trading pattern or behaviour of the client, the question of whether the client is subject to supervision and the client’s disciplinary history. The AFM has also observed that it would be

useful to understand the structure of the client's business (its risk framework) and the control measures the client has in place.

The information obtained from such due diligence enables a provider of DMA/SA to assess which control measures are appropriate and how strictly these should be applied for each individual firm. This ensures that providers of DMA/SA are able to adequately manage the risks associated with each client's trading activity, and also allows for differentiation: not every client has to be subject to the same limits.

*A possibility would be to use a scoring framework in which the DMA/SA provider can establish the risk profile arising from the client's activities and control measures. This scoring framework could be used to define the intensity of any follow-up measures, for instance with respect to the periodicity of reviews, the issues that need to be reviewed and the potential for flexibility as regards risk limits.*