European Securities and Markets Authority

Guidelines

Systems and controls in an automated trading environment for trading platforms, investment firms and competent authorities

WITHDRAWN

24 February 2012 | ESMA/2012/122 (EN)

European Securities and Markets Authority

Date: 24 February 2012
ESMA/2012/122 (EN)

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I. Scope

What?

1. This paper contains guidelines issued under Article 16 of the ESMA Regulation. In accordance with Article 16(3) of the ESMA Regulation, competent authorities and financial market participants must make every effort to comply with the guidelines and recommendations.

Who?

2. These guidelines set out ESMA's view of how Union law should be applied in a particular area, or of appropriate supervisory practices within the European System of Financial Supervision. ESMA therefore expects all relevant competent authorities and financial market participants to comply with these guidelines unless otherwise stated.

3. These guidelines cover :

    a. the operation of an electronic trading system by a regulated market or a multilateral trading facility;

    b. the use of an electronic trading system, including a trading algorithm, by an investment firm for dealing on own account or for the execution of orders on behalf of clients; and

    c. the provision of direct market access or sponsored access by an investment firm as part of the service of the execution of orders on behalf of clients.

4. The guidelines will also have implications for firms not authorised as market operators or investment firms under MiFID. These include firms who sell electronic trading systems to market operators or investment firms, or act as the outsourced providers of such systems, or provide connectivity services to investment firms when accessing trading platforms. Such firms will be affected by trading platforms' and investment firms' obligations in relation to their electronic trading systems.

5. The guidelines will also affect firms exempt from MiFID who trade on own account and access trading platforms directly as members, participants or users, or through DMA or SA. They will be affected by the guidelines on fair and orderly trading for trading platforms in relation to the requirements for members, participants and users who are not authorised, and the guidelines for trading platforms and investment firms relating to DMA and SA.

6. References in the guidelines to investment firms relate to investment firms when executing orders on behalf of clients and/or dealing on own account in an automated trading environment. An investment firm when operating a multilateral trading facility is covered by the guidelines relating to trading platforms.

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7. ESMA includes within the scope of electronic trading systems used by investment firms, electronic systems to send orders to trading platforms (whether or not orders from clients are submitted electronically to the investment firm) and electronic systems which automatically generate orders i.e. trading algorithms. Smart order routers may be part of a firm's systems for sending orders to trading platforms. For the purposes of this work, ESMA covers smart order routers only from the perspective of the risks involved in order entry and not, for example, in relation to best execution.

8. These guidelines are not restricted to the trading of shares but cover trading in an automated environment of any financial instrument (as defined in MiFID).

9. For both trading platforms and investment firms, the systems and controls employed in complying with these guidelines should take into account the nature, scale and complexity of their business.

When?

10. These guidelines will become effective *one month after the publication by national competent authorities of the guidelines on their official website in their national language*. According to this schedule and unless otherwise informed, market participants should be able to comply with the guidelines since the 1st May 2012.

Reporting Requirements

11. Competent authorities that comply with these guidelines should incorporate them into their supervisory practices, including where particular guidelines within the document are directed primarily at financial market participants. National competent authorities must notify ESMA whether they comply or intend to comply with these guidelines, with reasons for non-compliance, *two months after publication of the final guidelines in all EU official languages*.

12. Financial market participants are not required to report to ESMA whether they comply with these guidelines.

II. Definitions

13. For the purposes of these guidelines, terms shown in italics have the meaning defined in the table below. Certain other terms used in the guidelines, for example investment firm, have the meaning defined in Article 4 of the *Markets in Financial Instruments Directive*.

Competent Authorities	Competent authorities designated under Article 48 of MiFID
Direct Market Access (DMA)	An arrangement through which an investment firm that is a member/participant or user of a trading platform permits specified clients (including eligible counterparties) to transmit orders electronically to the investment firm's internal electronic trading systems for automatic onward transmission under the investment firm's trading ID to a specified trading platform.
ESMA	European Securities and Markets Authority

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ESMA Regulation	Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC, OJ L 331, 15.12.2010, p.84.
Financial Market Participants	A person as defined in Article 4(1) of the ESMA Regulation: "…means any person in relation to whom a requirement in the legislation referred to in Article 1(2) [which includes MiFID and MAD and their respective implementing measures] or a national law implementing such legislation applies"
Market Abuse Directive (MAD)	Directive 2003/6/EC of the European Parliament and of the Council of 28 January 2003 on insider dealing and market manipulation (market abuse), OJ L 96, 12.4.2003, p.16.
Markets in Financial Instruments Directive (MiFID)	Directive 2004/39/EC of the European Parliament and of the Council of 21 April 2004 on markets in financial instruments amending Council Directives 85/611/EEC and 93/6/EEC and Directive 2000/12/EC of the European Parliament and of the Council and repealing Council Directive 93/22/EEC, OJ L 145, 30.4.2004, p.1.
MiFID Implementing Directive	Commission Directive 2006/73/EC of 10 August 2006 implementing Directive 2004/39/EC of the European Parliament and the Council as regards organisational requirements and operating conditions for investment firms and defined terms for the purposes of that Directive, OJ L 241, 2.9.2006, p.26.
Sponsored Access (SA)	An arrangement through which an investment firm that is a member/participant or user of a trading platform permits specified clients (including eligible counterparties) to transmit orders electronically and directly to a specified trading platform under the investment firm's trading ID without the orders being routed through the investment firm's internal electronic trading systems.
Suspicious Transaction Report (STR)	Reports to competent authorities required under Article 6(9) of MAD where a person professionally arranging transactions reasonably suspects that a transaction might constitute insider dealing or market manipulation.
Trading Algorithm	Computer software operating on the basis of key parameters set by an investment firm or a client of an investment firm that generates orders to be submitted to trading platforms automatically in response to market information.
Trading Platform	A regulated market (RM) or multilateral trading facility (MTF).

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III. Purpose

14. The purpose of these guidelines is to ensure common, uniform and consistent application of MiFID and MAD as they apply to the systems and controls required of:

- trading platforms and investment firms in an automated trading environment; and

- trading platforms and investment firms in relation to the provision of DMA or SA.

IV. Guidelines on systems and controls in an automated trading environment for trading platforms, investment firms and competent authorities

Guideline 1. Organisational requirements for regulated markets' and multilateral trading facilities' electronic trading systems

Relevant legislation.

Article 39, paragraphs (b) and (c), of MiFID for regulated markets.

Article 14, paragraph (1), and Article 13, paragraphs (2), (4), (5) and (6,) of MiFID and Articles 5 to 9, Articles 13 and 14 and Article 51 of the MiFID Implementing Directive for multilateral trading facilities.

General guideline

1. A regulated market's or multilateral trading facility's electronic trading system (or systems) shall ensure that it complies with applicable obligations under MiFID and other relevant Union and national law taking into account technological advancements and trends in the use of technology by its members/participants or users. In particular, the system (or systems) should be well adapted to the business which takes place through it (or them) and is (or are) robust enough to ensure continuity and regularity in the performance of the automated market (or markets) operated by the market operator or investment firm.

Detailed guidelines

2. In following the general guideline trading platforms should at least take into account the following:

a) Governance

- The governance process is central to compliance with regulatory obligations. Trading platforms should, within their overall governance and decision-making framework, develop, procure (including outsourcing) and monitor their electronic trading systems through a clear and formalised governance process. The governance process must ensure that all of the relevant considerations including commercial, technical, risk and compliance that ought to be brought to bear in making the key decisions are given due weight. In particular, it must embed compliance and risk management principles. The governance process must also have clear lines of accountability, including procedures for the sign-off for development, initial deployment, subsequent updates and resolution of problems identified through monitoring. There should also be appropriate procedures for the communication of information.

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- In the governance process compliance staff should be responsible for providing clarity about the market operator or firm's regulatory obligations and the policies and procedures that seek to ensure the use of the trading systems comply with the market operator or firm's obligations and that any failures to comply are detected. This requires compliance staff to have an understanding of the way in which the trading systems operate but not knowledge of the technical properties of the trading systems.

a) Capacity and resilience

- Regulated markets' and multilateral trading facilities' electronic trading systems should have sufficient capacity to accommodate reasonably foreseeable volumes of messaging and that are scalable to allow for capacity to be increased in order to respond to rising message flow and emergency conditions that might threaten their proper operation.

b) Business Continuity

- Trading platforms should have effective business continuity arrangements in relation to their electronic trading systems to address disruptive incidents, including but not limited to system failures. The business continuity arrangements should ensure a timely resumption of trading, including but not limited to system failures. The arrangements should cover, as appropriate, matters such as:

  a. Governance for the development and deployment of the arrangements;

  b. Consideration of an adequate range of possible scenarios related to the operation of their electronic trading systems which require specific continuity arrangements;

  c. The backing up of business (including compliance) critical data that flows through their electronic trading systems;

  d. The procedures for moving to and operating the electronic trading system from a back-up site;

  e. Staff training on the operation of the arrangements and individuals' roles within them; and

  f. An on-going programme for the testing, evaluation and review of the arrangements including procedures for modification of the arrangements in light of the results of that programme.

d) Testing

- Trading platforms should prior to deploying an electronic trading system, and prior to deploying updates, make use of clearly delineated development and testing methodologies. The use of these methodologies should seek to ensure that, amongst other things, the operation of the electronic trading system is compatible with the regulated market's and multilateral trading facility's obligations under MiFID and other relevant Union or national law, that compliance and risk management controls embedded in the systems work as intended (including generating error reports automatically) and that the electronic trading system can continue to work effectively in stressed market conditions.

e) Monitoring and review

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- Trading platforms should monitor in real time their electronic trading systems. They should deal adequately with problems identified as soon as reasonably possible in order of priority and be able when necessary to adjust, wind down, or shut down the electronic trading system. Decisions on action to deal with problems with electronic trading systems should take due account of the need, as far as possible, for those operating trading platforms to act in an orderly manner.

- In order to ensure that trading platforms remain continually effective, the operators of these trading platforms should periodically review and evaluate their electronic trading systems, and associated process for governance, accountability and sign-off and associated business continuity arrangements. They should act on the basis of these reviews and evaluations to remedy deficiencies. The review and evaluation process should have some degree of independence which can be achieved, for example, by the involvement of internal audit or third parties.

f) Security

- Trading platforms should have procedures and arrangements for physical and electronic security designed to protect their electronic trading systems from misuse or unauthorised access and to ensure the integrity of the data that is part of or passes through the systems.

g) Staffing

- Trading platforms should have procedures and arrangements, including recruitment and training, to determine their staffing requirements and then to ensure they employ sufficient number of staff with the necessary skills and expertise to manage their electronic trading systems. This will include employing staff with knowledge of relevant electronic trading systems, the monitoring and testing of such systems and the sort of trading that will be undertaken by members/participants of the regulated market or users of the multilateral trading facility and of the regulated markets' or multilateral trading systems' regulatory obligations.

h) Record keeping and cooperation

- Trading platforms should keep records in relation to their electronic trading systems covering at least the matters referred to in points a) to g) above. That will include information about key decisions, system properties, testing methodologies, test results and periodic reviews. The records should be sufficiently detailed to enable competent authorities to monitor compliance with relevant obligations of the trading platform. Market operators and investment firms operating multilateral trading facilities should keep the records for at least 5 years. Market operators operating regulated markets should keep them for at least as long as required by their home competent authority.

- Trading platforms should inform competent authorities, in line with the supervisory arrangements that exist in their Member State, about any significant risks that may affect the sound management of the technical operations of the system and major incidents where those risks crystallise.

Guideline 2. Organisational requirements for investment firms' electronic trading systems (including trading algorithms)

Relevant legislation. *Articles 13, paragraphs (2), (4), (5) and (6), of MiFID and Articles 5 to 9, Articles 13 and 14 and Article 51 of the MiFID Implementing Directive*

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General guideline

1. An investment firms' electronic trading system (or systems), including trading algorithms, shall ensure that the firm complies with applicable obligations under MiFID and other relevant Union and national laws as well as the rules of the trading platforms to which it sends orders. In particular, the system (or systems) should be well adapted to the business which takes place through it (or them) and is (or are) robust enough to ensure continuity and regularity in the performance of its investment services and activities in an automated trading environment.

Detailed guidelines

2. In following the general guideline investment firms should at least take into account the following:

a) Governance

- The governance process is central to compliance with regulatory obligations. Investment firms should, within their overall governance and decision-making framework, develop, procure (including outsourcing) and monitor their electronic trading systems, including trading algorithms, through a clear and formalised governance process. This governance process must ensure that all of the relevant considerations including commercial, technical, risk and compliance that ought to be brought to bear in making the key decisions are given due weight. In particular, it must embed compliance and risk management principles. The governance process must also have clear lines of accountability, including procedures for the sign-off for development, initial deployment, subsequent updates and resolution of problems identified through monitoring. There should also be appropriate procedures for the communication of information.

- In the governance process compliance staff should be responsible for providing clarity about the firm's regulatory obligations and the policies and procedures that seek to ensure the use of the trading systems and algorithms comply with the firm's obligations and that any failures to comply are detected. This means compliance staff need to understand the way in which trading systems and algorithms operate, but not knowledge of the technical properties of the trading systems or algorithms.

b) Capacity and resilience

- Investment firm's electronic trading systems should have sufficient capacity to accommodate reasonably foreseeable volumes of messaging. Capacity should be scalable and able to respond to rising message flow and emergency conditions that might threaten the system's proper operation.

c) Business Continuity

- Investment firms should have adequate, reasonable and effective business continuity arrangements in relation to their electronic trading systems to cover disruptive incidents (which, as necessary, can ensure a timely resumption of trading) including but not limited to system failures, as the arrangements should cover, as appropriate, matters such as:

  a. Governance for the development and deployment of the arrangements;

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b. Consideration of an adequate range of possible scenarios related to the operation of their electronic trading systems which require specific continuity arrangements;

c. The backing up of business (including compliance) critical data that flows through their electronic trading systems;

d. The procedures for moving to and operating the electronic trading system from a back-up site;

e. Staff training on the operation of the arrangements and individuals' roles within them; and

f. An on-going programme for the testing, evaluation and review of the arrangements including procedures for modification of the arrangements in light of the results of that programme.

d) Testing

- Investment firms should prior to deploying an electronic trading system or a trading algorithm and prior to deploying updates, make use of clearly delineated development and testing methodologies. For algorithms these might include performance simulations/back testing or offline-testing within a trading platform testing environment (where market operators make testing available). The use of these methodologies should seek to ensure that, amongst other things, the operation of the electronic trading system or trading algorithm is compatible with the investment firm's obligations under MiFID and other relevant Union and national laws as well as the rules of the trading platforms they use, that compliance and risk management controls embedded in the system or algorithm work as intended (including generating error reports automatically) and that the electronic trading system or algorithm can continue to work effectively in stressed market conditions. Working effectively in stressed market conditions may imply (but not necessarily) that the system or algorithm switches off under those conditions.

- Investment firms should adapt trading algorithm tests (including tests outside live trading environments) to the strategy the firm will use the algorithm for (including the markets to which it will send orders and their structure). The investment firm should also ensure these tests are commensurate with the risks that this strategy may pose to itself and to the fair and orderly functioning of the markets operated by the trading platforms the firm intends the algorithm to send orders to. Investment firms should undertake further testing if the markets in which the algorithm is to be used changes from those originally intended.

- Investment firms should roll out the deployment of trading algorithms in a live environment in a controlled and cautious fashion by, for example, limits being placed on the number of financial instruments being traded, the value and number of orders, and the number of markets to which orders are sent to enable the firm to check that an algorithm performs as expected in a live environment and to make changes if it does not.

e) Monitoring and review

- Investment firms should monitor in real time their electronic trading systems, including trading algorithms. They should deal adequately with problems identified as soon as reasonably possible in order of priority and be able when necessary to adjust, wind down, or immediately shut down their electronic trading system or trading algorithm. Investment firms when taking action to deal

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with problems with their electronic trading systems should, as far as possible, take due account of the need, as far as possible, for members/participants and users of regulated markets to act in an orderly manner.

- Investment firms should periodically review and evaluate their electronic trading systems and trading algorithms, and the associated governance, accountability and sign-off framework and associated business continuity arrangements. They should act on the basis of these reviews and evaluations to remedy deficiencies identified. The review and evaluation process should have some degree of independence which can be achieved, for example, by the involvement of internal audit or third parties. Reviews of the performance of trading algorithms should include an assessment of the impact on market integrity and resilience as well as profit and loss of the strategies the algorithm is deployed for.

f) Security

- Investment firms should have procedures and arrangements for physical and electronic security designed to protect electronic trading systems and trading algorithms from misuse or unauthorised access and to ensure the integrity of the data that is part of or passes through the systems and algorithms.

g) Staffing

- Investment firms should have procedures and arrangements, including training and recruitment, to determine their staffing requirements and to employ sufficient number of staff with the necessary skills and expertise to manage their electronic trading systems and trading algorithms. This will include employing staff who have knowledge of relevant electronic trading systems and algorithms, the monitoring and testing of such systems and algorithms, and of the sort of trading strategies that the firm deploys through its trading systems and algorithms and of firms' regulatory obligations.

h) Record keeping and co-operation

– Investment firms should keep, for at least five years, records of their electronic trading systems (and trading algorithms) in relation to the matters covered in paragraph 3, including information about key decisions, the trading strategy or strategies that each algorithm is deployed to execute, system properties, testing methodologies, test results and periodic reviews. The records should be sufficiently detailed to enable competent authorities to monitor firms' compliance with their relevant obligations.

- Investment firms should inform competent authorities, in line with supervisory arrangements in that exist in their home Member State, about any significant risks that may affect the sound management of the technical operations of their electronic trading systems and algorithms and major incidents where those risks crystallise.

Guideline 3. Organisational requirements for regulated markets and multilateral trading facilities to promote fair and orderly trading in an automated trading environment

Relevant legislation.

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Article 39, paragraphs (b), (c) and (d), Article 42, and Article 43 of MiFID for regulated markets.

Article 14, paragraphs (1) and (4), Article 13, paragraphs (2), (5) and (6), Article 42, paragraph (3), and Article 26 of MiFID and Articles 13 and 14 and Article 51 of the MiFID Implementing Directive for multi-lateral trading facilities.

General guideline

1. Regulated markets' and multilateral trading facilities' rules and procedures for fair and orderly trading on their electronic markets should be appropriate to the nature and scale of trading on those markets, including the types of members, participants and users and their trading strategies.

Detailed guidelines

2. In following the general guideline, the rules and procedures of trading platforms should at least include:

a) Requirements for members or participants who are not credit institutions or investment firms

- Trading platforms should perform adequate due diligence on applications to become a member/participant or user from persons who are not credit institutions or investment firms under EU law.

- Trading platforms should have organisational requirements for members or participants who are not credit institutions or investment firms (taking account as necessary of the controls imposed on firms authorised outside the EEA), including requirements on the monitoring of trading against the rules of the platform and the management of risk. Trading platforms' rules should require members/participants and users who are not investment firms to follow the guidelines laid down in this paper for investment firms.

b) IT compatibility

– Trading platforms should have standardised conformance testing to ensure that the systems that members and participants are using to access the platform have a minimum level of functionality that is compatible with the trading platforms' electronic trading system and will not pose a threat to fair and orderly trading on the platform.

c) Pre- and post-trade controls

– To ensure that there is orderly trading on the platform, trading platforms should have minimum requirements for members'/participants' and users' pre- and post-trade controls on their trading activities (including controls to ensure that there is no unauthorised access to trading systems). In particular, there should be controls on filtering order price and quantity (this requirement is without prejudice to the responsibility of members/participants or users to implement their own pre- and post-trade controls).

d) Trader access and knowledge

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– Trading platforms should have standards covering the knowledge of persons within members/participants and users who will be using order entry systems.

d) Limits to access and intervention on transactions.

- Trading platforms should have the ability to prevent in whole or in part the access of a member or participant to their markets and to cancel, amend or correct a transaction. The rules and procedures for cancelling, amending or correcting trades should be transparent to members/participants and users of the regulated market or multilateral trading facility.

e) Measures to cope with excessive flooding of the order book.

- Trading platforms should have arrangements to prevent the excessive flooding of the order book at any one moment in time, notably through limits per participant on order entry capacity.

f) Prevention of capacity limits from being breached.

- Trading platforms should have arrangements (such as throttling) to prevent capacity limits on messaging from being breached. At a minimum, the framework of those arrangements should be made available to members/participants and users.

g) Measures to constrain or halt trading.

- Trading platforms should have arrangements (for example, volatility interruptions or automatic rejection of orders which are outside of certain set volume and price thresholds) to constrain trading or to halt trading in individual or multiple financial instruments when necessary, to maintain an orderly market. At a minimum the framework of those arrangements should be made available to members/participants and users.

h) Obtaining information from members/participants and users

– Trading platforms should have the ability to obtain information from a member/participant or user to facilitate monitoring of compliance with the rules and procedures of the regulated market or multilateral trading facility relating to organisational requirements and trading controls.

j) Monitoring

– Trading platforms should, whenever the trading platform is in operation, monitor their markets as close to real time as possible for possible signs of disorderly trading. This monitoring should be conducted by staff who understands the functioning of the market. Those staff should be accessible to the platform's home competent authority and should have the authority to take remedial action, when necessary, to protect fair and orderly trading.

k) Record keeping and co-operation

i) Trading platforms should keep records of the matters covered by points a) to j) above, including of issues which emerge in relation to the policies and procedures mentioned. The records should be sufficiently detailed to enable a competent authority to monitor compliance with relevant obligations of trading platforms. Market operators and investment firms operating

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multilateral trading facilities should keep the records for at least 5 years. Market operators operating regulated markets should keep them for at least as long as required by their home competent authority.

ii) Trading platforms should inform competent authorities, in line with the supervisory arrangements that exist in their Member State, about significant risks that may affect fair and orderly trading and major incidents where those risks crystallise.

Guideline 4. Organisational requirements for investment firms to promote fair and orderly trading in an automated trading environment

Relevant legislation. *Articles 13, paragraphs (2), (4), (5) and (6), of MiFID and Articles 5, 6, 7 and 9, Articles 13 and 14 and Article 51 of the MiFID Implementing Directive.*

General guideline

1. Investment firms must have policies and procedures to ensure that their automated trading activities, including where they are providing DMA or SA, on trading platforms comply with their regulatory requirements under MiFID and other relevant Union and national laws and, in particular, and that they manage the risks relating to those trading activities.

Detailed guidelines

2. In following the general guideline, investment firms' automated trading activities should at least take account of the following points:

a) Price or size parameters

- Investment firms should be able to automatically block or cancel orders that do not meet set price or size parameters (differentiated as necessary for different financial instruments), either or both on an order-by-order basis or over a specified period of time.

b) Permission to trade

- Investment firms should be able to automatically block or cancel orders from a trader if they are aware for a financial instrument that a trader does not have permission to trade.

c) Risk management

- Investment firms should be able to automatically block or cancel orders where they risk compromising the firm's own risk management thresholds. Controls should be applied as necessary and appropriate to exposures to individual clients or financial instruments or groups of clients or financial instruments, exposures of individual traders, trading desks or the investment firm as a whole.

d) Consistency with the regulatory and legal framework

- The electronic systems of investment firms, and the orders these generate, should be consistent with the firm's obligations under MiFID, or other relevant Union or national legislation, or under

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the rules of the RM or MTF to which the order is to be sent (including rules relating to fair and orderly trading).

e) Reporting obligations to supervisory arrangements

- Investment firms should inform competent authorities, in line with the supervisory arrangements that exist in their Member State, about significant risks that may affect fair and orderly trading and major incidents where those risks crystallise.

f) Overriding of pre-trade controls

- Investment firms should have procedures and arrangements for dealing with orders which have been automatically blocked by the firm's pre-trade controls but which the investment firm wishes to submit. These procedures and arrangements should make compliance and risk management staff aware of when controls are being overridden and require their approval for the overriding of these controls.

g) Training on order entry procedures

- Investment firms should ensure that employees involved in order entry have adequate training on order entry procedures, for example through on-the-job training with experienced traders or classroom-based training, including complying with requirements imposed by trading platforms, before they are allowed to use order entry systems.

h) Monitoring and accessibility of knowledgeable and mandated staff

- Investment firms should, during the hours they are sending orders to trading platforms, monitor their orders in as close to real time as possible, including from a cross-market perspective, for potential signs of disorderly trading. This monitoring should be conducted by staff who understand the firm's trading flow. These staff members should be accessible to the firm's Competent Authority and to the trading platforms on which the firm is active and should have the authority to take remedial action, when necessary.

i) Close scrutiny by compliance staff

- Investment firms should ensure that compliance staff are able to follow closely the firm's electronic trading activity so that they can quickly respond to and correct any failures or regulatory infractions that may take place.

j) Control of messaging traffic

- Investment firms should ensure that they have control of messaging traffic to individual trading platforms.

k) Management of operational risk

- Investment firms should manage the operational risks in electronic trading through appropriate and proportionate governance arrangements, internal controls and internal reporting systems tak-

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ing account, as appropriate, of CEBS' Guidelines on the Management of Operational Risk in Market-Related Activities[1].

l) IT compatibility

- Investment firms should ensure that the systems that that they use to access a trading platform have a minimum level of functionality that is compatible with the trading platform's electronic trading systems and will not pose a threat to fair and orderly trading on that platform.

m) Record keeping and co-operation

i. Investment firms should keep records, for at least five years, of the matters covered by points a) to l) above. The records should be sufficiently detailed to enable competent authorities to monitor firms' compliance with their relevant obligations.

ii. Investment firms should inform competent authorities, in line with the supervisory arrangements that exist in their Member State, about significant risks that may affect fair and orderly trading and major incidents where those risks crystallise.

Guideline 5. Organisational requirements for regulated markets and multilateral trading facilities to prevent market abuse (in particular market manipulation) in an automated trading environment

Relevant legislation

Article 39, paragraphs (b) and (d), and Article 43 of MiFID and Article 6, paragraphs (6) and 9, of MAD and Articles 7 to 10 of the MAD Implementing Directive 2004/72/EC for regulated markets.

Article 14, paragraph (1), Article 13, paragraphs (2), (5) and (6), and Article 26 of MiFID, Articles 5 to 9 and Article 51 of the MiFID Implementing Directive and Article 6, paragraphs(6) and (9) of MAD and Articles 7 to 10 of the MAD Implementing Directive 2004/72/EC for multilateral trading facilities.

General guideline

1. Trading platforms should have effective arrangements and procedures, taking account of the specific supervisory arrangements/regulation in their Member State, which enable them to identify conduct by their members/participants and users that may involve market abuse (in particular market manipulation) in an automated trading environment.

2. Potential cases of market manipulation that could be of particular concern in an automated trading environment include:

- **Ping orders –** entering small orders in order to ascertain the level of hidden orders and particularly used to assess what is resting on a dark platform.

[1] Available in http://www.eba.europa.eu/documents/Publications/Standards---Guidelines/2010/Management-of-op-risk/CEBS-2010-216-(Guidelines-on-the-management-of-op-.aspx

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- **Quote stuffing**- entering large numbers of orders and/or cancellations/updates to orders so as to create uncertainty for other participants, slowing down their process and to camouflage their own strategy.

- **Momentum ignition**- entry of orders or a series of orders intended to start or exacerbate a trend, and to encourage other participants to accelerate or extend the trend in order to create an opportunity to unwind/open a position at a favourable price.

- **Layering and Spoofing**- submitting multiple orders often away from the touch on one side of the order book with the intention of executing a trade on the other side of the order book. Once that trade has taken place, the manipulative orders will be removed.

Detailed guidelines

3. In following the general guideline, the arrangements and procedures of trading platforms which seek to prevent and identify conduct by their members/participants and users that may involve market abuse and in particular market manipulation in an automated trading environment should at least include:

a) Staffing

– Trading platforms should have sufficient staff with an understanding of regulation and trading activity and the skill to monitor trading activity in an automated trading environment and identify behaviour giving rise to suspicions of market abuse (in particular market manipulation) in case monitoring market abuse falls under their responsibility.

b) Monitoring

- Trading platforms should at least have systems (including automated alert systems on transactions and orders) with sufficient capacity to accommodate high frequency generation of orders and transactions and low latency transmission, in order to monitor, using a sufficient level of time granularity, orders entered and transactions undertaken by members/participants and users and any behaviour which may involve market abuse (in particular market manipulation, including, where the trading platform has sight of this, cross-market behaviour) and with the ability to trace backwards transactions undertaken by members/participants and users as well as orders entered/cancelled which may involve market manipulation.

c) Arrangements for the identification and reporting of suspicious transactions and orders

– Trading platforms should have in place arrangements to identify transactions, and it is also recommended that these arrangements also cover orders[2], that require an STR to competent authori-

[2] CESR's first and third set of Level 3 guidance on the implementation of the MAD, CESR has already provided guidelines on suspicious transactions reports (STR), which state: "CESR is of the view that where an unexecuted order for a transaction gives rise to a suspicion of market abuse, this suspicion is recommended, when not already legally required on a national basis, to be reported to the competent authority." The guidance also provides a standard STR report form (Sections IV and V of the May 2005 guidance (Ref : CESR/04-505b) and Section 2 of the May 2009 guidance (Ref : CESR/09-219)).

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ties in relation to market abuse (in particular market manipulation) and to make those reports without delay (if initial enquiries are undertaken, a report should be made as soon as possible if those enquiries fail to find a satisfactory explanation for the observed behaviour).

d) Reviews

- Trading platforms should conduct periodic reviews and internal audits of procedures and arrangements to prevent and identify instances of conduct that may involve market abuse.

e) Record keeping

– Trading platforms should keep records of the matters covered by points a) to d) above, including effective audit trails regarding how each alert of possible suspicious behaviour is dealt with whether or not a report is made to the relevant competent authorities. The records should be sufficiently detailed to enable competent authorities to monitor compliance with their relevant obligations of trading platforms. Market operators and investment firms operating multilateral trading facilities should keep the records for at least 5 years. Market operators operating regulated markets should keep them for at least as long as required by their home competent authority.

Guideline 6. Organisational requirements for investment firms to prevent market abuse (in particular market manipulation) in an automated trading environment

Relevant legislation. *Article 13, paragraphs (2), (5) and (6), of MiFID and Articles 5, 6 and 9 of the MiFID Implementing Directive, and Article 6, paragraph (9), of MAD and Articles 7 to 10 of the MAD Implementing Directive 2004/72/EC*

General guideline

1. Investment firms should have policies and procedures in place to minimise the risk that their automated trading activity gives rise to market abuse (in particular market manipulation).

2. The sorts of market manipulation that might be of particular concern in a highly automated trading environment were described in guideline 5 (paragraph 2 under General guideline).

Detailed guidelines

3. In following the general guideline the policies and procedures of investment firms engaging in automated trading activities should at least include:

a) Understanding, skill and authority of compliance staff

- Investment firms should have procedures to seek to ensure that staff exercising the compliance function has sufficient understanding (of both regulation and trading activity) , skill and authority to challenge staff responsible for trading when the trading activity gives rise to suspicions of market abuse (in particular market manipulation).

b) Training in market abuse

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- Investment firms should provide initial and regular refresher training on what constitutes market abuse (in particular market manipulation) for all individuals involved in executing orders on behalf of clients and dealing on own account.

c) Monitoring activity

- Investment firms should monitor the activities of individuals/algorithms trading on behalf of the firm and the trading activities of clients, taking account of orders submitted, modified and cancelled as well as transactions executed. This should involve having adequate systems in place (including automated alert systems), using a sufficient level of time granularity, to flag any behaviour likely to give rise to suspicions of market abuse (in particular market manipulation), including (where the firm has sight of this) cross-market behaviour.

d) Arrangements for the identification and reporting of suspicious transactions and orders

- Investment firms should have arrangements to identify transactions, and it is recommended that these arrangements also cover orders, that require a STR to competent authorities in relation to market abuse (in particular market manipulation) and to make those reports without delay (if initial enquiries are undertaken, a report should be made as soon as possible if those enquiries fail to find a satisfactory explanation for the observed behaviour).

e) Periodic reviews and internal audits of compliance arrangements and procedures

- Investment firms should conduct periodic reviews and internal audits of procedures and arrangements to prevent and identify instances of conduct that may involve market abuse.

f) Frequently reviewed arrangements governing the access of staff to trading systems.

– Investment firms should keep, for at least 5 years, records of the arrangements and procedures to identify conduct that may involve market abuse covering the matters set out in points a) to e) above, including an effective audit regarding how each alert of possible suspicious behaviour is dealt with whether or not a report is made to the relevant competent authorities. These records should be sufficiently detailed to enable competent authorities to monitor firms' compliance with their relevant obligations.

Guideline 7. Organisational requirements for regulated markets and multilateral trading facilities whose members/participants and users provide direct market access/sponsored access

Relevant legislation.

Article 39, paragraph (b)), and 43(1) of MiFID for regulated markets.

Articles 14, paragraph (1), Article 13, paragraphs (2), (5) and (6), and Article 26(1) of MiFID and Articles 5 to 9 and Article 51 of the MiFID Implementing Directive for multilateral trading facilities.

General guideline

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1. Trading platforms should have rules and procedures which seek to ensure that, where they allow members/participants or users to provide direct market access/sponsored access (DMA/SA), the provision of DMA/SA is compatible with fair and orderly trading. It is important that trading platforms and their members/participants retain control of and closely monitor their systems to minimise any potential disruption caused by these third parties to avoid that trading platforms are vulnerable to either the potential misconduct or market abuse of DMA/SA clients or to their inadequate/erroneous systems.

Detailed guidelines

2. In following the general guideline, trading platforms should set out whether or not it is permissible for their members/participants or users to offer DMA and/or SA. Where they allow members or participants to offer DMA and/or SA, their rules and procedures should at least take account of the following:

a) Ultimate responsibility for messages, including orders, and eventual interventions and sanctions

- Trading platforms should make clear that the member/participant or user is solely responsible for all messages, including orders entered under its trading codes and therefore may be subject to interventions (including cutting the access of the member/participant or user to the trading platform) and sanctions for any breaches of the rules or procedures in respect of those orders.

b) Subsidiary responsibility when providing DMA/SA

- DMA/SA arrangements between trading platforms and a DMA/SA provider firm should stress that the direct market access/sponsored access provider firm remains responsible to the trading platform for all trades using their market participant ID code or any other identification.

c) Requirements for members/participants to provide DMA/SA

- As per guideline 3, trading platforms should require members/participants or users to have adequate systems and effective controls, including pre- and post-trade controls, to ensure that the provision of DMA/SA does not adversely affect compliance with the rules of the regulated market or multilateral trading facility, lead to disorderly trading or facilitate conduct that may involve market abuse. This applies equally where a member/participant or user provides DMA/SA.

d) Due diligence prior to provision of DMA/SA

- Trading platforms should require members/participants or users to conduct due diligence on clients to which they provide DMA/SA.

e) Rights of access

- Trading platforms should be able to refuse a request from a member/participant or user to allow a client to be provided with SA where the regulated market or multilateral trading facility is not satisfied that this would be consistent with its rules and procedures for fair and orderly trading. In relation to naked SA please refer to guideline 8.

f) Monitoring of orders

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- Trading platforms should, as part of their obligations to monitor their markets under guideline 3, monitor orders sent to their systems by a member/participants' SA clients.

g) Potential interventions over SA

i) Trading platforms should be able to suspend or withdraw the SA after it has been granted where the regulated market or multilateral trading facility is not satisfied that continued access would be consistent with its rules and procedures for fair and orderly trading.

ii) Trading platforms should have the ability to stop orders from a person trading through SA separately from the orders of the member or participant sponsoring that person's access by assigning unique customer IDs to clients that are accessing the market via SA.

iii) Trading platforms should be able to carry out, where necessary, a review of a member/participant or users' internal risk control systems in relation to their sponsored access or direct market access clients.

i) Record keeping

– Trading platforms should keep records of their policies and procedures relating to DMA/SA and any significant incidents relating to SA trading. The records should be sufficiently detailed to enable competent authorities to monitor compliance with relevant obligations of trading platforms. Market operators and investment firms operating multilateral trading facilities should keep the records for at least 5 years. Market operators operating regulated markets should keep them for at least as long as required by their home competent authority.

Guideline 8. Organisational requirements for investment firms that provide direct market access and/or sponsored access

Relevant legislation. *Articles 13(2), (5) and (6) of MiFID and Articles 5, to 9, Articles 13 and 14 and Article 51 of the MiFID Implementing Directive*

General guideline

1. Investment firms offering DMA/SA to clients ('DMA/SA clients') are responsible for the trading of those clients. They must establish policies and procedures to ensure the trading of those clients complies with the rules and procedures of the relevant trading platforms to which the orders of such clients are submitted and enables the investment firm to meet its obligations under MiFID and other relevant Union and national law.

Detailed guidelines

2. In following the general guideline, investment firms should at least take account of the following:

a) Due diligence on direct market access/sponsored access clients

- Investment firms must conduct due diligence on prospective DMA/SA clients, as appropriate to the risks posed by the nature of the clients, the scale and complexity of their prospective trading activities and the service being provided. Due diligence might, as appropriate, cover matters such as the training and competency of individuals entering orders, access controls over order entry,

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allocation of responsibility for dealing with actions and errors, the historical trading pattern/behaviour of the client (when available), and the ability of clients to meet their financial obligations to the firm. In the process of due diligence investment firms can take into account whether the prospective client is regulated under a directive, the national law of a Member State or under the law of a third country and their disciplinary history with competent authorities and trading platforms. The due diligence assessment should be periodically reviewed.

b) Pre-trade controls

i. Pre-trade controls on the orders of DMA/SA clients of the sort covered in paragraph 2 of Guideline 4 on organisational requirements for investment firms to promote fair and orderly trading in an automated trading environment, including in-built and automatic rejection of orders outside of certain parameters.

ii. There should be absolute clarity that the investment firm should solely be entitled to modify the parameters of the pre-trade controls (i.e. the DMA/SA client should not be able to do so).

iii. Investment firms offering DMA/SA can use pre- and post-trade controls which are proprietary controls of the investment firm, controls bought in from a vendor, controls provided by an outsourcer or controls offered by the platform itself (i.e. they should not be the controls of the direct market access/sponsored access client). However, in each of these circumstances the investment firm remains responsible for the effectiveness of the controls and has to be solely responsible for setting the key parameters.

c) 'Naked' or 'unfiltered' market access

- 'Naked' or 'unfiltered' access to a regulated market or MTF, where a client's orders do not pass through pre-trade controls before being sent to a regulated market or MTF, is prohibited under MiFID. Therefore, an SA client should never be able to send an order to a trading platform without the order passing through pre-trade controls of the investment firm.

d) Monitoring

i) The monitoring of orders (including on a cross-market basis) that investment firms are required to carry out under guideline 4 should apply to all order flow including that from DMA/SA clients, and likewise the systems that investment firms are required to have under guideline 6 for identifying possible instances of market abuse (in particular market manipulation) should apply to orders from and transactions by DMA/SA clients.

ii) To comply with these obligations investment firms will need to be able to separately identify orders and transactions of DMA/SA clients from other orders and transactions of the firm.

iii) Investment firms should also have the ability to immediately halt trading by individual direct market access/sponsored access clients.

e) Rights and obligations of the parties

- Investment firms should establish clarity about the rights and obligations of both parties in relation to the DMA/SA service.

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f) Record keeping

- Investment firms should keep, for at least five years, records of the matters covered in points a) to e) above that are sufficiently detailed for competent authorities to monitor firms' compliance with their relevant obligations. This should include at least the results of due diligence carried out on potential direct market access/sponsored access clients and subsequent reviews, and the rights and obligations of both parties in relation to the direct market access/sponsored access service.

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