

COMMISSION DELEGATED REGULATION (EU) 2017/589**of 19 July 2016****supplementing Directive 2014/65/EU of the European Parliament and of the Council with regard to regulatory technical standards specifying the organisational requirements of investment firms engaged in algorithmic trading****(Text with EEA relevance)**

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Directive 2014/65/EU of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments amending Directive 2002/92/EC and Directive 2011/61/EU ⁽¹⁾, and in particular points (a) and (d) of Article 17(7) thereof.

Whereas:

- (1) Systems and risk controls used by an investment firm engaged in algorithmic trading, providing direct electronic access or acting as general clearing members, should be efficient, resilient and have adequate capacity, having regard to the nature, scale and complexity of the business model of that investment firm.
- (2) To that end, an investment firm should address all risks that may affect the core elements of an algorithmic trading system, including risks related to the hardware, software and associated communication lines used by that firm to perform its trading activities. To ensure the same conditions for algorithmic trading independently of trading form, any type of execution system or order management system operated by an investment firm should be covered by this Regulation.
- (3) As a part of its overall governance framework and decision making framework, an investment firm should have a clear and formalised governance arrangement, including clear lines of accountability, effective procedures for the communication of information and a separation of tasks and responsibilities. That arrangement should ensure reduced dependency on a single person or unit.
- (4) Conformance testing should be made in order to verify that the trading systems of an investment firm communicate and interact properly with the trading systems of the trading venue or of the direct market access (DMA) provider and that market data are processed correctly.
- (5) Investment decision algorithms make automated trading decisions by determining which financial instrument should be purchased or sold. Order execution algorithms optimise order-execution processes by automatic generation and submission of orders or quotes, to one or several trading venues once the investment decision has been taken. Trading algorithms that are investment decision algorithms should be differentiated from order execution algorithms having regard to their potential impact on the overall fair and orderly functioning of the market.
- (6) The requirements concerning the testing of trading algorithms should be based on the potential impact that those algorithms may have on the overall fair and orderly functioning of the market. In this regard, only pure investment decision algorithms which generate orders that are only to be executed by non-automated means and with human intervention should be excluded from the testing requirements.
- (7) When introducing trading algorithms, an investment firm should ensure controlled deployment of trading algorithms, regardless of whether those trading algorithms are new or previously have been successfully deployed in another trading venue, and whether their architecture has been materially modified. The controlled

⁽¹⁾ OJ L 173, 12.6.2014, p. 349.

deployment of trading algorithms should ensure that the trading algorithms perform as expected in a production environment. The investment firm should therefore set cautious limits on the number of financial instruments being traded, the price, value and number of orders, the strategy positions and the number of markets involved and by monitoring the activity of the algorithm more intensively.

- (8) Compliance with the specific organisational requirements for an investment firm should be determined according to a self-assessment which includes an assessment of compliance with the criteria set out in Annex I to this Regulation. That self-assessment should furthermore include all other circumstances that may have an impact on the organisation of that investment firm. That self-assessment should be made regularly and should allow the investment firm to gain a full understanding of the trading systems and trading algorithms it uses and the risks stemming from algorithmic trading, irrespective of whether those systems and algorithms were developed by the investment firm itself, purchased from a third party, or designed or developed in close cooperation with a client or a third party.
- (9) An investment firm should be able to withdraw all or some of its orders where this becomes necessary ('kill functionality'). For such a withdrawal to be effective, an investment firm should always be in a position to know which trading algorithms, traders or clients are responsible for an order.
- (10) An investment firm engaged in algorithmic trading should monitor that its trading systems cannot be used for any purpose that is contrary to Regulation (EU) No 596/2014 of the European Parliament and of the Council ⁽¹⁾ or to the rules of a trading venue to which it is connected. Suspicious transactions or orders should be reported to the competent authorities in accordance with that Regulation.
- (11) Different types of risks should be addressed by different types of controls. Pre-trade controls should be conducted before an order is submitted to a trading venue. An investment firm should also monitor its trading activity and implement real-time alerts which identify signs of disorderly trading or a breach of its pre-trade limits. Post-trade controls should be put in place to monitor the market and credit risks of the investment firm through post-trade reconciliation. In addition, potential market abuse and violations of the rules of the trading venue should be prevented through specific surveillance systems that generate alerts on the following day at the latest and that are calibrated to minimise false positive and false negative alerts.
- (12) The generation of alerts following real time monitoring should be done as instantaneously as technically possible. Any actions following that monitoring should be undertaken as soon as possible having regard to a reasonable level of efficiency and expenditure of the persons and systems concerned.
- (13) An investment firm providing direct electronic access ('DEA provider') should remain responsible for the trading carried out through the use of its trading code by its DEA clients. A DEA provider should therefore establish policies and procedures to ensure that trading of its DEA clients complies with the requirements applicable to that provider. That responsibility should constitute the principal factor for establishing pre-trade and post-trade controls and for assessing the suitability of prospective DEA clients. A DEA provider should therefore have sufficient knowledge about the intentions, capabilities, financial resources and trustworthiness of its DEA clients, including, where publicly available, information about the prospective DEA clients' disciplinary history with competent authorities and trading venues.
- (14) A DEA provider should comply with the provisions of this Regulation even where it is not engaged in algorithmic trading, since its clients may use the DEA to engage in algorithmic trading.
- (15) Due diligence assessment of prospective DEA clients should be adapted to the risks posed by the nature, scale and complexity of their expected trading activities and to the DEA being provided. In particular, the expected level of trading and order volume and the type of connection offered to the relevant trading venues should be assessed.
- (16) The content and format of the forms to be used by an investment firm engaged in high frequency trading technique for submitting to the competent authorities the records of its placed orders and the length of time that those records should be kept should be laid down.

⁽¹⁾ Regulation (EU) No 596/2014 of the European Parliament and of the Council of 16 April 2014 on market abuse (market abuse regulation) and repealing Directive 2003/6/EC of the European Parliament and of the Council and Commission Directives 2003/124/EC, 2003/125/EC and 2004/72/EC (OJ L 173, 12.6.2014, p. 1).

- (17) To ensure consistency with the general obligation for an investment firm to keep records of orders, the required record keeping periods for an investment firm engaging in high-frequency algorithmic trading technique should be aligned with the ones laid down in Article 25(1) of Regulation (EU) No 600/2014 of the European Parliament and of the Council ⁽¹⁾.
- (18) For reasons of consistency and in order to ensure the smooth functioning of the financial markets, it is necessary that the provisions laid down in this Regulation and the related national provisions transposing Directive 2014/65/EU apply from the same date.
- (19) This Regulation is based on the draft regulatory technical standards submitted by the European Securities and Markets Authority ('ESMA') to the Commission.
- (20) ESMA has conducted open public consultations on the draft regulatory technical standards on which this Regulation is based, analysed the potential related costs and benefits and requested the opinion of the Securities and Markets Stakeholder Group established by Article 37 of Regulation (EU) No 1095/2010 of the European Parliament and of the Council ⁽²⁾,

HAS ADOPTED THIS REGULATION:

CHAPTER I

GENERAL ORGANISATIONAL REQUIREMENTS

Article 1

General organisational requirements

(Article 17(1) of Directive 2014/65/EU)

As part of its overall governance and decision making framework, an investment firm shall establish and monitor its trading systems and trading algorithms through a clear and formalised governance arrangement, having regard to the nature, scale and complexity of its business and setting out:

- (a) clear lines of accountability, including procedures to approve the development, deployment and subsequent updates of trading algorithms and to solve problems identified when monitoring trading algorithms;
- (b) effective procedures for the communication of information within the investment firm, such that instructions can be sought and implemented in an efficient and timely manner;
- (c) a separation of tasks and responsibilities of trading desks on the one hand and supporting functions, including risk control and compliance functions, on the other, to ensure that unauthorised trading activity cannot be concealed.

Article 2

Role of the compliance function

(Article 17(1) of Directive 2014/65/EU)

1. An investment firm shall ensure that its compliance staff has at least a general understanding of how the algorithmic trading systems and trading algorithms of the investment firm operate. The compliance staff shall be in continuous contact with persons within the firm who have detailed technical knowledge of the firm's algorithmic trading systems and algorithms.

⁽¹⁾ Regulation (EU) No 600/2014 of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Regulation (EU) No 648/2012 (OJ L 173, 12.6.2014, p. 84).

⁽²⁾ 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).

2. An investment firm shall also ensure that compliance staff have, at all times, contact with the person or persons within the investment firm who have access to the functionality referred to in Article 12 ('kill functionality') or direct access to that kill functionality and to those who are responsible for each trading system or algorithm.

3. Where the compliance function or elements thereof are outsourced to a third party, an investment firm shall provide the third party with the same access to information as it would to its own compliance staff. An investment firm shall ensure that through such external compliance function:

- (a) privacy of data is guaranteed;
- (b) the compliance function can be audited by internal and external auditors or by the competent authority.

Article 3

Staffing

(Article 17(1) of Directive 2014/65/EU)

1. An investment firm shall employ a sufficient number of staff with the necessary skills to manage its algorithmic trading systems and trading algorithms and with sufficient technical knowledge of:

- (a) the relevant trading systems and algorithms;
- (b) the monitoring and testing of such systems and algorithms;
- (c) the trading strategies that the investment firm deploys through its algorithmic trading systems and trading algorithms;
- (d) the investment firm's legal obligations

2. An investment firm shall specify the necessary skills referred to in paragraph 1. The staff referred to in paragraph 1 shall have those necessary skills at the time of recruitment or shall acquire them through training after recruitment. The investment firm shall ensure that those staff's skills remain up-to-date through continuous training and shall evaluate their skills on a regular basis.

3. The staff training referred to in paragraph 2 shall be tailored to the experience and responsibilities of the staff, having regard to the nature, scale and complexity of the investment firms' activities. In particular, staff involved in order submission shall receive training on order submission systems and market abuse.

4. An investment firm shall ensure that the staff responsible for the risk and compliance functions of algorithmic trading have:

- (a) sufficient knowledge of algorithmic trading and strategies;
- (b) sufficient skills to follow up on information provided by automatic alerts;
- (c) sufficient authority to challenge staff responsible for algorithmic trading where such trading gives rise to disorderly trading conditions or suspicions of market abuse.

Article 4

IT outsourcing and procurement

(Article 17(1) of Directive 2014/65/EU)

1. An investment firm shall remain fully responsible for its obligations under this Regulation where it outsources or procures software or hardware used in algorithmic trading activities.

2. An investment firm shall have sufficient knowledge and the necessary documentation to ensure effective compliance with paragraph 1 in relation to any procured or outsourced hardware or software used in algorithmic trading.

CHAPTER II

RESILIENCE OF TRADING SYSTEMS

SECTION I

Testing and deployment of trading algorithms systems and strategies*Article 5***General methodology**

(Article 17(1) of Directive 2014/65/EU)

1. Prior to the deployment or substantial update of an algorithmic trading system, trading algorithm or algorithmic trading strategy, an investment firm shall establish clearly delineated methodologies to develop and test such systems, algorithms or strategies.
2. A person designated by the senior management of the investment firm shall authorise the deployment or substantial update of an algorithmic trading system, trading algorithm or algorithmic trading strategy.
3. The methodologies referred to in paragraph 1 shall address the design, performance, recordkeeping and approval of the algorithmic trading system, trading algorithm or algorithmic trading strategy. They shall also set out the allocation of responsibilities, the allocation of sufficient resources and the procedures to seek instructions within the investment firm.
4. The methodologies referred to in paragraph 1 shall ensure that the algorithmic trading system, trading algorithm or algorithmic trading strategy:
 - (a) does not behave in an unintended manner;
 - (b) complies with the investment firm's obligations under this Regulation;
 - (c) complies with the rules and systems of the trading venues accessed by the investment firm;
 - (d) does not contribute to disorderly trading conditions, continues to work effectively in stressed market conditions and, where necessary under those conditions, allows for the switching off of the algorithmic trading system or trading algorithm.
5. An investment firm shall adapt its testing methodologies to the trading venues and markets where the trading algorithm will be deployed. An investment firm shall undertake further testing if there are substantial changes to the algorithmic trading system or to the access to the trading venue in which the algorithmic trading system, trading algorithm or algorithmic trading strategy are to be used.
6. Paragraphs 2 to 5 shall only apply to trading algorithms leading to order execution.
7. An investment firm shall keep records of any material change made to the software used for algorithmic trading, allowing it to determine:
 - (a) when a change was made;
 - (b) the person that has made the change;
 - (c) the person that has approved the change;
 - (d) the nature of the change.

*Article 6***Conformance testing**

(Article 17(1) of Directive 2014/65/EU)

1. An investment firm shall test the conformance of its algorithmic trading systems and trading algorithms with:
 - (a) the system of the trading venue in any of the following cases:
 - (i) when accessing that trading venue as a member;
 - (ii) when connecting to that trading venue through a sponsored access arrangement for the first time;

- (iii) where there is a material change of the systems of that trading venue;
 - (iv) prior to the deployment or material update of the algorithmic trading system, trading algorithm or algorithmic trading strategy of that investment firm.
- (b) the system of the direct market access provider in any of the following cases:
- (i) when accessing that trading venue through a direct market access arrangement for the first time;
 - (ii) when there is a material change affecting the direct market access functionality of that provider;
 - (iii) prior to the deployment or material update of the algorithmic trading system, trading algorithm or algorithmic trading strategy of that investment firm.
2. Conformance testing shall verify whether the basic elements of the algorithmic trading system or the trading algorithm operate correctly and in accordance with the requirements of the trading venue or the direct market access provider. For this purpose the testing shall verify that the algorithmic trading system or trading algorithm:
- (a) interacts with the trading venue's matching logic as intended;
 - (b) adequately processes the data flows downloaded from the trading venue.

Article 7

Testing environments

(Article 17(1) of Directive 2014/65/EU)

1. An investment firm shall ensure that testing of compliance with the criteria laid down in Article 5(4)(a), (b) and (d) is undertaken in an environment that is separated from its production environment and that is used specifically for the testing and development of algorithmic trading systems and trading algorithms.

For the purposes of the first subparagraph, a production environment shall mean an environment where algorithmic trading systems effectively operate, and comprise software and hardware used by traders, order routing to trading venues, market data, dependent databases, risk control systems, data capture, analysis systems and post-trade processing systems.

2. An investment firm may comply with the testing requirements referred to in paragraph 1 by using its own testing environment or a testing environment provided by a trading venue, a DEA provider or a vendor.

3. An investment firm shall retain full responsibility for the testing of its algorithmic trading systems, trading algorithms or algorithmic trading strategies and for making any required changes to them.

Article 8

Controlled deployment of algorithms

(Article 17(1) of Directive 2014/65/EU)

Before deployment of a trading algorithm, an investment firm shall set predefined limits on:

- (a) the number of financial instruments being traded;
- (b) the price, value and numbers of orders;
- (c) the strategy positions; and
- (d) the number of trading venues to which orders are sent.

SECTION 2

Post-deployment management

Article 9

Annual self-assessment and validation

(Article 17(1) of Directive 2014/65/EU)

1. An investment firm shall annually perform a self-assessment and validation process and on the basis of that process issue a validation report. In the course of that process the investment firm shall review, evaluate and validate the following:

- (a) its algorithmic trading systems, trading algorithms and algorithmic trading strategies;
- (b) its governance, accountability and approval framework;
- (c) its business continuity arrangement;
- (d) its overall compliance with Article 17 of Directive 2014/65/EU, having regard to the nature, scale and complexity of its business.

The self-assessment shall also include at least an analysis of compliance with the criteria set out in Annex I to this Regulation.

2. The risk management function of the investment firm referred to in Article 23(2) of Commission Delegated Regulation (EU) 2017/565 ⁽¹⁾, shall draw up the validation report and, for that purpose, involve staff with the necessary technical knowledge. The risk management function shall inform the compliance function of any deficiencies identified in the validation report.

3. The validation report shall be audited by the firm's internal audit function, where such function exists, and be subject to approval by the investment firm's senior management.

4. An investment firm shall remedy any deficiencies identified in the validation report.

5. Where an investment firm has not established a risk management function referred to in Article 23(2) of Delegated Regulation (EU) 2017/565, the requirements set out in relation to the risk management function in this Regulation shall apply to any other function established by the investment firm in accordance with Article 23(2) of Delegated Regulation (EU) 2017/565.

Article 10

Stress testing

(Article 17(1) of Directive 2014/65/EU)

As part of its annual self-assessment referred to in Article 9, an investment firm shall test that its algorithmic trading systems and the procedures and controls referred to in Articles 12 to 18 can withstand increased order flows or market stresses. The investment firm shall design such tests, having regard to the nature of its trading activity and its trading systems. The investment firm shall ensure that the tests are carried out in such a way that they do not affect the production environment. Those tests shall comprise:

- (a) running high messaging volume tests using the highest number of messages received and sent by the investment firm during the previous six months, multiplied by two;
- (b) running high trade volume tests, using the highest volume of trading reached by the investment firm during the previous six months, multiplied by two.

⁽¹⁾ Commission Delegated Regulation (EU) 2017/565 of 25 April 2016 supplementing Directive 2014/65/EU of the European Parliament and of the Council as regards organisational requirements and operating conditions for investment firms and defined terms for the purposes of that Directive (see page 1 of this Official Journal).

*Article 11***Management of material changes**

(Article 17(1) of Directive 2014/65/EU)

1. An investment firm shall ensure that any proposed material change to the production environment related to algorithmic trading is preceded by a review of that change by a person designated by senior management of the investment firm. The depth of the review shall be proportionate to the magnitude of the proposed change.
2. An investment firm shall establish procedures to ensure that any change to the functionality of its systems is communicated to traders in charge of the trading algorithm and to the compliance function and the risk management function.

*SECTION 3****Means to ensure resilience****Article 12***Kill functionality**

(Article 17(1) of Directive 2014/65/EU)

1. An investment firm shall be able to cancel immediately, as an emergency measure, any or all of its unexecuted orders submitted to any or all trading venues to which the investment firm is connected ('kill functionality').
2. For the purposes of paragraph 1, unexecuted orders shall include those originating from individual traders, trading desks or, where applicable, clients.
3. For the purposes of paragraph 1 and 2, an investment firm shall be able to identify which trading algorithm and which trader, trading desk or, where applicable, which client is responsible for each order that has been sent to a trading venue.

*Article 13***Automated surveillance system to detect market manipulation**

(Article 17(1) of Directive 2014/65/EU)

1. An investment firm shall monitor all trading activity that takes place through its trading systems, including that of its clients, for signs of potential market manipulation as referred to in Article 12 of Regulation (EU) No 596/2014.
2. For the purposes of paragraph 1, the investment firm shall establish and maintain an automated surveillance system which effectively monitors orders and transactions, generates alerts and reports and, where appropriate, employs visualisation tools.
3. The automated surveillance system shall cover the full range of trading activities undertaken by the investment firm and all orders submitted by it. It shall be designed having regard to the nature, scale and complexity of the investment firm's trading activity, such as the type and volume of instruments traded, the size and complexity of its order flow and the markets accessed.
4. The investment firm shall cross-check any indications of suspicious trading activity that have been generated by its automated surveillance system during the investigation phase against other relevant trading activities undertaken by that firm.
5. The investment firm's automated surveillance system shall be adaptable to changes to the regulatory obligations and the trading activity of the investment firm, including changes to its own trading strategy and that of its clients.
6. The investment firm shall review its automated surveillance system at least once a year to assess whether that system and the parameters and filters employed by it are still adequate to the investment firm's regulatory obligations and trading activity, including its ability to minimise the generation of false positive and false negative surveillance alerts.

7. Using a sufficiently detailed level of time granularity, the investment firm's automated surveillance system shall be able to read, replay and analyse order and transaction data on an *ex-post* basis, with sufficient capacity to be able to operate in an automated low-latency trading environment where relevant. It shall also be able to generate operable alerts at the beginning of the following trading day or, where manual processes are involved, at the end of the following trading day. The investment firm's surveillance system shall have adequate documentation and procedures in place for the effective follow-up to alerts generated by it.

8. Staff responsible for monitoring the investment firm's trading activities for the purposes of paragraphs 1 to 7 shall report to the compliance function any trading activity that may not be compliant with the investment firm's policies and procedures or with its regulatory obligations. The compliance function shall assess that information and take appropriate action. Such action shall include reporting to the trading venue or submitting a suspicious transaction or order report in accordance with Article 16 of Regulation (EU) No 596/2014.

9. An investment firm shall ensure that its records of trade and account information are accurate, complete and consistent by reconciling as soon as practicable its own electronic trading logs with records provided by its trading venues, brokers, clearing members, central counterparties, data providers or other relevant business partners, where applicable and appropriate considering the nature, scale and complexity of the business.

Article 14

Business continuity arrangements

(Article 17(1) of Directive 2014/65/EU)

1. An investment firm shall have business continuity arrangements in place for its algorithmic trading systems which are appropriate to the nature, scale and complexity of its business. Those arrangements shall be documented in a durable medium.

2. Business continuity arrangements of an investment firm shall effectively deal with disruptive incidents and, where appropriate, ensure a timely resumption of the algorithmic trading. Those arrangements shall be adapted to the trading systems of each of the trading venue accessed and shall include the following:

- (a) a governance framework for the development and of the deployment of the business continuity arrangement;
- (b) a range of possible adverse scenarios relating to the operation of the algorithmic trading systems, including the unavailability of systems, staff, work space, external suppliers or data centres or loss or alteration of critical data and documents;
- (c) procedures for relocating the trading system to a back-up site and operating the trading system from that site, where having such a site is appropriate to the nature, scale and complexity of the algorithmic trading activities of the investment firm;
- (d) staff training on the operation of the business continuity arrangements;
- (e) usage policy regarding the functionality referred to in Article 12;
- (f) arrangements for shutting down the relevant trading algorithm or trading system where appropriate;
- (g) alternative arrangements for the investment firm to manage outstanding orders and positions.

3. An investment firm shall ensure that its trading algorithm or trading system can be shut down in accordance with its business continuity arrangements without creating disorderly trading conditions.

4. An investment firm shall review and test its business continuity arrangements on an annual basis and modify the arrangements in light of that review.

*Article 15***Pre-trade controls on order entry**

(Article 17(1) of Directive 2014/65/EU)

1. An investment firm shall carry out the following pre-trade controls on order entry for all financial instruments:
 - (a) price collars, which automatically block or cancel orders that do not meet set price parameters, differentiating between different financial instruments, both on an order-by-order basis and over a specified period of time;
 - (b) maximum order values, which prevent orders with an uncommonly large order value from entering the order book;
 - (c) maximum order volumes, which prevent orders with an uncommonly large order size from entering the order book;
 - (d) maximum messages limits, which prevent sending an excessive number of messages to order books pertaining to the submission, modification or cancellation of an order.
2. An investment firm shall immediately include all orders sent to a trading venue into the calculation of the pre-trade limits referred to in paragraph 1.
3. An investment firm shall have in place repeated automated execution throttles which control the number of times an algorithmic trading strategy has been applied. After a pre-determined number of repeated executions, the trading system shall be automatically disabled until re-enabled by a designated staff member.
4. An investment firm shall set market and credit risk limits that are based on its capital base, its clearing arrangements, its trading strategy, its risk tolerance, experience and certain variables, such as the length of time the investment firm has been engaged in algorithmic trading and its reliance on third-party vendors. The investment firm shall adjust those market and credit risk limits to account for the changing impact of the orders on the relevant market due to different price and liquidity levels.
5. An investment firm shall automatically block or cancel orders from a trader if it becomes aware that that trader does not have permission to trade a particular financial instrument. An investment firm shall automatically block or cancel orders where those orders risk compromising the investment firm's own risk thresholds. Controls shall be applied, where appropriate, on exposures to individual clients, financial instruments, traders, trading desks or the investment firm as a whole.
6. An investment firm shall have procedures and arrangements in place for dealing with orders which have been blocked by the investment firm's pre-trade controls but which the investment firm nevertheless wishes to submit. Such procedures and arrangements shall be applied in relation to a specific trade on a temporary basis and in exceptional circumstances. They shall be subject to verification by the risk management function and authorisation by a designated individual of the investment firm.

*Article 16***Real-time monitoring**

(Article 17(1) of Directive 2014/65/EU)

1. An investment firm shall, during the hours it is sending orders to trading venues, monitor in real time all algorithmic trading activity that takes place under its trading code, including that of its clients, for signs of disorderly trading, including trading across markets, asset classes, or products, in cases where the firm or its clients engage in such activities.
2. The real-time monitoring of algorithmic trading activity shall be undertaken by the trader in charge of the trading algorithm or algorithmic trading strategy, and by the risk management function or by an independent risk control function established for the purpose of this provision. That risk control function shall be considered to be independent, regardless of whether the real-time monitoring is conducted by a member of the staff of the investment firm or by a third party, provided that that function is not hierarchically dependent on the trader and can challenge the trader as appropriate and necessary within the governance framework referred to in Article 1.
3. Staff members in charge of the real-time monitoring shall respond to operational and regulatory issues in a timely manner and shall initiate remedial action where necessary.

4. An investment firm shall ensure that the competent authority, the relevant trading venues and, where applicable, DEA providers, clearing members and central counterparties can at all times have access to staff members in charge of real-time monitoring. For that purpose, the investment firm shall identify and periodically test its communication channels, including its contact procedures for out of trading hours, to ensure that in an emergency the staff members with the adequate level of authority may reach each other in time.

5. The systems for real-time monitoring shall have real-time alerts to assist staff in identifying unanticipated trading activities undertaken by means of an algorithm. An investment firm shall have a process in place to take remedial action as soon as possible after an alert has been generated, including, where necessary, an orderly withdrawal from the market. Those systems shall also provide alerts in relation to algorithms and DEA orders triggering circuit breakers of a trading venue. Real-time alerts shall be generated within five seconds after the relevant event.

Article 17

Post-trade controls

(Article 17(1) of Directive 2014/65/EU)

1. An investment firm shall continuously operate the post-trade controls that it has in place. Where a post-trade control is triggered, the investment firm shall undertake appropriate action, which may include adjusting or shutting down the relevant trading algorithm or trading system or an orderly withdrawal from the market.

2. Post-trade controls referred to in paragraph 1 shall include the continuous assessment and monitoring of market and credit risk of the investment firm in terms of effective exposure.

3. An investment firm shall keep records of trade and account information, which are complete, accurate and consistent. The investment firm shall reconcile its own electronic trading logs with information about its outstanding orders and risk exposures as provided by the trading venues to which it sends orders, by its brokers or DEA providers, by its clearing members or central counterparties and by its data providers or other relevant business partners. Reconciliation shall be made in real-time where the aforementioned market participants provide the information in real-time. An investment firm shall have the capability to calculate in real time its outstanding exposure and that of its traders and clients.

4. For derivatives, the post-trade controls referred to in paragraph 1 shall include controls regarding the maximum long and short and overall strategy positions, with trading limits to be set in units that are appropriate to the types of financial instruments involved.

5. Post-trade monitoring shall be undertaken by the traders responsible for the algorithm and the risk control function of the investment firm.

Article 18

Security and limits to access

(Article 17(1) of Directive 2014/65/EU)

1. An investment firm shall implement an IT strategy with defined objectives and measures which:

- (a) is in compliance with the business and risk strategy of the investment firm and is adapted to its operational activities and the risks to which it is exposed;
- (b) is based on a reliable IT organisation, including service, production, and development;
- (c) complies with an effective IT security management.

2. An investment firm shall set up and maintain appropriate arrangements for physical and electronic security that minimise the risks of attacks against its information systems and that includes effective identity and access management. Those arrangements shall ensure the confidentiality, integrity, authenticity, and availability of data and the reliability and robustness of the investment firm's information systems.
3. An investment firm shall promptly inform the competent authority of any material breaches of its physical and electronic security measures. It shall provide an incident report to the competent authority, indicating the nature of the incident, the measures taken following the incident and the initiatives taken to avoid similar incidents from recurring.
4. An investment firm shall annually undertake penetration tests and vulnerability scans to simulate cyber-attacks.
5. An investment firm shall ensure that it is able to identify all persons who have critical user access rights to its IT systems. The investment firm shall restrict the number of such persons and shall monitor their access to IT systems to ensure traceability at all times.

CHAPTER III

DIRECT ELECTRONIC ACCESS

Article 19

General provisions for DEA

(Article 17(5) of Directive 2014/65/EU)

A DEA provider shall establish policies and procedures to ensure that trading of its DEA clients complies with the trading venue's rules so as to ensure that the DEA provider meets the requirements in accordance with Article 17(5) of Directive 2014/65/EU.

Article 20

Controls of DEA providers

(Article 17(5) of Directive 2014/65/EU)

1. A DEA provider shall apply the controls laid down in Articles 13, 15 and 17 and the real-time monitoring laid down in Article 16 to the order flow of each of its DEA clients. Those controls and that monitoring shall be separate and distinct from the controls and monitoring applied by DEA clients. In particular, the orders of a DEA client shall always pass through the pre-trade controls that are set and controlled by the DEA provider.
2. A DEA provider may use its own pre-trade and post-trade controls, controls provided by a third party or controls offered by the trading venue and real time monitoring. In all circumstances, the DEA provider shall remain responsible for the effectiveness of those controls. The DEA provider shall also ensure that it is solely entitled to set or modify the parameters or limits of those pre-trade and post-trade controls and real time monitoring. The DEA provider shall monitor the performance of the pre-trade and post-trade controls on an on-going basis.
3. The limits of the pre-trade controls on order submission shall be based on the credit and risk limits which the DEA provider applies to the trading activity of its DEA clients. Those limits shall be based on the initial due diligence and periodic review of the DEA client by the DEA provider.
4. The parameters and limits of the controls applied to DEA clients using sponsored access shall be as stringent as those imposed on DEA clients using DMA.

*Article 21***Specifications for the systems of DEA providers**

(Article 17(5) of Directive 2014/65/EU)

1. A DEA provider shall ensure that its trading systems enable it to:
 - (a) monitor orders submitted by a DEA client using the trading code of the DEA provider;
 - (b) automatically block or cancel orders from individuals which operate trading systems that submit orders related to algorithmic trading and which lack authorisation to send orders through DEA,;
 - (c) automatically block or cancel orders from a DEA client for financial instruments which that client is not authorised to trade, using an internal flagging system to identify and block single DEA clients or a group of DEA clients;
 - (d) automatically block or cancel orders from a DEA client that breach the risk management thresholds of the DEA provider, applying controls to exposures of individual DEA clients, financial instruments or groups of DEA clients;
 - (e) stop order flows transmitted by its DEA clients;
 - (f) suspend or withdraw DEA services to any DEA client where the DEA provider is not satisfied that continued access would be consistent with its rules and procedures for fair and orderly trading and market integrity;
 - (g) carry out, whenever necessary, a review of the internal risk control systems of DEA clients.
2. A DEA provider shall have procedures to evaluate, manage and mitigate market disruption and firm-specific risks. The DEA provider shall be able to identify the persons to be notified in the event of an error resulting in violations of the risk profile or in potential violations of the trading venue's rules.
3. A DEA provider shall at all times be able to identify its different DEA clients and the trading desks and traders of those DEA clients, who submit orders through the DEA provider's systems, by assigning a unique identification code to them.
4. A DEA provider allowing a DEA client to provide its DEA access to its own clients ('sub-delegation') shall be able to identify the different order flows from the beneficiaries of such sub-delegation without being required to know the identity of the beneficiaries of such arrangement.
5. A DEA provider shall record data relating to the orders submitted by its DEA clients, including modifications and cancellations, the alerts generated by its monitoring systems and the modifications made to its filtering process.

*Article 22***Due diligence assessment of prospective DEA clients**

(Article 17(5) of Directive 2014/65/EU)

1. A DEA provider shall conduct a due diligence assessment of its prospective DEA clients to ensure that they meet the requirements set out in this Regulation and the rules of the trading venue to which it offers access.
2. The due diligence assessment referred to in paragraph 1 shall cover:
 - (a) the governance and ownership structure of the prospective DEA client;
 - (b) the types of strategies to be undertaken by the prospective DEA client;

- (c) the operational set-up, the systems, the pre-trade and post-trade controls and the real time monitoring of the prospective DEA client. The investment firm offering DEA allowing DEA clients to use third-party trading software for accessing trading venues shall ensure that the software includes pre-trade controls that are equivalent to the pre-trade controls set out in this Regulation.
 - (d) the responsibilities within the prospective DEA client for dealing with actions and errors;
 - (e) the historical trading pattern and behaviour of the prospective DEA client;
 - (f) the level of expected trading and order volume of the prospective DEA client;
 - (g) the ability of the prospective DEA client to meet its financial obligations to the DEA provider;
 - (h) the disciplinary history of the prospective DEA client, where available.
3. A DEA provider allowing sub-delegation shall ensure that a prospective DEA client, before granting that client access, has a due diligence framework in place that is at least equivalent to the one described in paragraphs 1 and 2.

Article 23

Periodic review of DEA clients

(Article 17(5) of Directive 2014/65/EU)

1. A DEA provider shall review its due diligence assessment processes annually.
2. A DEA provider shall carry out an annual risk-based reassessment of the adequacy of its clients' systems and controls, in particular taking into account changes to the scale, nature or complexity of their trading activities or strategies, changes to their staffing, ownership structure, trading or bank account, regulatory status, financial position and whether a DEA client has expressed an intention to sub-delegate the access it receives from the DEA provider.

CHAPTER IV

INVESTMENT FIRMS ACTING AS GENERAL CLEARING MEMBERS

Article 24

Systems and controls of investment firms acting as general clearing members

(Article 17(6) of Directive 2014/65/EU)

Any systems used by an investment firm acting as a general clearing member ('clearing firm') to support the provision of its clearing services to its clients shall be subject to appropriate due diligence assessments, controls and monitoring.

Article 25

Due diligence assessments of prospective clearing clients

(Article 17(6) of Directive 2014/65/EU)

1. A clearing firm shall make an initial assessment of a prospective clearing client, taking into account the nature, scale and complexity of the prospective clearing client's business. Each prospective clearing client shall be assessed against the following criteria:
 - (a) credit strength, including any guarantees given;
 - (b) internal risk control systems;
 - (c) intended trading strategy;

- (d) payment systems and arrangements that enable the prospective clearing client to ensure a timely transfer of assets or cash as margin, as required by the clearing firm in relation to the clearing services it provides;
- (e) systems settings and access to information that helps the prospective clearing client to respect any maximum trading limit agreed with the clearing firm;
- (f) any collateral provided to the clearing firm by the prospective clearing client;
- (g) operational resources, including technological interfaces and connectivity;
- (h) any involvement of the prospective clearing client in a breach of the rules ensuring the integrity of the financial markets, including involvement in market abuse, financial crime or money laundering activities.

2. A clearing firm shall annually review the on-going performance of its clearing clients against the criteria listed in paragraph 1. The binding written agreement referred to in Article 17(6) of Directive 2014/65/EU shall contain those criteria and set out the frequency at which the clearing firm shall review its clearing clients' performance against those criteria, where this review is to be conducted more than once a year. The binding written agreement shall set out the consequences for clearing clients that do not comply with those criteria.

Article 26

Position limits

(Article 17(6) of Directive 2014/65/EU)

1. A clearing firm shall set out and communicate to its clearing clients appropriate trading and position limits to mitigate and manage its own counterparty, liquidity, operational and other risks.
2. A clearing firm shall monitor its clearing clients' positions against the limits referred to in paragraph 1 as close to real-time as possible and have appropriate pre-trade and post-trade procedures for managing the risk of breaches of the position limits, by way of appropriate margining practice and other appropriate means.
3. A clearing firm shall document in writing the procedures referred to in paragraph 2 and record whether the clearing clients comply with those procedures.

Article 27

Disclosure of information about the services provided

(Article 17(6) of Directive 2014/65/EU)

1. A clearing firm shall publish the conditions under which it offers its clearing services. It shall offer those services on reasonable commercial terms.
2. A clearing firm shall inform its prospective and existing clearing clients of the levels of protection and of the costs associated with the different levels of segregation it provides. Information on the different levels of segregation shall include a description of the main legal effects of the respective levels of segregation offered, including information on the insolvency law applicable in the relevant jurisdiction.

CHAPTER V

HIGH-FREQUENCY ALGORITHMIC TRADING TECHNIQUE AND FINAL PROVISIONS

Article 28

Content and format of order records

(Article 17(2) of Directive 2014/65/EU)

1. An investment firm that engages in a high-frequency algorithmic trading technique shall immediately after order submission record the details of each submitted order using the format set out in tables 2 and 3 of Annex II.

2. An investment firm that engages in a high-frequency algorithmic trading technique shall update the information referred to in paragraph 1 in the standards and formats specified in the fourth column of tables 2 and 3 of Annex II.
3. The records referred to in paragraphs 1 and 2 shall be kept for five years from the date of the submission of an order to a trading venue or to another investment firm for execution.

Article 29

Entry into force and application

(Article 17(2) of Directive 2014/65/EU)

This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

It shall apply from 3 January 2018.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, 19 July 2016.

For the Commission
The President
Jean-Claude JUNCKER

ANNEX I

Criteria to be considered in the investment firm's self-assessment as referred to in Article 9(1)

1. When considering the nature of its business, an investment firm shall consider the following, where applicable:
 - (a) the regulatory status of the firm and, where applicable, of its DEA clients, including the regulatory requirements to which it is subject as an investment firm under Directive 2014/65/EU, and other relevant regulatory requirements;
 - (b) the firm's roles in the market, including whether it is a market maker and whether it executes orders for clients or rather only trades on its own account;
 - (c) the level of automation of trading and of other processes or activities of the firm;
 - (d) the types and regulatory status of the instruments, products and asset classes that the firm trades in;
 - (e) the types of strategies the firm employs and the risks contained in these strategies for the firm's own risk management and for the fair and orderly functioning of the markets; the firm shall consider in particular the nature of these strategies, such as market making or arbitrage, and whether those strategies are long-term, short-term, directional, or non-directional;
 - (f) the latency sensitivity of the firm's strategies and trading activities;
 - (g) the type and regulatory status of trading venues and other liquidity pools accessed and in particular whether the trading activity on those trading venues and other liquidity pools are lit, dark or over-the-counter trading;
 - (h) the connectivity solutions of the firm and whether it accesses trading venues as a member, as a DEA client or as a DEA provider;
 - (i) the extent to which the firm relies on third parties for the development and maintenance of its algorithms or trading systems and whether these algorithms or trading systems are self-developed, co-developed with a third party, or purchased from, or outsourced to, a third party;
 - (j) the firm's ownership and governance structure, how it is structured organisationally and operationally, and whether it is a partnership, subsidiary, publicly traded company, or otherwise;
 - (k) the firm's risk management, compliance, audit structure and organisation;
 - (l) the date of establishment of the firm and level of experience and competency of its personnel and whether it is recently established.
2. When considering the scale of its business, an investment firm shall consider the following, where applicable:
 - (a) the number of algorithms and strategies running in parallel;
 - (b) the number of individual instruments, products, and asset classes traded;
 - (c) the number of trading desks operated and individual trading identifiers of the natural persons and algorithms responsible for order execution used;
 - (d) the messaging volume capacities and in particular the number of orders submitted, adjusted, cancelled and executed;
 - (e) the monetary value of its gross and net positions intraday and overnight;
 - (f) the number of markets accessed either as a member or participant or via DEA;
 - (g) the number and size of the firm's clients and notably the firm's DEA clients;
 - (h) the number of co-location or proximity hosting sites to which the firm has connectivity;
 - (i) the throughput size of connectivity infrastructure of the firm;

- (j) the number of clearing members or CCP memberships of the firm;
 - (k) the firm's size in terms of number of traders and front-office, middle-office and back-office staff employed as full-time equivalent;
 - (l) the number of the firm's physical locations;
 - (m) the number of countries and regions in which the firm is undertaking trading activities;
 - (n) the firm's annual earnings and profits.
3. When considering the complexity of its business, an investment firm shall consider the following, where applicable:
- (a) the nature of the strategies carried out by the firm or by its clients, to the extent that these strategies are known by the firm and, in particular, whether these strategies imply algorithms initiating orders related to correlated instruments or on several trading venues or liquidity pools;
 - (b) the firm's algorithms, in terms of coding, inputs upon which the algorithms are reliant, interdependencies, and the rule exceptions contained in the algorithms, or otherwise;
 - (c) the firm's trading systems in terms of diversity of trading systems employed, and the extent to which the firm has control over setting, adjusting, testing, and reviewing its trading systems;
 - (d) the structure of the firm in terms of ownership and governance and its organisational, operational, technical, physical, or geographical set up;
 - (e) the diversity of the firm's connectivity, technology or clearing solutions;
 - (f) the diversity of the firm's physical trading infrastructures;
 - (g) the level of outsourcing undertaken or offered by the firm and in particular where key functions are being outsourced;
 - (h) the firm's provision or usage of DEA, whether it is DMA or sponsored access, and the conditions under which DEA is offered to clients; and,
 - (i) the speed of trading by the firm or its clients.
-

ANNEX II

Content and format of order records as referred to in Article 28

Table 1

Legend for Tables 2 and 3

SYMBOL	DATA TYPE	DEFINITION
{ALPHANUM-n}	Up to n alphanumerical characters	Free text field.
{CURRENCYCODE_3}	3 alphanumerical characters	3 letter currency code, as defined by ISO 4217 currency codes
{DATE_TIME_FORMAT}	ISO 8601 date and time format	Date and time in the following format: YYYY-MM-DDThh:mm:ss.dxxxxxZ. — 'YYYY' is the year; — 'MM' is the month; — 'DD' is the day; — 'T' — means that the letter 'T' shall be used — 'hh' is the hour; — 'mm' is the minute; — 'ss.dxxxxx' is the second and its fraction of a second; — Z is UTC time. Dates and times shall be reported in UTC.
{DECIMAL-n/m}	Decimal number of up to n digits in total of which up to m digits can be fraction digits	Numerical field for both positive and negative values. — decimal separator is '.' (full stop); — negative numbers are prefixed with '-' (minus); — values are rounded and not truncated.
{INTEGER-n}	Integer number of up to n digits in total	Numerical field for both positive and negative integer values.
{ISIN}	12 alphanumerical characters	ISIN code as defined in ISO 6166.
{LEI}	20 alphanumerical characters	Legal entity identifier as defined in ISO 17442.
{MIC}	4 alphanumerical characters	Market identifier as defined in ISO 10383.
{NATIONAL_ID}	35 alphanumerical characters	The identifier is that set out in Article 6 and ANNEX II to [RTS 22 on transaction reporting obligations under Article 26 of Regulation (EU) No 600/2014].

Table 2

Information relating to every initial decision to deal and incoming orders from clients

N.	Field	Description	Standards and Format
1	Client first name(s)	Full first name(s) of the client. Where there is more than one first name, all names shall be included in this field and be separated by a comma. This field shall be left blank in case of coverage by the Legal Entity Identifier (LEI).	{ALPHANUM-140}

N.	Field	Description	Standards and Format
2	Client surname(s)	<p>Full surname(s) of the client. Where there is more than one surname, all surnames shall be included in this field and be separated by a comma.</p> <p>This field shall be left blank in case of coverage by the LEI</p>	{ALPHANUM-140}
3	Client identification code	<p>Code used to identify the client of the investment firm. In case there is DEA, the code of the DEA user shall be used.</p> <p>Where the client is a legal entity, the LEI code of the client shall be used.</p> <p>Where the client is not a legal entity, the {NATIONAL_ID} shall be used.</p> <p>In the case of aggregated orders, the flag AGGR as specified in Article 2(3) of Commission Delegated Regulation (EU) 2017/580 ⁽¹⁾ shall be used.</p> <p>In the case of pending allocations, the flag PNAL as specified in Article 2(2) of Delegated Regulation (EU) 2017/580 shall be used.</p> <p>This field shall be left blank only if the investment firm has no client.</p>	<p>{LEI}</p> <p>{NATIONAL_ID}</p> <p>'AGGR' — aggregated orders</p> <p>'PNAL' — pending allocations</p>
4	Name(s) of person acting on behalf of the client	<p>This field shall contain the full first name(s) of the person acting on behalf of the client.</p> <p>Where there is more than one first name, all names shall be included in this field separated by a comma.</p>	{ALPHANUM-140}
5	Surname(s) of person acting on behalf of the client	<p>This field shall contain the full surname(s) of the person acting on behalf of the client. In case there is more than one surname, all surnames shall be included in this field separated by a comma.</p>	{ALPHANUM-140}
6	Investment decision within firm	<p>Code used to identify the person or the algorithm within the investment firm who is responsible for the investment decision in accordance with Article 8 of Commission Delegated Regulation (EU) 2017/590 ⁽²⁾.</p> <p>Where a natural person was responsible for the investment decision the person who was responsible or had primary responsibility for the investment decision shall be identified with the {NATIONAL_ID}.</p> <p>Where an algorithm was responsible for the investment decision the field shall be populated as set out in Article 8 of Delegated Regulation (EU) 2017/590.</p> <p>This field shall be left blank where the investment decision was not made by a person or an algorithm within the investment firm.</p>	<p>{NATIONAL_ID} — Natural persons</p> <p>{ALPHANUM-50} — Algorithms</p>
7	Initial order designation	<p>Code used to identify the order that was received from the client or generated by the investment firm before the order is processed and submitted to the trading venue or investment firm.</p>	{ALPHANUM-50}
8	Buy-Sell indicator	<p>To show if the order is to buy or sell.</p>	<p>'BUY' — buy</p> <p>'SELL' — sell</p>

N.	Field	Description	Standards and Format
		<p>In case of options and swaptions, the buyer shall be the counterparty that holds the right to exercise the option and the seller shall be the counterparty that sells the option and receives a premium.</p> <p>In case of futures and forwards other than futures and forwards relating to currencies, the buyer shall be the counterparty buying the instrument and the seller the counterparty selling the instrument.</p> <p>In case of swaps relating to securities, the buyer shall be the counterparty that gets the risk of price movement of the underlying security and receives the security amount. The seller shall be the counterparty paying the security amount.</p> <p>In case of swaps related to interest rates or inflation indices, the buyer shall be the counterparty paying the fixed rate. The seller shall be the counterparty receiving the fixed rate. In case of basis swaps (float-to-float interest rate swaps), the buyer shall be the counterparty that pays the spread and the seller the counterparty that receives the spread.</p> <p>In case of swaps and forwards related to currencies and of cross currency swaps, the buyer shall be the counterparty receiving the currency which is first when sorted alphabetically by ISO 4217 standard and the seller shall be the counterparty delivering this currency.</p> <p>In case of swaps related to dividends, the buyer shall be the counterparty receiving the equivalent actual dividend payments. The seller is the counterparty paying the dividend and receiving the fixed rate.</p> <p>In case of derivative instruments for the transfer of credit risk except options and swaptions, the buyer shall be the counterparty buying the protection. The seller is the counterparty selling the protection.</p> <p>In case of derivative contracts related to commodities or emission allowances, the buyer shall be the counterparty that receives the commodity or emission allowance specified in the report and the seller the counterparty delivering this commodity or emission allowance.</p> <p>In case of forward rate agreements, the buyer shall be the counterparty paying the fixed rate and the seller the counterparty receiving the fixed rate.</p> <p>For an increase in notional the buyer shall be the same as the acquirer of the financial instrument in the original transaction and the seller shall be the same as the disposer of the financial instrument in the original transaction.</p> <p>For a decrease in notional the buyer shall be the same as the disposer of the financial instrument in the original transaction and the seller shall be the same as the acquirer of the financial instrument in the original transaction.</p>	
9	Financial instrument identification code	Unique and unambiguous identifier of the financial instrument	{ISIN}

N.	Field	Description	Standards and Format
10	Price	<p>Limit price of the order excluding, where applicable, commission and accrued interest.</p> <p>For stop orders, this shall be the stop price for the order.</p> <p>Where there are option contracts, the price shall be the premium of the derivative contract per underlying or index point.</p> <p>Where there are spread bets, the price shall be the reference price of the direct underlying instrument.</p> <p>For credit default swaps, the price shall be the coupon in basis points.</p> <p>Where the price is reported in monetary terms, the price shall be provided in the major currency unit.</p> <p>Where the price is not applicable, the field shall be populated with the value 'NOAP'.</p> <p>Where the price is currently not available but pending, the value shall be 'PNDG'.</p> <p>Where the agreed price is zero, a price of zero shall be used.</p> <p>Where applicable, values shall not be rounded or truncated.</p>	<p>{DECIMAL-18/13} in case the price is expressed as monetary value.</p> <p>{DECIMAL-11/10} in case the price is expressed as percentage or yield.</p> <p>{DECIMAL-18/17} in case the price is expressed as basis points.</p> <p>'PNDG' in case the price is not available.</p> <p>'NOAP' in case the price is not applicable.</p>
11	Price notation	Indicates whether the price and the strike price are expressed in monetary value, in percentage, in yield or in basis points.	<p>'MONE' — Monetary value</p> <p>'PERC' — Percentage</p> <p>'YIEL' — Yield</p> <p>'BAPO' — Basis points</p>
12	Price multiplier	<p>Number of units of the underlying instruments represented by a single derivative contract.</p> <p>Monetary value covered by a single swap contract, where the quantity field indicates the number of swap contracts in the transaction. For a future or option on an index, the amount per index point.</p> <p>For spreadbets, the movement in the price of the underlying instrument on which the spreadbet is based.</p> <p>The information reported in this field shall be consistent with the values provided in fields 10 and 26.</p>	<p>{DECIMAL- 18/17}</p> <p>'1' — If non-derivative financial instruments not traded by contracts.</p>
13	Price currency	Currency in which the price for the financial instrument related to the order is expressed (applicable where the price is expressed as a monetary value).	{CURRENCYCODE_3}
14	Currency of leg 2	<p>Where there are multi-currency or cross-currency swaps, the currency of leg 2 shall be the currency in which leg 2 of the contract is denominated.</p> <p>For swaptions where the underlying swap is multi-currency, the currency of leg 2 shall be the currency in which leg 2 of the swap is denominated.</p> <p>This field is only applicable to interest rate and currency derivatives contracts.</p>	{CURRENCYCODE_3}

N.	Field	Description	Standards and Format
15	Underlying instrument code	<p>ISIN code of the underlying instrument.</p> <p>For ADRs, GDRs and similar instruments, the {ISIN} of the financial instrument on which the instruments is based.</p> <p>For convertible bonds, the {ISIN} of the instrument into which the bond can be converted.</p> <p>For derivatives or other instruments which have an underlying, the ISIN code for the underlying instrument, where the underlying is admitted to trading, or traded on a trading venue. Where the underlying is a stock dividend, the ISIN code of the related share entitling the underlying dividend.</p> <p>For credit default swaps, the ISIN of the reference obligation shall be provided.</p> <p>In case the underlying is an index and has an ISIN, the ISIN code for that index.</p> <p>Where the underlying is a basket, include all the ISINs for each constituent of the basket that is admitted to trading or is traded on a trading venue. This field shall be repeated as many times as necessary to list all reportable instruments in the basket.</p>	{ISIN}
16	Option type	<p>Indicates whether the derivative contract is a call (right to purchase a specific underlying asset) or a put (right to sell a specific underlying asset) or whether it cannot be determined whether it is a call or a put at the time the order is placed. In case of swaptions it shall be:</p> <ul style="list-style-type: none"> — 'PUTO', in case of receiver swaption, in which the buyer has the right to enter into a swap as a fixed-rate receiver. — 'CALL', in case of payer swaption, in which the buyer has the right to enter into a swap as a fixed-rate payer. <p>In case of caps and floors it shall be:</p> <ul style="list-style-type: none"> — 'PUTO', in case of a floor. — 'CALL', in case of a cap. <p>Field only applies to derivatives that are options or warrants.</p>	<p>'PUTO' — Put</p> <p>'CALL' — Call</p> <p>'OTHR' — where it cannot be determined whether it is a call or a put</p>
17	Strike price	<p>Predetermined price at which the holder will have to buy or sell the underlying instrument or an indication that the price cannot be determined at the time the order is placed.</p> <p>Field only applies to an option or warrant where the strike price can be determined at the time the order is placed.</p> <p>Where the strike price is not applicable, the field shall not be populated.</p>	<p>{DECIMAL-18/13} in case the price is expressed as monetary value.</p> <p>{DECIMAL-11/10} in case the price is expressed as percentage or yield.</p> <p>{DECIMAL-18/17} in case the price is expressed as basis points.</p> <p>'PNDG' in case the price is not available.</p>
18	Strike price currency	Currency of the Strike Price	{CURRENCYCODE_3}

N.	Field	Description	Standards and Format
19	Up-front payment	<p>Monetary value of any up-front payment in basis points of notional received or paid by the seller.</p> <p>Where the seller receives the up-front payment, the value populated shall be positive. Where the seller pays the up-front payment, the value populated shall be negative.</p> <p>For an increase or decrease of notional in derivative contracts, the number shall reflect the absolute value of the change and shall be expressed as a positive number.</p>	{DECIMAL-18/5}
20	Delivery type	<p>Indicates whether the transaction is settled physically or in cash.</p> <p>Where the delivery type cannot be determined at time of order placement, the value shall be 'OPTL'.</p> <p>The field only needs to be populated where there are derivatives.</p>	<p>'PHYS' — Physically settled</p> <p>'CASH' — Cash settled</p> <p>'OPTL' — Optional for counterparty or when determined by a third party.</p>
21	Option exercise style	<p>Indicates whether the option may be exercised only at a fixed date (European and Asian style), a series of pre-specified dates (Bermudan) or at any time during the life of the contract (American style).</p> <p>This field is only applicable for options.</p>	<p>'EURO' — European</p> <p>'AMER' — American</p> <p>'ASIA' — Asian</p> <p>'BERM' — Bermudan</p> <p>'OTHR' — Any other type</p>
22	Maturity date	<p>Date of maturity of the financial instrument.</p> <p>Field is only applicable for debt instruments with a defined maturity date.</p>	{DATEFORMAT}
23	Expiry date	<p>Expiry date of the reported financial instrument.</p> <p>Field is only applicable for derivatives with a defined expiry date.</p>	{DATEFORMAT}
24	Quantity currency	<p>Currency in which the quantity is expressed.</p> <p>Field is only applicable if quantity is expressed as a nominal or monetary value.</p>	{CURRENCYCODE_3}
25	Quantity notation	<p>Indicates whether the quantity reported is expressed as number of units, as a nominal value or as a monetary value.</p>	<p>'UNIT' — Number of units</p> <p>'NOML' — Nominal value</p> <p>'MONE' — Monetary value</p>
26	Initial quantity	<p>The number of units of the financial instrument or the number of derivative contracts in the order.</p> <p>The nominal or monetary value of the financial instrument.</p> <p>For spread bets, the quantity shall be the monetary value wagered per point movement in the underlying financial instrument.</p> <p>For an increase or decrease in notional derivative contracts, the number shall reflect the absolute value of the change and shall be expressed as a positive number.</p> <p>For credit default swaps, the quantity shall be the notional amount for which the protection is acquired or disposed of.</p>	<p>{DECIMAL-18/17} in case the quantity is expressed as number of units.</p> <p>{DECIMAL-18/5} in case the quantity is expressed as monetary or nominal value.</p>

N.	Field	Description	Standards and Format
27	Date and time	The exact date and time of the receipt of the order or the exact date and time when the decision to deal was made. Where applicable, this field shall be maintained in accordance with Article 3 and table 2 in the Annex of Commission Delegated Regulation (EU) 2017/574 ⁽³⁾ .	{DATE_TIME_FORMAT} Where applicable, the number of digits after the 'seconds' shall be determined in accordance with Table 2 in the Annex of Delegated Regulation (EU) 2017/574.
28	Additional information from the client	Any instructions, parameters, conditions and any other details of the order that were transmitted by the client to the investment firm.	Free text

⁽¹⁾ Commission Delegated Regulation (EU) 2017/580 of 24 June 2016 supplementing Regulation (EU) No 600/2014 of the European Parliament and of the Council with regard to regulatory technical standards for the maintenance of relevant data relating to orders in financial instruments (see page 193 of this Official Journal).

⁽²⁾ Commission Delegated Regulation (EU) 2017/590 of 28 July 2016 supplementing Regulation (EU) No 600/2014 of the European Parliament and of the Council with regard to regulatory technical standards for the reporting of transactions to competent authorities (see page 449 of this Official Journal).

⁽³⁾ Commission Delegated Regulation (EU) 2017/574 of 7 June 2016 supplementing Directive 2014/65/EU of the European Parliament and of the Council with regard to regulatory technical standards for the level of accuracy of business clocks (see page 148 of this Official Journal).

Table 3

Information relating to outgoing and executed orders

N.	Field/Content	Description	Format
1	Buy-Sell indicator	Indicates whether the order is to buy or to sell, as determined in the description of field 8 of table 2.	'BUYI' — buy 'SELL' — sell
2	The trading capacity	Indicates whether the order submission results from the member, participant or client of the trading venue is carrying out matched principal trading under Article 4(38) of Directive 2014/65/EU, or is dealing on its own account under Article 4(6) of Directive 2014/65/EU. Where the order submission does not result from the member, participant or client of the trading venue carrying out matched principal trading or dealing on its own account, the field shall indicate that the transaction was carried out under any other capacity.	'DEAL' — Dealing on own account 'MTCH' — Matched principal 'AOTC' — Any other capacity
3	Liquidity provision activity	Indicates whether an order is submitted to a trading venue as part of a market making strategy pursuant to Articles 17 and 48 of Directive 2014/65/EU, or is submitted as part of another activity in accordance with Article 3 of Commission Delegated Regulation (EU) 2017/575. ⁽¹⁾ .	'true' 'false'
4	Execution within firm	Code used to identify the person or algorithm within the investment firm who is responsible for the execution of the transaction resulting from the order in accordance with Article 9 of Delegated Regulation (EU) 2017/590. Where a natural person is responsible for the execution of the transaction, the person shall be identified by {NATIONAL_ID} Where an algorithm is responsible for the execution of the transaction, this field shall be populated in accordance with Article 9 of Delegated Regulation (EU) 2017/590.	{NATIONAL_ID} — Natural persons {ALPHANUM-50} — Algorithms

N.	Field/Content	Description	Format
		<p>Where more than one person or a combination of persons and algorithms are involved in the execution of the transaction, the firm shall determine the trader or algorithm primarily responsible as specified in Article 9 of Delegated Regulation (EU) 2017/590 and populate this field with the identity of that trader or algorithm.</p> <p>This field shall only be applicable for executed orders.</p>	
5	The identification code of the order submitted to the trading venue or to another investment firm	Internal code used by the investment firm to identify the order submitted to the trading venues or to another investment firm, provided that the code is unique per trading day and per financial instrument.	{ALPHANUM-50}
6	The identification code of the order assigned by another investment firm or trading venue to which the order was submitted	An alphanumerical code assigned by another investment firm or the trading venue to which the order was submitted by the investment firm for execution. This field shall be populated with the identification code assigned by the latter investment firm or trading venue.	{ALPHANUM-50}
7	Order receiver identification code	The code of the investment firm to which the order was transmitted or code of the trading venue to which the order was transmitted.	For an investment firm: {LEI} For a trading venue: {MIC}
8	Order type	Identifies the type of order submitted to the trading venue as per the trading venue specifications.	{ALPHANUM-50}
9	Limit price	<p>The maximum price at which a buy order can trade or the minimum price at which a sell order can trade.</p> <p>The spread price for a strategy order. It can be negative or positive.</p> <p>This field shall be left blank in case of orders that do not have a limit price or in case of unpriced orders.</p> <p>In case of a convertible bond, the real price (clean or dirty) used for the order shall be reflected in this field.</p> <p>Where an order is executed, the investment firm shall also record the price at which the transaction was executed.</p>	<p>{DECIMAL-18/13} where the price is expressed as a monetary value.</p> <p>Where a price is reported in monetary terms, it shall be provided in the major currency unit.</p> <p>{DECIMAL-11/10} in case the price is expressed as a percentage or yield.</p> <p>{DECIMAL-18/17} in case the price is expressed as basis points.</p>
10	Price currency	Currency in which the trading price is expressed (applicable where the price is expressed as a monetary value) for the financial instrument related to the order.	{CURRENCYCODE_3}
11	Price notation	Indicates whether the price and strike price are expressed in monetary value, in percentage or in yield or in basis points.	'MONE' — Monetary value 'PERC' — Percentage 'YIEL' — Yield 'BAPO' — Basis points
12	Additional limit price	Any other limit price which may apply to the order. This field shall be left blank if not relevant.	{DECIMAL-18/13} where the price is expressed as a monetary value.

N.	Field/Content	Description	Format
			<p>Where the price is reported in monetary terms, it shall be provided in the major currency unit.</p> <p>{DECIMAL-11/10} where the price is expressed as a percentage or yield.</p> <p>{DECIMAL-18/17} in case the price is expressed as basis points.</p>
13	Stop price	<p>The price that must be reached for the order to become active.</p> <p>For stop orders triggered by events independent of the price of the financial instrument, this field shall be populated with a stop price equal to zero.</p> <p>This field shall be left blank if not relevant.</p>	<p>{DECIMAL-18/13} where the price is expressed as a monetary value.</p> <p>Where the price is reported in monetary terms, it shall be provided in the major currency unit.</p> <p>{DECIMAL-11/10} in case the price is expressed as a percentage or yield.</p> <p>{DECIMAL-18/17} in case the price is expressed as basis points.</p>
14	Pegged limit price	<p>The maximum price at which a pegged order to buy can trade or the minimum price at which a pegged order to sell can trade.</p> <p>This field shall be left blank if not relevant.</p>	<p>{DECIMAL-18/13} where the price is expressed as a monetary value.</p> <p>Where the price is reported in monetary terms, it shall be provided in the major currency unit.</p> <p>{DECIMAL-11/10} where the price is expressed as a percentage or yield.</p> <p>{DECIMAL-18/17} in case the price is expressed as basis points.</p>
15	Remaining quantity including hidden	<p>The total quantity that remains in the order book after a partial execution or in the case of any other event affecting the order.</p> <p>On a partial fill order event, this shall be the total remaining volume after that partial execution. On an order entry this shall equal the initial quantity.</p>	<p>{DECIMAL-18/17} where the quantity is expressed as a number of units.</p> <p>{DECIMAL-18/5} where the quantity is expressed as a monetary or nominal value.</p>
16	Displayed quantity	<p>The quantity that is visible (as opposed to hidden) in the order book.</p>	<p>{DECIMAL-18/17} where the quantity is expressed as a number of units.</p> <p>{DECIMAL-18/5} where the quantity is expressed as a monetary or nominal value.</p>
17	Traded quantity	<p>Where there is a partial or full execution, this field shall be populated with the executed quantity.</p>	<p>{DECIMAL-18/17} where the quantity is expressed as a number of units.</p> <p>{DECIMAL-18/5} where the quantity is expressed as a monetary or nominal value.</p>

N.	Field/Content	Description	Format
18	Minimum acceptable quantity (MAQ)	<p>The minimum acceptable quantity for an order to be filled which can consist of multiple partial executions and is normally only for non-persistent order types.</p> <p>This field shall be left blank if not relevant.</p>	<p>{DECIMAL-18/17} where the quantity is expressed as a number of units.</p> <p>{DECIMAL-18/5} where the quantity is expressed as a monetary or nominal value.</p>
19	Minimum executable size (MES)	<p>The minimum execution size of any individual potential execution.</p> <p>This field shall be left blank if not relevant.</p>	<p>{DECIMAL-18/17} where the quantity is expressed as a number of units.</p> <p>{DECIMAL-18/5} where the quantity is expressed as a monetary or nominal value.</p>
20	MES first execution only	<p>Specifies whether the MES is relevant only for the first execution.</p> <p>This field can be left blank where field 19 is left blank.</p>	<p>'true'</p> <p>'false'</p>
21	Passive only indicator	<p>Indicates if the order is submitted to the trading venue with a characteristic/flag such that the order shall not immediately execute against any contra visible orders.</p>	<p>'true'</p> <p>'false'</p>
22	Self-Execution Prevention	<p>Indicates whether the order has been entered with self-execution prevention criteria, so that it would not execute with an order on the opposite side of the book entered by the same member or participant.</p>	<p>'true'</p> <p>'false'</p>
23	Date and time (submission of order)	<p>The exact date and time of the submission of an order to the trading venue or to another investment firm.</p>	<p>{DATE_TIME_FORMAT}</p> <p>The number of digits after the 'seconds' shall be determined in accordance with Table 2 in the Annex of Delegated Regulation (EU) 2017/574.</p>
24	Date and time (receipt of order)	<p>The exact date and time of any message that is transmitted to and received from the trading venue or other investment firm in relation to the order.</p>	<p>{DATE_TIME_FORMAT}</p> <p>The number of digits after the 'seconds' shall be determined in accordance with Table 2 in the Annex of Delegated Regulation (EU) 2017/574</p>
25	Sequence number	<p>Every event listed in field 26 shall be identified by the investment firm, using positive integers in ascending order.</p> <p>The sequence number shall be unique to each type of event, consistent across all events, timestamped by the investment firm and persistent for the date that the event occurs.</p>	<p>{INTEGER-50}</p>
26	New order, order modification, order cancellation, order rejections, partial or full execution	<p>New order: receipt of a new order by the operator of the trading venue.</p> <p>Triggered: an order which becomes executable or, as the case may be, non-executable upon the realisation of a pre-determined condition.</p>	<p>'NEWO' — New order</p> <p>'TRIG' — Triggered</p>

N.	Field/Content	Description	Format
		<p>Replaced by the member, participant or client of the trading venue: where a member, participant or client of the trading venue decides upon its own initiative to change any characteristic of the order it has previously entered into the order book.</p> <p>Replaced by market operations (automatic): where any characteristic of an order is changed by the trading venue operator's IT systems. This includes where a peg order's or a trailing stop order's current characteristics are changed to reflect how the order is located within the order book.</p> <p>Replaced by market operations (human intervention): where any characteristic of an order is changed by a trading venue operator's staff. This includes the situation where a member, participant or client of the trading venue has IT issues and needs its orders to be cancelled urgently.</p> <p>Change of status at the initiative of the member, participant or client of the trading venue. This includes activation and deactivation.</p> <p>Change of status due to market operations.</p> <p>Cancelled at the initiative of the member, participant or client of the trading venue.</p> <p>Cancelled by market operations. This includes a protection mechanism provided for investment firms engaging in algorithmic trading to pursue a market making strategy as laid down in Articles 17 and 48 of Directive 2014/65/EU.</p> <p>Rejected order: an order received but rejected by the operator of the trading venue.</p> <p>Expired order. where the order is removed from the order book upon the end of its validity period.</p> <p>Partially filled: where the order is not fully executed so that there remains a quantity to be executed.</p> <p>Filled: where there is no more quantity to be executed.</p>	<p>'REME' — Replaced by the member or participant or client of the trading venue.</p> <p>'REMA' — Replaced by market operations (automatic).</p> <p>'REMH' — Replaced by market operations (human intervention).</p> <p>'CHME' — Change of status at the initiative of the member/participant/client of the trading venue.</p> <p>'CHMO' — Change of status due to market operations.</p> <p>'CAME' — Cancelled at the initiative of the member or participant or client of the trading venue.</p> <p>'CAMO' -Cancelled by market operations.</p> <p>'REMO' — Rejected order</p> <p>'EXPI' — Expired order</p> <p>'PARF' — Partially filled</p> <p>'FILL' — Filled {ALPHANUM-4} characters not already in use for the trading venue's own classification.</p>
27	Short selling indicator	<p>A short sale concluded by an investment firm on its own behalf or on behalf of a client, as described in Article 11 of Delegated Regulation (EU) 2017/590.</p> <p>When an investment firm executes a transaction on behalf of a client who is selling and the investment firm, acting on a best effort basis, cannot determine whether it is a short sale transaction, this field shall be populated with 'UNDI'.</p> <p>Where the transaction is for a transmitted order that has met the conditions for transmission set out in Article 4 of Delegated Regulation (EU) 2017/590, this field shall be populated by the receiving firm in the receiving firm's report using the information received from the transmitting firm.</p>	<p>'SSHO' — Short sale with no exemption</p> <p>'SSEX' — Short sale with exemption</p> <p>'SELL' — No short sale</p> <p>'UNDI' — Information not available</p>

N.	Field/Content	Description	Format
		<p>This field is only applicable where the instrument is covered by Regulation (EU) No 236/2012 of the European Parliament and of the Council (?) and the seller is the investment firm or a client of the investment firm.</p> <p>This field is only applicable in case of executed orders.</p>	
28	Waiver indicator	<p>Indicates whether the transaction was executed under a pre-trade waiver in accordance with Articles 4 and 9 of Regulation (EU) No 600/2014.</p> <p>For equity instruments:</p> <p>‘RFPT’ = Reference price transaction</p> <p>‘NLIQ’ = Negotiated transactions in liquid financial instruments</p> <p>‘OILQ’ = Negotiated transactions in illiquid financial instruments</p> <p>‘PRIC’ = Negotiated transactions subject to conditions other than the current market price of that equity financial instrument.</p> <p>For non-equity instruments:</p> <p>‘SIZE’ = Above specific size transaction</p> <p>‘ILQD’ = Illiquid instrument transaction</p> <p>This field is only applicable where there are orders that were executed under a waiver on a trading venue.</p>	<p>Populate one or more of the following flags:</p> <p>‘RFPT’ — Reference price</p> <p>‘NLIQ’ — Negotiated (liquid)</p> <p>‘OILQ’ — Negotiated (illiquid)</p> <p>‘PRIC’ — Negotiated (conditions)</p> <p>‘SIZE’ — Above specified size</p> <p>‘ILQD’ — Illiquid instrument</p>
29	Routing Strategy	<p>The applicable routing strategy as per the trading venue specification.</p> <p>This field shall be left blank if not relevant.</p>	{ALPHANUM-50}
30	Trading venue transaction identification code	<p>Alphanumerical code assigned by the trading venue to the transaction pursuant to Article 12 of Delegated Regulation (EU) 2017/575.</p> <p>This field is only applicable where there are orders that were executed on a trading venue.</p>	{ALPHANUM-52}
31	Validity period	<p>Good-For-Day: the order expires at the end of the trading day on which it was entered in the order book.</p> <p>Good-Till-Cancelled: the order will remain active in the order book and be executable until it is actually cancelled.</p> <p>Good-Till-Time: the order expires at the latest at a pre-determined time within the current trading session.</p> <p>Good-Till-Date: the order expires at the end of a specified date.</p> <p>Good-Till-Specified Date and Time: the order expires at a specified date and time.</p> <p>Good After Time: the order is only active after a pre-determined time within the current trading session.</p>	<p>‘GDAY’ — Good-For-Day</p> <p>‘GTCA’ — Good-Till-Cancelled</p> <p>‘GTHT’ — Good-Till-Time</p> <p>‘GTHD’ — Good-Till-Date</p> <p>‘GTDT’ — Good-Till-Specified Date and Time</p> <p>‘GAFT’ — Good After Time</p>

N.	Field/Content	Description	Format
		<p>Good After Date: the order is only active from the beginning of a pre-determined date.</p> <p>Good After Specified Date and Time: the order is only active from a pre-determined time on a pre-determined date.</p> <p>Immediate-Or-Cancel: an order which is executed upon its entering into the order book (for the quantity that can be executed) and which does not remain in the order book for the remaining quantity (if any) that has not been executed.</p> <p>Fill-Or-Kill: an order which is executed upon its entering into the order book provided that it can be fully filled: In the event the order can only be partially executed, then it is automatically rejected and cannot therefore be executed.</p> <p>Other: any additional indications that are unique for specific business models, trading platforms or systems.</p>	<p>'GAFD' — Good After Date</p> <p>'GADT' — Good After Specified Date and Time</p> <p>'IOCA' — Immediate-Or-Cancel</p> <p>'F' — Fill-Or-Kill or {ALPHANUM-4} characters not already in use for the trading venue's own classification.</p>
32	Order restriction	<p>Good For Closing Price Crossing Session: where an order qualifies for the closing price crossing session.</p> <p>Valid For Auction: the order is only active and can only be executed at auction phases (which can be pre-defined by the member, participant or client of the trading venue who submitted the order, e.g. opening and/or closing auctions and/or intraday auction).</p> <p>Valid For Continuous Trading only: the order is only active during continuous trading.</p> <p>Other: any additional indications that are unique for specific business models, trading platforms or systems.</p>	<p>'SESr' — Good For Closing Price Crossing Session</p> <p>'VFAR' — Valid For Auction</p> <p>'VFCR' — Valid For Continuous Trading only</p> <p>{ALPHANUM-4} characters not already in use for the trading venue's own classification.</p> <p>This field shall be populated with multiple flags separated by a comma where there are multiple types applicable.</p>
33	Validity period date and time	<p>This refers to the time stamp reflecting the time on which the order becomes active or is ultimately removed from the order book.</p> <p>Good for day: the date of entry with the timestamp immediately prior to midnight.</p> <p>Good till time: the date of entry and the time to that specified in the order.</p> <p>Good till date: the specified date of expiry with the timestamp immediately prior to midnight.</p> <p>Good till specified date and time: the specified date and time of expiry</p> <p>Good after time: the date of entry and the specified time at which the order becomes active.</p>	<p>{DATE_TIME_FORMAT}</p> <p>The number of digits after the 'seconds' shall be determined in accordance with Table 2 in the Annex of Delegated Regulation (EU) 2017/574.</p>

N.	Field/Content	Description	Format
		<p>Good after date: the specified date with the timestamp immediately after midnight.</p> <p>Good after specified date and time: Default will be the specified date and time at which the order becomes active.</p> <p>Good till Cancel: the ultimate date and time the order is automatically removed by market operations</p> <p>Other: timestamp for any additional validity type.</p>	
34	Aggregated order	Indicates whether the order is an aggregated order in accordance with Article 2(3) of Delegated Regulation (EU) 2017/575.	'true' 'false'
35	Additional information relating to the outgoing order	<p>Any instructions, parameters, conditions and any other details of the order that are:</p> <p>transmitted by the investment firm to the trading venue and in particular those instructions, parameters, conditions and details which are necessary for the trading venue to have a clear understanding of how the order has to be handled by it; or</p> <p>transmitted by the trading venue to the investment firm and in particular those instructions, parameters, conditions and details which are necessary for the investment firm to have a clear feedback information on how the order has been handled.</p>	Free text

(¹) Commission Delegated Regulation (EU) 2017/575 of 8 June 2016 supplementing Directive 2014/65/EU of the European Parliament and of the Council on markets in financial instruments with regard to regulatory technical standards concerning the data to be published by execution venues on the quality of execution of transactions (see page 152 of this Official Journal).

(²) Regulation (EU) No 236/2012 of the European Parliament and of the Council of 14 March 2012 on short selling and certain aspects of credit default swaps (OJ L 86, 24.3.2012, p. 1).