

ORDER EXECUTION POLICY

CASH EQUITIES

PURPOSE

This Order Execution Policy (“Policy”) provides information to Clients of Cowen Execution Services Limited (“CESL”) on the arrangements implemented by CESL to ensure that it obtains the best possible result when executing orders for its Clients.

The Markets in Financial Instruments Directive 2014/65/EU (“MiFID II”) and associated texts set out the governing requirements for order-execution. The UK’s implementation of MiFID II, overseen by the Financial Conduct Authority (“FCA”), is contained in the Conduct of Business Sourcebook (“COBS”) and requires CESL to establish and implement a policy to ensure that it takes all sufficient steps to obtain the best possible result when executing client orders.

This Policy contains the following main sections:

- **SCOPE OF POLICY**
- **WHAT IS BEST EXECUTION?**
- **SCOPE OF BEST EXECUTION**
- **THE BEST EXECUTION FACTORS AND BEST EXECUTION CRITERIA**
- **CESL’S APPLICATION OF “ALL SUFFICIENT STEPS”**
- **EXECUTION MODEL AND VENUES**
- **EXECUTION SOLUTIONS**
- **ORDER AGGREGATION AND ALLOCATION**
- **MONITORING AND GOVERNANCE**
- **COMMUNICATION WITH CLIENTS**
- **FEES AND COMMISSION**
- **CONSENT**
- **UPDATES TO THIS POLICY**
- **ANNEX 1 EXECUTION VENUES**

SCOPE OF POLICY

This Policy includes: information on the financial instruments CESL is authorised to trade in by the FCA, information on the different venues where CESL executes its Clients' orders, and the factors affecting its choice of execution venue. CESL utilises a number of different execution strategies, execution types and venues in order to deliver best execution for Clients.

CESL is required to obtain the Client's prior consent to this Policy. The Client's consent to the Policy and all its terms and conditions will be deemed to be given when it places its first Order with CESL after the date of receipt of this Policy. Consent to this Policy will be deemed to be renewed with each Order placed with CESL.

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Clients may make reasonable and proportionate requests for information about policies and arrangements in respect of order execution. Where the request is deemed reasonable and proportionate CESL will make reasonable endeavours to answer clearly and in a timely manner.

Definitions and Application

For the purposes of this Policy:

- Financial instruments are transferable securities admitted to trading on a trading venue, such as equities and exchange traded funds ("ETF").
- Execution venues include Regulated Markets ("RM"), Multilateral Trading Facilities ("MTF"), Organised Trading Facilities ("OTF"), Systematic Internalisers ("SI"), market makers, interdealer brokers, liquidity providers, third country MIFID II equivalent venues and other execution venues globally.

This Policy applies to the provision of services by CESL to its Professional Clients. This Policy does not apply to Eligible Counterparties (whether *per se* or elective) as defined in the FCA's Handbook under COBS section 3, Client Classification.

In addition, the Policy does not apply to Retail Customers, as CESL is unable to and will not deal with or for Retail Customers as defined by COBS section 3.

If a Client to whom CESL owes a best execution obligation is acting on behalf of its own customers, CESL (unless otherwise agreed in advance) will only owe best execution to the Client with whom it has a direct relationship, and not to the customers of CESL's Client.

WHAT IS BEST EXECUTION

Best Execution is the duty that CESL owes to its Clients to take all sufficient steps to obtain the best possible result when executing orders, or transmitting orders for execution, on their behalf, taking into consideration the “**Execution Factors**”, which include:

- price;
- cost (implicit and explicit);
- speed;
- likelihood of execution and settlement;
- size;
- nature of the order; and
- any other consideration relevant to the execution of the order on behalf of a Client.

Execution Factors will be considered in light of the Execution Criteria, and their relative weighting assessed against a wide range of elements that could influence the outcome of the execution. The assessment of these considerations will determine the appropriate interaction with the market.

SCOPE OF BEST EXECUTION

Legitimate reliance

CESL has a duty of best execution to a Client when the Client legitimately relies on CESL in relation to a given order. If it is determined that the Client is not placing legitimate reliance on CESL then CESL will not have a regulatory obligation to provide best execution.

When considering whether a Client is placing “legitimate reliance” on CESL in relation to a specific instruction, CESL will take account of relevant UK and European guidance and apply the cumulative “four-fold test”, published by the European Commission and adopted by the FCA:

- (i) which party has initiated the transaction – where the Client initiates a transaction it is less likely that legitimate reliance is being placed on CESL. Where CESL provides the Client with any indications on pricing or trade ideas CESL does not deem this to be the Client initiating the transaction;
- (ii) whether there is a market convention to ‘shop around’ – if the Client pitches CESL’s price in the same instrument against other brokers there is no expectation between the parties that the broker chosen by the Client will owe best execution;

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(iii) the relative levels of transparency within a market - if the Client has ready access to prices in the market, then it is less likely reliance is being placed on CESL; and

(iv) the information provided by CESL and any agreement reached – where the arrangements and agreements with the Client (including this Policy) do not indicate or suggest a relationship of reliance then a determination of legitimate reliance is less likely.

Where appropriate, after a consideration of all the relevant factors it may be concluded that Clients are in fact placing legitimate reliance on CESL. This determination is regardless of whether CESL acts as agent, or trades with its Clients on a riskless principal basis, or a matched or unmatched principal basis; however in these scenarios it will be apparent where Clients are relying on CESL to protect their interests.

Client's specific instructions

Where CESL receives specific instructions from a Client in relation to every (or any) aspect of an order, such that CESL has no (or limited) discretion over how an order is executed, CESL will execute the order in accordance with such instruction. By doing so CESL will satisfy any obligation it has to provide best execution in relation to the order or the aspect(s) of the order in relation to which a specific instruction has been received, however this may prevent CESL from taking all sufficient steps to obtain the best possible result for the Client.

THE BEST EXECUTION CRITERIA AND BEST EXECUTION FACTORS

Where it is under the obligation to do so, CESL will take all sufficient steps to ensure that best execution is provided in line with this Policy and applicable regulations.

CESL will take into account the Execution Factors detailed below with respect to any order to which best execution requirements apply.

Orders may be subject to all Execution Factors, but the relative importance of each factor is determined by the Execution Criteria, which are the:

- characteristics of the Client;
- characteristics of the order (including where the order involves a securities financing transaction);
- financial instrument characteristics;
- characteristics of the execution venue or market;
- market impact;
- quality of execution;
- Client Instructions.

The assessment of the Execution Criteria will determine the relative importance of the prescribed Best Execution Factors, which are listed below:

- price and costs;
- order typology (nature of the order);

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- speed of execution;
- the size of the order;
- likelihood of execution and settlement;
- access to trading venues to which the order can be directed;
- whether CESL is taking on any of the risk associated with the Client's order; and
- other Client orders.

Consideration of the Execution Factors

CESL will apply the Execution Factors to each order so as to obtain the best possible results for the Client. The below table shows how the Execution Factors may be considered as part of the decision-making process in the context of the above Execution Factors.

Execution Factor	Consideration
Price of execution	In the absence of a Client's instruction or other overriding factor, as a matter of policy, when executing Client orders first priority is normally given to obtaining the best available price.
Nature of order	This determines how an order is routed, whether to multiple trading venues or a single venue, for example if a Client requests minimum market impact and opts for dark pool execution only.
Speed of execution	Latency per broker/per market is measured by reviewing the time interval between an order being received by CESL and its execution, as well as the latency between an order being received by the executing broker/venue and its execution. The probability that orders may not be filled within a given time period is considered.
Likelihood of execution	Likelihood of execution by a given broker/on a given venue is part of the order routing decision process. Depth of liquidity in a market will affect the likelihood of a given order being executed, and the timescale of execution.
Likelihood of settlement	Settlement performance of counterparties is reviewed as part of daily failed trade monitoring. A lack of liquidity in the market is also an indicator of whether settlement failures could occur.
Size of the order	Along with price, liquidity, nature and speed, size of order influences the opportunity to trade. Large orders in illiquid markets will require more internal skill and knowledge to achieve best execution.
Cost of execution	CESL's Clients are charged a pre-agreed commission rate so that they are not directly exposed to variation in costs for execution that CESL may incur due to participation on a particular venue.
Other relevant considerations	This may include Client specific instructions, certain corporate action events, regular auctions or Client crossing situations.

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The relative importance of each Execution Factor is determined by the Execution Criteria and the assessment of these considerations will determine the appropriate interaction with the market.

CESL will take into account the Execution Factors and Execution Criteria both when CESL is executing orders directly on a Client's behalf and where the Client has made its own execution decision(s).

CESL'S APPLICATION OF "ALL SUFFICIENT STEPS"

MiFID II Article 27(1) defines best execution as the obligation on firms to *"take all sufficient steps to obtain the best possible result for their Clients..."*

CESL cannot guarantee that it will always be able to provide best execution of every order CESL transmits or executes on behalf of its Clients.

CESL's approach is focused on achieving the best possible overall results on a consistent basis, and not necessarily the best price for each individual order.

CESL applies order handling processes that aim to achieve the best possible result for the Client. In particular it will ensure that orders are handled promptly and sequentially when applicable. The process for aggregation and allocation is summarised below.

CESL takes "all sufficient steps" to achieve the best possible results for its Clients by verifying that CESL's execution arrangements work well throughout different stages of the order execution process. This includes execution arrangements to ensure intended outcomes can be successfully achieved on an on-going basis. For instance, this involves front-office accountability and systems and controls with the aim to identify any potential deficiencies. This also includes taking sufficient steps to ensure the third party brokers that CESL uses for onward routing have the necessary arrangements in place to allow CESL to comply with its Order Execution Policy, taking into account the aforementioned Execution Criteria and Execution Factors.

CESL has identified a three-step process for designing and maintaining infrastructure that enables it to deliver best execution for Clients:

- **Design:** The design process is an ongoing process involving the continual updating of arrangements made by CESL to deliver the best possible outcome for its Clients. CESL seamlessly combines its own proprietary technology with that of its preferred execution partners to help Clients achieve their performance goals through access to all material pools of liquidity in a given market. The electronic trading tools are designed to increase flexibility while addressing cost, timing, performance, transparency, and market structure requirements. The execution model is reviewed and approved by the relevant governance functions and captured in this Policy.

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- **Implementation:** The approved execution arrangements are implemented using proprietary technology and execution partnerships are then subjected to an ongoing review process. CESL reviews executions provided to Clients through its transaction analysis tools, management oversight, independent Compliance function and Governance structure to ensure that these have been undertaken in accordance with this Policy and reasonably achieve the intended outcome.
- **Updating:** Any issues arising from the ongoing review process and/or monitoring of market structure developments are escalated and incorporated in the design process.

EXECUTION MODEL AND VENUES

CESL has access to over 100 markets around the globe. It connects to venues in three ways:

- through its relationships with third party executing brokers;
- through its relationships with other Cowen, Inc. group entities (together the “Affiliates”); and
- as a direct member of an exchange or other type of regulated market.

CESL is not registered as a Systematic Internaliser (“SI”) in any financial instrument.

CESL does not offer Direct Electronic Access (Direct Market Access or Sponsored Access) as defined by MiFID.

CESL’s execution models/solutions include:

- (i) ‘Low Touch’ - Client Driven Execution / Electronic Trading;
- (ii) ‘High Touch’ - Trader Assisted Execution;
- (iii) Program Trading (“PT”); and
- (iv) Request for Quote (“RFQ”).

In connecting to international trading venues CESL uses advanced technology and a broad range of solutions to access diverse sources of liquidity in order to deliver consistent and performance-driven results.

For executions in US, Canadian, South American or Central American markets CESL routes orders to its Affiliate Companies and the Affiliates will generally execute such orders directly on US based execution venues. This is done on the basis that CESL may leverage existing group company arrangements, economies of scale and quick access to local skills and knowledge of the markets

For execution outside of the aforementioned markets, CESL’s Client orders are handled in one of two ways:

- routing through CESL’s relationships with third party executing brokers;
- executing with CESL directly.

CESL regularly evaluates the execution quality of the venues used when executing its Client orders.

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CESL's choice of execution venue may be constrained by the fact that there may be only one venue where an order can reasonably be executed due to the nature of the Client's order or requirements.

If the Client has provided prior express consent, its orders may be executed outside a Trading Venue. Generally, CESL will ask Clients to sign up to this consent concerning all of their trading with CESL when it onboards Clients, however express consent can also be obtained on a trade-by-trade basis.

CESL will not unfairly discriminate between Trading Venues or third-party brokers but may make a decision on Trading Venue selection in consideration of the Execution Factors. When executing outside a trading venue CESL may be subject to increased counterparty risk, which in itself could lead to a failed trade.

All Client order routing is subject to pre-trade risk controls, and these will always override Client instructions. Any breach of pre-determined risk checks will result in the order being prevented from routing to market and/or rejected back to the Client.

The execution solutions adopted under the above execution model are described below in Section "EXECUTION SOLUTIONS".

The execution venues used to execute Client orders in respect of the Cash Equities are available in Annex 1.

EXECUTION SOLUTIONS

Through its relationships with bulge bracket regulated brokers and Affiliates CESL has access to an extensive number of trading venues globally that it would not have access to by itself.

When selecting a new broker CESL's considerations include, market access, the ability to provide post trade transparency and that the broker has the necessary arrangements in place to allow CESL to comply with this Policy.

Client orders may pass through CESL's Smart Order Router ("SOR") and, when requested by Clients, an algorithmic trading strategy may be applied. Client orders will then pass through SORs and where relevant algorithms provided by CESL's brokers for onward distribution to the relevant trading venue.

In instances when Client orders are executed with entities not subject to MiFID II, the Client order would typically include instruments not listed on MiFID exchanges and would require the skills and knowledge of CESL staff and systems to exercise discretion when executing these Client orders. Further, CESL performs due diligence when onboarding new brokers to ensure they satisfy the standards required by the local regulator. Ongoing and periodic monitoring is also performed to ensure standards are maintained. These due diligence and monitoring arrangements assist CESL in mitigating any potential or actual conflicts of interest that might arise in the selection of trading venues.

Outside the European Economic Area ("EEA"), Asia, Middle East and Africa CESL's Affiliates are members of all major U.S. equities exchanges and route to alternative trading systems.

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Across all its solutions CESL has implemented a number of technologies including order management systems, low latency systems, algorithms, SOR logic and allocation systems.

CESL offers the following execution models / solutions:

1. 'Low Touch' - Client Driven Execution / Electronic Trading

In this execution model an electronic order received from a Client is routed to an execution venue(s) automatically in accordance with the Client's instructions and does not require 'manual intervention' by CESL. Unless specifically requested otherwise, CESL will act in an agency capacity for all "low touch" trading activities.

CESL's algorithms are used solely by its Clients, and some algorithmic strategies may be tailored to Clients' needs to ensure the strategies adhere to the Client's instructions. However, if a specific client instruction is received in respect of part of an order, then CESL will be considered to have fulfilled its best execution obligations if it follows those instructions in respect of that part of the order.

Clients may opt out of SOR execution support by providing prior written notice to CESL. Whilst in these cases CESL will use its skills and judgement in executing the order, increased verbal and written communications with the client and market may cause delays in execution, and so may limit CESL's ability to deliver best execution in respect of this aspect of the order.

2. 'High Touch' - Trader Assisted Execution

The High Touch model is available to Clients who require execution expertise from CESL's trading desk to work an order and actively seek liquidity.

In addition to trading on behalf of a Client in an agency capacity, in illiquid markets and/or to execute a Client order immediately, CESL may execute orders from its own book, in a principal capacity. The use of principal risk capital is entirely at the discretion of CESL's trading desk and is not guaranteed.

Subject to any Client instructions, CESL's trading desk will review the order characteristics and determine how to execute in consideration of broker relationships, algorithmic strategies and other client orders. When clients leave Worked Orders with CESL, orders are executed at the discretion of CESL's trading desk.

As with the Low Touch model the High Touch model provides access to a specific execution venue, or multiple execution venues, Cowen's SOR or third-party smart order routing solutions. Executions will be exercised in accordance with due consideration of the Execution Factors and Execution Criteria.

The Execution Factors are always a consideration, however legitimate reliance may fall away when, as referenced above, following a Client request, the High Touch trading desk commits CESL's capital (principal risk capital) to provide its best price and when working a Client's Block trade.

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3. Program Trading (“PT”)

PT may be an operational and cost-efficient method to execute a list of securities under a single instruction. When trading in multiple securities for one Client at the same time, a PT trade can be an alternative efficient solution.

Where CESL executes a PT trade on behalf of a Client, CESL will take all sufficient steps to obtain the best possible outcome in relation to the entire portfolio rather than in relation to each individual transaction within the portfolio.

At its discretion and in consideration of the Execution Factors, CESL may remove trades from a program basket to be worked as single orders. The instrument characteristics of the removed trades may differ from the remaining basket, for example the lot size may be small, or the liquidity profile may require review of multiple market making quotes. Further, program trades may be aggregated with other Client orders being worked from the low touch desk. Order aggregation and allocation is discussed further below.

4. Dealing on a request for quote (“RFQ”)

Clients may submit orders to CESL on an RFQ basis. Since a price will be agreed before an order is executed, there is no reliance with regard to the quality of execution.

Venue and broker selection are subject to continuous monitoring as described below under the monitoring and governance section. The CESL venue offering is significant, but additional venues may be selected based on customer demand or where CESL sees potential for improvement in its Best Execution solution.

The current list of cash equity trading venues used to execute Client orders is available in Annex 1. This list is subject to periodic revision.

ORDER AGGREGATION AND ALLOCATION

The Client agrees that, under applicable rules, CESL is permitted to aggregate the Client’s orders with orders from other Clients if the aggregation works to the overall advantage of the Clients whose orders are to be aggregated. Although aggregation is undertaken with a view to achieving the best possible result for all Clients, occasionally the effect of aggregation may work to Clients’ disadvantage in relation to a particular order or orders. CESL’s policy is to aggregate Clients’ orders when CESL believes it will result in a favourable execution result for the Client.

Where orders are aggregated, the price of the executed trades are allocated to Clients on a pro rata basis, meaning all Clients receive the same average price. If the entire order cannot be filled, each Client will receive an allocation proportionate to its participation in the aggregated order. In either case, CESL will always ensure that orders are allocated fairly across Client accounts and preference is not given to one Client over another.

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MONITORING AND GOVERNANCE

CESL monitors on a regular basis the effectiveness and application of this Policy. Where appropriate CESL will correct any deficiencies identified as part of this monitoring. CESL evaluates trading execution quality obtained on a periodic ex-ante basis and considers alternative methods designed to improve the execution process, taking account of a wide variety of Execution Factors (as noted above). Generally, the CESL monitoring process will focus on the outcomes that have been achieved for Clients and whether these are consistently giving Clients the best outcome they could have had, depending on the relevant assessment criteria.

In order to compare, analyse and draw conclusions from detailed monitoring of quality of execution obtained by brokers and on execution venues CESL has identified the following review framework.

Algorithmic monitoring

Orders that are executed algorithmically are subject to monitoring by CESL's algo team which has full visibility of algorithmic orders, on both a real-time and a historical basis. As applicable, order executions which fall outside designated tolerances are investigated by CESL or its Affiliate's dedicated 'algo-team'. Orders that deviate from prescribed limits (for example that may indicate a fat finger error when entering a limit price) are rejected before they are sent for execution.

Front office monitoring

CESL monitors execution quality obtained by execution entities and on execution venues as close to real time as possible. Based on order handling reports, this monitoring includes reviewing child execution slippage from applicable benchmarks, latency and other reference points. As applicable, order executions which fall outside designated parameters are investigated and escalated by CESL's trading desk and by CESL's Compliance function.

Where requested by a Client, CESL will demonstrate that the execution of a Client's order has been undertaken in accordance with this Policy. However, demonstrating best execution will not necessarily involve a transaction-by-transaction analysis, but may involve an assessment of a series of transactions executed over a period, thus demonstrating that, overall, the best result was achieved in accordance with this Policy.

Compliance oversight

CESL's Compliance function oversees the monitoring of trading activity that is executed by the front office and acts as the second line of defence in reviewing conclusions reached by the front office. CESL's Compliance function is responsible for overseeing CESL's best execution governance arrangements.

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Best Execution Committee

CESL's Best Execution Committee is responsible for the oversight of CESL's overall business activities as it relates to fulfilling its best execution duty, and to evaluate regularly and rigorously the quality of executions by CESL.

The Best Execution Committee is also responsible for the oversight and selection of suitable third-party executing brokers to be added to CESL's broker list.

The Best Execution Committee is comprised of designated senior personnel of CESL and its Affiliates. Among other things, the Best Execution Committee reviews best execution matters escalated by trading desk personnel and the Compliance function.

The Best Execution Committee reviews order execution quality obtained by execution entities (i.e. third-party executing brokers) through their participation in different venues. The Best Execution Committee also assists in reviewing best execution policies and reviewing best execution measures carried out by third party brokers.

The reviews include execution practices whenever a material change occurs that could affect CESL's ability to continue to satisfy its best execution duty. The review is an overall assessment of whether the execution policies and arrangements include all sufficient steps that CESL could take to obtain best execution. CESL undertakes tests to determine whether it could consistently obtain improved execution results if it were to:

- include additional or different execution venues or entities;
- assign a different relative importance to the best Execution Factors; and/or
- modify any other aspects of its applicable policies and/or arrangements.

COMMUNICATION WITH CLIENTS

If a Client is connected electronically, though FIX for instance, it can elect to receive automated real-time execution updates. If the Client is not connected electronically, the relevant CESL trader may provide manual updates (for example, via Bloomberg IB chat/message or voice). These updates may contain the standard trade information including the volume traded, price traded, direction, instrument identifier and market identification code ("MIC") of where the instrument was traded.

Where a Client wishes to query the execution of one or more orders, they may ask CESL to demonstrate its adherence to this policy.

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FEES AND COMMISSION

Client fees and commissions are pre-agreed through a standard rate card per market. These fees and commissions are applied on a fair, reasonable and justifiable basis taking into consideration a number of factors influencing the cost and resource limitations. Since fees and commissions are pre-agreed, Clients are not directly exposed to variations in costs for execution that CESL may incur due to participation on a particular venue or other costs that may be 'passed on' by the execution entities.

Block trades in illiquid markets carry a different pricing structure, since these trades take more time to execute, a price for execution will be agreed on a trade-by-trade basis prior to CESL accepting the order.

CESL does not receive any remuneration, discount or non-monetary benefit from any Client, third-party broker or execution venue for routing Client orders to a particular trading venue. The charging structure to clients is designed such that there is no unfair discrimination during venue selection for execution. To confirm, CESL does not support Payment for Order Flow ("PFOF") or any other inducement which conflicts with its duty of acting fairly to Clients.

CONSENT

CESL is required to obtain the Client's prior consent to this Policy. The Client's consent to the Policy and all its terms and conditions will be deemed to be given when it places its first Order with CESL after the date of receipt of this Policy. Consent to this Policy will be deemed to be renewed with each Order placed with CESL.

UPDATES TO THIS POLICY

This Policy is published on the Cowen website and can be accessed via the link below. The Best Execution Committee will oversee the review of this Policy at least on an annual basis, or when any material change occurs to the business which may impact the ability of CESL to comply with this Policy. CESL will post periodically, the updated Policy on the Cowen website, and will notify Clients should there be any material updates.

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ANNEX 1 EXECUTION VENUES

This list is reviewed and amended periodically. For the most up to date list please contact your Cowen representative.

The below is the list of trading venues, other markets and third party brokers for cash equities including ETFs and is current as at the date of this Policy.

Broker
ARQAAM CAPITAL LIMITED
ATTIJARI INTERMEDIATION
AUREL BGC
AVIOR CAPITAL MARKETS (PTY) LTD
BANK LEUMI IE-ISRAEL B.M.
BARCLAYS CAPITAL SECURITIES LIMITED
CAPITAL MARKETS BROKERS LIMITED
CITADEL SECURITIES (EUROPE) LIMITED
CLSA (UK)
COWEN AND COMPANY LLC
CREDIT SUISSE SECURITIES (HONG KONG) LIMITED
EUROXX SECURITIES S.A.
FINANCIAL BROKERAGE GROUP
FLOW TRADERS BV
GOLDMAN SACHS INTERNATIONAL
GOODBODY STOCKBROKERS
IIFL SECURITIES LIMITED
INFO YATIRIM MENKUL DEGERLER A.S
INSTINET EUROPE LIMITED – BLOCKMATCH MTF*
INTERCAPITAL SECURITIES LTD
INVESTEC BANK PLC
IPOPEMA SECURITIES SA
ISRAEL BROKERAGE AND INVESTMENTS
J & E DAVY
JANE STREET FINANCIAL LIMITED
JARDEN SECURITIES LIMITED
JOH. BERENBERG, GOSSLER & CO. KG
JOHN KEELLS STOCK BROKERS (PRIVATE) LIMITED
JP MORGAN SECURITIES PLC
KOREA INVESTMENT & SECURITIES CO., LTD.

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LANKABANGLA SECURITIES LTD
LIQUIDNET EUROPE LIMITED
MAKOR SECURITIES LONDON LTD
MERRILL LYNCH INTERNATIONAL
MORGAN STANLEY & CO., INTERNATIONAL PLC
NBG SECURITIES SA
NORDEA BANK ADP
NPLUS1 SINGER CAPITAL MARKETS LIMITED
OPTIMA BANK
OPTIVER V.O.F
PEEL HUNT LLP
PRESCIENT SECURITIES (PTY) LIMITED
RENAISSANCE SECURITIES (CYPRUS) LIMITED
SHORE CAPITAL STOCKBROKERS LIMITED
SSI SECURITIES CORPORATION
SUSQUEHANNA INTERNATIONAL SECURITIES LIMITED
TFS DERIVATIVES LIMITED
VIRTU ITG EUROPE LIMITED
W H IRELAND LIMITED
WINTERFLOOD SECURITIES LTD
WOLFGANG STEUBING AG WERTPAPIERDIENSTLEISTER
WOOD & COMPANY FINANCIAL SERVICES, A.S.
XTX MARKETS LIMITED - SI

Trading Venue	MIC
A2X	A2XX
AQSE GROWTH MARKET (EQUITY)	AQSG
AQUIS EXCHANGE EUROPE	AQEU
AQUIS EXCHANGE EUROPE AUCTION ON DEMAND (AOD)	AQEA
AQUIS EXCHANGE EUROPE NON DISPLAY ORDER BOOK (NDOB)	AQED
AQUIS EXCHANGE PLC	AQXE
AQUIS EXCHANGE PLC - AMP - DARK ORDER BOOK	XUBS
AQUIS EXCHANGE PLC AMP NON DISPLAY ORDER BOOK	AQXD
AQUIS EXCHANGE PLC AUCTION ON DEMAND (AOD)	AQXA
ARCA DARK	ARCD
ATHENS EXCHANGE ALTERNATIVE MARKET	ENAX
ATHENS EXCHANGE S.A. CASH MARKET	XATH
BANK OF AMERICA - MERRILL LYNCH INSTINCT X ATS	BAML

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BARCLAYS ATS	BARX
BARCLAYS CAPITAL SECURITIES LIMITED - SYSTEMATIC INTERNALISER	BCSI
BIDS TRADING L.P.	BIDS
BLOCKMATCH UK DARK	BLOX
BLOCKMATCH EUROPE RFQ	ERFQ
BLOCKMATCH UK RFQ	BRFQ
BME GROWTH MARKET	GROW
BNPP CORTEX ATS	BNPC
BOERSE BERLIN EQUIDUCT TRADING - BERLIN SECOND REGULATED MARKET	EQTB
BOERSE BERLIN EQUIDUCT TRADING - FREIVERKEHR	EQTC
BOERSE BERLIN EQUIDUCT TRADING - REGULIERTER MARKT	EQTA
BOLSA DE MADRID	XMAD
BORSA ISTANBUL	XIST
BORSA ITALIANA EQUITY MTF	MTAH
BUDAPEST STOCK EXCHANGE	XBUD
CBOE EUROPE - LIS SERVICE	LISX
CBOE BYX U.S. EQUITIES EXCHANGE	BATY
CBOE BZX U.S. EQUITIES EXCHANGE	BATS
CBOE EDGA U.S. EQUITIES EXCHANGE	EDGA
CBOE EDGX U.S. EQUITIES EXCHANGE	EDGX
CBOE EUROPE - BXE DARK ORDER BOOK	BATD
CBOE EUROPE - BXE OFF-BOOK	BATF
CBOE EUROPE - BXE ORDER BOOKS	BATE
CBOE EUROPE - BXE PERIODIC	BATP
CBOE EUROPE - CXE DARK ORDER BOOK	CHID
CBOE EUROPE - CXE ORDER BOOKS	CHIX
CBOE EUROPE - DXE DARK ORDER BOOK (NL)	CEUD
CBOE EUROPE - DXE OFF-BOOK (NL)	CEUO
CBOE EUROPE - DXE ORDER BOOKS (NL)	CEUX
CBOE EUROPE - DXE PERIODIC (NL)	BEUP
CBOE EUROPE - LIS SERVICE (NL)	LISZ
CBOE EUROPE - REGULATED MARKET DARK BOOK	BARK
CBOE EUROPE - REGULATED MARKET DARK BOOK (NL)	BARU
CBOE EUROPE - REGULATED MARKET INTEGRATED BOOK	BART
CBOE EUROPE - REGULATED MARKET INTEGRATED BOOK (NL)	BEUT
CITADEL CONNECT EUROPE - EU - SYSTEMATIC INTERNALISER	EUCC
CITADEL CONNECT EUROPE - SYSTEMATIC INTERNALISER	CCEU
CITADEL SECURITIES	CDED
CITADEL SECURITIES ATS	CDEL

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CITI-ONE	ONEC
CODA MARKETS - MICRO AND BLOCK	CODA
CREDIT SUISSE AES CROSSFINDER	CAES
ELECTRONIC ETF, ETC/ETN AND OPEN-END FUNDS MARKET	ETFP
EURONEXT - EURONEXT AMSTERDAM	XAMS
EURONEXT - EURONEXT BRUSSELS	XBRU
EURONEXT - EURONEXT LISBON	XLIS
EURONEXT - EURONEXT PARIS	XPAR
EURONEXT ACCESS PARIS	XMLI
EURONEXT DUBLIN	XMSM
EURONEXT EXPAND OSLO	XOAS
EURONEXT GROWTH - OSLO	MERK
EURONEXT GROWTH DUBLIN	XESM
EURONEXT GROWTH MILAN	EXGM
EURONEXT GROWTH PARIS	ALXP
EURONEXT MILAN	MTAA
FIDELITY CROSSSTREAM ATS	XSTM
FIRST NORTH DENMARK -SME GROWTH MARKET	DSME
FIRST NORTH FINLAND - AUCTION ON DEMAND	MNFI
FIRST NORTH FINLAND - SME GROWTH MARKET	FSME
FIRST NORTH SWEDEN	FNSE
FIRST NORTH SWEDEN - AUCTION ON DEMAND	MNSE
FIRST NORTH SWEDEN - NORDIC@MID	DNSE
FIRST NORTH SWEDEN - NORWAY	ONSE
FIRST NORTH SWEDEN - NORWAY NORDIC@MID	DOSE
FIRST NORTH SWEDEN - SME GROWTH MARKET	SSME
G1 EXECUTION SERVICES	G1XX
GOLDMAN SACHS AND CO.	GSCO
GOLDMAN SACHS BANK EUROPE SE - SYSTEMATIC INTERNALISER	GSEI
GOLDMAN SACHS INTERNATIONAL - SYSTEMATIC INTERNALISER	GSSI
HRTEU LIMITED - SYSTEMATIC INTERNALISER	HREU
HUDSON RIVER TRADING	HRTX
HUDSON RIVER TRADING - SYSTEMATIC INTERNALISER	HRSI
IBKR ATS	IBKRATS
INSTINCT X ATS	INSTINCTX
INSTINET BLOCKCROSS ATS	BLKX
INSTINET CBX (US)	ICBX
INTELLIGENTCROSS	INCR
INTELLIGENTCROSS ASPEN INTELLIGENT BID/OFFER	ASPN

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INTERACTIVE BROKERS LLC - ATS	IATS
INVESTORS EXCHANGE	IEXG
INVESTORS EXCHANGE - DARK	IEXD
IRISH STOCK EXCHANGE - ALL MARKET	XDUB
ITG - POSIT	ITGI
J.P. MORGAN SE - SYSTEMATIC INTERNALISER	JPEU
J.P. MORGAN SECURITIES PLC	JPSI
JANE STREET EXECUTION SERVICES LLC	JSES
JANE STREET FINANCIAL LTD - SYSTEMATIC INTERNALISER	JSSI
JANE STREET JX	JSJX
JOHANNESBURG STOCK EXCHANGE	XJSE
JPMX	JPMX
JUMP LIQUIDITY EU EQUITY PLATFORM	JLEU
KNIGHT EQUITY MARKETS LP	KNEM
KNIGHT LINK	KNLI
LEVEL ATS	LEVL
LIQUIDNET EU LIMITED EQUITY MTF	LEUE
LIQUIDNET SYSTEMS	LIQU
LONDON STOCK EXCHANGE	XLON
LONDON STOCK EXCHANGE - AIM MTF	AIMX
LONDON STOCK EXCHANGE - MTF	XLOM
LONG-TERM STOCK EXCHANGE, INC.	LTSE
LUMINEX TRADING & ANALYTICS LLC - ATS	LMNX
MATCH NOW	MATN
MEMX LLC EQUITIES	MEMX
MERRILL LYNCH INTERNATIONAL - SYSTEMATIC INTERNALISER	MLSI
MIAX PEARL EQUITIES	EPRL
MORGAN STANLEY AND CO. INTERNATIONAL PLC	MSIP
MORGAN STANLEY AND CO. INTERNATIONAL PLC - SYSTEMATIC INTERNALISER	MSSI
MORGAN STANLEY EUROPE S.E. - SYSTEMATIC INTERNALISER	MESI
MS POOL	MSPL
NASDAQ - ALL MARKETS	XNAS
NASDAQ COPENHAGEN A/S	XCSE
NASDAQ COPENHAGEN A/S - AUCTION ON DEMAND	MCSE
NASDAQ COPENHAGEN A/S - NORDIC@MID	DCSE
NASDAQ HELSINKI LTD	XHEL
NASDAQ HELSINKI LTD - AUCTION ON DEMAND	MHEL
NASDAQ HELSINKI LTD - NORDIC@MID	DHEL
NASDAQ OMX BX	XBOS

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NASDAQ OMX PHLX	XPHL
NASDAQ OMX PSX	XPSX
NASDAQ STOCKHOLM AB	XSTO
NASDAQ STOCKHOLM AB - AUCTION ON DEMAND	MSTO
NASDAQ STOCKHOLM AB - NORDIC@MID	DSTO
NASDAQ/NGS (GLOBAL SELECT MARKET)	XNGS
NEW YORK STOCK EXCHANGE, INC.	XNYS
NORDIC SME	NSME
NYSE ARCA	ARCX
NYSE CHICAGO, INC.	XCHI
NYSE MKT LLC	XASE
NYSE NATIONAL, INC.	XCIS
OFF-EXCHANGE TRANSACTIONS - LISTED INSTRUMENTS	XOFF
ONECHRONOS	CGXS
OSLO BORS	XOSL
OTC EXCHANGE OF INDIA	OTCX
OTC LINK ECN	OTCN
OTCBB	XOTC
OTHER OTC	OOTC
POSIT AUCTION	XPAC
POSIT AUCTION UK	XPAL
POSIT DARK	XPOS
POSIT DARK UK	XPOL
PRAGUE STOCK EXCHANGE	XPRA
PRO SECURITIES ATS	BLUE
PUMA CAPITAL, LLC	PUMA
PURESTREAM	STRM
SIGMA X AUSTRALIA	SIGA
SIGMA X EUROPE AUCTION BOOK	SGMV
SIGMA X EUROPE NON-DISPLAYED BOOK	SGMU
SIGMA X MTF	SGMX
SIGMA X MTF - AUCTION BOOK	SGMY
SIGMA X2	SGMT
SIX SWISS EXCHANGE	XSWX
SIX SWISS EXCHANGE - SIX SWISS EXCHANGE AT MIDPOINT	XSWM
SPOTLIGHT STOCK MARKET AB	XSAT
STIFEL NICOLAUS EUROPE LIMITED - SYSTEMATIC INTERNALISER	STFL
STONEX FINANCIAL INC.	INTL
TEL AVIV STOCK EXCHANGE	XTAE

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TOWER RESEARCH CAPITAL EUROPE - SYSTEMATIC INTERNALISER	TOWR
TOWER RESEARCH CAPITAL EUROPE LTD	TRSI
TURQUOISE	TRQX
TURQUOISE EUROPE	TQEX
TURQUOISE EUROPE - DARK	TQEM
TURQUOISE EUROPE - LIT AUCTIONS	TQEA
TURQUOISE LIT AUCTIONS	TRQA
TURQUOISE PLATO	TRQM
TWO SIGMA SECURITIES, LLC	SOHO
UBS ATS	UBSA
UBS MTF LIMITED - PERIODIC AUCTION ORDER BOOK	XUMP
VERTICAL	VERT
VIRTU FINANCIAL BD	VIRT
VIRTU FINANCIAL IRELAND LIMITED - SYSTEMATIC INTERNALISER	VFSI
VIRTU MATCHIT - CONDITIONAL ROOM	VCRS
VIRTU MATCHIT - MAIN CROSSING SESSION	VFMI
WALL STREET ACCESS NYC	WABR
WALL STREET ACCESS NYC - VNDM	VNDM
WARSAW STOCK EXCHANGE/ EQUITIES/NEW CONNECT - MTF	XNCO
WARSAW STOCK EXCHANGE/EQUITIES/MAIN MARKET	XWAR
WIENER BOERSE AG AMTLICHER HANDEL (OFFICIAL MARKET)	WBAH
XETRA	XETR
XETRA - FREIVERKEHR	XETB
XETRA - REGULIERTER MARKT	XETA
XETRA - SCALE	XETS
XTX MARKETS	XTXM
XTX MARKETS SAS	XTXE