

## CYCLE Routing Strategy

Pan-European Smart Order Routing

In addition to its trading platform for pan-European securities, BATS Europe offers a separate smart order routing service. This service is only available to clients who are Participants of the MTF and who are classified as Eligible Counterparties.

The BATS Europe smart order router features a strategy called CYCLE that cycles through pan-European non-displayed and displayed market centres, aggressively executing at the best price points up to, and including, the limit price on the original order. After routing up to the limit price, any remainder will post on the BATS Europe Integrated Book unless the order is marked Immediate Or Cancel.

This strategy sequentially targets one market centre at a time and then sends the full remaining quantity on to the next market centre. If the order initially cannot be filled completely at the European Best Bid and Offer (EBBO) at a particular market centre, the CYCLE strategy will route to other market centres at the limit price of the original order.

Multiple options are available with CYCLE including the ability, on an order by order basis or at a port level, to route only to away displayed venues (External Lit Only), only to away non-displayed venues (External Dark Only) or to both away visible and non-displayed venues (Default). All routable orders using the CYCLE strategy access the BATS Europe Dark Pool and Integrated Book before routing out to away venues. See the table below for the CYCLE options with sequence variations.

Cycle Options	Routing Sequence			
	BATS Europe Dark Book	BATS Europe Integrated Book	External Dark Venues	External Lit Venues
Default ( BATS Europe + External Dark & Lit)	1	2	3	4
BATS Europe + External Lit Only	1	2	---	3
BATS Europe + External Dark Only	1	2	3	---

### Dark Liquidity Partners (DLP)

After accessing the BATS Europe order books, Default or Dark Only orders with CYCLE will route to participating Dark Liquidity Partners (DLPs). BATS Europe will only maintain relationships with DLPs that provide quality executions in terms of meaningful fill rates and fast executions. DLPs will be made public, however full anonymity on each order is maintained for DLPs and Participants at all times. Accessing the DLPs can add up to 100 milliseconds to order lifetimes.

### Router Priority

After accessing the BATS Europe order books, the BATS Europe smart order router first prioritises away market centres by the price of the quote or, if applicable, by an indication of interest (IOI) from a DLP (BATS Europe does not send IOIs in any market data feed). For market centres at the same price level, the BATS Europe smart order router uses several factors, including liquidity, cost and speed of execution, to determine priority. Once a cycle is completed at a price level, the BATS Europe smart order router loops back to the BATS Europe Integrated Book before routing to other market centres.

### Links

[FIX Specification.pdf](#): FIX (Financial Information Europe) protocol information.

[Pricing Schedule.pdf](#): BATS Europe standard pricing and pricing specials.

[Market Guide.pdf](#): General information including fee schedules, symbology and order types.

### Contacts

Sales +44.207.012.8906

[SalesEurope@batstrading.com](mailto:SalesEurope@batstrading.com)

Trade Desk +44.207.012.8901

[TradeDeskEurope@batstrading.com](mailto:TradeDeskEurope@batstrading.com)

BATS Trading Limited is authorised and regulated by the Financial Services Authority. BATS Trading Limited is a wholly-owned subsidiary of BATS Global Markets, Inc. and is a company registered in England and Wales with Company Number 6547680 and registered office at 25 Cophthall Avenue, London EC2R 7BP. This document has been established for information purposes only. None of the information concerning the services or products described in this document constitutes advice or a recommendation of any product or service. To the extent that the information provided in this document constitutes a financial promotion as defined by section 21 of the Financial Services and Markets Act 2000, it is only directed at persons who qualify as a Professional Client or Eligible Counterparty. Persons who do not qualify should not act on or rely upon it.

## ◆ Smart Order Router Examples

### Examples of CYCLE Routing Strategy

The CYCLE routing strategy is illustrated in the examples below using a buy order for 12,700 shares at 125.00.

#### Example 1: Buy Order for 12,700 shares at 125.00 CYCLE BATS + External Only Option

*Dark pool liquidity with lit venue sell quotes as seen by the router*

BATS Europe Dark Book	BATS Europe Integrated Book	Market Center A (External Lit Venue)	Market Center B (External Lit Venue)	Market Center C (External Lit Venue)
(1,000 hidden @ midpoint)	1,000 @ 124.85	700 @ 124.85	200 @ 124.89	1200 @ 124.88
	1,000 @ 124.89	100 @ 124.92		

#### Route Attempts

Route Sequence	Quote Price	Market Center
---	(hidden PBBO midpoint)	BATS Europe Dark Book
---	124.85	BATS Europe Integrated Book
1	124.85	Market Center A
2	124.88	Market Center C
---	124.89	BATS Europe Integrated Book
3	124.89	Market Center B
4	124.92	Market Center A
5 – 7	125.00	Route attempt at limit price to A, B & C

#### Example 2: Buy Order for 12,700 shares at 125.00 CYCLE Default Option (BATS Europe + External Dark & Lit)

*Lit venue sell quotes as seen by the router*

BATS Europe Dark Book	BATS Europe Integrated Book	Market Center A (External Lit Venue)	Market Center B (External Lit Venue)	Market Center C (DLP)
(1,000 hidden @ midpoint)	1,000 @ 124.85	700 @ 124.85	200 @ 124.89	IOI (1,000 hidden @ midpoint)
	1,000 @ 124.89	100 @ 124.92		

#### Route Attempts

Route Sequence	Quote Price	Market Center
---	(hidden PBBO midpoint)	BATS Europe Dark Book
---	124.85	BATS Europe Integrated Book
1	(hidden BBO or BBO midpoint)	Market Center C (IOI PBBO midpoint)
2	124.85	Market Center A
---	124.89	BATS Europe Integrated Book
4	124.89	Market Center B
5	124.92	Market Center A
6 – 8	125.00	Route attempt at limit price to A, B & C