

## TOP 5 Execution Venue BNP PARIBAS SECURITIES SERVICES

### Execution Mode

Period: 2020-01-01 to 2020-12-31

#### Tick Size liquidity band 5 and 6

<b>Class of Instrument</b>	<b>1 - Equities - Shares &amp; Depositary Receipts</b>
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<b>Notification if &lt;1 average trade per business day in the previous year</b>	<b>N</b>
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Top five execution venues ranked in terms of trading volumes (descending order)	Rank	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of Passive Orders	Percentage of Aggressive Orders	Percentage of Directed Orders
Liquidnet Europe Limited (213800ZIRB79BE5XQM68)	1	68.45 %	87.50 %	85.71 %	0.00 %	0.00 %
Goldman Sachs (W22LROWP2IHZNBB6K528)	2	31.55 %	12.50 %	0.00 %	0.00 %	0.00 %

<b>Class of Instrument</b>	<b>2 - Debt instruments - Bonds</b>
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<b>Notification if &lt;1 average trade per business day in the previous year</b>	<b>Y</b>
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Top five execution venues ranked in terms of trading volumes (descending order)	Rank	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of Passive Orders	Percentage of Aggressive Orders	Percentage of Directed Orders
Bloomberg FIET (-)	1	98.55 %	80.65 %	0.00 %	0.00 %	1.60 %
Tradeweb - Non-Network (-)	2	0.82 %	18.06 %	0.00 %	0.00 %	96.43 %
JP Morgan Securities (K6Q0W1PS1L1O4IQL9C32)	3	0.54 %	0.65 %	0.00 %	0.00 %	0.00 %
Goldman Sachs (W22LROWP2IHZNBB6K528)	4	0.09 %	0.65 %	0.00 %	0.00 %	0.00 %

<b>Class of Instrument</b>	<b>7 - Currency derivatives - swaps, forwards and other currency derivatives</b>
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<b>Notification if &lt;1 average trade per business day in the previous year</b>	<b>N</b>
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Top five execution venues ranked in terms of trading volumes (descending order)	Rank	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of Passive Orders	Percentage of Aggressive Orders	Percentage of Directed Orders
FXAll (-)	1	99.45 %	98.86 %	0.00 %	0.00 %	0.00 %
Citigroup Global Markets (XKZZ2JZF41MRHTR1V493)	2	0.34 %	0.57 %	0.00 %	0.00 %	0.00 %
Goldman Sachs (W22LROWP2IHZNBB6K528)	3	0.21 %	0.57 %	0.00 %	0.00 %	100.00 %

<b>Class of Instrument</b>	<b>15 - Exchange traded products</b>
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<b>Notification if &lt;1 average trade per business day in the previous year</b>	<b>Y</b>
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<b>Top five execution venues ranked in terms of trading volumes (descending order)</b>	<b>Rank</b>	<b>Proportion of volume traded as a percentage of total in that class</b>	<b>Proportion of orders executed as percentage of total in that class</b>	<b>Percentage of Passive Orders</b>	<b>Percentage of Aggressive Orders</b>	<b>Percentage of Directed Orders</b>
ITG RFQ Hub (-)	1	100.00 %	100.00 %	0.00 %	0.00 %	0.00 %

## TOP 5 Execution Venue BNP PARIBAS SECURITIES SERVICES

### RTO Mode

Period: 2020-01-01 to 2020-12-31

#### Tick Size liquidity band 1 and 2

Class of Instrument		1 - Equities - Shares & Depositary Receipts				
Notification if <1 average trade per business day in the previous year		N				
Top five execution venues ranked in terms of trading volumes (descending order)	Rank	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of Passive Orders	Percentage of Aggressive Orders	Percentage of Directed Orders
JP Morgan Securities (K6Q0W1PS1L1O4IQL9C32)	1	24.05 %	18.58 %	50.89 %	25.35 %	0.00 %
Goldman Sachs (W22LROWP2IHZNBB6K528)	2	20.79 %	28.07 %	58.98 %	38.64 %	0.00 %
Macquarie Capital (Europe) Limited (549300GX4FPMFF91RJ37)	3	18.76 %	16.17 %	6.49 %	3.18 %	0.00 %
Citigroup Global Markets (XKZZ2JZF41MRHTR1V493)	4	17.68 %	20.56 %	61.46 %	15.17 %	0.00 %
Cowen and Company (549300WR155U7DVMIW58)	5	15.53 %	13.79 %	22.47 %	8.01 %	0.00 %

#### Tick Size liquidity band 3 and 4

Class of Instrument		1 - Equities - Shares & Depositary Receipts				
Notification if <1 average trade per business day in the previous year		N				
Top five execution venues ranked in terms of trading volumes (descending order)	Rank	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of Passive Orders	Percentage of Aggressive Orders	Percentage of Directed Orders
Goldman Sachs (W22LROWP2IHZNBB6K528)	1	50.66 %	23.19 %	59.38 %	36.73 %	0.00 %
JP Morgan Securities (K6Q0W1PS1L1O4IQL9C32)	2	20.67 %	25.55 %	30.43 %	58.50 %	0.00 %
Citigroup Global Markets (XKZZ2JZF41MRHTR1V493)	3	19.11 %	46.87 %	58.97 %	1.64 %	0.00 %
Macquarie Capital (Europe) Limited (549300GX4FPMFF91RJ37)	4	8.83 %	3.52 %	0.00 %	0.00 %	0.00 %
Societe Generale (O2RNE8IBXP4R0TD8PU41)	5	0.66 %	0.85 %	4.29 %	75.00 %	0.00 %

#### Tick Size liquidity band 5 and 6

Class of Instrument		1 - Equities - Shares & Depositary Receipts				
Notification if <1 average trade per business day in the previous year		N				
Top five execution venues ranked in terms of trading volumes (descending order)	Rank	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of Passive Orders	Percentage of Aggressive Orders	Percentage of Directed Orders
Citigroup Global Markets (XKZZ2JZF41MRHTR1V493)	1	26.33 %	24.90 %	69.96 %	13.20 %	0.00 %

JP Morgan Securities (K6Q0W1PS1L1O4IQL9C32)	2	21.33 %	21.19 %	32.19 %	19.11 %	0.00 %
Goldman Sachs (W22LROWP2IHZNBB6K528)	3	19.51 %	26.80 %	56.04 %	41.89 %	0.00 %
Cowen and Company (549300WR155U7DVMIW58)	4	18.19 %	5.97 %	40.40 %	9.51 %	0.00 %
Macquarie Capital (Europe) Limited (549300GX4FPMFF91RJ37)	5	12.96 %	19.87 %	0.96 %	0.68 %	0.00 %

<b>Class of Instrument</b>	<b>9 - Equity Derivatives - options and futures admitted to trading on a tr</b>
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<b>Notification if &lt;1 average trade per business day in the previous year</b>	<b>N</b>					
<b>Top five execution venues ranked in terms of trading volumes (descending order)</b>	<b>Rank</b>	<b>Proportion of volume traded as a percentage of total in that class</b>	<b>Proportion of orders executed as percentage of total in that class</b>	<b>Percentage of Passive Orders</b>	<b>Percentage of Aggressive Orders</b>	<b>Percentage of Directed Orders</b>
Goldman Sachs (W22LROWP2IHZNBB6K528)	1	32.86 %	27.32 %	85.10 %	14.64 %	0.00 %
Morgan Stanley (4PQUHN3JPFQFN3BB653)	2	22.74 %	14.40 %	59.86 %	1.91 %	0.00 %
JP Morgan Securities (K6Q0W1PS1L1O4IQL9C32)	3	15.56 %	22.43 %	74.91 %	24.74 %	0.00 %
Citigroup Global Markets (XKZZ2JZF41MRHTR1V493)	4	15.48 %	27.36 %	65.19 %	28.52 %	0.00 %
Deutsche Bank (7LTWFZYICNSX8D621K86)	5	13.37 %	8.49 %	0.00 %	0.00 %	0.00 %

<b>Class of Instrument</b>	<b>15 - Exchange traded products</b>
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<b>Notification if &lt;1 average trade per business day in the previous year</b>	<b>N</b>					
<b>Top five execution venues ranked in terms of trading volumes (descending order)</b>	<b>Rank</b>	<b>Proportion of volume traded as a percentage of total in that class</b>	<b>Proportion of orders executed as percentage of total in that class</b>	<b>Percentage of Passive Orders</b>	<b>Percentage of Aggressive Orders</b>	<b>Percentage of Directed Orders</b>
Citigroup Global Markets (XKZZ2JZF41MRHTR1V493)	1	100.00 %	100.00 %	72.01 %	22.35 %	0.00 %

## TOP 5 Platform BNP PARIBAS SECURITIES SERVICES

### Execution Mode

Period: 2020-01-01 to 2020-12-31

<b>Class of Instrument</b>	<b>2 - Debt instruments - Bonds</b>
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#### TSOX

<b>Notification if &lt;1 average trade per business day in the previous year</b>	<b>Y</b>		
<b>Top five execution venues ranked in terms of trading volumes (descending order)</b>	<b>Rank</b>	<b>Proportion of volume traded as a percentage of total in that class</b>	<b>Proportion of orders executed as percentage of total in that class</b>
Deutsche Bank (7LTWFZYICNSX8D621K86)	1	28.61 %	25.20 %
JP Morgan Securities (K6Q0W1PS1L1O4IQL9C32)	2	24.06 %	13.82 %
Citigroup Global Markets (XKZZ2JZF41MRHTR1V493)	3	23.61 %	30.89 %
Lloyds Bank Corp Mkts (213800MBWEIJDM5CU638)	4	10.69 %	8.13 %
Barclays Capital (G5GSEF7VJP5I7OUK5573)	5	7.09 %	6.50 %

#### Tradeweb

<b>Notification if &lt;1 average trade per business day in the previous year</b>	<b>Y</b>		
<b>Top five execution venues ranked in terms of trading volumes (descending order)</b>	<b>Rank</b>	<b>Proportion of volume traded as a percentage of total in that class</b>	<b>Proportion of orders executed as percentage of total in that class</b>
Citigroup Global Markets (XKZZ2JZF41MRHTR1V493)	1	100.00 %	100.00 %

<b>Class of Instrument</b>	<b>7 - Currency derivatives - swaps, forwards and of</b>
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#### FXall

<b>Notification if &lt;1 average trade per business day in the previous year</b>	<b>N</b>		
<b>Top five execution venues ranked in terms of trading volumes (descending order)</b>	<b>Rank</b>	<b>Proportion of volume traded as a percentage of total in that class</b>	<b>Proportion of orders executed as percentage of total in that class</b>
Deutsche Bank (7LTWFZYICNSX8D621K86)	1	29.32 %	32.39 %
Citigroup Global Markets (XKZZ2JZF41MRHTR1V493)	2	21.24 %	9.66 %
The Bank of New York Mellon (VJW2DOOHGDT6PR0ZRO63)	3	14.58 %	21.59 %

BNP Paribas SA (R0MUWSFPU8MPRO8K5P83)	4	14.08 %	7.39 %
Goldman Sachs (W22LROWP2IHZNBB6K528)	5	13.46 %	14.20 %

<b>Class of Instrument</b>	<b>15 - Exchange traded products</b>
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[ITG RFQ-hub](#)

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<b>Notification if &lt;1 average trade per business day in the previous year</b>	<b>Y</b>		
<b>Top five execution venues ranked in terms of trading volumes (descending order)</b>	<b>Rank</b>	<b>Proportion of volume traded as a percentage of total in that class</b>	<b>Proportion of orders executed as percentage of total in that class</b>
Citigroup Global Markets (XKZZ2JZF41MRHTR1V493)	1	100.00 %	100.00 %