



Vanguard Asset Management

Jan 01, 2018 to Dec 31, 2018

Investment Service – Portfolio Management/Reception and Transmission Professional Clients

Class of instrument	Equities - Shares and Depositary Receipts
Tick size liquidity bands 5&6 (from 2,000 trades per day) Notifications if < 1 average trade per business day in the previous year	N

Top five execution venues ranked in terms of trading volumes (descending order)	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
Instinet Europe Limited	22.10%	13.20%	15.60%	12.70%	12.71%
Goldman Sachs International	18.70%	23.60%	12.30%	17.50%	17.48%
Exane SA	16.20%	18.40%	18.10%	34.80%	34.76%
Citigroup Global Markets	13.70%	16.70%	23.50%	3.90%	3.94%
Merrill Lynch International LLC	10.70%	10.50%	15.80%	11.10%	11.06%

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