



Vanguard Asset Management | RTS 28 Report

Jan 01, 2018 to Dec 31, 2018

Investment Services - Portfolio Management/Reception and Transmission | Professional Clients

Class of Instrument: Exchange Traded Products - ETFs, ETNs & ETCs

Notification if < 1 average trade per business day in the previous year: N

Broker Name	% of Volume Traded	% of Orders Executed	% of Passive Orders	% of Aggressive Orders	% of Directed Orders
Merrill Lynch International LLC	34.85%	37.14%	6.79%	8.64%	0.00%
HSBC Bank PLC	27.19%	20.39%	11.00%	0.00%	0.00%
Goldman Sachs International	23.68%	30.10%	11.25%	12.47%	0.00%
Deutsche Bank Aktiengesellschaft	11.77%	9.47%	3.54%	3.60%	0.00%
Instinet Europe Limited	1.60%	1.94%	5.49%	4.88%	0.00%

Notes: Top five execution venues ranked in terms of trading volumes (decending order)



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Class of Instrument: Equities Derivatives - Options & Futures Admitted on a Trading Venue

Notification if < 1 average trade per business day in the previous year: N

Broker Name	% of Volume Traded	% of Orders Executed	% of Passive Orders	% of Aggressive Orders	% of Directed Orders
Morgan Stanley International	98.51%	98.00%	100.00%	99.74%	0.00%
Goldman Sachs International	0.97%	1.89%	0.00%	0.26%	0.00%
Merrill Lynch International LLC	0.52%	0.20%	0.00%	0.00%	0.00%

Notes: Top five execution venues ranked in terms of trading volumes (decending order)



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Class of Instrument: Equities - Shares & Depositary Receipts

Tick size liquidity bands 5 & 6 (from 2,000 shares per day) | Notification if < 1 average trade per business day in the previous year: N

Broker Name	% of Volume Traded	% of Orders Executed	% of Passive Orders	% of Aggressive Orders	% of Directed Orders
Instinet Europe Limited	24.43%	16.91%	25.61%	21.51%	0.00%
Goldman Sachs International	18.75%	31.38%	38.38%	7.17%	0.00%
Exane SA	14.52%	9.86%	7.18%	10.60%	95.10%
Merrill Lynch International LLC	11.24%	7.96%	4.25%	4.08%	0.07%
Citigroup Global Markets Inc	10.96%	9.53%	12.43%	5.61%	0.00%

Notes: Top five execution venues ranked in terms of trading volumes (decending order)