



SuperX ATS Quarterly Statistics

SuperX is Deutsche Bank's Alternative Trading System (ATS) in the US. The SuperX ATS is a non-displayed order book for listed equities that can be accessed by clients directly, or using one of Deutsche Bank's equity trading platforms.

Q4 2019

SUMMARY STATISTICS

ADV - Shares (MM) *	12.8
ADV - Notional (MM) *	551.8
# Symbols traded	8,161

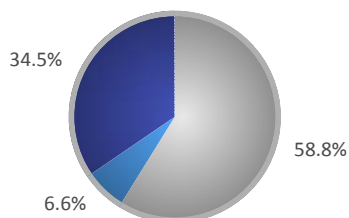
* These figures are single counted.

TRADE SIZE STATISTICS

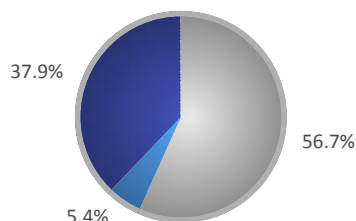
Avg Trade Size (shares)	164
% trades >= 10k shares	1.10%
% trades >= \$200k	1.90%

TRADE PRICE SUMMARY

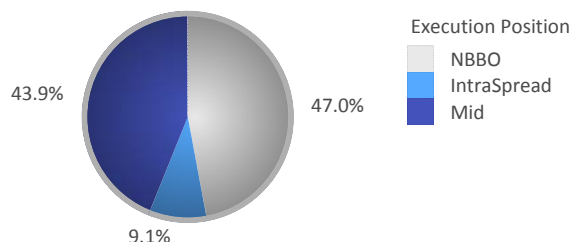
% TRADES



% SHARES



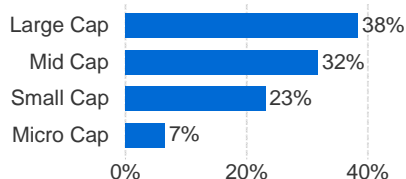
% NOTIONAL



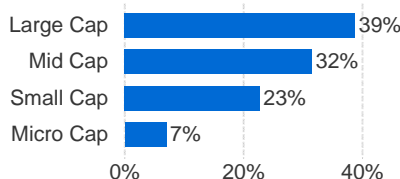
Execution Position
 NBBO
 IntraSpread
 Mid

MARKET CAP SUMMARY

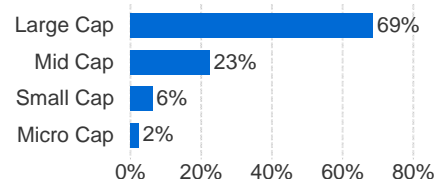
% TRADES



% SHARES

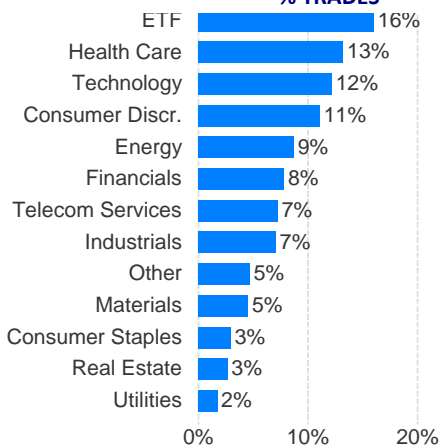


% NOTIONAL

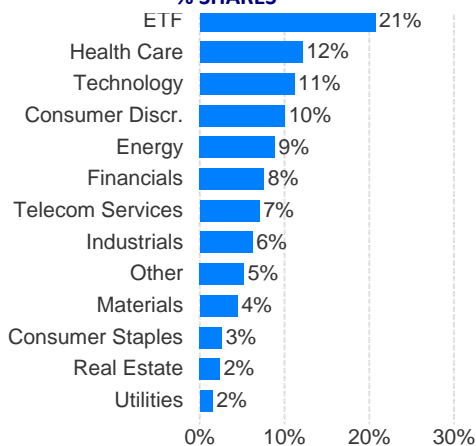


SECTOR SUMMARY

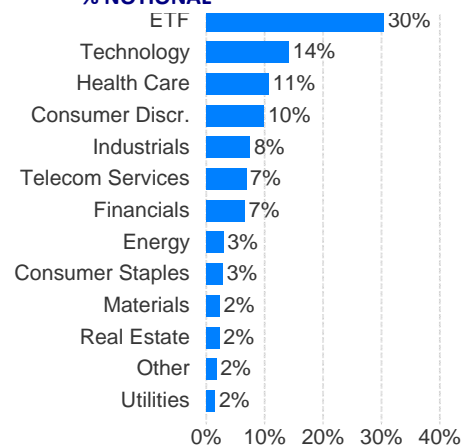
% TRADES



% SHARES



% NOTIONAL





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COUNTERPARTY TYPE SUMMARY

CounterParty Type	% Filled Shares	Average Fill Size	Spread (bps)	Spread Savings (bps)	Spread Savings (%)	Midpoint Slippage (bps)	T+20ms (bps)	T+30s (bps)	T+60min (bps)
LP Institutional	51.4%	172	7.62	4.17	54.7%	0.36	0.08	-0.26	-0.08
LP Market Maker	34.9%	162	4.95	2.08	42.2%	-0.94	-0.23	0.29	0.27
DB Agency	12.8%	140	8.25	3.70	44.4%	0.65	0.28	0.69	-0.27
LP Exchange	0.7%	172	4.07	3.34	82.1%	1.12	-0.66	-1.61	-0.83
DB Principal	0.2%	292	7.62	5.57	72.6%	1.83	-0.06	-0.85	0.38
Total	100.0%	164	6.84	3.47	50.0%	0.00	0.00	-0.00	-0.00

CounterParty Type	% Filled Shares	Average Fill Size	Spread (bps)	Spread Savings (bps)	Spread Savings (%)	Midpoint Slippage (bps)	T+20ms (bps)	T+30s (bps)	T+60min (bps)
LP IOC	32.1%	166	6.81	3.69	54.2%	-0.02	-0.46	-0.38	-0.74
Total	32.1%	166	6.81	3.69	54.2%	-0.02	-0.46	-0.38	-0.74

GLOSSARY

DB: Order flow sent from DB's Algorithms, Smart Order Router, SuperX Plus (Dark Pool Aggregator) and Direct Market Access platform to SuperX ATS.

- DB Agency: Agency client flow
- DB Principal: Deutsche Bank Securities, Inc. acting as principal

Liquidity Partners: Broker-Dealer clients with direct access to SuperX ATS.

- LP Exchanges: Liquidity Partners that send order flow routed out from an exchange
- LP Market Maker: Liquidity Partners that are proprietary trading firms. Some or all of their order flow may be considered "Market Making"
- LP Institutional: Liquidity Partners that are not LP Exchanges or LP Market Makers

LP IOC: This group is comprised of Liquidity Partners that, in our judgment, send a high proportion of IOC orders, or similar orders. Liquidity Partners classified in LP IOC are also members of either LP Institutional, LP Exchanges or LP Market Maker.

% Filled Shares: percentage of shares executed against a counterparty type.

Average Fill Size: the arithmetic average of fill size across all executions.

Spread (bps): the average difference in ask and bid prices expressed in basis points.

Spread Savings (bps): the notionally-weighted difference between fill price and the far touch price at fill time expressed in basis points.

Spread Savings (%): the notionally-weighted difference between fill price and the far touch price as a percentage of the bid-ask spread.

Midpoint Slippage (bps): the notionally-weighted difference between fill price and the midpoint price of the stock expressed in basis points.

T+X (bps): the notionally-weighted difference between the midpoint price at fill +X time units and the midpoint price at fill time expressed in basis points.

The above numbers are side-adjusted.

Positive mark outs reflect that prices moved in your favor. e.g. When buying, prices increased after the trade.

Negative mark outs reflect that prices moved against you. e.g. When buying, prices decreased after the trade.



Contacts:

US SuperX Desk:

+1 212 250 4077

SuperX.US@list.db.com

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