

April 2022

Canada Market Structure Monthly



MARKET MICROSTRUCTURE OBSERVATIONS

- The average daily volume for TSX listed securities decreased in April 2022 by 16% MoM to 763M shares although up 7% YoY. Liquidity, spread and volatility conditions remained relatively stable MoM and near the 12-month low.
- For non-TSX listed securities, the average daily volume dropped to 426M shares, representing a 5% decrease MoM and a 38% decrease YoY. While spread conditions improved MoM, liquidity and volatility conditions remained stable and near the 12-month low.
- TSX block volumes reverted to their historical norm at approximately 10% of total volume. Similarly, non-TSX listed block volumes continued its downward trend towards the historical level of around 6% of total volume.

CANADA MARKET STRUCTURE NEWS

Next Steps Taken for Cboe Global Markets' Acquisition of NEO Exchange

In April 2022, NEO Exchange operators, Aequis Innovations Inc., filed a notice and request for comment with the Ontario Securities Commission (OSC) for the Application for Variation of Recognition Order to Reflect Proposed Acquisition. The filing is in connection with Cboe Global Markets' agreement to acquire NEO Exchange, subject to regulatory approval. Cboe's acquisition of Neo Exchange coupled with its 2020 acquisition of MATCHNow, a Canadian alternative trading system (ATS), would increase its market share in Canada to approximately 13%.

<https://www.osc.ca/en/industry/market-regulation/marketplaces/exchanges/recognized-exchanges/neo-exchange-inc-rule-review-notices/notice-and-request-comment-application-0>

<https://ir.cboe.com/news-and-events/2021/11-15-2021/cboe-global-markets-agrees-acquire-neo-strengthening-global-equities-offering>

Nasdaq Canada to Add PureStream Order Type to CXD, Subject to Regulatory Approval

On 28 April 2022, Nasdaq CXC Limited (Nasdaq Canada) filed a notice of proposed changes and request for comment with the OSC for the inclusion of PureStream on CXD, Nasdaq's ATS in Canada. PureStream is a new order type where orders are paired with one another based on a specified liquidity transfer rate (LTR), instead of a specific price (LTR indicates the percentage volume of a reference trade a user is willing to trade).

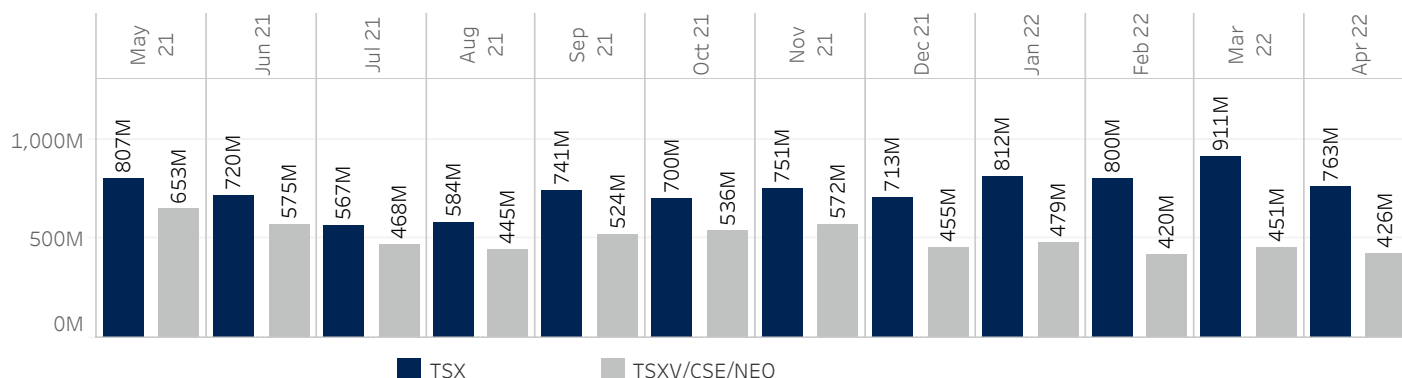
When orders are paired, streams are established which are held by the system until a reference trade occurs, when that happens a match is generated from orders paired in a stream based on their LTR and printed on the market as bona fide trades. Information about PureStream matches is disseminated in market data feeds. To learn more about this order type consult the links below.

<https://www.osc.ca/en/industry/market-regulation/marketplaces/exchanges/recognized-exchanges/nasdaq-cxc-limited-rule-review-notices/nasdaq-cxc-limited-notice-proposed>

<https://www.nasdaq.com/docs/purestream-feature-sheet>

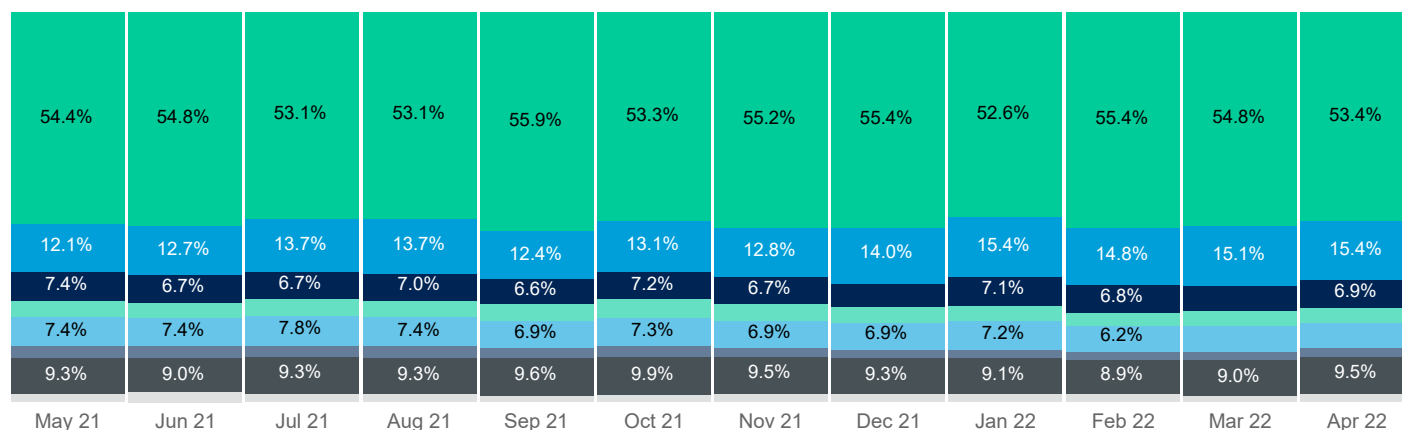


Average Daily Market Volume By Listing Exchange (Shares)

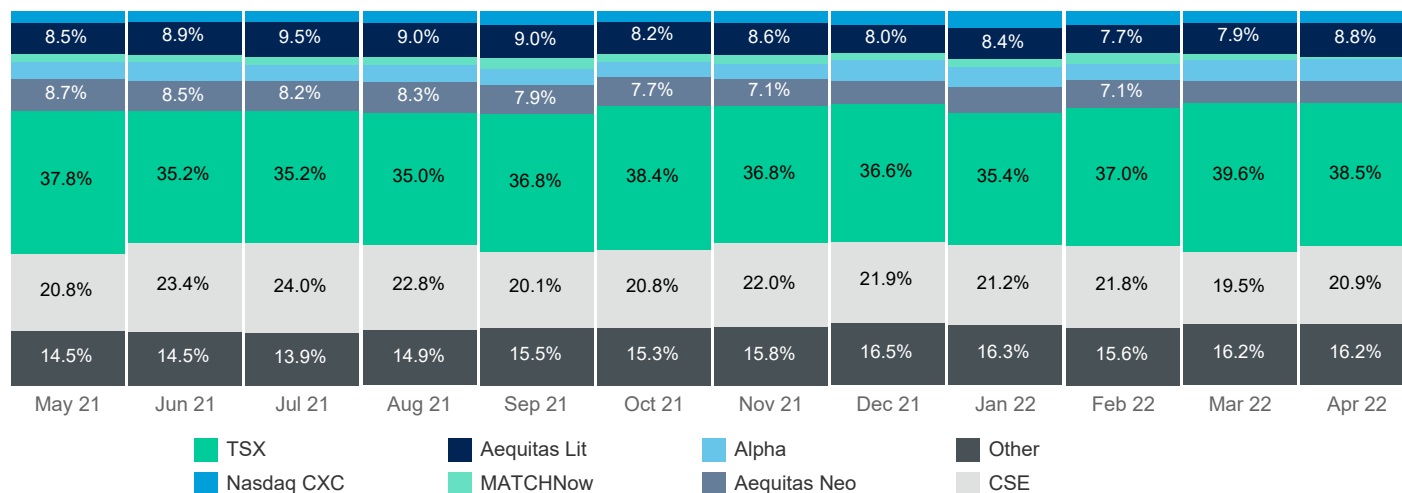


Source data: Virtu Financial

Venue Market Share (TSX-Listed)



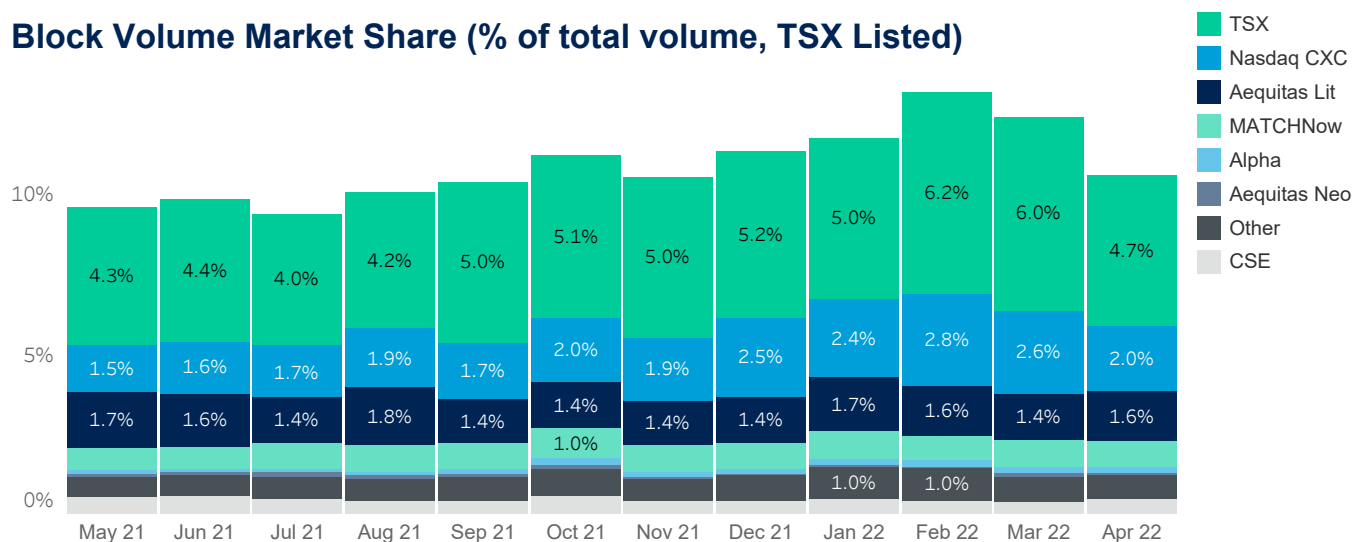
Venue Market Share (Non-TSX-Listed)



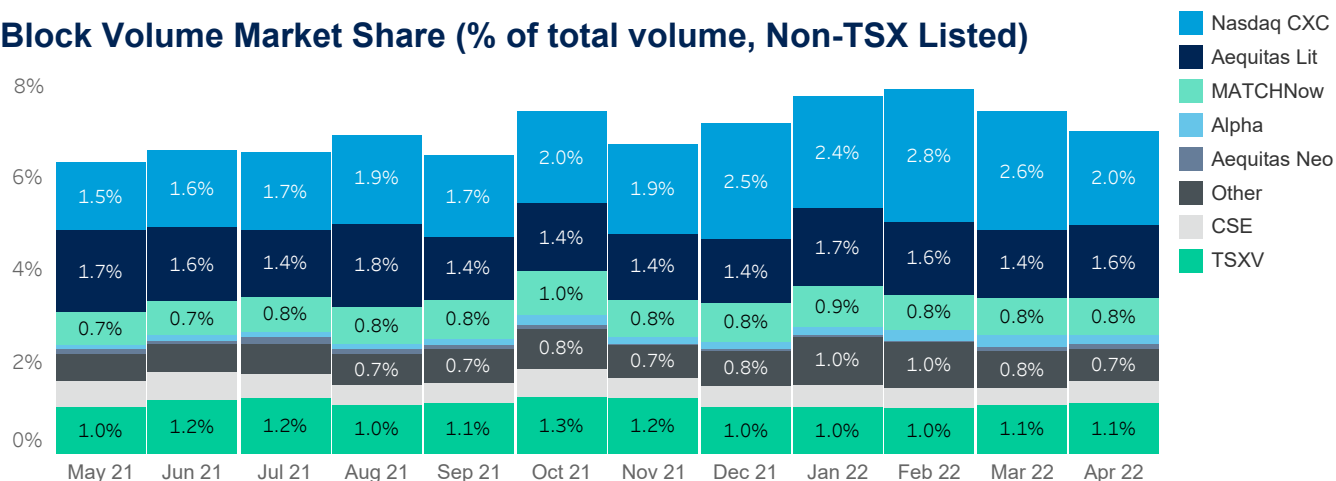
Source data: Virtu Financial



Block Volume Market Share (% of total volume, TSX Listed)

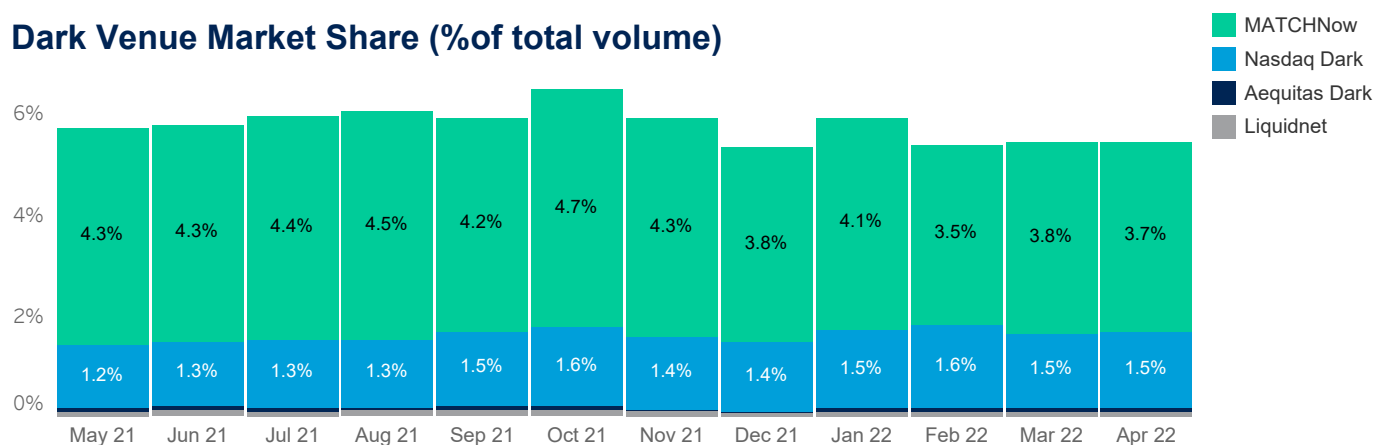


Block Volume Market Share (% of total volume, Non-TSX Listed)



Blocks defined as >5100 shares and > \$30,000 CAD or >=\$100K CAD; Source data: Virtu Financial

Dark Venue Market Share (% of total volume)



TSX listed securities only; Source data: Virtu Financial



Quotesize in Shares

		2Q 21			3Q 21			4Q 21			1Q 22			2Q 22
		Apr 21	May 21	Jun 21	Jul 21	Aug 21	Sep 21	Oct 21	Nov 21	Dec 21	Jan 22	Feb 22	Mar 22	Apr 22
First 30 Min	S&P/TSX 60	834	811	880	841	862	912	887	836	866	818	759	800	807
	S&P/TSX Composite	958	958	1,082	991	1,019	1,063	1,089	994	1,050	978	888	949	999
	Non-TSX-Listed	8,203	8,492	7,778	6,394	5,729	6,073	6,360	6,702	5,071	5,189	5,000	6,079	5,540
Mid Day	S&P/TSX 60	1,031	1,015	1,108	1,038	1,050	1,093	1,094	1,020	1,005	968	921	952	915
	S&P/TSX Composite	1,182	1,211	1,329	1,211	1,250	1,286	1,322	1,221	1,230	1,173	1,099	1,138	1,144
	Non-TSX-Listed	6,381	6,481	5,900	5,000	4,600	4,900	5,292	5,000	4,165	4,050	4,265	5,300	5,170
Last 30 Min	S&P/TSX 60	1,280	1,242	1,319	1,239	1,253	1,299	1,274	1,217	1,127	1,068	1,009	1,036	974
	S&P/TSX Composite	1,429	1,492	1,580	1,448	1,474	1,507	1,527	1,457	1,432	1,348	1,276	1,321	1,274
	Non-TSX-Listed	7,381	7,992	7,111	6,033	5,600	5,904	6,383	5,900	5,000	4,774	4,625	5,606	5,300

Spread Bps

First 30 Min	S&P/TSX 60	5.1	5.3	4.7	5.1	4.8	4.9	4.9	5.4	5.4	5.6	5.6	5.9	5.8
	S&P/TSX Composite	12.0	11.7	10.7	11.7	11.2	10.9	10.5	10.7	11.3	11.2	11.3	11.7	11.8
	Non-TSX-Listed	171.5	175.1	166.7	174.0	164.9	170.1	170.5	163.9	175.4	172.4	163.1	175.4	170.5
Mid Day	S&P/TSX 60	3.4	3.3	3.2	3.4	3.2	3.2	3.3	3.4	3.4	3.5	3.4	3.6	3.5
	S&P/TSX Composite	7.1	7.2	6.7	7.0	6.9	6.8	7.0	7.2	7.4	7.6	7.5	7.4	7.3
	Non-TSX-Listed	134.9	136.7	135.1	132.3	125.0	128.2	128.6	123.2	122.0	124.2	122.2	132.7	129.0
Last 30 Min	S&P/TSX 60	2.9	2.8	2.6	2.7	2.5	2.5	2.5	2.7	2.9	2.8	2.8	2.7	2.7
	S&P/TSX Composite	6.5	6.3	5.8	6.0	6.0	5.8	6.0	6.1	6.4	6.5	6.6	6.3	6.3
	Non-TSX-Listed	133.3	135.8	133.4	131.6	124.3	129.9	126.8	123.5	125.7	125.5	125.5	133.3	129.0

One Minute Volatility Bps

First 30 Min	S&P/TSX 60	10.9	12.8	10.5	10.7	11.0	11.9	11.7	11.6	13.3	13.9	13.8	15.4	14.3
	S&P/TSX Composite	14.8	18.0	14.2	15.2	15.2	15.6	15.3	15.1	17.5	17.8	17.8	19.0	17.6
	Non-TSX-Listed	18.2	19.0	16.7	17.7	18.0	19.6	17.5	19.9	24.0	24.1	22.7	18.6	21.3
Mid Day	S&P/TSX 60	3.5	3.7	3.1	3.5	3.3	3.7	3.4	3.5	4.4	5.2	4.9	5.3	5.0
	S&P/TSX Composite	3.8	4.4	3.4	3.9	3.4	3.9	3.7	3.9	4.7	5.7	5.5	6.0	5.6
	Non-TSX-Listed	5.7	5.8	5.0	6.1	5.7	6.3	5.8	5.8	7.1	9.2	7.1	6.3	7.2
Last 30 Min	S&P/TSX 60	3.6	4.1	3.4	3.6	3.1	3.5	3.3	3.4	4.5	5.2	5.4	5.2	4.9
	S&P/TSX Composite	3.8	4.4	3.4	3.4	2.9	3.4	3.2	3.4	4.5	5.1	5.3	5.2	5.0
	Non-TSX-Listed	6.6	5.4	4.4	5.4	5.2	6.8	4.9	4.9	6.7	8.6	6.2	5.6	6.6

Percent MDV by Time of Day

Open	S&P/TSX 60	0.6%	0.6%	0.6%	0.6%	0.7%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
	S&P/TSX Composite	0.5%	0.5%	0.6%	0.5%	0.6%	0.5%	0.5%	0.6%	0.6%	0.5%	0.5%	0.6%	0.6%
	Non-TSX-Listed	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
First 30 Min	S&P/TSX 60	12.7%	14.4%	13.8%	13.1%	13.2%	14.5%	14.1%	14.3%	13.5%	12.8%	13.4%	13.4%	12.6%
	S&P/TSX Composite	13.1%	14.6%	13.6%	14.0%	13.8%	14.2%	14.1%	14.3%	13.3%	12.5%	13.4%	13.8%	12.8%
	Non-TSX-Listed	18.7%	18.7%	19.4%	19.0%	17.9%	18.4%	18.8%	19.4%	17.3%	17.4%	17.5%	17.1%	18.0%
Last 30 Min	S&P/TSX 60	32.4%	33.8%	36.9%	32.0%	29.8%	31.8%	29.7%	31.5%	34.2%	33.5%	35.1%	34.8%	39.2%
	S&P/TSX Composite	24.0%	24.3%	24.7%	24.9%	22.4%	22.8%	22.1%	23.5%	25.2%	23.2%	26.2%	25.5%	25.3%
	Non-TSX-Listed	9.3%	9.1%	9.3%	9.0%	8.7%	8.7%	8.1%	8.3%	8.0%	8.4%	8.9%	8.2%	7.6%
Close	S&P/TSX 60	11.3%	9.7%	6.6%	7.0%	7.0%	6.4%	6.6%	7.3%	6.4%	6.9%	6.7%	7.8%	6.9%
	S&P/TSX Composite	3.7%	4.2%	3.7%	3.7%	4.2%	3.2%	3.2%	3.8%	3.7%	3.7%	3.6%	4.0%	3.9%
	Non-TSX-Listed	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

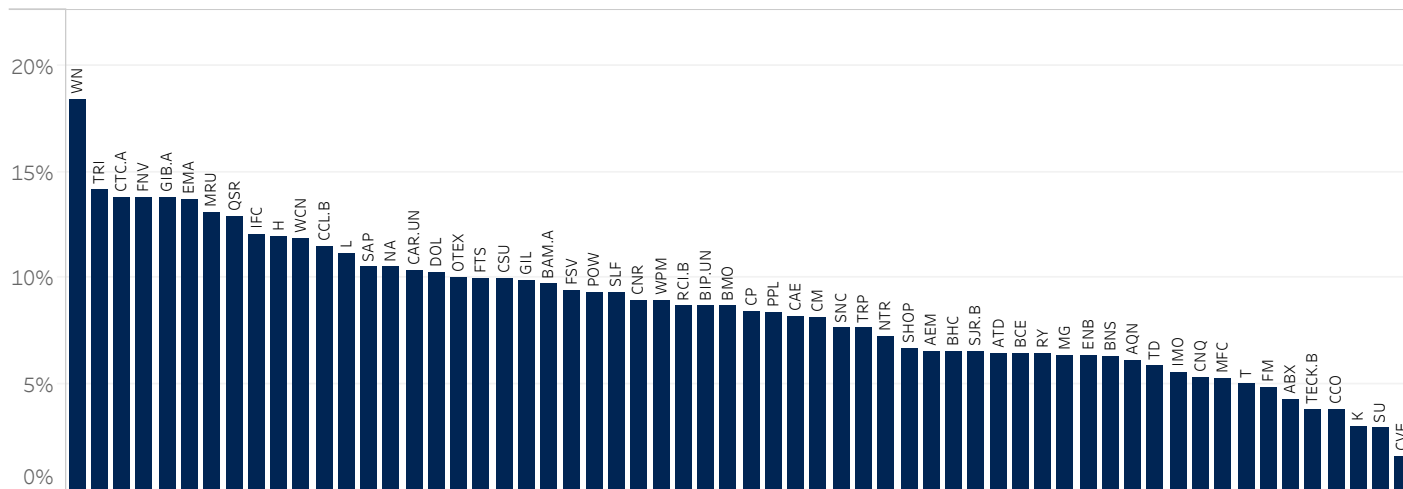
Median used for all metrics

One minute volatility is calculated using the difference between the high and low price within a one minute time bin, divided by that bin's VWAP

Source data: Virtu Financial



April 2022 Median MOC % of Daily Volume - S&P/TSX 60



Source data: Virtu Financial



ABOUT VIRTU

Virtu is a leading financial services firm that leverages cutting-edge technology to provide execution services and data, analytics and connectivity products to its clients and deliver liquidity to the global markets. Leveraging its global market making expertise and infrastructure, Virtu provides a robust product suite including offerings in execution, liquidity sourcing, analytics and broker-neutral, multi-dealer platforms in workflow technology. Virtu's product offerings allow clients to trade on hundreds of venues across 50+ countries and in multiple asset classes, including global equities, ETFs, foreign exchange, futures, fixed income and myriad other commodities. In addition, Virtu's integrated, multi-asset analytics platform provides a range of pre and post-trade services, data products and compliance tools that clients rely upon to invest, trade and manage risk across global markets.

To learn more, contact your sales representative or call our desk at:

APAC+852.2846.3553 | **CAN**+1.416.874.0800 | **EMEA**+44.20.7670.4066 | **US**+1.646.682.6199
info@virtu.com | www.virtu.com

© 2021 Virtu Financial, Inc. All rights reserved. Not to be reproduced or retransmitted without permission. These materials are for informational purposes and are not intended to be used to make trading or investment decisions, they are not intended as an offer to sell or the solicitation of an offer to buy any security or financial product, and are not intended as advice (investment, tax or legal). The information contained herein includes Virtu proprietary information and/or has been taken from sources we believe to be reliable, but we do not represent or warrant that such information is accurate or complete and it should not be relied upon as such.

Analytics products and services referenced herein may not be subject to oversight by regulatory authorities in one or more jurisdictions, including in Europe, where such products and services are offered by Virtu ITG Ventures Limited, registered in Ireland No. 295549 ("VIVL"). VIVL does not engage in regulated activity.

Securities products and services are offered by the following subsidiaries of Virtu Financial, Inc. In the U.S., Virtu Americas LLC, member FINRA and SIPC; in Canada, Virtu ITG Canada Corp., member Canadian Investor Protection Fund and Investment Industry Regulatory Organization of Canada; in Europe, Virtu ITG Europe Limited, registered in Ireland No. 283940 ("VIEL") (VIEL is authorized and regulated by the Central Bank of Ireland), and Virtu Financial Ireland Limited, registered in Ireland No. 471719 ("VFIL") (VFIL is authorized and regulated by the Central Bank of Ireland). The registered office of VIEL and VFIL is Whitaker Court, Whitaker Square, Sir John Rogerson's Quay, Dublin 2, Ireland; in Asia, Virtu ITG Hong Kong Limited (SFC License No. AHD810), Virtu ITG Singapore Pte Limited (CMS License No. 100138-1), and Virtu ITG Australia Limited (AFS License No. 219582).