

EQUITY RESEARCH

November 22, 2021

Company Update

ENGHOUSE SYSTEMS

In The Midst Of A Strategic Process?

Our Conclusion

Bloomberg reported this morning that Enghouse is exploring strategic options, including a potential sale of the business. Management did not corroborate the report, stating it does not comment on any type of M&A processes. Given the elevated valuation environment, we do not expect that Enghouse is looking at a larger acquisition and see it as more likely that the company might be looking to sell all or part of the business. Our math arrives at an LBO valuation in the \$70/share range for the entire business, excluding any future M&A. We see Enghouse as a relatively strong candidate for a private equity take-out given net cash of \$184 million, cash conversion over 90%, a 5% free cash flow yield and strong ROIC. We retain our Outperformer rating and \$69 price target.

Key Points

Why Consider A Process Now? We believe the elevated valuation environment has contributed to a slower pace of M&A, with Enghouse completing just two tuck-in transactions in 2021. However, given management's focus on returns, we believe the current environment could represent a good opportunity for the company to look at a sale of all, or a portion, of the business.

Could It Divest the IMG Division? If Enghouse were looking to divest a portion of its business, we see the Interactive Management Group (IMG) as potentially the most likely given recent M&A activity in the space. Enghouse currently trades at 17.9x LTM EBITDA, while recent contact centre transactions have been done at much higher multiples, with Sangoma acquiring UCaaS provider Star2Star for 29x LTM EBITDA, and Zoom looking to acquire Five9 earlier this year for 31x EV/Sales. The IMG division represents ~60% of Enghouse's revenue and did \$104 million in EBITDA LTM.

Who Is The Most Likely Buyer? We believe that the most likely buyer of the IMG division is a UCaaS provider that is looking to offer a combined video and contact centre solution. However, we also see private equity as a potential acquirer for either the division or the entire business. Enghouse has a very stable maintenance revenue base (~60% of revenue), a 5% free cash flow yield and strong cash conversion, all of which we believe would be attractive to a private equity buyer. As illustrated in the Exhibit 1 table, private equity has been active in the space over the past several years.

Stephanie Price, CFA
+1 416-594-7047
Stephanie.Price@cibc.com

Scott Fletcher, CPA, CA
+1 416-956-3229
Scott.Fletcher@cibc.com

Natalie Zhang, CFA
+1 416-581-2120
Natalie.Zhang@cibc.com

Outperformer

ENGH-TSX, Sector: Information Technology

Current Price (11/22/21): C\$58.00

Price Target (12-18 mos.): C\$69.00

CIBC Estimates and Valuation

| (Oct. 31) | 2019 | 2020 | 2021 | 2022 |
|------------------|--------|--------|--------|--------|
| EPS diluted | 1.30A | 1.78A | 1.52E | 1.69E |
| Adj. EBITDA(mln) | 115.6A | 176.8A | 168.0E | 172.2E |

| | Q1 | Q2 | Q3 | Q4 |
|-------------|-------|-------|-------|-------|
| EPS diluted | | | | |
| 2021 | 0.37A | 0.37A | 0.38A | 0.40E |
| 2020 | 0.30A | 0.49A | 0.46A | 0.52A |

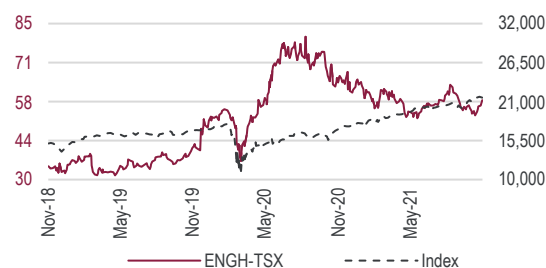
| | Q1 | Q2 | Q3 | Q4 |
|------------------|-------|-------|-------|-------|
| Adj. EBITDA(mln) | | | | |
| 2021 | 44.5A | 40.2A | 41.7A | 41.6E |
| 2020 | 35.3A | 49.3A | 45.6A | 46.6A |

| | 2019 | 2020 | 2021 | 2022 |
|-----------|-------|-------|-------|-------|
| Valuation | | | | |
| P/E | 44.7x | 32.7x | 38.1x | 34.4x |
| EV/EBITDA | 27.3x | 17.8x | 18.8x | 18.3x |

Stock Performance and Key Indicators

| | | | |
|-------------------|---------------------|---------------|---------------|
| Enterprise Value: | C\$3,156M | Shares O/S: | 55.2M |
| Market Cap.: | C\$3,204M | Float: | 42.1M |
| 52-wk Range: | C\$51.61 - C\$67.89 | Div. / Yield: | C\$0.64/1.10% |

TSX Composite Index vs. ENGH-TSX



(Source: FactSet)

All figures in Canadian dollars unless otherwise stated.

Please see "Price Target Calculation and Key Risks To Price Target" information on page 6.

For required regulatory disclosures please refer to "Important Disclosures" beginning on page 7.

Enghouse Systems (ENGH-TSX) — Outperformer

Price (11/22/21) C\$58.00 12-18 mo. Price Target C\$69.00

Sector: Information Technology

Stephanie Price, CFA +1 416-594-7047 Stephanie.Price@cibc.com

| Peer Comparison | 2019 | 2020 | 2021E | 2022E |
|---------------------------------|--------|--------|--------|--------|
| P/E - Enghouse | 15.7x | 16.3x | 14.9x | - |
| EV/EBITDA - Canadian Software C | 12.6x | 40.2x | 36.2x | - |
| EV/EBITDA - Enghouse | - | 12.6x | 12.0x | - |
| P/CF - Canadian Software Consol | 30.8x | 24.2x | 21.4x | - |
| P/CF - Enghouse | 39.6x | 12.5x | 21.4x | - |
| Key Financial Metrics | 2019 | 2020 | 2021E | 2022E |
| Sales Growth | 12.5% | 30.6% | (5.2%) | 3.3% |
| Per Share Data | 2019 | 2020 | 2021E | 2022E |
| FCFPS | 1.45 | 3.01 | 2.57 | 2.89 |
| Diluted EPS | 1.30 | 1.78 | 1.52 | 1.69 |
| Wgt Avg # of Shares | 54.6 | 55.0 | 55.2 | 55.2 |
| FD Number of Shares | 54.6 | 55.5 | 56.0 | 56.0 |
| Income Statement | 2019 | 2020 | 2021E | 2022E |
| Revenue | 386 | 504 | 477 | 493 |
| Gross Profit | 267 | 359 | 344 | 357 |
| Gross Margin | 69.2% | 71.2% | 72.1% | 72.4% |
| Tot Operating Exp | 151 | 182 | 176 | 185 |
| OpEx (% of Revenue) | 39.26% | 36.08% | 36.88% | 37.51% |
| Adj. EBITDA | 116 | 177 | 168 | 172 |
| Adj EBITDA Margin | 30.0% | 35.1% | 35.2% | 34.9% |
| D&A | (34) | (57) | (54) | (52) |
| Interest Expense | 2 | (1) | (1) | 0 |
| Pretax profit | 84 | 122 | 108 | 120 |
| Tax Expense | 13 | 23 | 23 | 25 |
| Net Income | 71 | 99 | 85 | 94 |
| Net Margin | 18.4% | 19.6% | 17.8% | 19.1% |
| Cash Flow Statement | 2019 | 2020 | 2021E | 2022E |
| Net CFO | 81 | 168 | 144 | 163 |
| Capex | (2) | (3) | (3) | (3) |
| Free Cash Flow | 79 | 166 | 142 | 160 |
| Balance Sheet | 2019 | 2020 | 2021E | 2022E |
| Total Current Assets | 246 | 357 | 322 | 410 |
| Intangible Assets | 122 | 124 | 106 | 79 |
| Goodwill | 203 | 217 | 229 | 244 |
| Total Assets | 591 | 764 | 707 | 776 |
| ST Int-Bearing Debt | 0 | 0 | 0 | 0 |
| LT Int-Bearing Debt | 1 | 0 | 0 | 0 |
| Total Liabilities | 189 | 267 | 256 | 268 |
| Shareholders' Equity | 402 | 496 | 452 | 508 |

Source: FactSet, Company Reports & CIBC World Markets Inc.

Company Profile

Enghouse Systems is a provider of enterprise software. Its strategy is to build a diverse software company through strategic acquisitions in the Contact Center, Networks and Transportation verticals.

Price Target (Base Case): C\$69.00

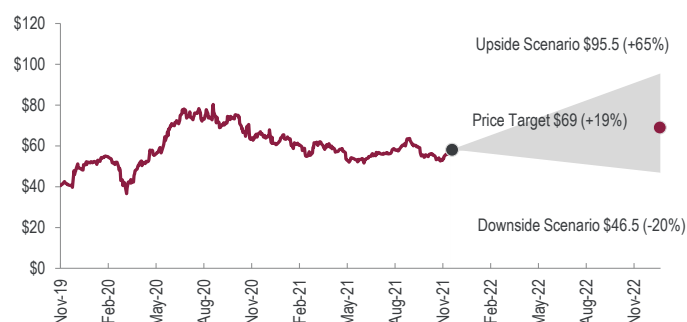
Our price target is calculated using 3.0% revenue growth, 34.9% EBITDA margins and a 19x EV/EBITDA multiple plus the present value of future acquisitions (\$6.23).

Upside Scenario: C\$95.50

Our upside scenario is calculated using 7% revenue growth, 37% EBITDA margins and a 25x EV/EBITDA multiple plus the present value of future acquisitions.

Downside Scenario: C\$46.50

Our downside scenario is calculated using 0% revenue growth, 28.5% EBITDA margins and a 15x EV/Sales multiple plus the present value of future acquisitions.



The Contact Centre Market Is Consolidating

Roughly 60% of Enhouse's revenue is derived from its Interactive Management Group. The division specializes in customer interaction software and services designed to enhance customer service, increase efficiency and manage customer communications across the enterprise. The division also houses Vidyo, the video communications platform that saw strong growth at the start of the pandemic but that has since normalized. With Vidyo, Enhouse has a unique mix of both video communications and contact centre solutions. This is the type of solution that Zoom was looking to acquire when it bid for Five9's.

Exhibit 1: UCaaS Industry – Precedent Transactions, April 2018 To Present

| Date | Acquirer | Target | Transaction Value (US\$M) | EV/S | EV/ EBITDA | Target Business - Description |
|------------|------------------------------|----------------------------------|---------------------------|------|------------|---|
| 11/17/2021 | BCM One | CoreDial | NA | NA | NA | CoreDial is white label UCaaS provider with 850 channel partners servicing. |
| 8/25/2021 | Enreach | DSD Europe & CloudLand | NA | NA | NA | DSD & CloudLand are European software distributors. |
| 8/11/2021 | Anexinet | Light Networks | NA | NA | NA | Light Networks offers professional and managed services, cloud services, network & telecom services. |
| 7/22/2021 | Broadvoice | GoContact | NA | NA | NA | GoContact, is a CCaaS provider focused on Spanish-speaking markets. |
| 7/21/2021 | BCM One | Wholesale Carrier Services (WCS) | NA | NA | NA | WCS is a UCaaS provider operating an IP-enabled voice and data network. |
| 6/29/2021 | Zoom | Kites | NA | NA | NA | Kites is an AI start-up focused on developing real-time translation tools. |
| 6/3/2021 | Unisys | Unify Square | \$153 | NA | NA | Unify Square provides software, cloud managed services, and consulting for Skype for Business enterprise deployments. |
| 1/29/2021 | Sangoma | Star2Star | \$437 | 5.5x | 29.7x | Star2Star develops and delivers cloud-native communications services. |
| 1/5/2021 | BCM One | SkySwitch | NA | NA | NA | SkySwitch is a white-label UCaaS provider. |
| 8/3/2020 | Intrado | ONSip | NA | NA | NA | OnSIP provides cloud-based calling solutions to SMB customers in the U.S. |
| 3/10/2020 | Lifesize | Serenova | NA | NA | NA | Lifesize is cloud communications company offering contact center and video meeting solutions. |
| 2/27/2020 | Sverica Capital Management | Cytracom | NA | NA | NA | Cytracom is a provider of UCaaS, selling through 2,000 MSPs in North America. |
| 1/27/2020 | Comcast | Blueface | NA | NA | NA | Blueface is a global UCaaS platform. |
| 12/5/2019 | BCM One | Arena One | NA | NA | NA | Arena One is a cloud communications and managed data services provider. |
| 9/24/2019 | Digerati Technologies | Nexogy | NA | NA | NA | Nexogy provides UCaaS and broadband solutions to SMBs. |
| 4/24/2018 | Searchlight Capital Partners | Mitel | 2000 | NA | 13.3x | Mitel is a communications and collaboration software and services provider. |
| 4/18/2018 | Evolve IP | thevoicefactory | NA | NA | NA | thevoicefactory is a UK UCaaS providers and a wholesaler for BroadSoft. |

Source: FactSet and CIBC World Markets Inc.

LBO Analysis - What Could PE Pay?

Our baseline LBO analysis for a financial buyer suggests a private equity takeout valuation of \$68-\$72 at 7x-10x leverage to meet a 20% IRR. In our analysis we assume:

- We expect 1% growth through our forecast period, assuming a CPI type increase in maintenance revenue.
- We model EBITDA margins of 35%, in line with margins over the past few years.
- Holding period of five years with an exit multiple of 25x EV/adjusted EBITDA.

Exhibit 2: Enghouse – LBO Sensitivity, November 2021

| | | IRR Sensitivity Takeout Price | | | | | | | | | | |
|----------|-------|----------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | \$64.0 | \$66.0 | \$68.0 | \$70.0 | \$72.0 | \$74.0 | \$76.0 | \$78.0 | \$80.0 | \$82.0 | \$84.0 |
| Leverage | 6.0x | 24% | 21% | 18% | 16% | 14% | 12% | 10% | 8% | 7% | 6% | 4% |
| | 7.0x | 28% | 24% | 20% | 18% | 15% | 13% | 11% | 9% | 7% | 6% | 5% |
| | 8.0x | 33% | 28% | 24% | 20% | 17% | 14% | 12% | 10% | 8% | 6% | 5% |
| | 9.0x | 43% | 34% | 28% | 23% | 19% | 16% | 13% | 11% | 9% | 7% | 5% |
| | 10.0x | 65% | 46% | 36% | 28% | 23% | 19% | 15% | 12% | 10% | 8% | 6% |

Source: CIBC World Markets Inc.

Environmental, Social and Governance (ESG) Metrics for ENH-TSX

CIBC ESG Metrics

| Governance Metrics | 2016 | 2017 | 2018 | 2019 | 2020 |
|---------------------------|-------|-------|-------|-------|-------|
| Insider Ownership | 30.8% | 29.8% | 27.6% | 26.9% | 27.1% |
| Board Gender Diversity | 0.0% | 0.0% | 0.0% | 14.3% | 14.3% |
| Separation of Chair & CEO | NO | NO | NO | NO | NO |
| Dual-class Ownership? | NO | NO | NO | NO | NO |
| Disclose ESG Data? | NO | NO | NO | NO | NO |

| Social Metrics | 2016 | 2017 | 2018 | 2019 | 2020 |
|--------------------|-------|-------|-------|-------|-------|
| CEO Comp./Mkt Cap* | \$2.4 | \$3.3 | \$3.1 | \$2.6 | \$3.3 |
| Diversity Targets | NO | NO | NO | NO | NO |
| Women Managers | 20% | 20% | 13% | 13% | 13% |

| Environmental Metrics | 2016 | 2017 | 2018 | 2019 | 2020 |
|-----------------------|------|------|------|------|------|
| Emissions Intensity** | NA | NA | NA | NA | NA |
| Net-zero Targets? | NO | NO | NO | NO | NO |

* CEO Compensation is shown as per thousand dollars of market capitalization

** Emissions Intensity calculated as total emitted CO2e divided by million \$ of CAD revenue

Sustainalytics Material ESG Issues

These are the Material ESG Issues driving the ESG Risk Report

| Issue Name | ESG Risk Exposure | ESG Risk Management | ESG Risk Rating | Contribution to ESG Risk Rating |
|---------------------------|-------------------|---------------------|------------------|---------------------------------|
| | Score Category | Score Category | Score Category | |
| Human Capital | 7.2 Medium | 12.6 Weak | 6.3 High | 29.3% |
| Data Privacy and Security | 7.2 Medium | 22.2 Weak | 5.9 Medium | 27.3% |
| Corporate Governance | 9.0 High | 44.3 Average | 5.0 Medium | 23.2% |
| Business Ethics | 2.7 Low | 12.5 Weak | 2.4 Low | 11.0% |
| Product Governance | 2.0 Low | 0.0 Weak | 2.0 Low | 9.2% |
| Overall | 28.1 Low | 24.6 Weak | 21.7 Medium | 100% |

CIBC Quantitative Scorecard

| Within Sector | | | Within S&P/TSX Comp. | | |
|----------------|------|-------|----------------------|------|-------|
| Style | Rank | Delta | Style | Rank | Delta |
| Value | 4 | 0 | Value | 169 | +4 |
| Momentum | 12 | +1 | Momentum | 191 | -28 |
| Quality | 2 | 0 | Quality | 12 | -1 |
| Market | 13 | 0 | Market | 184 | 0 |
| Low Volatility | 5 | +1 | Low Volatility | 99 | -2 |
| Growth | 12 | 0 | Growth | 161 | +2 |

Note: Ranking out of 15 stocks

Note: Ranking out of 233 stocks

General Notes Behind the Quantitative Scorecard

Delta refers to the change in the ranking over the past month. Number of stocks "Within Sector" is defined by the number within the GICS. In the "Within S&P/TSX" category, we use all stocks in the S&P/TSX Composite. For detail on the Quant Factors included in each style above, please contact the CIBC Portfolio Strategy Team.

The table above is based upon quantitative, statistical, and mathematical analysis and is not intended to serve as a fundamental recommendation.

Sustainalytics ESG Risk Rating

21.7 +1.4 Medium Risk

Updated on
Oct 05, 2021

Momentum



Sustainalytics ESG Risk Rating Ranking

| UNIVERSE | RANK (1 st = lowest risk) | PERCENTILE (1 st = lowest risk) |
|--|---|---|
| Global Universe | 4025/14618 | 28th |
| Software & Services INDUSTRY | 340/953 | 36th |
| Enterprise and Infrastructure Software SUBINDUSTRY | 159/379 | 42nd |

CIBC Technical Scorecard

| Factor | TSM Score | Factor | TSM Score |
|------------|-----------|----------------|-----------|
| TSM | -7 | Momentum | D |
| Beta | 0.97 | MACD | D |
| Volatility | ↔ | Alpha (Sector) | D |
| Trend | ↓ | Alpha (Index) | D |
| RSI | Neutral | | |

General Notes Behind the Technical Scorecard

TSM: The Trendspotting Matrix uses technical factors to score uptrend durability.

Momentum and alpha metrics compare performance over one-month, one-quarter and one-year timeframes, outputting a rating from A to D.

Trend/Volatility metrics measure price deviations relative to underlying moving averages.

RSI is an oscillator that provides mean-reversion estimations.

MACD is a momentum indicator rated from A to D based off the strength of its signal.

The table above is based upon a technical methodology that examines the past trading patterns and trades and is not intended to serve as a fundamental recommendation.

Price Target Calculation

Using the company's current capital structure, we value Enghouse at 19x EV/2022E EBITDA, in line with Canadian Consolidator peers. In addition, we add the present value of a future acquisition spend (\$6.23/share). This equates to a \$69 price target.

Key Risks To Price Target

The primary risks to our price target include the following: 1) ability to acquire, 2) retention of key personnel, 3) competition, and 4) ability to scale.

Important Disclosures

Analyst Certification: Each CIBC World Markets Inc. research analyst named on the front page of this research report, or at the beginning of any subsection hereof, hereby certifies that (i) the recommendations and opinions expressed herein accurately reflect such research analyst's personal views about the company and securities that are the subject of this report and all other companies and securities mentioned in this report that are covered by such research analyst and (ii) no part of the research analyst's compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed by such research analyst in this report.

Potential Conflicts of Interest: Equity research analysts employed by CIBC World Markets Inc. are compensated from revenues generated by various CIBC World Markets Inc. businesses, including the CIBC World Markets Investment Banking Department. Research analysts do not receive compensation based upon revenues from specific investment banking transactions. CIBC World Markets Inc. generally prohibits any research analyst and any member of his or her household from executing trades in the securities of a company that such research analyst covers. Additionally, CIBC World Markets Inc. generally prohibits any research analyst from serving as an officer, director or advisory board member of a company that such analyst covers.

In addition to 1% ownership positions in covered companies that are required to be specifically disclosed in this report, CIBC World Markets Inc. may have a long position of less than 1% or a short position or deal as principal in the securities discussed herein, related securities or in options, futures or other derivative instruments based thereon.

Recipients of this report are advised that any or all of the foregoing arrangements, as well as more specific disclosures set forth below, may at times give rise to potential conflicts of interest.

CIBC World Markets Inc. does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that CIBC World Markets Inc. may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.

Analysts employed outside the U.S. are not registered as research analysts with FINRA. These analysts may not be associated persons of CIBC World Markets Corp. and therefore may not be subject to FINRA Rule 2241 restrictions on communications with a subject company, public appearances and trading securities held by a research analyst account.

CIBC World Markets Inc. Stock Rating System

| Stock Ratings | Abbreviation | Description |
|----------------|--------------|---|
| Outperformer | OP | Stock is expected to outperform similar stocks in the coverage universe during the next 12-18 months. |
| Neutral | NT | Stock is expected to perform in line with similar stocks in the coverage universe during the next 12-18 months. |
| Underperformer | UN | Stock is expected to underperform similar stocks in the coverage universe during the next 12-18 months. |
| Tender | TR | Shareholders are advised to tender shares to a specific offer as we do not believe a superior offer will materialize. |
| Not Rated | NR | CIBC World Markets does not maintain an investment recommendation on the stock. |
| Restricted | R | CIBC World Markets is restricted (due to potential conflict of interest) from rating the stock. |

| Sector Ratings | Abbreviation | Description |
|----------------|--------------|---|
| Overweight | O | Sector is expected to outperform the broader market averages. |
| Marketweight | M | Sector is expected to equal the performance of the broader market averages. |
| Underweight | U | Sector is expected to underperform the broader market averages. |
| None | NA | Sector rating is not applicable. |

Note: Broader market averages refer to S&P 500 in the U.S. and S&P/TSX Composite in Canada.

CIBC World Markets Inc. Price Chart

For price and performance charts, please visit CIBC on the web at <https://researchcentral.cibccm.com/#/disclaimer-central-new> or write to CIBC World Markets Inc., 161 Bay Street, 4th Floor, Toronto, ON M5H 2S8, Attn: Research Disclosure Chart Request.

Important Disclosure Footnotes for Enghouse Systems (ENGH.TO)

- 2g CIBC World Markets Inc. expects to receive or intends to seek compensation for investment banking services from these companies in the next 3 months: Enghouse Systems

For important disclosure footnotes for companies mentioned in this report that are covered by CIBC World Markets Inc., click here: [CIBC Disclaimers & Disclosures](#)

Companies mentioned in the report but not listed are not covered by fundamental research at CIBC.

Ratings Distribution*: CIBC World Markets Inc. Coverage Universe

| (as of 22 Nov 2021) | Count | Percent | Inv. Banking Relationships | Count | Percent |
|---------------------|-------|---------|----------------------------|-------|---------|
| Outperformer | 163 | 57.2% | Outperformer | 163 | 100.0% |
| Neutral | 115 | 40.4% | Neutral | 114 | 99.1% |
| Underperformer | 7 | 2.5% | Underperformer | 7 | 100.0% |
| Tender | 0 | 0.0% | Tender | 0 | 0.0% |
| Restricted | 16 | 5.6% | Restricted | 16 | 100.0% |

Important disclosures for each issuer can be found by visiting the Research Central website at <https://researchcentral.cibccm.com/#/disclaimer-central-new> and then entering the issuer name. Access to our research dissemination policy can be found on the same website at <https://researchcentral.cibccm.com/#/dissemination-policy>. These important disclosures can also be obtained by writing to CIBC World Markets Inc., 161 Bay Street, 4th Floor, Toronto, ON M5H 2S8, Attention: Research Disclosures Request.

Access to CIBC Equity Research

Clients may access CIBC Equity Research online at Research Central at <https://researchcentral.cibccm.com/>, or at the following research aggregators: Bloomberg, Refinitiv, Capital IQ, and FactSet.

Legal Disclaimer

This report is issued and approved for distribution by (a) in Canada, CIBC World Markets Inc., a member of the Investment Industry Regulatory Organization of Canada ("IIROC"), the Toronto Stock Exchange, the TSX Venture Exchange and a Member of the Canadian Investor Protection Fund, (b) in the United Kingdom, CIBC World Markets plc, is Authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority, (c) in Australia to wholesale clients only, CIBC Australia Ltd, a company regulated by the ASIC with AFSL license number 240603 and ACN 000 067 256, and (d) in Japan, CIBC World Markets (Japan) Inc., a registered Type 1 Financial product provider with the registration number Director General of Kanto Finance Bureau #218 (collectively, "CIBC World Markets") and (e) in the United States either by (i) CIBC World Markets Inc. for distribution only to U.S. Major Institutional Investors ("MII") (as such term is defined in SEC Rule 15a-6) or (ii) CIBC World Markets Corp., a member of the Financial Industry Regulatory Authority ("FINRA"). U.S. MIIs receiving this report from CIBC World Markets Inc. (the Canadian broker-dealer) are required to effect transactions (other than negotiating their terms) in securities discussed in the report through CIBC World Markets Corp. (the U.S. broker-dealer). CIBC World Markets Corp. accepts responsibility for the content of this research report.

This report is provided, for informational purposes only, to institutional investor and retail clients of CIBC World Markets in Canada, and does not constitute an offer or solicitation to buy or sell any securities discussed herein in any jurisdiction where such offer or solicitation would be prohibited. This document and any of the products and information contained herein are not intended for the use of Retail investors in the United Kingdom. Such investors will not be able to enter into agreements or purchase products mentioned herein from CIBC World Markets plc. The comments and views expressed in this document are meant for the general interests of wholesale clients of CIBC Australia Ltd.

This report has been prepared by the CIBC group and is issued in Hong Kong by Canadian Imperial Bank of Commerce, Hong Kong Branch, a registered institution under the Securities and Futures Ordinance, Cap 571 (the "SFO"). This report is intended for "professional investors" only (within the meaning of the SFO) and has been prepared for general circulation and does not take into account the objectives, financial situation or needs of any recipient. Any recipient in Hong Kong who has any questions or requires further information on any matter arising from or relating to this report should contact Canadian Imperial Bank of Commerce, Hong Kong Branch at Suite 3602, Cheung Kong Centre, 2 Queen's Road Central, Hong Kong (telephone number: +852 2841 6111). Orders for Hong Kong listed securities will be executed by Canadian Imperial Bank of Commerce, Hong Kong Branch. Canadian Imperial Bank of Commerce, Hong Kong Branch has entered into an arrangement with its broker-dealer affiliates worldwide to execute orders for securities listed outside of Hong Kong for Hong Kong clients.

This report is intended for distribution in Singapore solely to "institutional investors" (within the meanings of the Financial Advisers Act (Chapter 110 of Singapore)).

The securities mentioned in this report may not be suitable for all types of investors. This report does not take into account the investment objectives, financial situation or specific needs of any particular client of CIBC World Markets. Recipients should consider this report as only a single factor in making an investment decision and should not rely solely on investment recommendations contained herein, if any, as a substitution for the exercise of independent judgment of the merits and risks of investments. The analyst writing the report is not a person or company with actual, implied or apparent authority to act on behalf of any issuer mentioned in the report. Before making an investment decision with respect to any security recommended in this report, the recipient should consider whether such recommendation is appropriate given the recipient's particular investment needs, objectives and financial circumstances. CIBC World Markets suggests that, prior to acting on any of the recommendations herein, Canadian retail clients of CIBC World Markets contact one of our client advisers in your jurisdiction to discuss your particular circumstances. Non-client recipients of this report who are not institutional investor clients of CIBC World Markets should consult with an independent financial advisor prior to making any investment decision based on this report or for any necessary explanation of its contents. CIBC World Markets will not treat non-client recipients as its clients solely by virtue of their receiving this report.

Legal Disclaimer (Continued)

Past performance is not a guarantee of future results, and no representation or warranty, express or implied, is made regarding future performance of any security mentioned in this report. The price of the securities mentioned in this report and the income they produce may fluctuate and / or be adversely affected by exchange rates, and investors may realize losses on investments in such securities, including the loss of investment principal. CIBC World Markets accepts no liability for any loss arising from the use of information contained in this report, except to the extent that liability may arise under specific statutes or regulations applicable to CIBC World Markets.

Information, opinions and statistical data contained in this report were obtained or derived from sources believed to be reliable, but CIBC World Markets does not represent that any such information, opinion or statistical data is accurate or complete (with the exception of information contained in the Important Disclosures section of this report provided by CIBC World Markets or individual research analysts), and they should not be relied upon as such. All estimates, opinions and recommendations expressed herein constitute judgments as of the date of this report and are subject to change without notice.

Nothing in this report constitutes legal, accounting or tax advice. Since the levels and bases of taxation can change, any reference in this report to the impact of taxation should not be construed as offering tax advice on the tax consequences of investments. As with any investment having potential tax implications, clients should consult with their own independent tax adviser.

This report may provide addresses of, or contain hyperlinks to, Internet web sites. CIBC World Markets has not reviewed the linked Internet web site of any third party and takes no responsibility for the contents thereof. Each such address or hyperlink is provided solely for the recipient's convenience and information, and the content of linked third party web sites is not in any way incorporated into this document. Recipients who choose to access such third-party web sites or follow such hyperlinks do so at their own risk.

Although each company issuing this report is a wholly owned subsidiary of Canadian Imperial Bank of Commerce ("CIBC"), each is solely responsible for its contractual obligations and commitments, and any securities products offered or recommended to or purchased or sold in any client accounts (i) will not be insured by the Federal Deposit Insurance Corporation ("FDIC"), the Canada Deposit Insurance Corporation or other similar deposit insurance, (ii) will not be deposits or other obligations of CIBC, (iii) will not be endorsed or guaranteed by CIBC, and (iv) will be subject to investment risks, including possible loss of the principal invested. The CIBC trademark is used under license.

© 2021 CIBC World Markets Inc. and CIBC World Markets Corp. All rights reserved. Unauthorized use, distribution, duplication or disclosure without the prior written permission of CIBC World Markets is prohibited by law and may result in prosecution.