CIBC CAPITAL MARKETS

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January 23, 2023 **Earnings Revision**

Q4/22 Software & Services Preview

A Focus On The 2023 Outlook & Recent M&A

Sector:
Information Technology

Our Conclusion

Q4 is typically a seasonally strong quarter in the tech sector and consensus is forecasting revenue for our coverage universe to be up 19% Y/Y and EBITDA to be up 14% Y/Y, on average. We expect the focus will remain on the demand environment and the outlook for F2023. Post Q3, earnings revisions were relatively modest, with consensus 2023 revenue estimates down 2%, highlighting the resiliency of most of our coverage's enterprise/recurring revenue base. We remain watchful for commentary on lengthening sales cycles and particularly European demand.

Key Points

Favour The More Defensive Software Names: Heading into Q4 earnings, we favour the more defensive software names, with Constellation and CGI our top picks. We see both as relatively defensive, with strong recurring revenue (+70% and +50%, respectively) and the ability to deploy capital in an improving M&A valuation environment. Of our higher-organic-growth names, we favour Kinaxis, which is benefiting from secular demand tailwinds for supply chain optimization and has solid profitability.

Key Names To Watch: We expect TELUS International, Open Text, and Converge will be the most topical software names in our coverage universe through the Q4 reporting cycle. We expect TELUS International to provide 2023 guidance (we expect 13% revenue growth) and financial guidance related to the recently closed WillowTree acquisition (we expect it to contribute $235MM in F2023E revenue). We expect Open Text to also update its financial guidance for the Micro Focus acquisition, and expect combined F2023 adjusted EBITDA in the $1.65B range. Finally, we expect an update on Converge's strategic review. We foresee private equity (PE) as the most likely buyer of Converge, although any acquirer would have to be comfortable with the outlook for the demand environment and the integration plan for the ~$1B in recently acquired gross revenue.

Our Estimates Vs. The Street: We are 3% below the Street for Q4/22E. Our largest outliers are the IT Solutions providers CTS (-25%) and SFTC (-8%) given concerns related to the impact of the macroeconomic climate on their SME/Commercial customer base and lack of recurring revenue. We are slightly above consensus estimates on the SaaS names under coverage, QFOR (+3%), KXS (+2%), and DCBO (+2%), as we expect a focus on profitable growth.

All figures in Canadian dollars otherwise stated.

For required regulatory disclosures please refer to "Important Disclosures" beginning on page 25.

Q4 Preview

The sentiment on technology stocks improved in Q4 and the software stocks under our coverage were up an average of 17% in the quarter, outperforming both the S&P/TSX and S&P Software Index (up 5%) over the same period. Most stocks under coverage ended the quarter in the green, with Q4 Inc. being the sole outlier (down 22%).

The business services names we cover underperformed our software coverage names, the S&P 500 Software Index and the S&P/TSX Composite Index in the quarter, impacted by fears of reduced end-market IT spending. Our business services coverage universe was down an average of 13% in Q4 led by Converge (-30%) as it saw mean reversion after a substantial outperformance in Q3. CGI was the lone business services name under coverage to post a positive return (+12%) in the quarter given its resilient revenue profile.

Exhibit 1: Software/Services – CIBC Coverage, For The 12 Months Ending Dec 31, 2022 (%)

Software & Systems	Price	1 Week	1 Month	3 Month	6 Month	1 Year	YTD	52-week High	52-week Low
Constellation Software Inc.	2,113.96	(0.6)	(3.9)	10.0	10.6	(9.9)	(9.9)	2385.80	1783.98
Descartes Systems	69.65	1.7	(3.2)	9.6	10.3	(15.8)	(15.8)	82.87	56.19
Enghouse Systems Limited	35.97	3.2	14.0	24.0	26.5	(25.7)	(25.7)	48.84	23.96
Open Text Corp.	29.64	2.3	1.0	12.1	(22.6)	(37.6)	(37.6)	48.46	24.91
Kinaxis	151.91	3.3	(2.8)	10.8	9.3	(14.3)	(14.3)	182.09	119.48
Docebo, Inc.	44.74	3.3	1.3	19.9	21.0	(47.3)	(47.3)	88.13	31.66
Magnet Forensics	37.15	4.3	(9.1)	69.0	115.1	13.0	13.0	44.11	14.89
Q4 Inc.	3.21	1.6	22.5	(22.3)	(21.7)	NA	(62.2)	8.82	1.88
Software & Systems Average		**2.4**	**2.5**	**16.7**	**18.6**	**(19.7)**	**(25.0)**		

Business Services	Price	1 Week	1 Month	3 Month	6 Month	1 Year	YTD	52-week High	52-week Low
CGI Group Inc.	116.71	(0.1)	(2.1)	12.2	13.8	4.3	4.3	120.82	95.45
Converge Technologies	4.59	2.0	(9.1)	(30.1)	(10.5)	(57.8)	(57.8)	11.59	3.60
Softchoice Corporation	18.26	5.2	15.2	(11.1)	(18.9)	(14.5)	(14.5)	28.66	13.57
TELUS International	19.79	2.1	(6.6)	(24.4)	(22.7)	(40.1)	(40.1)	34.45	17.65
Business Services Average		**2.3**	**(0.7)**	**(13.3)**	**(9.6)**	**(27.0)**	**(27.0)**		

Indices	Price	1 Week	1 Month	3 Month	6 Month	1 Year	YTD
S&P/TSX Composite Index	19,384.92	(0.6)	(5.6)	5.1	2.8	(8.7)	(8.7)
S&P 500 Index	3,839.50	(0.1)	(5.8)	7.1	0.4	(19.4)	(19.4)
S&P/TSX Software Index	136.40	1.1	(7.8)	11.2	6.8	(35.7)	(35.7)
S&P500 Software Index	4,096.23	0.6	(6.1)	4.6	(6.2)	(29.9)	(29.9)

Source: FactSet and CIBC World Markets Inc.

As illustrated in the table in Exhibit 2, median EV/EBITDA valuations for companies in our coverage universe are trading at a 24% discount to the two-year average multiple and a 27% discount to the five-year average multiple. Enghouse (-5x), Open Text (-3x), and Constellation (-2x) posted the largest multiple contractions compared to their five-year EV/EBITDA averages, while CGI's multiple was roughly unchanged.

Exhibit 2: CIBC Software/Services Coverage – EV/FY2 Sales & EV/FY2 EBITDA Valuation, 2017 – 2022

	EV/Sales (FY2)					EV/EBITDA (FY2)				
Company	**EV/Sales (FY2)**	**2-year Average**	**Δ**	**5-year Average**	**Δ**	**EV/EBITDA (FY2)**	**2-year Average**	**Δ**	**5-year Average**	**Δ**
CGI Inc.	2.2x	2.3x	0.0x	2.2x	0.0x	11.2x	11.2x	0.0x	11.4x	-0.2x
Constellation	4.5x	5.2x	-0.7x	5.0x	-0.5x	15.9x	18.7x	-2.7x	18.1x	-2.2x
Converge	0.4x	0.5x	-0.1x	NA	NA	5.6x	7.4x	-1.8x	NA	NA
Descartes	10.9x	11.6x	-0.7x	10.2x	0.6x	24.0x	27.7x	-3.6x	25.5x	-1.5x
Docebo	4.8x	9.2x	-4.4x	NA	NA	86.4x	NEG	NA	NA	NA
Enghouse	3.6x	4.9x	-1.2x	4.7x	-1.1x	10.4x	13.2x	-2.8x	15.1x	-4.6x
Kinaxis	7.1x	10.7x	-3.6x	9.5x	-2.4x	38.9x	47.9x	-9.0x	40.6x	-1.7x
Open Text	3.0x	4.1x	-1.1x	4.1x	-1.1x	8.0x	10.6x	-2.5x	10.7x	-2.6x
Q4 Inc.	0.9x	NA	NA	NA	NA	NEG	NA	NA	NA	NA
Softchoice	0.9x	NA	NA	NA	NA	8.9x	NA	NA	NA	NA
TELUS International	2.2x	NA	NA	NA	NA	10.6x	NA	NA	NA	NA
Average	**3.7x**	**6.1x**	**-2.4x**	**6.0x**	**-2.27x**	**14.8x**	**19.5x**	**-4.7x**	**20.2x**	**-5.4x**
Median	**3.0x**	**5.1x**	**-2.0x**	**4.9x**	**-1.82x**	**10.9x**	**13.2x**	**-2.3x**	**16.6x**	**-5.7x**

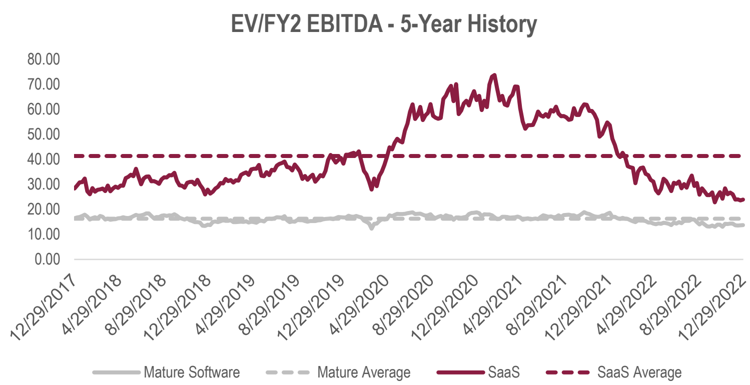
*Docebo excluded from average.

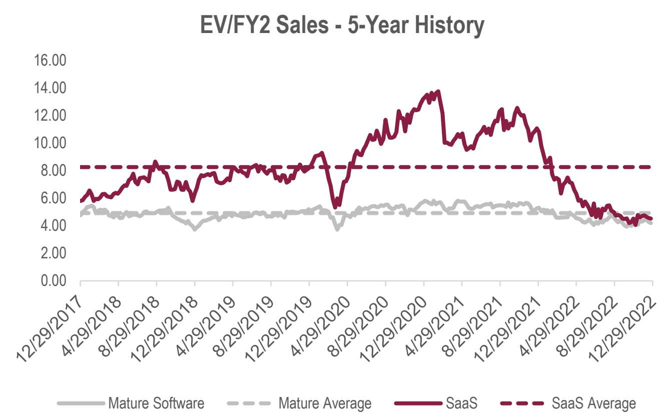
Source: Company reports, FactSet and CIBC World Markets Inc.

While we hesitate to call a bottom, SaaS names appear to be trading near trough levels, with valuations roughly in line (0.3x spread) with the basket of mature software names that we track, despite stronger growth. The 0.3x spread compares to a 6.9x spread in November 2021. Of the broader group of SaaS companies we track, EV/FY2 sales valuations are 4x below the five-year average and 3.7x below the two-year average, as shown in the line charts in Exhibit 3. The EV/Sales multiple for the mature software companies we track is 0.8x below both the two-year and five-year averages.

From an EV/FY2 EBITDA perspective, the average valuation of 23.9x for our SaaS basket is near the five-year low, seen briefly during February 2018 and March 2020. The average multiple for the SaaS basket contracted by 1.7x Q/Q as concern around decelerating growth continued. During the same period, the EV/FY2 Sales valuation for mature software names expanded by 0.6x as a strong track record of profitability continues to be in favour.

Exhibit 3: Mature Software Companies And SaaS – EV/FY2 EBITDA (left) And EV/FY2 Sales (right), December 2017 - December 2022





Source: FactSet and CIBC World Markets Inc.

Q4/22 Expectations

Q4 has historically been a seasonally strong quarter, with customers looking to spend budget dollars prior to year-end. The Street expects solid Q4 results, forecasting revenue growth of 19% Y/Y and EBITDA growth of 14% Y/Y, on average. While these results remain strong, growth has decelerated slightly compared to recent quarters (Q3/22E revenue growth was estimated to be 23%). Despite an inflationary environment, most names under coverage are generally expected to post EBITDA growth as price increases, more selective investment efforts, and cost-reduction initiatives offset the impact of inflation.

The Street is forecasting for all of our coverage names (with the exception of ENGH and OTEX) to post positive Y/Y sales growth. Consensus is calling for CTS to record the strongest Y/Y revenue growth (+55%) on the back of recent acquisitions while KXS is expected to deliver strong organic top-line growth (+45%) given secular demand tailwinds. From a profitability perspective, we expect meaningful EBITDA expansion from Docebo after it became profitable last quarter and from Converge as it integrates those recent acquisitions. We expect EBITDA declines at ENGH and OTEX as both companies invest in cloud and as a slowdown in higher-margin license revenue flows through to the bottom line.

Exhibit 4: CIBC Software/Services Coverage – Estimate Summary, Q4/C21A - Q4/C22E ($MM, except per share)

	Consensus (Q4/C22E)			CIBC Estimates (Q4/C22E)			Actual (Q4/C21)			% Change (Consensus/Q4/C21 Actual)		
Company	**Revenue**	**EBITDA**	**EPS**	**Revenue**	**EBITDA**	**EPS**	**Revenue**	**EBITDA**	**EPS**	**Revenue**	**EBITDA**	**EPS**
Software & Systems												
Constellation (US$)	1,788	464	13.25	1,770	440	14.57	1,383	410	13.59	29%	13%	-2%
Descartes (US$)	123	55	0.30	124	55	0.26	112	50	0.22	10%	10%	33%
Docebo, Inc. (US$)	39	1	0.01	39	1	(0.01)	30	(2)	(0.04)	30%	165%	NA
Enghouse (C$)	109	36	0.35	110	36	0.35	111	39	0.39	-2%	-7%	-5%
Kinaxis (US$)	99	13	0.26	101	16	0.31	69	11	0.16	45%	20%	58%
Open Text Corporation(US$)	871	313	0.79	915	311	0.77	877	344	0.89	-1%	-9%	-11%
Q4 Inc (US$)	15	(5)	(0.17)	15	(5)	(0.16)	14	(3)	(0.20)	7%	-54%	16%
Business Services												
CGI Group Inc. (C$) (EBIT)	3,316	541	1.60	3,310	546	1.62	3,092	521	1.50	7%	4%	7%
Converge Technology (C$)	780	52	0.13	645	39	0.11	505	35	0.12	55%	50%	11%
Softchoice Corporation (US$)	289	32	0.24	282	30	0.23	258	26	0.27	12%	21%	-12%
TIXT (US$)	633	156	0.32	626	154	0.30	600	143	0.28	5%	9%	13%
Average										**18%**	**12%**	**5%**

Docebo and Kinaxis excluded from EPS average; Docebo and Q4 Inc. excluded from EBITDA average. Source: FactSet and CIBC World Markets Inc.

Across our coverage, we are an average of ~4% below consensus, as seen in the table in Exhibit 5. We are most notably below consensus on the IT Solutions providers (Converge and Softchoice) given concerns related to the SME IT spending environment. We are also below consensus on Constellation given the Altera acquisition integration.

Exhibit 5: CIBC Software/Services Coverage – Q4/22 Estimates Vs. Consensus ($MM)

Company	Reporting Date	Primary Metric	CIBC Estimates	Consensus	CIBC Vs. Consensus
CGI Inc.	1-Feb	EBIT	546	541	0.9%
Constellation (US$)	TBD	EBITDA	440	464	(5.1%)
Converge Technology	TBD	EBITDA	39	52	(25%)
Descartes (US$)	TBD	EBITDA	55.4	55.0	0.7%
Docebo (US$)	TBD	Sales	39.4	38.8	1.5%
Enghouse	TBD	EBITDA	35.9	36.0	(0.5%)
Kinaxis (US$)	TBD	Sales	101.3	99.3	2.1%
Open Text (US$)	2-Feb	EBITDA	311.1	313.4	(0.7%)
Q4 Inc. (US$)	TBD	Sales	15.2	14.7	3.2%
Softchoice Corporation (US$)	TBD	EBITDA	29.5	32.1	(8.0%)
TELUS International (US$)	TBD	EBITDA	154.1	156.4	(1.4%)
				Average	(3.6%)

Source: FactSet and CIBC World Markets Inc.

Changes To Our Estimates

We are increasing our sales estimates for Converge on the expectation that the company will aggressively focus on sales execution amidst the ongoing review of strategic options. However, our margins of 5.4% remain well below consensus (6.7%) given slower-than-expected integration of the $1.2B in gross revenue the company acquired during F2022.

Exhibit 6: CIBC Software/Services Coverage – Estimate Changes, Q4/C22 ($MM)

		CQ4/22E			2022E		
Company	**Basis**	**Old**	**New**	**%**	**Old**	**New**	**%**
Converge	EBITDA	34.9	38.9	11%	134.66	138.71	3%

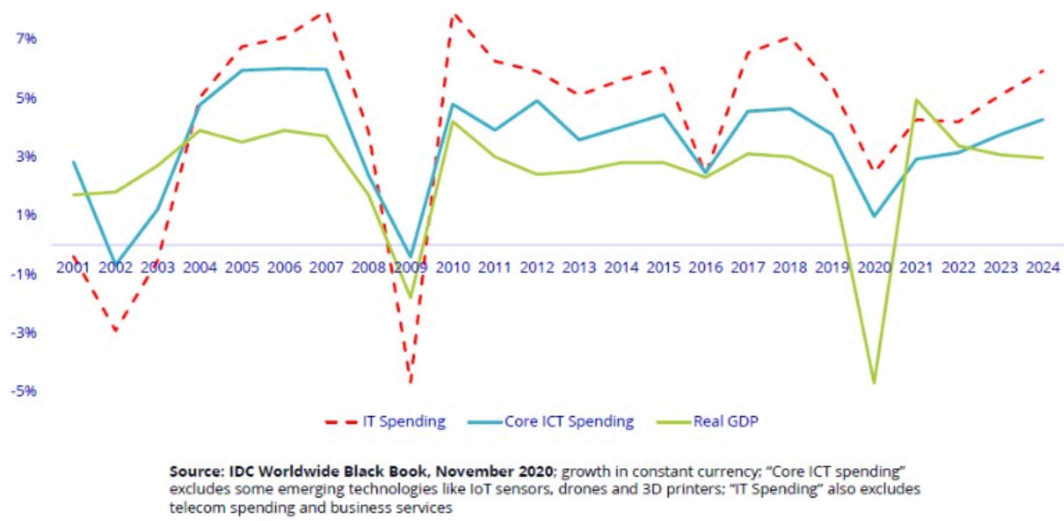
Source: Company reports and CIBC World Markets Inc.

Key Themes For The Quarter

Macro Backdrop Remains Cloudy

IT spending has historically declined faster than GDP during recessionary periods, as was the case during each of the 2001-2003 dot.com bust and the 2008-2009 Global Financial Crisis (GFC). That being said, this cyclicality appears to have decoupled recently, with IT spending outperforming through the COVID-19-related downturn. With digitization and cloud continuing to see solid demand, we expect that the tech sector may weather a mild recession better than past results suggest, with issues such as supply chain optimization and cyber security becoming key C-suite concerns.

Exhibit 7: IDC Report November 2020 – IT Spending Vs. Real GDP, 2001 - 2024E



Source: IDC Worldwide Black Book.

The area of greatest concern is the Eurozone given the Russia/Ukraine conflict and spiking energy costs. The U.K., which is contending with the added drag of Brexit, has posted sequential GDP deceleration in each of the last four quarters, while the Eurozone's Q3 GDP was down sequentially.

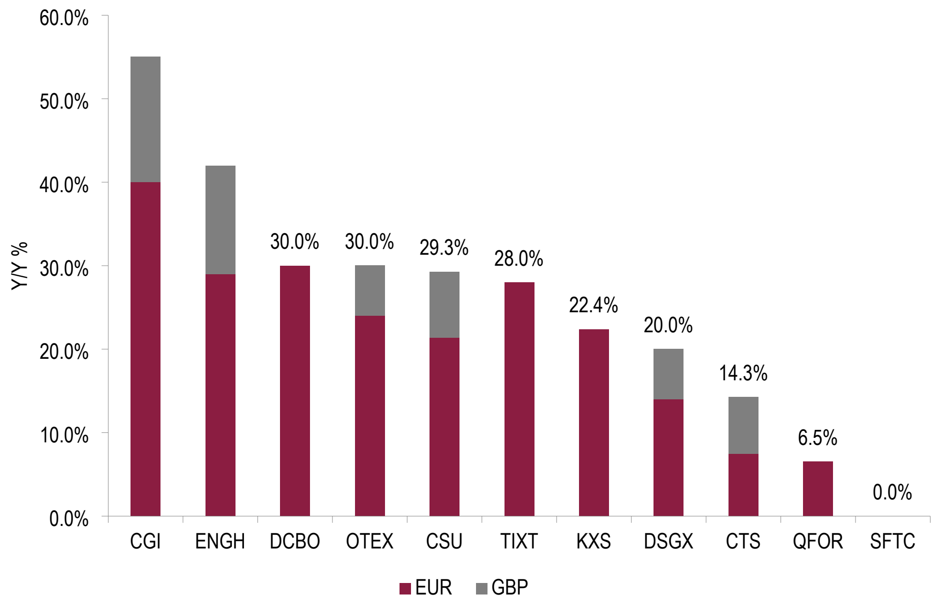
Exhibit 8: G7 Real GDP – Y/Y And Q/Q % Change, Q4/21 - Q3/22 (as of 1/6/2023)

	Q/Q Change %				Y/Y Change %			
	Q4/21	Q1/22	Q2/22	Q3/22	Q4/21	Q1/22	Q2/22	Q3/22
U.K.	1.5%	0.6%	0.1%	(0.3%)	8.9%	10.7%	4.0%	1.9%
Eurozone	0.5%	0.6%	0.8%	0.3%	4.8%	5.5%	4.2%	2.3%
U.S.	1.7%	(0.4%)	(0.1%)	0.8%	5.7%	3.7%	1.8%	1.9%
Japan	1.2%	(0.5%)	1.1%	(0.2%)	90.0%	60.0%	1.4%	1.7%
Germany	0.0%	0.8%	0.1%	0.4%	1.2%	3.5%	1.7%	1.3%
France	0.6%	(0.2%)	0.5%	0.2%	5.1%	4.8%	4.2%	1.0%
G7	1.3%	(0.1%)	0.2%	0.5%	4.8%	4.0%	2.4%	1.9%
OECD	1.4%	0.2%	0.5%	0.5%	5.2%	4.6%	3.3%	2.5%

Source: OECD statistics and CIBC World Markets Inc

To date, management commentary from the names we cover has generally noted that the demand environment in Europe has been similar to that in the rest of the world, with perhaps a greater focus on technology investments that improve efficiency or reduce costs. CGI has the largest European/U.K. exposure, which we estimate at ~55% of revenue. Further, we estimate that Open Text, Constellation, Docebo and Enghouse each derive 30%+ of revenue from the region. We note that Open Text's acquisition of Micro Focus will further increase its exposure to international markets as MCRO is absorbed into the operating model.

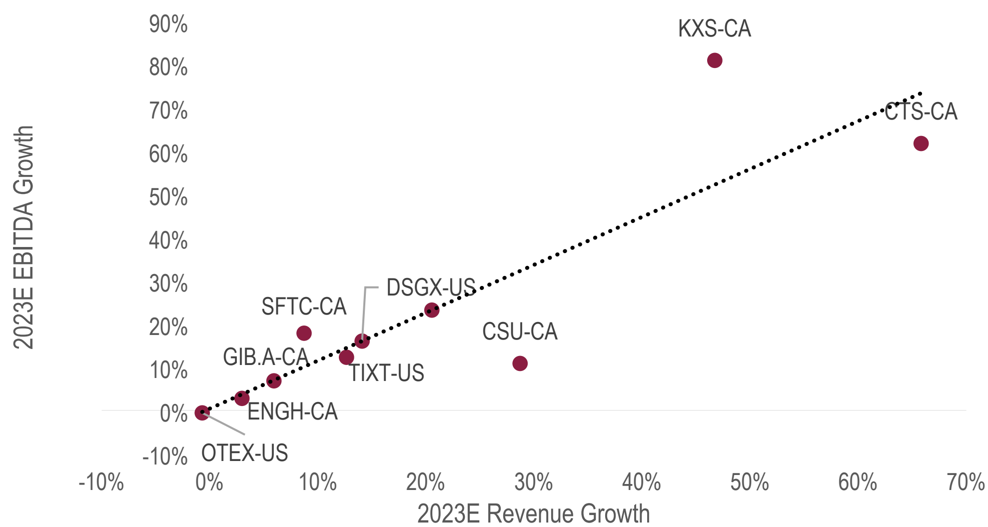
Exhibit 9: CIBC Software/Services Coverage – Euro And GBP Revenue Exposure, Post Q3/C22 (%)



Source: Company reports, FactSet and CIBC World Markets Inc.

More broadly, the Street continues to call for 2023E Y/Y revenue growth of 22% and EBITDA Y/Y growth of 20% for our software coverage universe (excluding DCBO and QFOR). While we expect fundamental demand to remain stable, many names under coverage are also benefiting from recent acquisitions, including Converge, Constellation and Descartes.

Exhibit 10: CIBC Coverage – Y/Y Consensus Revenue And EBITDA Growth, 2023E



DCBO / QFOR's EBITDA growth are not meaningful and, thus, not displayed on graph. Source: FactSet and CIBC World Markets Inc.

Post Q3, the Street made minimal revisions to F2023 estimates for our coverage universe, with revenue estimates down 2% and EBITDA revised downwards by 1%. Eight of the 11 tracked names saw slight negative revisions, suggesting a cautious posturing among investors. To put the earnings revisions in perspective, S&P 500 Index estimates were revised lower by 6.5%, higher than the five-year average of -2.5%.

Exhibit 11: Info Tech Coverage – Q4/C22E And F2023E Earnings Revisions %, Post Q3/22

Coverage	Q4/C22E Revenue ∆ %	Q4/C22E EBITDA ∆ %	F2023E Revenue ∆ %	F2023E EBITDA ∆ %
OTEX-US	-1%	-7%	-2%	-1%
KXS-CA	7%	29%	1%	-5%
QFOR-CA	-3%	1%	-8%	-21%
CSU-CA	-1%	-3%	-1%	-3%
TIXT-US	-10%	-8%	-5%	-4%
CTS-CA	2%	-5%	-1%	-5%
GIB.A-CA	1%	1%	1%	2%
DCBO-CA*	-4%	NM	-5%	37%
SFTC-CA	-4%	-12%	-4%	-8%
DSGX-US	-2%	0%	-1%	0%
ENGH-CA	3%	5%	2%	3%
Average	-1%	0%	-2%	-1%

*Data point is not meaningful for DCBO's EBITDA revision given small base.

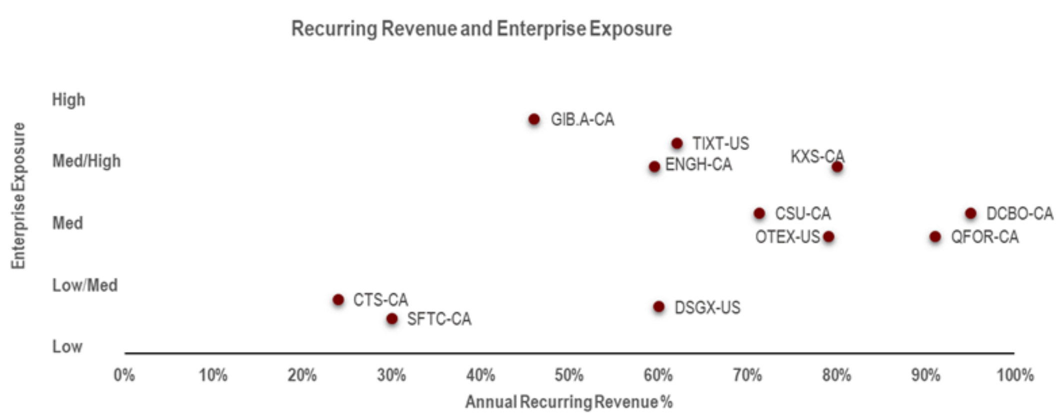
Source: FactSet and CIBC World Markets Inc.

Focus On Enterprise Exposure And Recurring Revenue

We continue to favour technology names with defensive business models – those with higher exposure to enterprise clients and recurring revenue. Most of our coverage universe has >50% enterprise exposure. The exception would be the IT Solutions providers (CTS, SFTC) under coverage, which are potentially more exposed to a recessionary environment given a SME/commercial customer base and less annual recurring revenue.

Most of the companies under coverage generate >50% recurring revenue from maintenance, term, or SaaS renewals. While some of the cloud providers in our universe have strong recurring revenue, we expect that cloud companies with annual subscription revenue (vs. per transaction revenue) will be more resilient in the current downturn. We note that many of the cloud providers in our coverage universe with transactional revenue do have guaranteed minimums specified in their contracts, although these may be difficult to enforce in the midst of a recession. As bookings could also be delayed, we continue to monitor KPIs, including book-to-bill ratio, for the overall health of the end-market.

Exhibit 12: CIBC Software And Services Coverage – Recurring Revenue And Enterprise Exposure, 2021



Source: FactSet, Company reports and CIBC World Markets Inc.

FX Is A Headwind

The Euro and GBP remained weak against the USD in Q4/22, with the GBP depreciating 12.9% Y/Y against the USD and 6.2% against the CAD as the region grappled with an energy crisis, the Russia/Ukraine war, and U.K. plans for tax cuts and borrowing that spooked global investors (and have since been repealed). The euro depreciated by 10.7% against the USD and 3.8% against the CAD in Q4. As the USD continued to remain strong, the CAD slipped this quarter and depreciated 7.2% Y/Y against the greenback.

Exhibit 13: FX – Y/Y Movements, Q4/C22

Sales Currency	Reporting Currency			
Currency	USD	CAD	EUR	GBP
USD		7.7%	11.9%	14.8%
CAD	(7.2%)		3.9%	6.6%
EUR	(10.7%)	(3.8%)		2.6%
GBP	(12.9%)	(6.2%)	(2.5%)	

Source: FactSet and CIBC World Markets Inc.

While the FX environment remains challenging, we expect the impact of it on our coverage names to have lessened sequentially in Q4 (with the exception of SFTC given its lack of euro exposure). We anticipate that USD-reporting companies will have faced less of an FX headwind sequentially and forecast that CAD-reporting companies will have benefited from an FX tailwind given the appreciating USD (or neutral FX environment in CGI's case given its significant euro exposure).

Exhibit 14: CIBC Software Coverage – Expected FX Impact On Revenue, Q1/22A - Q4/22E

	GIB.A	CSU	CTS	DCBO	DSGX	ENGH	KXS	OTEX	QFOR	SFTC	TIXT
Q4/22E	(0.1%)	(3.7%)	4.5%	(3.2%)	(2.9%)	1.7%	(2.5%)	(3.6%)	NA	(3.2%)	(3.3%)
Q3/22A	(6.0%)	(5.0%)	0.8%**	(5.0%)	(3.2%)**	-1.5%**	(6.5%)**	(4.6%)	NA	(1.6%)	(5.0%)
Q2/22A	(3.6%)	(4.0%)	2.0%	(4.0%)	(3.0%)	(2.7%)	(6.0%)	(3.7%)	NA	(1.7%)**	(4.0%)
Q1/22A	(3.8%)	(3.0%)	NA	NA	(2.0%)	(3.2%)	(2.0%)	(2.1%)	NA	(0.1%)**	(2.0%)

**CIBC estimates due to non-disclosure of FX impact

Source: Company reports, FactSet and CIBC World Markets Inc.

We Expect Inflation To Be Mostly Offset By Cost Cuts, Price Increases

While inflation was a focal point through 2022, the software sector responded with a number of measures, including price increases and cost optimization. We expect that inflation will be less of a focus in 2023, with CIBC Economics forecasting CPI-measured inflation in Canada to have peaked in 2022 at 6.9% and to ease to 3.2% in 2023E.

We expect an average EBITDA margin of 16.3% (20.9% excluding Q4 Inc.) within our coverage universe in Q4, down 120 bps Y/Y and up 140 bps versus the LTM margin, as shown in the table in Exhibit 15.

We note that select companies which have completed acquisitions, such as CSU, have recorded temporary margin decline, but should see normalization as acquisitions are integrated over time. We expect high-growth companies within our coverage, including DCBO and QFOR, to post notable margin improvement as they balance growth with profitability.

Exhibit 15: Coverage – EBITDA Margin Y/Y Expansion, Q4/22E (left) And EBITDA Q4/C22E Margin Vs. LTM Margins (right)

	EBITDA Margins			EBITDA Margins		
	CQ4/22E	LTM Margins	Δ	CQ4/22E	CQ4/21A	Δ
Software & Systems						
Constellation	24.9%	26.2%	(131)	24.9%	29.6%	(477)
Descartes	44.0%	44.3%	30	44.6%	44.6%	8
Docebo, Inc.	3.0%	(1.9%)	487	3.0%	(5.7%)	868
Enghouse	32.5%	32.9%	(40)	32.5%	34.7%	(221)
Kinaxis	15.3%	20.7%	(533)	15.3%	16.5%	(113)
Open Text Corporation	34.0%	35.5%	(147)	34.0%	39.2%	(519)
Q4 Inc.	(31.9%)	(48.0%)	1,619	(31.9%)	(24.4%)	(747)
Business Services						
CGI (EBIT)	16.5%	16.2%	28	16.5%	16.9%	(37)
Converge	5.4%	6.0%	(56)	5.4%	6.9%	(147)
Softchoice	12.1%	8.0%	244	10.5%	10.3%	20
TELUS International	24.6%	24.3%	28	24.6%	23.8%	77
Average*	16.3%	14.9%	139	16.3%	17.5%	(54)

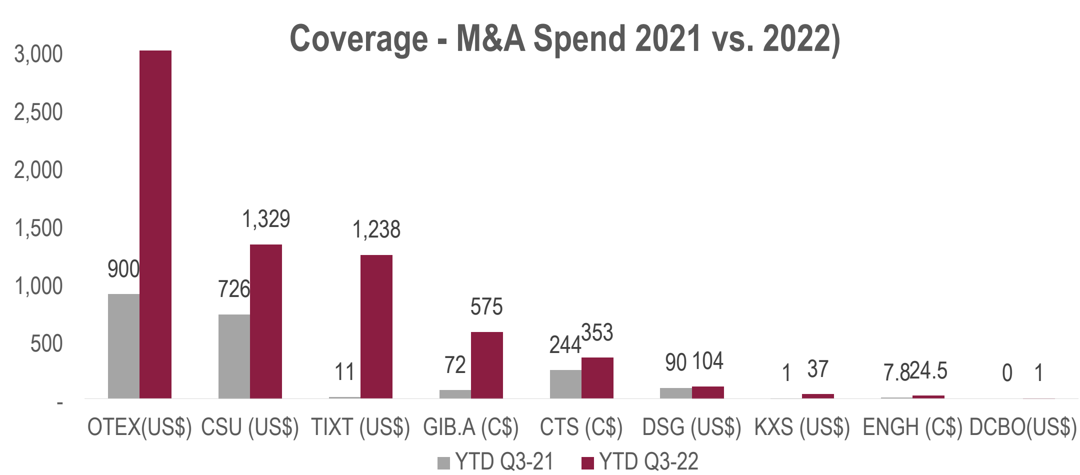
*Y/Y Δ does not include Q4 Inc. margin impact.

Source: Company reports and CIBC World Markets Inc.

M&A Continues To Accelerate

M&A activity in 2022 accelerated from that in 2021 on the back of depressed valuations, as seen in the bar chart in Exhibit 16. Commentary across our coverage universe has been that private equity is becoming more judicious given a higher cost of financing, allowing strategic acquirers with solid cash positions to bid more competitively on larger deals.

Exhibit 16: Software/Services Coverage – M&A Spend, 2021 - 2022



Source: Company reports and CIBC World Markets Inc.

Deal-making has not been limited to the large caps. Converge and Descartes were also active in 2022, spending $353MM and US$104MM YTD, respectively. Even Kinaxis, which has been primarily an organic growth story, began to seek acquisitions to strengthen its product suite, as evidenced by the recent acquisition of MPO for US$45MM.

We foresee the opportunity for further M&A in 2023, with roughly half of our coverage universe in a net cash position, as noted on the left-hand side of the table in Exhibit 17. We regard CGI, Descartes, Kinaxis and Enghouse as well positioned to continue M&A activity.

From a defensive point of view, take-private possibilities also provide valuation floors for companies under our coverage. We believe QFOR and ENGH are attractive takeout targets from a valuation perspective.

Exhibit 17: Coverage – Post Q2/22 Leverage & Liquidity (left) And 2022 YTD Acquisition Spending & Acquisition Spend (right)

Company	Net Debt ($MM)	Leverage (Net Debt/LTM EBITDA)	Available Liquidity ($MM)
ENGH (C$)	$226	($226)	NA
DCBO (US$)	$213	($213)	NA
KXS (US$)	$202	($202)	NA
DSGX (US$)	$184	($184)	NA
QFOR (US$)	$31	($31)	NA
CSU (US$)	$1,160	$1,160	0.7x
GIB.A (C$)	$2,500	$2,300	0.9x
CTS (C$)	$724	$200	1.5x
SFTC (US$)	$200	$145	1.9x
TIXT (US$)	$142	$1,800	3.0x
OTEX (US$)	$550	$8,426	3.9x
Average	**$521**	**$1,088**	**2.0x**

Company	2022 Acquisition Spend ($MM)	2022 Notable Acquisitions
OTEX (US$)	$6,018	Micro Focus ($6B)
CSU (US$)	$1,329	Allscripts Healthcare ($700MM)
TIXT (US$)	$1,238	WillowTree ($1.2B)
GIB.A (C$)	$575	Harwell ($46MM) and Umanis ($315MM)
CTS (C$)	$353	12 acquisitions closed YTD
DSGX (US$)	$104	Two acquisitions, XPS Ship ($65MM)
KXS (US$)	$37	MPO
ENGH (C$)	$25	Voiceport, Qumu, NTW and Competella
DCBO (US$)	$1	
QFOR (US$)	$0	
SFTC (US$)	$0	
Average	**$807**	
Total	**$9,682**	

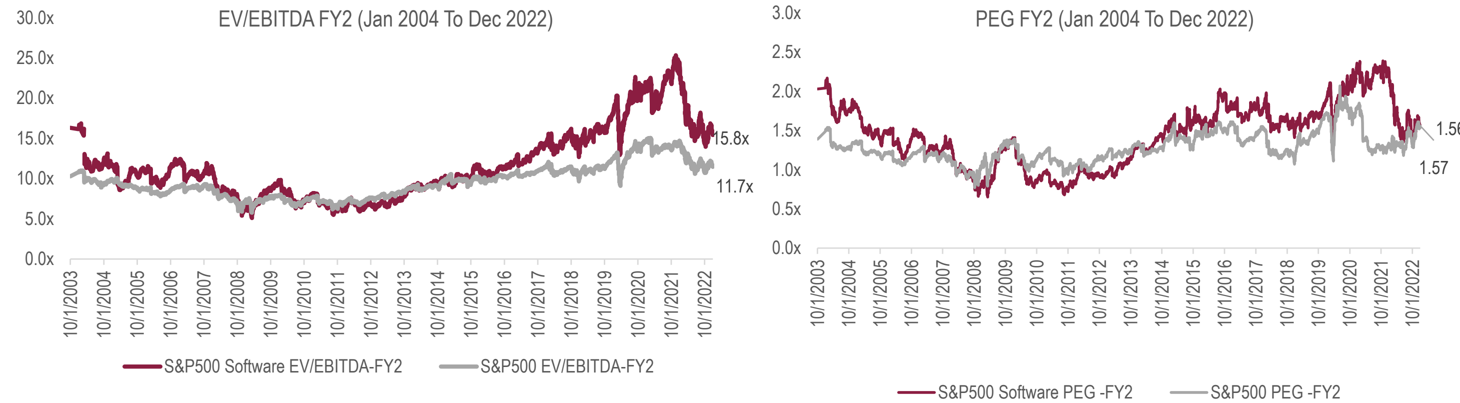
Data points include post Q3/22 announced acquisition spend where available.

Source: Company reports, FactSet, and CIBC World Markets Inc.

Valuation And Earnings Power

Tech valuations have undergone a dramatic rerating in the past year. The average EV/EBITDA multiple for the S&P 500 Info Tech Sector (FY2) is at 15.8x, down from the 25.3x peak in November. The PEG ratio (FY2) for the Tech Index is sitting at 1.57x, 0.9x below the 10-year average. Further, the PEG ratio for the Software Index is in line with that of the S&P 500, suggesting that the valuation is not out of bounds. At these levels, we foresee the sector as potentially starting to find a near-term floor, although we expect that the timing of a recovery is dependent on the macroeconomic environment.

Exhibit 18: S&P 500 Software Index Vs. S&P 500 Index – EV/EBITDA FY2 (left) And PEG FY2 (right), January 2004 - December 2022



Source: FactSet, and CIBC World Markets Inc.

CGI Inc.

Exhibit 19: GIB.A – Q1/F23 Estimate Summary

	Q1/F23 (Ending December)			Fiscal Year (Ending September)		
	CIBCe	Consensus	Year Ago	CIBCe	Consensus	Year Ago
Revenue ($MM)	3,310	3,316	3,092	13,547	13,631	12,867
Adj. EBIT ($MM)	546	541	521	2,216	2,229	2,087
Adjusted EPS	$1.62	$1.60	$1.49	6.67	6.69	6.10

Source: Company reports, FactSet and CIBC World Markets Inc.

Earnings Date: Wednesday February 1, before market open.

Conference Call Details: Wednesday February 1, 9 a.m. ET (**Webcast**)

FQ1 Overview: To date, client demand has remained resilient, with a continued focus on digitization and an increasing focus on cost savings. We expect the focus this quarter to be on the demand environment in Europe given early indicators of a recession that could impact CGI's client spend. CGI continues to conservatively manage headcount between domestic and offshore hiring while benefiting from strong demand tailwinds. The company has proven its ability to manage within an inflationary environment, and we will be watching margins as an indication of CGI's ability to pass costs on to customers in a worsening macro environment. We regard CGI as well positioned to execute on M&A in an improving valuation environment and will be looking for an update on the M&A pipeline.

Key Topics For The Quarter

1. **Solid Backlog:** CGI posted an all-time record backlog last quarter, reflecting the solid tailwinds from digitization and IP demand. The company announced two material partnerships this quarter: 1) VIA Rail Canada, which engaged CGI to provide managed services for the Corporation's new online reservation system. This new agreement is a continuation of the partnership with VIA Rail, which began in 2020 when CGI was selected to help build the company's cloud-based reservation system as part of its modernization journey; and, 2) the Aktia contract, which gives CGI the responsibility for a major component of Aktia's banking IT services, including 150 mission-critical applications. The partnership, valued at approximately $75MM, will enable Aktia to accelerate the development of new products and services, improve the customer experience, and compete more effectively in today's fast-changing finance sector. We expect Y/Y revenue growth of 7% for FQ1 and expect a slight FX headwind from the depreciating EURO against CAD.

2. **Rising Cost Environment:** CGI has been effectively managing a rising cost environment. Long-term contracts typically include IT-specific CPI escalators, with pricing on new contracts adjusted for the inflationary environment. CGI has also been optimizing its labour structure, with a focus on adding offshore, automation and junior hires to remain competitive with pricing. We expect EBIT margins of 16.5% in FQ1, down 40 bps Y/Y, driven by the rising cost environment but offset by opportunities for higher-margin IP30 revenue and global delivery usage and automation.

3. **Update On M&A Environment:** In F2022 CGI spent $573MM on M&A, slightly less than its $800MM-$1.2B target. We expect CGI to undertake a similar or greater level of M&A spend in F2023 and see an improving environment for a larger deal.

Constellation Software Inc.

Exhibit 20: CSU – Q4/22 Estimate Summary

	Q4/22 (Ending December)			Fiscal Year (Ending December)		
	CIBCe	Consensus	Year Ago	CIBCe	Consensus	Year Ago
Revenue ($MM)	1,770	1,788	1,383	6,544	6,572	5,106
Adj. EBITDA ($MM)	440	464	410	1,642	1,675	1,511
Adjusted EPS	14.57	13.25	13.59	55.16	48.82	31.14

Source: Company reports, FactSet and CIBC World Markets Inc.

Earnings Date: TBD

Conference Call Details: CSU will not hold a conference call.

Q4 Update: Constellation was active on the M&A front in Q4, with subsidiaries announcing 13 acquisitions, and the spin-off of Lumine Group. We regard the current M&A environment as extremely attractive for Constellation, with high volatility and rising rates potentially improving the pipeline for tuck-ins and larger deals. We expect the company to use all of its excess FCF on M&A as valuations become more attractive. We forecast margins of 24.9%, up 60 bps sequentially, as Constellation progresses on the integration of the Altera acquisition. We will also be looking for incremental details on the timeline of the close of the WideOrbit transaction and the subsequent spin-off of Lumine Group.

Key Topics For The Quarter

1. **Demand Outlook And Organic Growth:** Constellation reported constant-currency organic growth of 2% last quarter, dragged down by the recent Altera acquisition. We expect organic growth in the 3% range for Q4. We consider Constellation's business as relatively defensive given its large recurring maintenance base (+70% of revenue) but will be watching for any indication of slowing demand or attrition from the predominantly SME customer base. We expect Y/Y revenue growth of 28% for Q4 and a 3.7% FX headwind due to the depreciating euro against USD.

2. **Altera's Impact On Margins And Cash Flow:** Q3 results showed a sequential improvement but were still below expectations on margins and cash flow given the impact of the Altera acquisition. We expect margins to improve as Constellation progresses on integrating Altera to the business, and forecast Q4 margins of 24.9%, a 60 bps sequential improvement. We forecast FCF of ~$437MM in the quarter, suggesting that the company continues to have room for acquisitions without leveraging up, making it competitive in this rising rate environment.

3. **M&A:** We forecast $200MM in acquisition spend in Q4, with Constellation's subsidiaries announcing 13 acquisitions in the quarter, although we note that no acquisitions were announced by Topicus. We expect Constellation to spend roughly all of its FCF on M&A in 2022, with the market looking increasingly attractive for larger deals. We regard CSU as well positioned to accelerate the pace of capital deployment.

Converge Technology Solutions Corp.

Exhibit 21: CTS – Q4/22 Estimate Summary

	Q4/22 (Ending December)			Fiscal Year (Ending December)		
	CIBCe	Consensus	Year Ago	CIBCe	Consensus	Year Ago
Revenue ($MM)	720	780	505	2,470	2,534	1,528
Adj. EBITDA ($MM)	38.9	52.0	34.7	138.7	152.0	94.0
Adjusted EPS	0.12	0.13	0.12	0.47	0.49	0.35

Source: Company reports, FactSet and CIBC World Markets Inc.

Earnings Date: TBD

Conference Call Details: TBD

Q4 Update: Converge announced a strategic review that was initiated in late Q4 and we expect further commentary around this process and any material updates with Q4 results. While no new deals were announced in Q4, we expect the focus to have been on integrating over $1B of gross revenue that was acquired in 2022. We will be looking for an update on the integration progress as well as the demand environment in the core geographies. We anticipate that Converge will resume its acquisition strategy in H2/23 and will be looking for any commentary around capital allocation in the near term. While supply chain issues began to dissipate last quarter, we will be looking for details on the recent fulfillment timelines. We will also be looking for an update on the cost outlook as inflationary pressures persist.

Key Topics For The Quarter

1. **Demand Environment:** Q4 is typically a seasonally strong quarter for hardware sales for Converge and, coupled with recent acquisitions, we expect Y/Y revenue growth of 28%. We expect the core focus of the quarterly call to be the demand environment and spending patterns of customers across the various geographies and end verticals. Converge reported slower organic growth in Q3 due to a revenue mix shift to hardware from software. The company disclosed organic gross profit growth for the first time last quarter (13% Y/Y) and we expect it to have slowed in Q4.

2. **Update On Cost Outlook And Supply Chain:** We expect Q4 EBITDA margins (as a % of gross profit) of 24%, down 470 bps Y/Y given higher-than-expected acquisition-related operating expenses. With the shift in sales mix towards hardware noted last quarter, we forecast gross margins of 22.5%, down 40 bps Y/Y. We will be looking for an update on the supply chain issues that began to dissipate in Q3, including any changes in fulfillment timelines in recent weeks, post Q4.

3. **Strategic Process Update:** Converge announced a strategic review in November in response to expressions of interest that it had received. A special committee of the board has been established and we will be looking for an update on the strategic process with Q4 results. We consider private equity as the most likely buyer, although any acquirer would have to be comfortable with the integration process of the ~$1B in gross revenue acquired in 2022.

4. **M&A Update:** Converge announced no new acquisitions in Q4. We will be looking for further details on the near-term cost synergies and longer-term revenue synergy opportunities from the companies acquired over the past few quarters. We will also be looking for details on managed services revenue, with our expectation being that revenue will lag guidance of $150MM-$200MM in ARR for 2022 given lower-than-expected acquisition of managed services.

Descartes Systems Group Inc.

Exhibit 22: DSGX – Q4/F23 Estimate Summary

	Q4/F23 (Ending January)			Fiscal Year (Ending January)		
	CIBCe	Consensus	Year Ago	CIBCe	Consensus	Year Ago
Revenue ($MM)	124	123	112	485	488	425
Adj. EBITDA ($MM)	55	55	50	215	214	185
Adjusted EPS	0.26	0.30	0.22	1.10	1.16	1.00

Source: Company reports, FactSet and CIBC World Markets Inc.

Earnings Date: TBD

Conference Call Details: TBD

FQ4 Overview: We expect 10% Y/Y revenue growth this quarter, down sequentially from 12% as the company returns to more normalized growth. We expect margins of 44.7%, up 10 bps Y/Y, despite increased investments in the business. We foresee risks to growth in F2024 as inflation and a tough economic climate potentially slow consumer spending, but we do regard Descartes as well positioned to execute on acquisitions and will be looking for an update on the deal pipeline. We will also be seeking management commentary on the demand environment post FQ4.

Key Topics For The Quarter

1. **Demand Outlook:** With ~40% of Descartes' revenue derived from transactional revenue, there is a risk that a slowdown in transportation volumes will impact overall revenue. Trade indicators continue to show weakness, with the S&P Global PMI coming in at 48.2 in December, showing that global business activity continued to contract for a fifth successive month. We will be looking for an update on the broader demand outlook, with management noting cautious customer overtones last quarter. We expect Descartes to benefit from some tailwinds such as increased demand for global trade intelligence (tariffs, sanctions, market data) and real-time freight visibility, which are driving clients to engage Descartes for incremental services.

2. **Update On Cost Environment:** Last quarter, the company raised its adjusted EBITDA margins guidance to 40%-45% despite increased investments in sales and marketing. Given the inflationary environment, Descartes is raising prices at some customers and we will be looking for an update on customers' reception to these increased prices. We forecast margins of 44.7% this quarter, a 10 bps increase sequentially. We will be looking for commentary on the cost outlook this quarter, as well as for updates on automation initiatives to drive cost efficiencies.

3. **M&A Activity:** DSG recently announced the acquisition of Supply Vision, a shipment management solutions provider, headquartered in Phoenix, Arizona, for US$12MM. We regard this acquisition as a positive sign as DSG adds capabilities to its platform from quoting to final delivery. The logistics industry continues to consolidate and we expect that valuations will continue to fall given the public market reset. Descartes holds over $220MM in cash and has an additional $350MM available on its line of credit to execute on M&A. We will looking for a broader update on the M&A pipeline and capital allocation strategy with FQ4 results.

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Docebo, Inc.

Exhibit 23: DCBO – Q4/22 Estimate Summary

	Q4/22 (Ending December)			Fiscal Year (Ending December)		
	CIBCe	Consensus	Year Ago	CIBCe	Consensus	Year Ago
Revenue ($MM)	39	39	30	143	143	104
Adj. EBITDA ($MM)	1.5	1.1	-1.5	0.5	-0.1	-5.7
Gross Margin	81%	81%	80%	80%	80%	80%

Source: Company reports, FactSet and CIBC World Markets Inc.

Earnings Date: TBD

Conference Call Details: TBD

Q4 Overview: Docebo turned EBITDA positive in Q3, one quarter ahead of its targeted timeline. This quarter, we forecast EBITDA margins of 3.8%, a 210 bps increase sequentially. With ARR being driven primarily by new logo acquisitions, we expect the quarterly call to focus on demand across key geographies and sales verticals. We will also be looking for an update on the enterprise sales cycle delays noted by management last quarter, stemming primarily from the additional approvals required by customers. Q4 is typically a seasonally strong quarter as customers look to spend budget dollars prior to year-end and we expect that some of the sales delays may have been resolved in the quarter. With 60% of use cases for external client training, we consider Docebo's offering as fairly resilient in this macro environment. We will be looking for commentary on capital allocation given the company's net cash balance of ~$210MM. With Q4 results, we expect management to provide guidance for 2023, and we forecast revenue of $197MM, a 33% Y/Y increase, and EBITDA margins of 4.9%.

Key Topics For The Quarter

1. **Demand Outlook And Growth Investment:** Docebo's subscription revenue grew 67% in 2021, and we forecast 38% growth in 2022E, with 36% Y/Y growth in Q4. We will be monitoring average contract value, which increased 13% Y/Y last quarter, and looking for a management update on any changes in the demand outlook and customer spending patterns. Docebo derives 90% of ARR from direct sales and the remaining 10% from partners like Ceridian that offer the company's products as an add-on to their own solutions. We will be looking for any new updates on the integration of Docebo solutions to the MHR portfolio.

2. **Enterprise Offerings:** Of new customer logos at Docebo, ~60% are in mid-market and enterprise. Given the macro environment, Docebo has noted that the enterprise sales cycle has elongated and we will be looking for an update on the cycle and demand. The use cases for Docebo's product continue to expand, with 80% of the company's customers using two or more use cases (i.e., onboarding, partner training, customer training, etc.). Given that 30% of the company's ARR is derived from existing customers, we see upselling to enterprise customers as a lucrative, lower-cost opportunity for Docebo. We will be looking for an update on this metric with Q4 results.

3. **Scaling To Profitable Growth:** We expect an EBITDA margin of 3.8% in Q4, a 210 bps improvement sequentially with the company becoming EBITDA positive in Q3/22, one quarter ahead of its targeted timeline. From here, we expect DCBO to continue to balance revenue growth and profitability to achieve solid Rule-of-40 metrics. We expect operating leverage to increase as G&A costs start to benefit from scale. Given rising inflationary pressures, we will be looking for an update on profitability targets and the hiring outlook.

Enghouse Systems

Exhibit 24: ENGH – Q1/F23 Estimate Summary

	Q1/F23 (Ending January)			Fiscal Year (Ending October)		
	CIBCe	Consensus	Year Ago	CIBCe	Consensus	Year Ago
Revenue ($MM)	110	109	111	434	433	428
Adj. EBITDA ($MM)	35.9	36.0	38.6	143.0	140.8	140.6
Adjusted EPS	0.35	0.35	0.39	1.39	1.49	1.70

Source: Company reports, FactSet and CIBC World Markets Inc.

Earnings Date: TBD

Conference Call Details: TBD

FQ1 Overview: Enghouse is facing a tougher competitive environment, with declining demand for on-premise contact centre solutions continuing to pressure the top line. The company continues to prioritize profitability over growth in this environment. We regard M&A as an upside, with Enghouse having ~$203MM in cash on its balance sheet after the most recently announced acquisition and given an increasingly attractive valuation environment. We expect FQ1 revenue to be roughly flat Y/Y as the company laps an easier Y/Y comparison. We will be looking for an update on the M&A environment, with the company announcing one new acquisition in FQ1.

Key Topics For The Quarter

1. **Organic Growth Outlook:** Competitive price cuts and product offerings from SaaS providers have led to customer attrition in the IMG division over the last few quarters. With Enghouse's focus on profitability, the company has not been implementing aggressive pricing discounts, especially for its private cloud. We will be looking for management commentary on the demand outlook, including any material customer wins in the quarter. We will also be looking at the R&D spend in the quarter, which was 40 bps higher in F2022 compared to F2021, as the company expands its product capabilities in the cloud.

2. **M&A Update:** ENGH recently announced the acquisition of Qumu, a SaaS-based enterprise video platform that creates and manages live and on-demand videos, for US$18MM. We expect ENGH to continue to focus on acquisitions that add SaaS capabilities to its platform as it evolves its offerings in a highly competitive landscape. With valuations compressing in the tech space, we see a more attractive M&A environment for value buyers such as Enghouse. Post Qumu, we calculate that ENGH will have cash on hand of ~$203MM. We forecast $95MM in free cash flow for F2023E, leaving the company well positioned to continue to execute on M&A without taking on leverage. We will be looking for management commentary on near-term capital allocation.

3. **Sustainability Of Margins:** Enghouse's margins have declined from pandemic highs as the company contends with an increase in certain costs (travel, etc.), a tougher competitive environment and lower (high-margin) license revenue. We expect a 32.5% EBITDA margin in FQ1, a 220 bps contraction Y/Y and down 60 bps Q/Q. Given the inflationary environment, we will be looking for details on how the company is managing through the pressures, including an update on the labour market and any automation initiatives to drive cost efficiencies.

Kinaxis Inc.

Exhibit 25: KXS – Q4/22 Estimate Summary

	Q4/22 (Ending December)			Fiscal Year (Ending December)		
	CIBCe	Consensus	Year Ago	CIBCe	Consensus	Year Ago
Revenue ($MM)	101	99	69	370	368	251
Adj. EBITDA ($MM)	15.5	13.5	11.3	73.9	72.1	39.9
Adjusted EPS	0.31	0.26	0.16	1.30	1.24	0.58

Source: Company reports, FactSet and CIBC World Markets Inc.

Earnings Date: TBD

Conference Call Details: TBD

Q4 Overview: Kinaxis continues to benefit from secular tailwinds, driven by supply chain disruptions that have reinforced the need for effective supply chain planning. We expect Y/Y subscription revenue growth of 25% in Q4, in line with Kinaxis' guidance. Last quarter, Kinaxis realized higher-than-expected professional services revenue, which we view as a leading indicator and supportive of the outlook for 25%-27% constant-currency SaaS revenue growth. We forecast $9.4MM in license revenue for the quarter ($39MM for the full year) and 15.3% adjusted EBITDA margins, down 700 bps both Y/Y and Q/Q as the company continues to invest for growth. With Q4 results, we expect management to provide guidance for 2023, and we forecast subscription revenue growth of 24% Y/Y and adjusted EBITDA margins of 18.5%, down 150 bps Y/Y.

Key Topics For The Quarter

1. **Update On Demand Outlook:** To date, Kinaxis has borne little impact from macroeconomic weakness, with supply chain disruption remaining a focus for C-suite executives. We will be looking for an update on the demand environment, including whether there are any changes to the enterprise sales cycle and mid-market demand. We expect Q4 revenue growth of 48% Y/Y and forecast a 2.5% FX headwind given the depreciating EURO and YEN vs. the USD. We will be looking for an update on Kinaxis' Google Cloud partnership, which was announced in Q4 and expands Kinaxis' multi-cloud approach.

2. **Software & Professional Services Revenue:** We expect 25% Y/Y growth in SaaS revenue this quarter, supported by a strong backlog. We expect professional services to remain an area of strength for the company and estimate Q4 revenue growth of 75% Y/Y, down sequentially from 76%. We will be looking for an update on partner certifications and the ability to meet demand. We will also be seeking management commentary on the hiring environment and headcount utilization in the current environment.

3. **Capital Allocation/M&A:** While Kinaxis is focused primarily on organic growth (30% in constant currency this past quarter), its strong balance sheet can allow it to be opportunistically acquisitive. In Q3, the company announced the $45MM acquisition of MPO Objects, extending KXS' reach into supply chain execution and adding more depth to its planning solution. We will be looking for details on the transaction synergies and integration timeline with this quarter's results. With a cash position of ~$200MM, we foresee further upside if Kinaxis can execute on additional M&A in the current environment. We will also be looking for details relating to its near-term capital-allocation strategy.

Open Text Corporation

Exhibit 26: OTEX – Q2/F23 Estimate Summary

	Q2/F23 (Ending December)			Fiscal Year (Ending June)		
	CIBCe	Consensus	Year Ago	CIBCe	Consensus	Year Ago
Revenue ($MM)	915	871	877	3,589	3,470	3,494
Adj. EBITDA ($MM)	311	313	344	1,294	1,258	1,265
Adjusted EPS	0.77	0.79	0.89	3.25	3.19	3.22

Source: Company reports, FactSet and CIBC World Markets Inc.

Earnings Date: Thursday February 2, after market close

Conference Call Details: Thursday February 2 at 5:00 p.m. ET; Dial-in 1-800-319-4610

FQ2 Overview: FQ2 is typically a seasonally strong quarter for Open Text and we forecast 4% Y/Y revenue growth. This quarter we will be looking for an update on the demand outlook, especially within Europe (30% of revenue), SMB, and the business networks. We believe that the stock's primary catalyst remains the pending acquisition of Micro Focus, expected to close in Q1/C23. If the acquisition is completed before the upcoming quarterly results release, we expect OTEX to provide financial model guidance for Micro Focus and forecast F2023E adjusted EBITDA for the combined company of ~$1.65B

Key Topics For The Quarter

1. **Demand Environment And Investment In Cloud:** We forecast 4% Y/Y revenue growth and a 170 bps sequential decline in EBITDA margins this quarter. We expect cloud to grow at 11.5% as the company benefits from the Zix acquisition. We will be monitoring attrition and growth profiles within the different cloud solutions, with a special focus on the SMB market and business networks. We anticipate FX headwinds of 3.6% this quarter due to the depreciating EURO against the USD**.**

2. **Micro Focus Guidance:** We expect management to provide additional details on the Micro Focus acquisition if the transaction is closed prior to the release of the quarterly results. We forecast the addition of Micro Focus to increase revenue by over 40% and adjusted EBITDA by over 50% (post-synergies) and to tilt Open Text's business back to more legacy enterprise offerings. With Open Text targeting enterprise cloud bookings growth of 15% and cloud revenue growth of 6%-8% in its base business, we will be looking for further details on management's plans to use its scale in cloud to accelerate the cloud transition among Micro Focus' legacy customer base.

3. **Partnerships:** Open Text's customers are increasingly using multi-cloud strategy, which has led Open Text to focus on partnerships with hyperscalers, the most recent being Google. We will be looking for further details on the partnership strategy as it continues to become critical to compete in the information management space.

Q4 Inc.

Exhibit 27: QFOR – Q4/22 Estimate Summary

	Q4/22 (Ending December)			Fiscal Year (Ending December)		
	CIBCe	Consensus	Year Ago	CIBCe	Consensus	Year Ago
Revenue ($MM)	15.2	14.7	13.8	57	57	55
Adj. EBITDA ($MM)	-4.8	-5.2	-3.4	-28.4	-28.6	-13.6
Adjusted EPS	-0.16	-0.17	-0.20	-0.91	-0.90	-1.71

Source: Company reports, FactSet and CIBC World Markets Inc.

Earnings Date: TBD

Conference Call Details: TBD

Q4 Overview: QFOR has been especially hard hit by the macro environment, with the weak IPO market slowing new customer acquisition, increased M&A leading to customer consolidation, and recessionary indicators leading to the tightening of corporate spending. We expect the company to continue to focus on cost optimization as it works towards profitability in H2/23. With Q4 results, we expect to see the realization of cost savings related to the Q3 workforce restructuring. We forecast gross margins of 62% in the quarter, up 200 bps Y/Y. We expect the focus of the earnings call to be the company's gross margin trajectory amidst inflationary pressures and the demand outlook for its solutions.

Key Topics For The Quarter

1. **Update On Demand Outlook:** Revenue growth decelerated last quarter as a challenging macro environment weighed on the business. With IPO activity remaining lethargic, we will look for an update on the company's demand environment, including any sales cycle extensions in Q4. We expect Q4 revenue growth of 10% Y/Y and gross margins of 62%, a sequential expansion of 300 bps as the impact of the Q3 restructuring and price increases starts to materialize. We forecast 7% Y/Y ARR growth in 2022 driven by high customer retention of 96% and will be looking for an update on any major upsell wins during the quarter.

2. **Inflationary Pressures And Profitability Outlook:** QFOR recently announced a restructuring that included an 8% reduction of its workforce. We view this move as necessary for the company to meet its profitability targets in an inflationary environment. We expect the benefits of this restructuring to have started to materialize in Q4 and expect an EBITDA margin in the quarter of -32%, a 2,100 bps sequential improvement but down 800 bps Y/Y. We will be looking for a management update on customers' reception to price increases and for an updated outlook on profitability timelines; we forecast the company to be EBITDA positive in H2/23E.

3. **M&A Outlook:** We expect Q4 Inc. to be fairly quiet on the M&A front in 2023 until the macro picture changes. The company ended Q3 with a cash position of $36MM and no debt on the balance sheet. Given the IPO market slowdown and high uncontrollable churn, we expect the company to retain its cash position to extend its runway rather than engage in M&A in these market conditions.

Softchoice Corporation

Exhibit 28: SFTC – Q4/22 Estimate Summary

	Q4/22 (Ending December)			Fiscal Year (Ending December)		
	CIBCe	Consensus	Year Ago	CIBCe	Consensus	Year Ago
Revenue ($MM)	282	289	258	982	982	903
Adj. EBITDA ($MM)	30	32	26	80	81	69
Adjusted EPS	0.23	0.24	0.27	0.29	0.27	0.65

Source: Company reports, FactSet and CIBC World Markets Inc.

Earnings Date: TBD

Conference Call Details: TBD

Q4 Overview: Softchoice's 2022 guidance remains back-end loaded and we forecast Q4 EBITDA of $29.5MM. We expect the focus on the Q4 call to be the demand environment. SFTC noted a slowdown in enterprise spending in Q3, with the company seeing a decline in spending at a few of its larger accounts. We will be looking for an update on how enterprise spending is tracking. We expect the gross margin to be down 90 bps Y/Y and adjusted EBITDA margins (EBITDA/Gross Profit) to be up 140 bps Y/Y. We expect the company to end 2022 with ~435 account executives (AEs). With Q4 results, we expect management to provide guidance for 2023, and we forecast net revenue growth of 9% Y/Y, gross margins of 32.6% (a 30 bps expansion Y/Y) and adjusted EBITDA margins of 8.3% (expanding 20 bps Y/Y).

Key Topics For The Quarter

1. **Update On Demand Outlook:** We expect ~10% net revenue growth in Q4 and will be looking for management commentary on customer spending patterns post Q4, especially as SFTC derives 90% of overall revenue from SMB/Commercial customers that could be more sensitive to inflationary pressures at this time. We will also be looking for an updated outlook on the Enterprise market, which comprises 10% of overall revenue but about 25% of the company's gross profit and has encountered some company-specific slowdowns.

2. **Growth And Profitability:** SFTC expanded its AE count significantly in H1, ending Q3 with 454 AEs, above its full-year target. Softchoice reiterated its year-end target of ~433 AEs. The headcount additions had an impact on profitability, with gross profit per AE down $10K sequentially in Q3 as new hires ramped up. We expect the company to end the year with ~435 AEs, but do expect a drag on earnings if more AEs are added given the ramp-up needed on new hires coupled with the potential for continued enterprise sales delay.

3. **Capital-allocation Priorities:** While Softchoice has not engaged in any M&A since the company went public, management did note it would be open to acquisitions to deepen the company's technical expertise. We believe the company could look to complete strategic acquisitions that target boutique firms with advanced capabilities in machine learning, AWS, application development and/or Devops. We will be looking for an update on the company's capital-allocation priorities for 2023 with Q4 results.

4. **Management Transition:** SFTC recently announced the appointment of COO Andrew Caprara as President. Mr. Caprara is expected to assume the President & CEO role after the company's AGM on May 31, 2023, at which time current CEO Vince De Palme will become Executive Chair as part of the leadership transition plan.

TELUS International (CDA), Inc.

Exhibit 29: TIXT – Q4/22 Estimate Summary

	Q4/22 (Ending December)			Fiscal Year (Ending December)		
	CIBCe	Consensus	Year Ago	CIBCe	Consensus	Year Ago
Revenue ($MM)	626	633	600	2,464	2,472	2,194
Adj. EBITDA ($MM)	154	156	143	604	606	540
Adjusted EPS	0.30	0.32	0.28	1.18	1.20	1.01

Source: Company reports, FactSet and CIBC World Markets Inc.

Earnings Date: Thursday, February 9, before market open

Conference Call Details: Thursday February 9 at 10:30 a.m. ET; **Webcast**

Q4 Overview: We expect the focus on the quarterly call to be the demand environment and financial guidance inclusive of the recently acquired WillowTree. We forecast revenue of $3B in 2023, reflecting 23% Y/Y growth and margins of 24.3%, a 20 bps Y/Y contraction as WillowTree is added to the company's operating model. TIXT reduced its 2022 guidance with last quarter's results on the back of FX, elongating sales cycles and slowing spending in certain verticals. We expect EBITDA margins of 24.9% in Q4,up 80 bps Y/Y. We continue to regard TELUS International (TI) as well positioned to benefit from digital transformation spending but do foresee some risks due to slowdowns in certain key verticals like tech/games and social media in a recessionary environment.

Key Topics For The Quarter

1. **Update On The Sales Environment:** With last quarter's results, TI decreased its full-year revenue guidance to reflect lengthening sales cycles and slowing spending in certain verticals. The new revenue guidance implies 5% Y/Y revenue growth for Q4/22 and full-year constant-currency growth of 17% (prior 21%). With Q4 results, we will be looking for an update on the global demand environment, and particularly on demand in key verticals like social media and tech/games, including any notable customer/project wins. While the macro environment is an overhang, we foresee upside if TI can leverage its competitive position to expand market share as customers look to drive cost savings. We forecast 13% 2023E revenue growth in TIXT's core business.

2. **Labour And Profitability Outlook:** TI has slowed hiring to manage inflation, with last quarter being the first quarter with flat sequential headcount growth. We expect this hiring slowdown to continue as increasing macro uncertainty continues to impact the company and its end customers. With its focus on cost optimization, TI's profitability was ahead of Street expectations last quarter and led to an increase in full-year margin guidance. We expect margins of 24.6% this quarter, up 80 bps Y/Y. We will also look for an update on the extent to which the company is able to mitigate inflationary pressures through price increases.

3. **Integrating WillowTree:** We view the $1.225B acquisition of WillowTree as in line with TI's strategy. The acquisition adds a high-growth (~50% Y/Y) business that expands TI's digital solution set and brings a blue-chip customer base. We expect the company to provide financial guidance for WillowTree, which closed post 2022, with Q4 results. We forecast that WillowTree will add ~$235MM in revenue, with margins slightly (40 bps) below TIXT's stand-alone margin.

CIBC Ratings and Price Targets

Ticker	Price	Price Target Prior	Price Target Current	Rating Prior	Rating Current

Source: Company reports and CIBC World Markets Inc.

Changes To CIBC Estimates

Ticker	Earnings Type	FYE	2020 Prior	2020 Current	2021 Prior	2021 Current	2022 Prior	2022 Current
CTS-CA	Adj. EBITDA	Dec	C$60.49	C$60.49	C$94.04	C$94.04	C$134.66	C$138.71
ENGH-CA	Adj. EBITDA	Oct	--	C$176.82	C$168.51	C$168.51	C$140.62	C$140.62

Source: Company reports and CIBC World Markets Inc.

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