

EQUITY RESEARCH

October 13, 2022

Industry Update

Chips Are Falling – Bits & Bytes Weekly

No Shortage Of Headwinds For The Semiconductor Industry

Our Conclusion

Semiconductor stocks haven't been able to catch a break recently as concerns around a slowing economy and rising rates have been compounded by new restrictions on exports to China. A bundle of the seven largest Semiconductor stocks by market cap is down 50% YTD and 20% this month. Recent earnings misses from AMD and Samsung have signalled further downside risks, including IDC's recently released datapoints on the slowing PC market.

Key Points

The premium valuations enjoyed by high-flying Semiconductor stocks have been wiped out in recent weeks as a result of analyst downgrades and earnings revisions, with Semi names now trading at two-year trough multiples, a stark reversal from November 2021 highs. Rising geopolitical tensions have been the main catalyst for the selloff this week, with the Biden administration announcing on Friday that companies will need permission to sell certain chips that are used for AI and supercomputing to China. This news added pressure to a market that is already seeing a sharp drop in demand for memory chips and PC processors as the economy cools and has pushed Semi stocks to two-year lows.

Export restrictions weren't the only piece of bad news, as a recent Bloomberg report suggested that Intel could reportedly cut about 20% of its workforce, with layoff announcements expected as early as this month. If there's any merit to the news, it will be the largest staff reduction since 2016 when Intel laid off 12% of its headcount upon announcing its quarterly results. Intel is expected to report earnings on October 27, where we anticipate the company will provide more clarity on its staffing plans.

While the new restrictions on exports to China certainly add to the bearish sentiment for chip stocks, falling PC sales and increased competition in the space have been impacting these stocks for more than just a few weeks. IDC recently reported that PC sales fell 15% Y/Y for the third straight quarter, while competition continues to increase, with Apple recently announcing that it will make its own chips. Many of the companies in our coverage have felt the pressure of supply chain disruptions, with heightened demand creating significant backlogs this time last year. The same companies are now noticing the issues dissipating dramatically with expectation of a fully normalized chip-related supply chain environment by early 2023.

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Sector:
Information Technology

\$240B In Market Value Erased

As shown in the table in Exhibit 1, Semiconductor stocks are down on average 48% YTD, with 20% of the decline coming in the past month as industry data highlighted that slowing PC demand and interest rate hikes continue to pose near-term headwinds on the sector. By comparison, the S&P 500 Software index has declined 33% YTD, and the S&P500 Global index has declined 24% YTD.

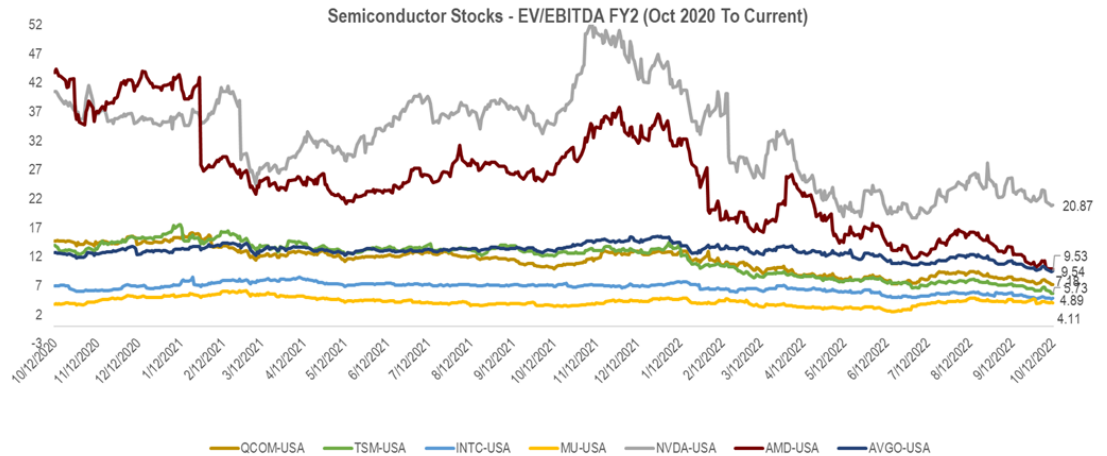
Exhibit 1: Semiconductor Stocks – Price Change %, YTD to Oct 31, 2022

Ticker	Share Price (US\$)	Market Cap.(US\$)	EV/EBITDA FY2	1 Mth % Change	1 Wk % Change	YTD % Change
TSM	63.74	323,611	5.74	-22%	-14%	-47%
QCOM	109.23	122,508	7.17	-18%	-13%	-40%
INTC	25.28	103,738	4.85	-20%	-9%	-51%
MU	53.1	57,837	4.1	-8%	-3%	-43%
NVDA	115.03	286,724	20.73	-21%	-13%	-61%
AMD	57.54	92,985	9.88	-32%	-15%	-60%
AVGO	431.77	179,923	9.5	-18%	-11%	-35%
Average				-20%	-11%	-48%

Source: FactSet and CIBC World Markets Inc.

NVDA and AMD have historically traded at a 3.5x and 2.7x premium to their peer set. While this premium is still in place for NVDA, the premium has narrowed by one turn for AMD, with the stock now trading 1.6x above peer average. All names evaluated below are currently trading at their two-year trough EV/EBITDA FY2 multiple.

Exhibit 2: Semiconductors Stocks – EV/EBITDA FY2, Oct 2020 To Current



Source: Company reports and CIBC World Markets Inc.

News Impacting Our Coverage

CGI And Aktia Announce Strategic Business And IT Partnership

This strategic partnership will give CGI the responsibility for a major part of Aktia's banking IT services, including the development and maintenance of 150 mission-critical applications. Valued at 50 MEUR (approx. 75MM CAD), this partnership will enable Aktia to enhance the operation and development of existing banking products and services and accelerate the development of new products and services to improve the customer experience.

Q4 Announces Expansion Of Two Of Its Products To Europe

The Q4 Engagement analytics and the virtual events platform will now be available to customers in Europe, expanding the company's geographic reach. The engagement analytics platform aggregates the actions of investors and shareholders, turning behavioural data into insights, while the events platform provides a seamless experience for hosting events with investors, including company events.

Kinaxis Partners With Google Cloud To Scale Global Supply Chain Management And Concurrent Planning

This partnership will expand Kinaxis' multi-cloud strategy, which enables the deployment of RapidResponse and its suite of connected applications on a Kinaxis-hosted and supported private cloud, as well as other public clouds, including Google cloud. The multi-cloud strategy is critical for Kinaxis to expand customer reach.

Exhibit 3: CIBC Software/Services – Coverage Performance, 10/12/2021 - 10/12/2022

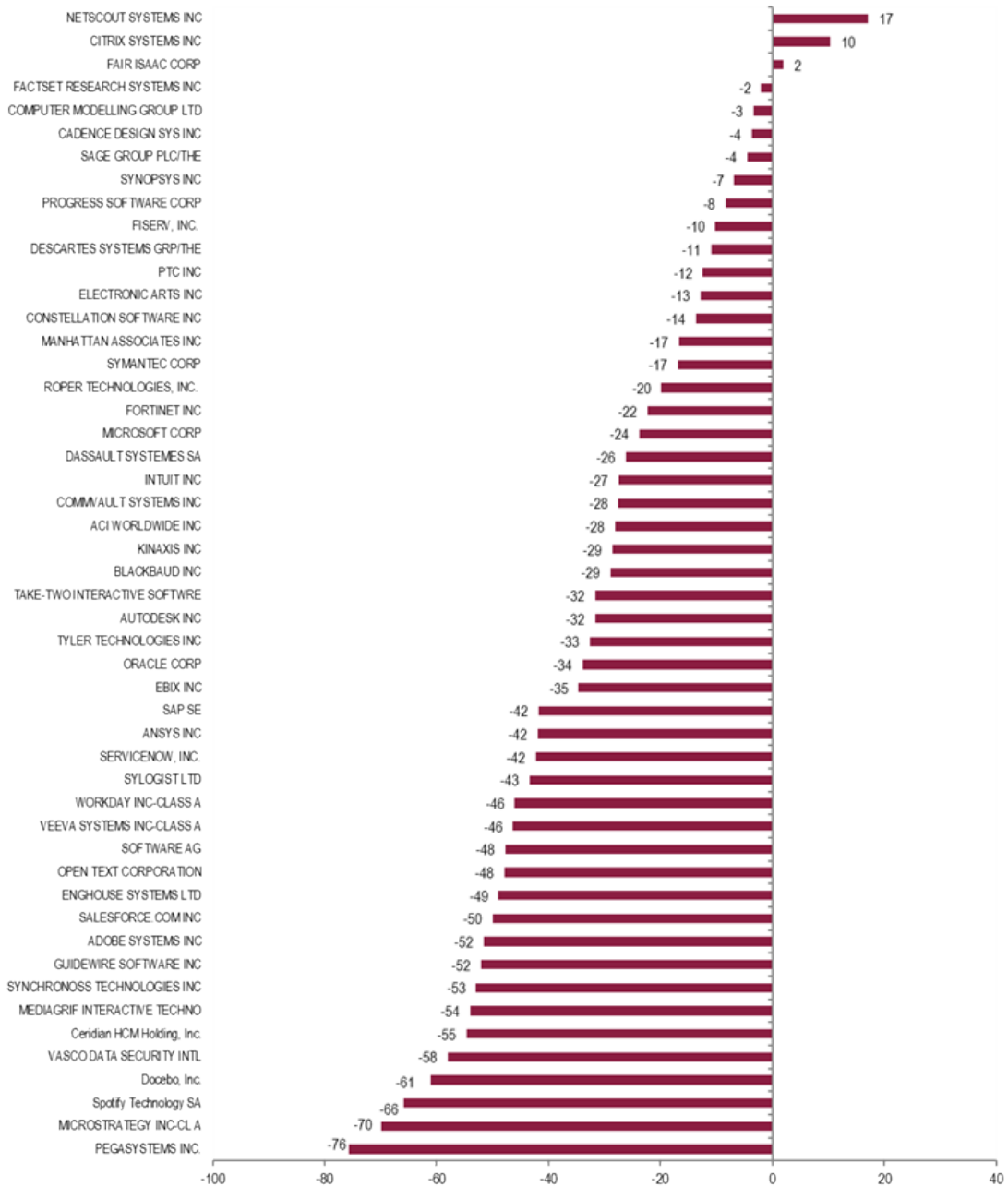
Software & Systems	Price	1 Week	1 Month	3 Month	6 Month	1 Year	YTD	52-week High	52-week Low
Constellation Software Inc	1,840.00	(5.6)	(10.1)	(4.4)	(15.6)	(11.9)	(21.6)	2385.80	1783.98
Descartes Systems	66.89	(4.7)	(3.6)	5.7	9.3	(17.8)	(19.1)	91.39	56.19
Enghouse Systems Limited	28.39	(3.1)	(7.6)	(2.1)	(23.9)	(48.2)	(41.4)	61.45	23.96
Open Text Corp	25.74	(7.6)	(17.6)	(31.5)	(38.1)	(47.1)	(45.8)	52.70	24.91
Kinaxis	134.74	(5.9)	(6.1)	(4.2)	(8.0)	(28.3)	(24.0)	229.98	119.48
Docebo, Inc.	36.69	(6.8)	(11.4)	4.2	(40.5)	(59.0)	(56.8)	102.93	32.35
Magnet Forensics	22.57	(4.8)	(5.0)	25.9	(15.1)	(42.0)	(31.3)	43.13	14.89
Q4 Inc.	3.72	(2.9)	(17.3)	(15.6)	(22.8)	NA	(56.2)	12.05	3.65
Software & Systems Average		(5.2)	(9.9)	(2.7)	(19.3)	(36.3)	(37.0)		

Business Services	Price	1 Week	1 Month	3 Month	6 Month	1 Year	YTD	52-week High	52-week Low
CGI Group Inc	102.97	(4.3)	(3.1)	(4.2)	1.6	(4.9)	(7.9)	116.00	95.45
Converge Technologies	6.26	(11.8)	3.1	22.5	(31.2)	(31.8)	(42.4)	12.80	4.85
Softchoice Corporation	19.48	(5.8)	2.7	(15.7)	(24.1)	(33.0)	(8.8)	29.48	17.48
Telus International	24.94	(10.4)	(17.7)	(6.5)	4.2	(28.7)	(24.6)	39.91	20.73
Business Services Average		(8.1)	(3.7)	(1.0)	(12.4)	(24.6)	(20.9)		

Indices	Price	1 Week	1 Month	3 Month	6 Month	1 Year	YTD
S&P/TSX Composite Index	18,206.28	(5.3)	(8.9)	(0.7)	(16.7)	(10.9)	(14.2)
S&P 500 Index	3,577.03	(5.5)	(13.0)	(5.6)	(18.6)	(17.8)	(24.9)
S&P/TSX Software Index	119.29	(8.0)	(11.5)	(7.3)	(24.6)	(45.2)	(43.8)
S&P500 Software Index	3,831.03	(8.8)	(16.1)	(10.3)	(19.8)	(28.2)	(34.5)

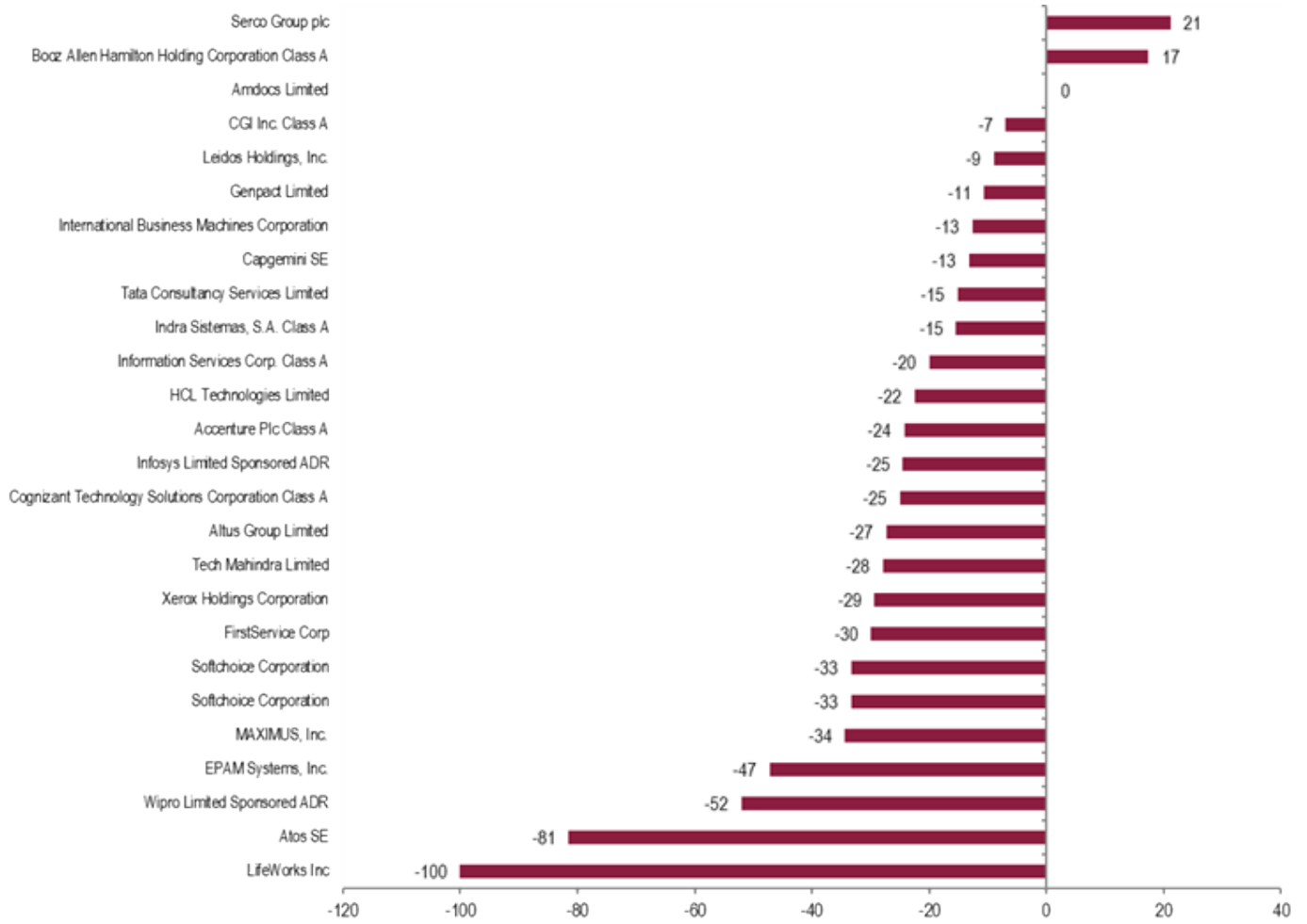
Source: FactSet and CIBC World Markets Inc.

Exhibit 4: Software Stocks – Return Performance (%), 10/12/2021 - 10/12/2022



Source: FactSet and CIBC World Markets Inc.

Exhibit 5: Business Services Stocks – Return Performance (%), 10/12/2021 - 10/12/2022



Source: FactSet and CIBC World Markets Inc.

Exhibit 6: Software Stocks – Comp Table, 2021 - 2023E

	Enterprise Value	EV/S			EV/EBITDA			P/E		
		C21	C22E	C23E	C21	C22E	C23E	C21	C22E	C23E
Enterprise Application Software										
Constellation Software Inc.*	29,703	5.8x	4.5x	4.0x	19.7x	17.5x	15.0x	42.9x	24.1x	21.8x
BlackBerry Limited*	2,314	2.6x	3.4x	2.3x	47.2x	NEG	NEG	NEG	NEG	NEG
Sage Group plc	7,215	3.9x	3.6x	3.3x	17.4x	15.3x	13.9x	26.1x	24.7x	22.0x
Tyler Technologies, Inc.	14,672	9.2x	7.9x	7.2x	41.7x	31.0x	28.5x	>50	43.9x	40.6x
Roper Technologies, Inc.	46,597	8.1x	8.9x	8.3x	21.0x	21.7x	19.8x	35.5x	26.8x	24.5x
Enghouse Systems Limited	1,360	3.0x	3.2x	3.28x	8.4x	10.0x	9.9x	17.0x	21.5x	21.4x
Oracle Corporation	229,513	5.7x	4.9x	4.5x	12.3x	9.8x	8.9x	14.0x	12.9x	12.0x
SAP SE	108,922	3.9x	3.6x	3.3x	15.2x	12.8x	11.4x	19.3x	17.7x	15.7x
Enterprise Application Software Average		5.3x	5.0x	4.5x	22.9x	16.9x	15.3x	25.8x	24.5x	22.6x
Extended ERP										
Adobe Incorporated	131,906	8.3x	7.4x	6.6x	19.7x	15.1x	13.5x	28.5x	20.8x	18.2x
Open Text Corporation	9,726	2.8x	2.7x	2.6x	7.6x	7.8x	7.3x	8.1x	8.2x	7.6x
Manhattan Associates, Inc.	7,772	11.7x	10.5x	9.5x	>50	39.9x	34.6x	>50	>50	48.2x
Pegasystems Inc.	2,843	2.3x	2.2x	2.0x	NEG	>50	25.0x	NEG	>50	39.2x
Software AG	1,237	1.5x	1.3x	1.2x	8.0x	6.2x	5.4x	18.3x	13.5x	11.1x
Fiserv, Inc.	81,068	5.0x	4.8x	4.5x	14.6x	11.3x	10.4x	47.2x	14.5x	12.7x
Extended ERP Average		5.3x	4.8x	4.4x	12.5x	16.1x	16.0x	25.5x	14.2x	22.8x
Software As A Service										
Descartes Systems Group Inc.	5,491	12.9x	11.2x	10.1x	29.7x	25.6x	22.6x	>50	>50	>50
Kinaxis, Inc.*	2,514	10.0x	7.0x	6.2x	>50	38.7x	34.4x	>50	>50	>50
Docebo, Inc.*	664	6.4x	4.6x	3.4x	NEG	NEG	>50	NEG	NEG	NEG
Lightspeed Commerce Inc*	1,694	3.6x	2.4x	1.8x	NEG	NEG	NEG	NEG	NEG	NEG
Veeva Systems Inc Class A	22,602	15.4x	10.7x	9.2x	>50	26.9x	23.2x	>50	39.0x	34.6x
Shopify, Inc. Class A	22,286	4.8x	4.1x	3.3x	>50	NEG	>50	11.4x	NEG	>50
Q4 Inc*	64	1.2x	1.2x	1.1x	NEG	NEG	NEG	NEG	NEG	NEG
Magnet Forensics, Inc.*	559	8.0x	6.0x	4.6x	30.0x	36.4x	20.5x	>50	>50	>50
Ceridian HCM Holding, Inc.	9,330	9.1x	7.6x	6.5x	>50	42.6x	34.3x	NEG	>50	>50
ServiceNow, Inc.	73,470	12.5x	10.0x	8.2x	>50	32.3x	25.9x	>50	>50	40.0x
Workday, Inc. Class A	35,298	8.2x	5.8x	4.8x	>50	22.6x	18.5x	NEG	41.9x	33.1x
Software As A Service Average		8.4x	6.4x	5.4x	29.8x	32.2x	25.6x	11.4x	40.5x	35.9x
Infrastructure Vendors										
Microsoft Corporation	1,657,262	9.9x	7.9x	7.1x	20.5x	16.0x	14.1x	28.0x	23.4x	20.6x
Infrastructure Vendors Average		9.9x	7.9x	7.1x	20.5x	16.0x	14.1x	28.0x	23.4x	20.6x
Software Average										
		6.8x	5.7x	5.0x	20.9x	22.0x	18.9x	24.7x	23.8x	24.9x

*Share Price Converted to USD

Source: FactSet and CIBC World Markets Inc.

Exhibit 7: Business Services Stocks – Comp Table, 2021 - 2023E

	Enterprise Value (\$mlns.)	EV/EBITDA			P/E			EV/S		
		C21	C22E	C23E	C21	C22E	C23E	C21	C22E	C23E
Business & IT Services										
CGI Inc. Class A	27,638	11.2x	10.8x	10.3x	18.4x	16.7x	15.8x	2.3x	2.1x	2.1x
TELUS International (CDA), Inc.	7,563	14.0x	12.2x	10.4x	24.7x	20.8x	16.5x	3.4x	2.9x	2.6x
Accenture Plc Class A	153,613	16.0x	13.2x	12.5x	27.3x	22.8x	21.1x	3.0x	2.5x	2.3x
Booz Allen Hamilton	14,878	16.7x	15.4x	14.5x	21.6x	21.8x	20.0x	1.9x	1.7x	1.6x
CACI International Inc Class A	7,863	10.6x	11.8x	10.9x	13.7x	13.9x	13.1x	1.3x	1.2x	1.2x
DXC Technology Co.	9,634	4.8x	4.0x	3.9x	NEG	7.6x	6.2x	0.5x	0.6x	0.7x
Genpact Limited	9,007	14.0x	11.5x	10.2x	22.5x	15.8x	14.1x	2.2x	2.1x	1.9x
International Business Machines	153,770	11.4x	9.9x	9.3x	18.5x	12.7x	11.9x	2.7x	2.6x	2.5x
Atos SE	2,715	2.6x	2.8x	2.6x	NEG	11.3x	5.1x	0.3x	0.2x	0.3x
Capgemini SE	32,694	11.3x	9.3x	8.6x	23.8x	14.7x	13.4x	1.8x	1.5x	1.4x
Sopra Steria Group SA	3,738	7.1x	6.2x	5.7x	13.2x	9.0x	8.4x	0.8x	0.7x	0.7x
Converge Technology Solutions C	1,349	14.3x	9.0x	7.3x	>50	38.1x	20.9x	0.9x	0.6x	0.5x
Business & IT Services Average		10.9x	9.7x	9.0x	20.4x	15.2x	13.2x	1.8x	1.7x	1.6x
HR Outsourcing										
		EV/EBITDA			P/E			EV/S		
Ceridian HCM Holding, Inc.	9,330	>50	42.6x	34.3x	NEG	>50	>50	9.1x	7.6x	6.5x
Willis Towers Watson	22,878	10.2x	9.7x	9.0x	6.1x	14.9x	13.0x	2.5x	2.6x	2.5x
Aon Plc Class A	67,353	17.6x	16.8x	15.8x	49.3x	20.8x	18.9x	5.5x	5.3x	5.1x
Automatic Data Processing, Inc.	95,229	24.8x	20.9x	18.8x	36.9x	29.8x	26.5x	6.3x	5.5x	5.2x
Paychex, Inc.	38,555	23.3x	17.9x	16.7x	35.6x	26.9x	24.9x	9.5x	8.0x	7.5x
HR Outsourcing Average		19.0x	21.6x	18.9x	32.0x	23.1x	20.8x	6.6x	5.8x	5.3x
Information Services										
		EV/EBITDA			P/E			EV/S		
Broadridge Financial Solutions, Inc.	20,272	17.4x	15.5x	14.5x	30.1x	20.7x	19.1x	4.0x	3.4x	3.3x
Dye & Durham Ltd.	2,021	12.7x	12.7x	8.9x	>50	>50	24.9x	5.4x	3.5x	3.0x
Deluxe Corporation	2,155	5.8x	5.2x	5.1x	11.1x	3.9x	3.8x	1.1x	1.0x	1.0x
Information Services Corp	383	5.7x	5.9x	5.8x	10.3x	10.2x	10.7x	2.3x	2.0x	1.9x
Information Services Average		10.4x	9.8x	8.6x	17.2x	11.6x	14.6x	3.2x	2.5x	2.3x
Financial Services Technology										
		EV/EBITDA			P/E			EV/S		
Fidelity National Information Services	63,724	10.4x	9.8x	9.1x	>50	10.5x	9.5x	4.6x	4.3x	4.1x
Fiserv, Inc.	81,068	14.6x	11.3x	10.4x	47.2x	14.5x	12.7x	5.0x	4.8x	4.5x
Jack Henry & Associates, Inc.	13,400	19.2x	21.2x	19.5x	44.1x	36.2x	33.8x	7.6x	6.7x	6.2x
ACI Worldwide, Inc.	3,478	9.5x	8.7x	8.0x	20.1x	16.3x	13.9x	2.5x	2.5x	2.4x
Temenos AG	5,708	10.4x	12.0x	11.1x	27.2x	16.5x	14.8x	5.9x	5.5x	5.1x
Global Payments Inc.	40,215	11.0x	10.3x	9.4x	32.6x	11.4x	10.0x	4.7x	5.0x	4.6x
Financial Services Technology Average		12.5x	12.2x	11.2x	34.2x	17.5x	15.8x	5.1x	4.8x	4.5x
Diversified Real Estate Services										
		EV/EBITDA			P/E			EV/S		
Colliers International Group Inc.	4,843	8.8x	7.5x	6.6x	-10.1x	12.3x	11.3x	1.2x	1.1x	1.0x
Altus Group Limited	2,219	21.4x	20.2x	16.8x	24.2x	24.2x	26.5x	3.5x	3.5x	3.0x
CBRE Group, Inc. Class A	23,775	11.1x	7.6x	7.5x	12.7x	11.1x	11.0x	0.9x	0.8x	0.7x
Jones Lang LaSalle Incorporated	9,556	6.5x	6.6x	6.5x	8.7x	8.4x	8.0x	0.5x	0.4x	0.4x
Diversified Real Estate Services Average		12.0x	10.5x	9.3x	8.8x	14.0x	14.2x	1.5x	1.5x	1.3x
Software Focused IT Solutions/VARs										
		EV/EBITDA			P/E			EV/S*		
Softchoice Corporation* USD	916	37.5x	11.0x	9.1x	NEG	19.9x	15.2x	3.4x	2.8x	2.6x
Softcat Plc*	2,082	12.4x	13.3x	12.7x	16.7x	18.3x	18.1x	5.6x	5.7x	5.2x
Crayon Group Holding ASA*	9,518	>50	>50	>50	>50	>50	>50	>50	24.6x	20.9x
Bytes Technology Group Plc*	898	18.5x	14.9x	13.4x	36.7x	20.4x	19.5x	NA	NA	NA
SoftwareONE Holding Ltd.*	1,240	7.5x	5.4x	4.7x	13.1x	13.5x	12.3x	5.9x	1.3x	1.1x
Bytes Technology Group Plc* Average		19.0x	11.2x	10.0x	22.2x	18.1x	16.3x	5.0x	8.6x	7.5x
Business Services Average		13.2x	12.2x	11.0x	22.7x	16.5x	15.3x	3.6x	3.7x	3.4x

*Software Focused IT Solutions/VARs uses EV/GP metric.

Source: FactSet and CIBC World Markets Inc.

Exhibit 8: SaaS Stocks – Comp Table, 2021 - 2023E

	LTM Revenue	LTM FCF	NTM Revenue	NTM FCF	LTM Rule	NTM Rule	Enterprise Value (\$MM)	EV/S		
	Growth	Margin	Growth	Margin	Of 40	Of 40		C21	C22E	C23E
Tier 1 SaaS (Rule of 40 > 60)										
Zoom Video Communications	18%	31%	6%	27%	49%	33%	17,065	6.4x	3.9x	3.9x
CrowdStrike Holdings, Inc.	61%	30%	44%	28%	91%	72%	34,483	39.4x	15.9x	15.9x
Shopify, Inc.	30%	1%	21%	-9%	31%	12%	21,454	4.7x	3.9x	3.9x
Zscaler, Inc.	62%	24%	38%	22%	86%	60%	20,433	30.4x	16.2x	16.2x
Lightspeed POS, Inc.	101%	-19%	34%	-5%	82%	29%	1,658	7.5x	2.4x	2.4x
DocuSign, Inc.	30%	20%	11%	15%	51%	27%	9,184	6.3x	3.8x	3.8x
Veeva Systems Inc	20%	38%	15%	37%	58%	52%	22,602	15.4x	10.7x	10.7x
Atlassian Corp. Plc	34%	27%	29%	22%	61%	50%	51,703	24.7x	16.2x	16.2x
Twilio, Inc.	51%	-6%	28%	-2%	45%	26%	8,239	2.9x	2.1x	2.1x
ServiceNow, Inc.	28%	31%	23%	30%	58%	53%	73,470	12.5x	10.0x	10.0x
HubSpot, Inc.	42%	16%	23%	12%	58%	35%	12,274	9.4x	7.2x	7.2x
Tier 1 SaaS (Rule of 40 > 60) Average								14.5x	8.4x	8.4x

	LTM Revenue	LTM FCF	NTM Revenue	NTM FCF	LTM Rule	NTM Rule	Enterprise Value (\$MM)	EV/S		
	Growth	Margin	Growth	Margin	Of 40	Of 40		C21E	C22E	C23E
Tier 2 SaaS (Rule of 40 b/w 40-60)										
Docebo, Inc.	50%	-2%	36%	-4%	48%	32%	667	6.4x	4.6x	3.4x
Qualys, Inc.	17%	40%	18%	36%	56%	55%	4,676	11.3x	9.6x	9.6x
Descartes Systems	20%	37%	10%	37%	57%	47%	5,491	12.9x	11.2x	10.1x
Avalara Inc	33%	3%	21%	3%	36%	24%	7,674	11.0x	8.9x	8.9x
Five9, Inc.	34%	-4%	23%	7%	30%	30%	4,187	6.9x	5.3x	5.3x
Dropbox, Inc.	11%	33%	6%	34%	44%	40%	7,819	3.6x	3.4x	3.4x
Wix.com Ltd.	16%	-1%	8%	3%	15%	11%	3,860	3.0x	2.8x	2.8x
Workday, Inc.	22%	21%	19%	20%	43%	39%	35,298	8.2x	5.8x	5.8x
VMware, Inc.	7%	24%	6%	29%	31%	35%	55,088	4.7x	4.1x	4.1x
Tier 2 SaaS (Rule of 40 b/w 40-60) Average								7.6x	6.2x	5.9x

	LTM Revenue	LTM FCF	NTM Revenue	NTM FCF	LTM Rule	NTM Rule	Enterprise Value (\$MM)	EV/S		
	Growth	Margin	Growth	Margin	Of 40	Of 40		C21E	C22E	C23E
Tier 3 SaaS (Rule of 40 b/w 28-40)										
BlackLine, Inc.	22%	8%	22%	6%	30%	28%	3,478	8.2x	6.6x	6.6x
Zendesk, Inc.	30%	12%	21%	14%	42%	35%	9,606	7.2x	5.7x	5.7x
MongoDB, Inc.	54%	-2%	25%	2%	52%	27%	11,902	20.2x	10.1x	10.1x
LivePerson, Inc.	19%	-27%	5%	-4%	-8%	1%	739	1.6x	1.4x	1.4x
Rapid7 Inc.	33%	5%	23%	11%	38%	34%	3,050	5.7x	4.4x	4.4x
Paylocity Holding Corp.	34%	16%	28%	15%	50%	43%	12,387	19.5x	12.7x	12.7x
Q2 Holdings, Inc.	18%	0%	18%	3%	18%	21%	1,951	3.9x	3.4x	3.4x
Akamai Technologies, Inc.	7%	24%	3%	21%	31%	24%	14,245	4.1x	4.0x	4.0x
Tier 3 SaaS (Rule of 40 b/w 28-40) Average								8.8x	6.0x	6.0x

	LTM Revenue	LTM FCF	NTM Revenue	NTM FCF	LTM Rule	NTM Rule	Enterprise Value (\$MM)	EV/S		
	Growth	Margin	Growth	Margin	Of 40	Of 40		C21E	C22E	C23E
Tier 4 SaaS (Rule of 40 <28)										
RingCentral, Inc.	33%	8%	22%	9%	40%	31%	4,349	2.7x	2.2x	2.2x
Teradata Corporation	-3%	19%	-3%	23%	16%	20%	3,017	1.6x	1.7x	1.7x
Zuora, Inc.	15%	4%	13%	0%	19%	13%	718	2.4x	1.8x	1.8x
New Relic, Inc.	20%	3%	17%	1%	23%	18%	3,263	4.9x	3.7x	3.7x
Kinaxis, Inc.	35%	7%	22%	9%	42%	31%	2,514	10.0x	7.0x	6.2x
Yext, Inc.	8%	3%	3%	-1%	11%	2%	405	1.1x	1.0x	1.0x
Splunk Inc.	26%	7%	21%	14%	33%	35%	12,758	5.7x	3.8x	3.8x
Tier 4 SaaS (Rule of 40 <28) Average								4.1x	3.0x	2.9x

SaaS Average								9.3x	6.2x	6.1x
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Source: Company reports and CIBC World Markets Inc.

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