

## EQUITY RESEARCH

November 25, 2021

Industry Update

### Facing Regulation – Bits & Bytes Weekly

Facial Recognition, A Contentious Topic

#### Our Conclusion

Clearview AI, a provider of facial-recognition software running on neural networks, recently ranked among top 10 in accuracy in a U.S. federal test that ranked 100 global facial recognition vendors. While facial recognition technology accuracy has been improved through the use of deep learning and matching algorithms, the technology is still highly controversial. Clearview's use of personally identifiable information without explicit consent has been heavily criticized and questions around the legality of the software loom large. Canada and Australia have both found Clearview AI in violation of privacy laws, and Australia has ordered the company to destroy all images and facial templates belonging to Australian residents. These negative headlines highlight the importance of clear data sharing policies and the need for independent review and consistent monitoring of surveillance technology to prevent misuse.

#### Key Points

By combining advanced AI technology and a willingness to operate in a legal gray zone, companies like Clearview AI have developed extremely effective facial recognition software. The company accurately matched 99.86% of U.S. visa photos in the test noted above. Clearview AI uses images scraped from public domains such as Instagram, Venmo and LinkedIn to develop and train algorithms. This approach differs from traditional facial-recognition software that compares photographs to a small database of identifiable people. In the EU, the General Data Protection Regulation (GDPR) regulates the technology. By contrast, many other jurisdictions do not have these types of regulations in place, enabling data scraping and data collection without consent.

Facial-recognition applications have moved beyond unlocking cell phones and are gaining traction in a number of use cases. According to Grandview Research, the industry is expected to grow at 15% CAGR to reach US\$12 billion of revenue worldwide by 2028. This growth is to be driven by adoption in different verticals, advancements such as 3D recognition, and cloud-based solutions. However, privacy concerns may limit the growth potential. There have been a number of challenges to facial recognition software. In 2020 the American Civil Liberties Union (ACLU) launched a lawsuit against the Department of Homeland Security (DHS)'s use of facial recognition technology at airports, and in May 2021, 40 advocacy groups demanded a ban on the use of Amazon's Rekognition software by police departments in the U.S. Amazon has since indefinitely extended its moratorium on sales to law enforcement, joining peers IBM and Microsoft in self-curbing the rollout of the technology. Meta/Facebook also recently announced it would stop using facial recognition features and would delete face data collected from users, citing privacy concerns.

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**Sector:**  
Information Technology

All figures in Canadian dollars unless otherwise stated.

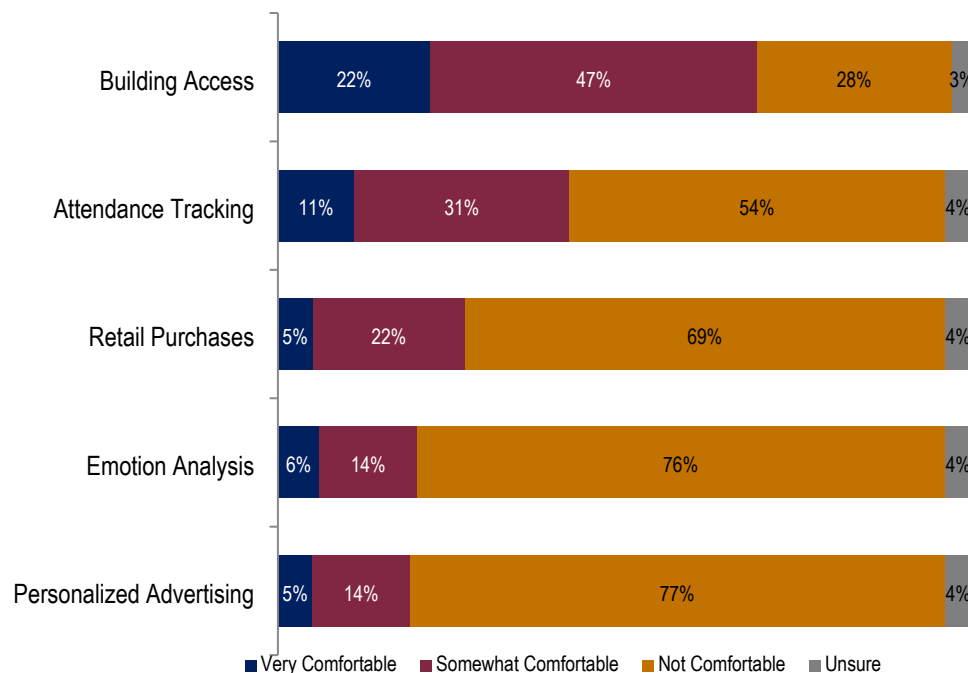
For required regulatory disclosures please refer to "Important Disclosures" beginning on page 10.

In addition to the core concerns of mass surveillance and a lack of consent to collect data, questions around the efficacy of AI-powered facial recognition remain. Despite improvements in accuracy in the last decade, some research has found higher error rates in assessments on darker-skin tones and on women. As technologists layer on deep learning and neural network, critics are concerned that these biases could perpetuate, increasing the risk of racial and gender inequality.

Despite the global privacy concerns, China remains a proponent of wide deployment of facial recognition. The country continues to invest in facial recognition towers for mass surveillance embedded in a wider smart-city blueprint. It is also an early adopter of the technology in the private sector, where retail stores use facial recognition to reduce theft and to personalize the shopping experience. While Chinese tech companies have seen their overseas listing opportunities shrink, AI-focused giants are poring over plans to list domestically. SenseTime, which raised US\$5.2 billion across 12 rounds, recently received regulatory approval for its IPO on the Hong Kong Stock Exchange. The listing could raise as much as US\$2 billion. Its competitor Megvii (maker of FACE++) is readying for a list on China's Nasdaq-style STAR board.

The bar chart in Exhibit 1 shows the results of a consumer survey conducted by Getapp in 2020. While 75% surveyed were comfortable with the application of facial recognition technology in passport control, approval drops to 46% for police surveillance. The survey suggests that consumers have greater comfort level for practical security applications such as building access, but a reluctance for facial recognition to be used in non-security applications. Overall, only one-third of the respondents are comfortable having their face scanned by private companies (excluding healthcare providers). In a Nature.com study surveying 480 facial-recognition focused researchers, most respondents want additional regulations for the use of such technologies by companies. Sixty-six percent said notice should be displayed when facial recognition cameras are in use, and 61% think people should be able request what pictures are taken of them and what is done with the data.

**Exhibit 1: U.S. Consumer Survey – Comfort Level With Different Uses Of Facial Recognition – 2020**



Source: Getapp and CIBC World Markets Inc.

## News Impacting Our Coverage

### Research Highlight: CGI Inc. – Investor Day Outlines Digital Strategy

CGI hosted a virtual Investor Day on November 22. We provide a summary of key takeaways in our linked note below. We continue to see CGI as well positioned in a market that is seeing accelerated demand for digital solutions, with the company navigating a tight labour market well. [Link to note](#)

### Research Highlight: Enghouse Systems – In The Midst Of A Strategic Process?

Bloomberg reported this week 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. More details are included in the [linked note](#).

### Constellation Announces Changes of Board Of Directors

Constellation Software's board of directors announced the resignation of Steve Scotchmer, and the appointment of Laurie Schultz. Mr. Scotchmer had been on the board since 2000. Ms. Schultz has more than 30 years of experience in the software and technology sectors, including leadership of software businesses across sectors spanning personal finance, small business accounting, SaaS, mid-market ERP, and GRC. She served as the President and CEO of Galvanize from 2011 until its sale in 2021.

### Dye & Durham Partners With LAWPRO To Add TitlePlus To Unity

Dye & Durham announced it has entered into a new agreement with LAWPRO to make TitlePlus title insurance policies available on its practice management platform Unity. With the addition, Unity users will be able to order title insurance policies from TitlePlus directly in the solution, streamlining workflow.

### Open Text Announces Acquisition Of Bricata

Open Text announced its acquisition of Bricata, a Maryland-based Network Detection & Response (NDR) technology company. Bricata provides NDR security technologies that analyze network traffic for potential threats, reducing false-positive security alerts while responding to actual threats. The acquisition of Bricata brings a number of MSSP partners including PwC and value added resellers including Optiv. With the acquisition, Open Text can now collect and analyze data from all sources across cloud, network, endpoints, email and webserver. Financial terms of the transaction were not disclosed.

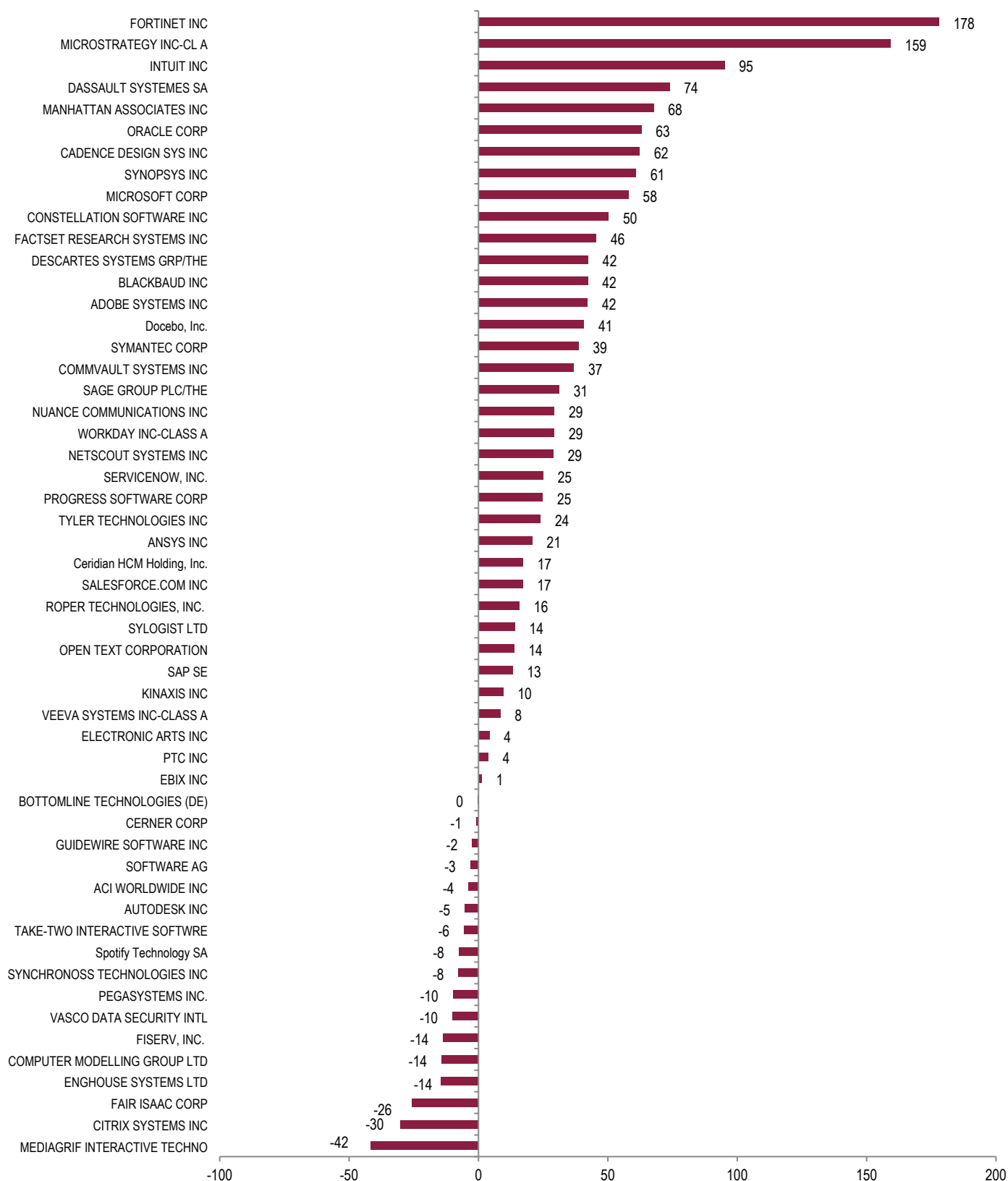
### CGI Accelerates Training For Employees Across Its U.S. IT Centers

CGI announced the launch of its new U.S. IT Center Academy for recent hires to enhance in-demand skills among new hires. The move is expected to strengthen delivery capabilities across its U.S. IT centers. The company plans to hire and train an initial 1,000 employees over the next 18 months. Training includes JAVA programming, cloud, data engineering, IT apprenticeships and major platforms such as Salesforce, ServiceNow, and Microsoft Dynamics 365.

**Exhibit 2: CIBC Software/Services – Coverage Performance, 11/25/2020 - 11/25/2021**

Company	Price	1 Week	1 Month	3 Month	6 Month	1 Year	Year To Date	52 Week High	52 Week Low
<b>Software &amp; Systems</b>									
Constellation Software Inc	2244.00	0.7	(0.1)	4.6	27.8	50.3	35.8	2270.07	1463.54
Descartes Systems	83.32	(7.9)	1.7	10.2	43.5	46.1	42.5	91.39	55.63
Dye & Durham	41.74	(0.8)	11.0	(11.4)	(4.5)	NA	(17.4)	53.68	22.57
Enghouse Systems Limited	56.35	(1.7)	2.7	(6.6)	4.9	(14.4)	(8.6)	70.15	48.87
Open Text Corp	49.91	(4.5)	(0.8)	(7.5)	8.7	13.6	9.8	55.25	43.68
Kinaxis	201.96	(10.0)	5.8	2.2	42.4	9.6	12.0	229.98	124.05
Docebo, Inc.	91.03	(3.9)	(10.4)	(9.0)	40.2	40.8	10.0	117.55	47.22
Q4 Inc.	10.15	(9.5)	NA	NA	NA	NA	NA	12.05	10.17
<b>Average</b>		(4.7)	1.4	(2.5)	23.3	24.3	12.0		
<b>Business Services</b>									
Altus Group Ltd	65.02	(1.2)	(1.6)	(3.1)	8.5	35.0	32.3	70.39	47.10
CGI Group Inc	109.98	1.3	(3.8)	(0.2)	0.0	15.5	8.9	116.88	93.15
Information Services Corp	28.00	0.0	3.6	(9.1)	2.8	47.3	40.6	33.87	18.71
LifeWorks Inc	25.82	(3.4)	(19.5)	(27.4)	(24.1)	(12.2)	(16.8)	37.56	26.04
Softchoice Corporation	25.91	5.4	(11.5)	(26.4)	NA	NA	NA	45.74	19.71
Telus International	43.92	(0.1)	(10.6)	2.2	21.7	NA	NA	49.43	34.00
<b>Average</b>		0.3	(7.2)	(10.7)	1.8	21.4	16.3		
<b>Indices</b>									
S&P/TSX Composite Index	21638.96	(0.4)	1.2	4.7	10.1	24.5	23.6		
S&P 500 Index	4701.46	0.3	3.4	4.8	12.0	29.3	25.2		
S&P/TSX Software Index	231.15	(1.5)	0.2	(1.6)	23.3	34.0	26.8		
S&P500 Software Index	5996.34	(1.3)	5.6	9.1	31.5	49.6	42.7		

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

**Exhibit 3: Software Stocks – Return Performance (%), 11/25/2020 - 11/25/2021**

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

**Exhibit 4: Business Services Stocks – Return Performance (%), 11/25/2020 - 11/25/2021**


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

**Exhibit 5: Software Stocks – Comp Table, 2020 - 2022E**

	Enterprise Value	EV/S			EV/EBITDA			P/E		
		C20	C21E	C22E	C20	C21E	C22E	C20	C21E	C22E
Enterprise Application Software										
Constellation Software Inc.*	37,474	9.4x	7.4x	6.6x	30.5x	25.1x	22.4x	44.9x	>50	33.6x
BlackBerry Limited*	5,866	6.1x	6.0x	5.4x	29.3x	>50	NEG	42.3x	>50	NEG
Sage Group plc	8,249	4.4x	4.4x	4.2x	17.7x	19.5x	18.2x	29.9x	33.2x	29.6x
Tyler Technologies, Inc.	20,430	18.3x	12.8x	11.0x	>50	47.2x	40.5x	>50	>50	>50
Roper Technologies, Inc.	60,689	11.0x	10.3x	9.8x	30.5x	27.1x	25.6x	38.1x	33.9x	31.6x
Enghouse Systems Limited	2,919	5.7x	6.1x	5.9x	15.5x	17.4x	17.1x	28.1x	35.6x	33.6x
Oracle Corporation	296,273	7.4x	7.1x	6.8x	15.1x	14.4x	13.9x	21.6x	20.0x	18.8x
SAP SE	155,570	5.7x	5.6x	5.4x	16.6x	17.5x	16.9x	22.1x	18.9x	22.3x
Enterprise Application Software Average		8.5x	7.5x	6.9x	22.2x	24.0x	22.1x	32.4x	28.3x	28.3x
Extended ERP										
Adobe Inc.	316,703	24.1x	19.8x	17.2x	49.4x	39.7x	34.8x	>50	>50	46.1x
Open Text Corporation	15,878	4.8x	4.6x	4.5x	12.4x	12.5x	11.8x	15.4x	15.9x	14.5x
Manhattan Associates, Inc.	10,018	17.1x	15.3x	14.2x	>50	>50	>50	>50	>50	>50
Pegasystems Inc.	9,736	9.6x	7.8x	6.5x	>50	>50	>50	NEG	>50	>50
Software AG	2,351	2.8x	2.8x	2.6x	12.2x	13.9x	11.5x	20.5x	24.9x	19.8x
Fiserv, Inc.	85,942	6.2x	5.6x	5.2x	15.8x	13.3x	12.1x	22.5x	17.8x	15.3x
Extended ERP Average		10.8x	9.3x	8.4x	22.4x	19.8x	17.6x	19.4x	19.5x	23.9x
Software As A Service										
Descartes Systems Group Inc.	6,930	19.9x	16.4x	15.0x	48.9x	37.9x	34.2x	>50	>50	>50
Kinaxis, Inc.*	4,158	18.5x	16.7x	13.4x	>50	>50	>50	>50	>50	>50
Docebo, Inc.*	2,139	34.0x	20.5x	14.1x	NEG	NEG	NEG	NEG	NEG	NEG
Lightspeed Commerce Inc*	7,748	39.3x	17.0x	11.6x	NEG	NEG	NEG	NEG	NEG	NEG
Veeva Systems Inc Class A	43,045	30.0x	23.9x	20.0x	>50	>50	49.7x	>50	>50	>50
Shopify, Inc. Class A	199,090	>50	43.5x	32.7x	>50	>50	>50	>50	>50	>50
Q4 Inc*	270	6.7x	4.9x	3.9x	NEG	NEG	NEG	NEG	NEG	NEG
Ceridian HCM Holding, Inc.	17,568	20.9x	17.3x	14.8x	>50	>50	>50	>50	>50	>50
ServiceNow, Inc.	128,253	28.4x	21.8x	17.4x	>50	>50	>50	>50	>50	>50
Workday, Inc. Class A	68,169	16.0x	13.5x	11.3x	>50	47.1x	47.1x	>50	>50	>50
Software As A Service Average		23.7x	19.5x	15.4x	48.9x	42.5x	43.7x	>50	>50	>50
Infrastructure Vendors										
Citrix Systems, Inc.	11,669	3.6x	3.6x	3.5x	10.2x	10.8x	10.8x	13.9x	17.2x	15.9x
Microsoft Corporation	2,488,966	16.0x	13.6x	11.8x	33.5x	27.6x	23.6x	49.1x	39.4x	34.3x
Infrastructure Vendors Average		9.8x	8.6x	7.6x	21.8x	19.2x	17.2x	31.5x	28.3x	25.1x
Software Average										
		14.6x	12.6x	10.6x	24.1x	24.7x	24.4x	29.0x	25.7x	26.3x

\*Share Price Converted to USD

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

**Exhibit 6: Business Services Stocks – Comp Table, 2020 - 2022E**

		Enterprise Value	EV/EBITDA			P/E			EV/S		
			C20	C21E	C22E	C20	C21E	C22E	C20	C21E	C22E
Business & IT Services											
CGI Inc. Class A	28,671	11.7x	11.7x	11.4x	22.0x	19.9x	18.4x	2.4x	2.3x	2.3x	
TELUS International (CDA), Inc.	10,201	25.8x	18.8x	16.1x	48.7x	35.2x	28.6x	6.2x	4.6x	4.0x	
Accenture Plc Class A	224,222	25.8x	22.6x	20.4x	45.8x	39.2x	34.6x	4.8x	4.2x	3.8x	
Booz Allen Hamilton	13,331	16.3x	14.7x	13.7x	23.3x	20.8x	19.0x	1.7x	1.6x	1.5x	
CACI International Inc Class A	8,516	13.7x	12.6x	12.0x	17.8x	15.0x	14.3x	1.4x	1.4x	1.3x	
DXC Technology Co.	11,978	4.4x	4.4x	4.3x	9.8x	9.4x	7.6x	0.7x	0.7x	0.7x	
Genpact Limited	10,851	16.0x	14.6x	13.4x	23.9x	20.9x	18.9x	2.9x	2.7x	2.5x	
International Business Machines	156,878	10.3x	8.6x	8.3x	14.1x	11.6x	10.6x	2.1x	2.1x	2.2x	
Atos SE	6,096	4.2x	5.3x	4.7x	5.8x	10.2x	8.0x	0.5x	0.6x	0.5x	
Capgemini SE	40,591	16.7x	13.7x	12.5x	28.5x	24.7x	21.3x	2.6x	2.2x	2.1x	
Sopra Steria Group SA	4,571	10.0x	8.7x	7.9x	21.0x	15.0x	12.7x	1.1x	1.0x	0.9x	
Business & IT Services Average		14.1x	12.3x	11.3x	23.7x	20.2x	17.7x	2.4x	2.1x	2.0x	
HR Outsourcing		EV/EBITDA			P/E			EV/S			
LifeWorks Inc	2,323	11.6x	11.4x	10.5x	32.4x	NEG	30.6x	2.4x	2.2x	2.1x	
Ceridian HCM Holding, Inc.	17,568	>50	>50	>50	>50	>50	>50	20.9x	17.3x	14.8x	
Willis Towers Watson	34,012	13.8x	13.2x	13.9x	20.2x	18.2x	17.1x	3.6x	3.6x	3.6x	
Aon Plc Class A	73,449	22.4x	19.0x	17.8x	30.5x	25.6x	22.8x	6.6x	6.0x	5.6x	
Automatic Data Processing, Inc.	99,621	27.2x	25.1x	23.0x	39.2x	36.6x	32.9x	6.7x	6.4x	6.0x	
Paychex, Inc.	44,945	26.7x	24.8x	23.0x	41.3x	38.0x	34.7x	11.1x	10.6x	9.9x	
HR Outsourcing Average		20.3x	18.7x	17.7x	32.7x	29.6x	27.6x	8.6x	7.7x	7.0x	
Information Services		EV/EBITDA			P/E			EV/S			
Broadridge Financial Solutions, Inc.	24,099	22.7x	20.6x	18.2x	32.3x	28.6x	25.6x	5.1x	4.6x	4.2x	
Dye & Durham Ltd.	3,037	NEG	18.6x	14.4x	NEG	>50	>50	34.9x	8.0x	6.2x	
Deluxe Corporation	2,215	6.1x	5.5x	4.9x	7.3x	7.5x	7.3x	1.2x	1.1x	1.0x	
Information Services Corp	541	11.3x	8.2x	8.1x	19.2x	14.8x	14.0x	4.0x	3.3x	3.2x	
Information Services Average		13.4x	13.2x	11.4x	19.6x	17.0x	15.6x	11.3x	4.2x	3.7x	
Financial Services Technology		EV/EBITDA			P/E			EV/S			
Fidelity National Information Services	85,559	16.3x	13.8x	12.5x	20.1x	16.7x	14.5x	6.8x	6.1x	5.7x	
Fiserv, Inc.	85,942	15.8x	13.3x	12.1x	22.5x	17.8x	15.3x	6.2x	5.6x	5.2x	
Jack Henry & Associates, Inc.	11,424	20.5x	19.2x	17.7x	38.2x	34.6x	31.0x	6.6x	6.2x	5.8x	
ACI Worldwide, Inc.	4,816	13.4x	12.6x	11.9x	>50	28.4x	24.6x	3.7x	3.5x	3.4x	
Temenos AG	10,274	25.4x	23.9x	21.1x	36.7x	32.4x	28.8x	11.4x	10.4x	9.5x	
Global Payments Inc.	44,400	14.8x	12.3x	10.9x	19.5x	15.2x	12.9x	6.6x	5.7x	5.2x	
Bottomline Technologies	2,107	21.6x	20.5x	18.7x	39.6x	40.5x	37.9x	4.6x	4.2x	3.8x	
Financial Services Technology Average		18.2x	16.5x	15.0x	29.4x	26.5x	23.6x	6.6x	6.0x	5.5x	
Diversified Real Estate Services		EV/EBITDA			P/E			EV/S			
Colliers International Group Inc.	7,433	20.6x	14.3x	12.9x	34.6x	25.1x	23.5x	2.7x	1.9x	1.8x	
Altus Group Limited	2,936	29.7x	27.7x	24.1x	39.2x	39.6x	47.5x	5.2x	4.7x	4.2x	
CBRE Group, Inc. Class A	37,061	19.9x	13.3x	12.5x	31.9x	19.5x	18.2x	1.6x	1.4x	1.2x	
Jones Lang LaSalle Incorporated	15,828	18.4x	11.6x	11.1x	28.0x	15.2x	14.4x	1.8x	1.5x	1.4x	
Diversified Real Estate Services Average		22.1x	16.7x	15.2x	33.4x	24.8x	25.9x	2.8x	2.4x	2.1x	
Software Focused IT Solutions/VARS		EV/EBITDA			P/E			EV/GP			
Softchoice Corporation*	1,770	27.0x	26.6x	17.8x	40.4x	46.0x	31.7x	7.4x	6.4x	5.6x	
Softcat Plc*	3,583	28.7x	21.0x	20.6x	38.6x	28.1x	28.0x	12.1x	9.3x	8.6x	
Crayon Group Holding ASA*	14,614	>50	>50	>50	>50	>50	>50	>50	43.7x	33.4x	
Bytes Technology Group Plc*	1,299	31.4x	21.8x	20.1x	42.6x	28.7x	27.1x	13.3x	9.4x	8.6x	
SoftwareONE Holding Ltd.*	2,499	12.9x	9.7x	8.2x	15.7x	20.6x	16.3x	11.2x	2.7x	2.4x	
Bytes Technology Group Plc* Average		25.0x	19.8x	16.7x	34.3x	30.9x	25.8x	11.0x	14.3x	11.7x	
Business Services Average		18.0x	15.5x	14.0x	28.2x	24.2x	22.1x	6.2x	5.7x	5.0x	

\*Software Focused IT Solutions/VARS uses EV/GP metric.

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



## Exhibit 7: SaaS Stocks – Comp Table, 2020 - 2022E

	LTM Revenue Growth	LTM FCF Margin	NTM Revenue Growth	NTM FCF Margin	LTM Rule Of 40	NTM Rule Of 40	Enterprise Value (\$MM)	EV/S		
								C20	C21E	C22E
<b>Tier 1 SaaS (Rule of 40 &gt; 60)</b>										
Zoom Video Communications	170%	46%	18%	38%	217%	56%	57,605	23.2x	14.6x	12.2x
CrowdStrike Holdings, Inc.	74%	33%	46%	23%	107%	69%	51,534	61.3x	38.0x	27.3x
<b>Shopify, Inc.</b>	<b>71%</b>	<b>11%</b>	<b>33%</b>	<b>15%</b>	<b>82%</b>	<b>48%</b>	<b>199,090</b>	<b>68.0x</b>	<b>43.5x</b>	<b>32.7x</b>
Zscaler, Inc.	56%	25%	41%	23%	81%	64%	46,975	88.1x	59.5x	43.6x
<b>Lightspeed POS, Inc.</b>	<b>142%</b>	<b>-29%</b>	<b>59%</b>	<b>-5%</b>	<b>113%</b>	<b>54%</b>	<b>7,428</b>	<b>37.7x</b>	<b>16.3x</b>	<b>11.1x</b>
DocuSign, Inc.	54%	22%	33%	19%	76%	52%	48,037	34.0x	23.6x	18.1x
Veeva Systems Inc	30%	46%	20%	38%	75%	59%	43,045	30.0x	23.9x	20.0x
Atlassian Corp. Plc	31%	37%	21%	27%	68%	48%	98,722	53.2x	42.0x	33.9x
Twilio, Inc.	65%	-2%	34%	-2%	63%	32%	48,203	27.4x	17.4x	13.2x
ServiceNow, Inc.	31%	29%	26%	31%	60%	57%	128,253	28.4x	21.8x	17.4x
HubSpot, Inc.	45%	18%	32%	12%	63%	45%	37,468	42.4x	29.1x	22.5x
<b>Tier 1 SaaS (Rule of 40 &gt; 60) Average</b>								<b>44.9x</b>	<b>30.0x</b>	<b>22.9x</b>
	LTM Revenue Growth	LTM FCF Margin	NTM Revenue Growth	NTM FCF Margin	LTM Rule Of 40	NTM Rule Of 40	Enterprise Value (\$MM)	EV/S		
								C20	C21E	C22E
<b>Tier 2 SaaS (Rule of 40 b/w 40-60)</b>										
<b>Docebo, Inc.</b>	<b>53%</b>	<b>6%</b>	<b>66%</b>	<b>2%</b>	<b>59%</b>	<b>67%</b>	<b>2,168</b>	<b>34.5x</b>	<b>20.7x</b>	<b>14.3x</b>
Qualys, Inc.	13%	43%	13%	37%	56%	50%	4,884	13.5x	11.9x	10.5x
<b>Descartes Systems</b>	<b>15%</b>	<b>41%</b>	<b>16%</b>	<b>38%</b>	<b>56%</b>	<b>54%</b>	<b>6,930</b>	<b>21.3x</b>	<b>19.9x</b>	<b>16.4x</b>
Avalara Inc	40%	7%	24%	1%	47%	24%	11,817	23.6x	17.2x	14.0x
Five9, Inc.	41%	0%	25%	4%	41%	29%	9,458	21.7x	15.7x	12.7x
Dropbox, Inc.	13%	34%	10%	32%	47%	42%	9,634	5.0x	4.5x	4.1x
Mimecast Limited	20%	28%	14%	23%	47%	37%	5,370	11.1x	9.4x	8.2x
Wix.com Ltd.	36%	8%	25%	4%	44%	29%	9,043	9.1x	7.1x	5.9x
Workday, Inc.	17%	26%	19%	24%	43%	43%	68,169	16.0x	13.5x	11.3x
VMware, Inc.	8%	34%	8%	28%	42%	36%	51,085	4.4x	4.0x	3.7x
<b>Tier 2 SaaS (Rule of 40 b/w 40-60) Average</b>								<b>16.0x</b>	<b>12.4x</b>	<b>10.1x</b>
	LTM Revenue Growth	LTM FCF Margin	NTM Revenue Growth	NTM FCF Margin	LTM Rule Of 40	NTM Rule Of 40	Enterprise Value (\$MM)	EV/S		
								C20	C21E	C22E
<b>Tier 3 SaaS (Rule of 40 b/w 28-40)</b>										
BlackLine, Inc.	21%	17%	20%	11%	38%	32%	6,462	18.4x	15.2x	12.6x
Zendesk, Inc.	28%	12%	27%	9%	40%	36%	11,587	11.3x	8.7x	6.9x
MongoDB, Inc.	40%	-5%	32%	-6%	35%	26%	33,650	58.4x	42.3x	32.1x
LivePerson, Inc.	30%	-3%	24%	-15%	27%	9%	2,763	7.5x	5.9x	4.6x
Rapid7 Inc.	27%	8%	24%	3%	35%	27%	7,353	17.9x	13.9x	11.3x
Paylocity Holding Corp.	19%	16%	25%	14%	36%	40%	14,235	23.7x	19.6x	15.7x
Q2 Holdings, Inc.	25%	-3%	18%	3%	22%	21%	4,783	11.7x	9.6x	8.2x
Akamai Technologies, Inc.	9%	21%	8%	23%	30%	31%	20,002	6.3x	5.8x	5.3x
<b>Tier 3 SaaS (Rule of 40 b/w 28-40) Average</b>								<b>19.4x</b>	<b>15.1x</b>	<b>12.1x</b>
	LTM Revenue Growth	LTM FCF Margin	NTM Revenue Growth	NTM FCF Margin	LTM Rule Of 40	NTM Rule Of 40	Enterprise Value (\$MM)	EV/S		
								C20	C21E	C22E
<b>Tier 4 SaaS (Rule of 40 &lt;28)</b>										
RingCentral, Inc.	34%	3%	26%	6%	38%	31%	21,318	18.0x	13.5x	10.8x
Teradata Corporation	5%	20%	0%	19%	26%	19%	4,998	2.7x	2.6x	2.6x
Anaplan, Inc.	29%	-2%	25%	0%	27%	25%	6,195	14.1x	10.8x	8.6x
Zuora, Inc.	11%	5%	12%	0%	16%	12%	2,392	7.9x	7.1x	6.2x
New Relic, Inc.	12%	-3%	18%	4%	8%	22%	7,016	10.8x	9.3x	8.1x
<b>Kinaxis, Inc.</b>	<b>-1%</b>	<b>10%</b>	<b>25%</b>	<b>13%</b>	<b>9%</b>	<b>38%</b>	<b>4,116</b>	<b>18.4x</b>	<b>16.6x</b>	<b>13.3x</b>
Yext, Inc.	12%	-4%	11%	-1%	8%	10%	1,199	3.4x	3.1x	2.7x
Splunk Inc.	3%	-3%	16%	7%	0%	23%	21,046	9.4x	8.3x	6.9x
<b>Tier 4 SaaS (Rule of 40 &lt;28) Average</b>								<b>10.6x</b>	<b>8.9x</b>	<b>7.4x</b>
<b>SaaS Average</b>								<b>24.2x</b>	<b>17.5x</b>	<b>13.8x</b>

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

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