

The Narwhal List 2021

A Surprisingly Good Year



 NARWHAL PROJECT

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The Narwhal List

2020 was another remarkable year for Canadian Narwhals. In particular, four companies from last year's list went public. (Nuvei, Chinook Therapeutics, Repare Therapeutics, and Fusion Pharmaceuticals.) Five were sold (Element AI, Verafin, North, Fiix, and Northern Biologics.) Of particular note, Verafin, a 17 year old company from St John's was sold for \$2.75 billion. (All Amounts \$US)

Twenty five companies on the 2021 list raised a total of over \$1 billion with the largest raise of the year going to CSI Solar in Guelph which raised \$260 million.

Canada now has three Unicorns with PointClickCare finally being recognized as such with a valuation of \$4 billion. Applyboard also joins Coveo on the list this year with a valuation of \$1.5 billion

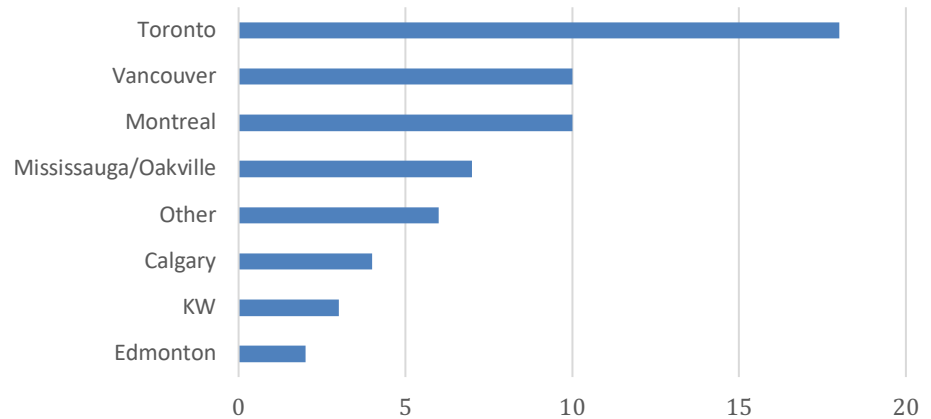
This year we have enhanced the scoring system to be able to include firms that are scaling successfully by bootstrapping. What we have created is a Scale-Up Score which reflects the success a firm is having scaling their business. This is explained further in this document. Exhibit 1 features the ten leading Canadian Narwhals. The full list is published at narwhalproject.org/narwhal-list/

The 2021 Narwhal List Exhibit 1

Rank	Company	Founded	Total Funding (\$US)	Scale-Up Score	City
1	ApplyBoard	2015	178,312,957	87.9	Waterloo
2	Symend	2016	53,175,000	82.2	Calgary
3	Hootsuite	2008	299,900,000	71.7	Vancouver
4	Wealthsimple	2014	289,635,381	69.9	Toronto
5	CSI Solar	2001	260,000,000	67.1	Guelph
6	GeoTab	2000	0	60.7	Oakville
7	PointClickCare	1995	229,978,522	60.4	Mississauga
8	Talent.com (Neuvoo)	2011	51,400,000	54.4	Montreal
9	MedChart	2015	5,470,000	53.2	Toronto
10	1Password	2005	200,000,000	52.3	Toronto

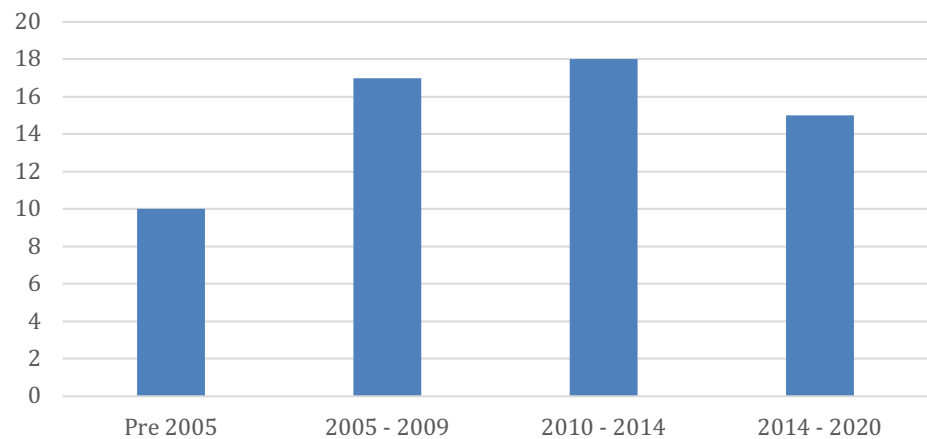
As would be expected, the greatest number of companies on the list is from Toronto with substantial numbers coming from Montreal and Vancouver as well.

Narwhal City of Origin Exhibit 2



In terms of when these companies were founded, the average year of founding is 2008 with more than half founded since then.

Narwhals Founded Exhibit 3



Background

The Narwhal List identifies a set of private Canadian companies that are scaling successfully. These are the firms that have either used capital successfully to fuel their growth or have grown to a large size organically.

The Narwhal List sheds light on the ability of firms to scale up in an attempt to reach world-class status. The ranking system is derived from publicly available information and tracks all firms in the country with data in the public domain—not just those that elect to participate by revealing private revenue data. The Narwhal List enables businesses to benchmark themselves against other Canadian firms, Unicorns, and the competition. Since the Narwhal List includes the fastest scaling private technology firms, it is also a useful indicator for how Canada as a whole is faring in business incubation and growth.

The 2021 Narwhal List

The current report builds on our effort started five years ago: with enhancements to include firms scaling without capital, we are now providing here an annual update identifying private Canadian companies with the greatest success scaling.

In our first Impact Brief in 2017 (*The Narwhal List, released March 2017*), we identified an approach to measuring the progress of product focussed technology companies through the use of “financial velocity”. This concept enables companies to think easily and quickly about growth. If you have a large market that is ready and willing to purchase your innovation, then your growth is limited only by the capital you have on hand to fuel that growth.

We have changed our ranking methodology this year to measure success at scaling. To accomplish this, we needed to include firms that are successfully scaling without reports of external capital. This change was motivated from a desire to include firms such as Geotab on the list. This firm was founded in 2000 and has successfully grown to over 1,000 employees without reports of having obtained venture capital. The inclusion of firms such as Geotab shows that even in these days of capital fuelled growth, it may be possible to bootstrap a firm to international success.

This change to the ranking methodology was also as a result of nagging by Joel Lessem who has chided the author for not celebrating firms that eschew venture capital in their corporate development.

To assess firms scaling ability, we have used publicly available data so that any firm anywhere can be rated in the same way. The methods used to rate firms have to tie into those criteria that are used by investors, or purchasers and be well aligned to their criteria for evaluation. For this reason, we have used statistics relating to growth, capital, and size as follows:

1. **Employee growth** has been measured by the increase in the number of employees over the last two years. While the use of revenue growth rates would be preferable, as a proxy, for the purpose of this analysis, we have used LinkedIn data on employment growth.
2. The company's **Financial Velocity** which equals the total amount of cash raised divided by the number of years in existence. For the purpose of this analysis, we have used Crunchbase data.
3. The company's size as measured by the number of employees. This is available from LinkedIn.

From this data, an aggregate Scale-Up Score has been developed. This should not be seen as a measurement of potential but a measurement of how well the firm is scaling or growing at the point in time it is measured. Coming to a conclusion that a firm has "High Potential" is an exercise in frustration. Venture capitalists who do this for a living only get it right perhaps 20% of the time. Every firm has high potential if they do the right things. The key is to be able to tell them whether or not they are doing the right things, how are they progressing at scaling. In this way, by using a Scale-Up Score, one can rate a firm against its peers on an objective and thoroughly dispassionate basis without the politics of potential getting in the way of a useful discussion.

This data can be used in a number of ways:

- To quickly assess firms in a portfolio
- To compare firms to each other.
- To assess a firm's progress over time.

The point of this work is to be able to initiate conversation about a firm's success at scaling and to enable them to take strategic action to either get on a different path towards success or improve their results.

To test the process and develop a cut-off level that indicated success at scaling, samples were taken from data on over 1,000 companies that received a Seed, Series A and Series B round as well as data from over 200 Unicorns and over 100 companies that have had an IPO in the last seven years. We have concluded that a firm at any stage with a Scale-Up Score of above 25 is one that is on the path to becoming a Unicorn or going public if it manages to maintain or improve its score.

Further details regarding our methodology are included later in this document.

Computer Technology

The computer technology sector has continued to show strong growth in the last year and is capping four years of continued growth since the Narwhal List was established. 2020 turned out to be a great year for technology Narwhals all other things being considered; and results show that Canada has made excellent progress at scaling companies. Exhibit 4 shows some summary statistics about the 40 technology firms on this year's Narwhal List.

Computer Technology Statistics
Exhibit 4

Statistics	2020	2019	2018
Number raising funds	15	22	15
Amount raised	551,213,000	2,100,226,798	600,000,000
Average amount raised	36,748,000	95,464,854	40,000,000
Average Scale-Up Score	42.9		
Average financial velocity (Old rules)	15.6	15.5	12.8
Scale-Up Scores above 25	40	29	22

Over the last four years, the average financial velocity of companies on the list has increased from \$8.7 million to \$15.6 million while the number on track to become Unicorns has grown from 7 to 40. This shows that Canada has made tremendous success at improving its ability to scale companies.

In terms of Scale-Up Score, all 40 computer technology firms have a score above 25. This is the level which research shows is needed to enable a firm to become a Unicorn or go public. The score is designed so that as firms increase financial velocity and employee growth rates, scores will continue to rise. If either of these slips, a firm's score will decline and the lack of growth will inhibit their ability to eventually go public.

What is interesting to note from this list are the four firms that do not have capital acquisition recorded in Crunchbase. While they undoubtedly have some form of capital they do not appear to have venture capital funding. These firms are all over 20 years old, so while firms with VC money can scale to this level in an average of ten years, it takes more than 20 years to reach these levels through bootstrapping. While this is not a common way to scale, it is good to know that it is possible.

Computer Technology Narwhals Exhibit 5

Rank	Company	Founded	Total Funding (\$US Millions)	Scale-Up Score	City
1	ApplyBoard	2015	178,312,957	87.9	Waterloo
2	Symend	2016	53,175,000	82.2	Calgary
3	Hootsuite	2008	299,900,000	71.7	Vancouver
4	Wealthsimple	2014	289,635,381	69.9	Toronto
5	GeoTab	2000	0	60.7	Oakville
6	PointClickCare	1995	229,978,522	60.4	Mississauga
7	Talent.com (neuvoo)	2011	51,400,000	54.4	Montreal
8	MedChart	2015	5,470,000	53.2	Toronto
9	1Password	2005	200,000,000	52.3	Toronto
10	Coveo	2005	339,350,323	50.4	Quebec
11	Dialogue	2016	88,726,225	48.1	Montreal
12	Clio	2008	276,000,000	47.0	Vancouver
13	SOTI Inc.	1995	0	46.9	Mississauga
14	AlayaCare	2014	110,557,346	44.2	Montreal
15	D2L	1999	168,500,000	44.1	Kitchener
16	Maple	2015	73,744,826	42.2	Toronto
17	PartnerStack	2015	7,300,000	40.9	Toronto
18	Vena Solutions	2011	176,000,000	40.4	Toronto
19	Ada	2014	60,620,619	40.0	Toronto
20	Vention	2016	43,761,066	39.3	Montreal
21	Thinkific	2012	22,000,000	38.4	Vancouver
22	Q4	2006	91,322,515	37.9	Toronto
23	TouchBistro Inc.	2010	209,400,000	37.2	Toronto
24	Assent Compliance	2010	183,629,304	36.2	Ottawa
25	Hopper	2007	253,679,549	35.9	Montreal
26	Paper Edu	2014	9,100,000	35.0	Montreal
27	Conexiom	2001	40,000,000	34.7	Vancouver
28	AltaML	2018	6,300,000	34.6	Edmonton
29	Attabotics	2015	117,425,271	34.5	Calgary
30	Benevity	2008	69,220,249	33.2	Calgary
31	Global Relay	1999	0	32.6	Vancouver
32	BenchSci	2015	44,636,611	32.5	Toronto
33	Jobber	2011	85,800,000	31.2	Edmonton
34	MindBeacon Software	2017	33,683,790	30.7	Toronto
35	Alida	2000	0	30.6	Toronto
36	Vendasta Technologies	2008	57,304,757	30.0	Saskatoon
37	Bench	2012	49,100,000	29.1	Vancouver
38	ecobee	2007	149,432,236	28.0	Toronto
39	KOHO Financial	2014	57,547,549	27.9	Toronto
40	Trulioo	2011	80,765,412	27.2	Vancouver

Health Technology

The healthtech sector experienced a year with very significant change. Three firms on the list went public on Nasdaq. These were Chinook Therapeutics, Repare Therapeutics, and Fusion Pharmaceuticals. Northern Biologics adds to this changing of the guards as it was sold. Considering there are only 10 companies on the list, having four exit is excellent news for the health technology sector.

The results for the last year show the sector as being very promising for the future but in the midst of a rebuilding. Five companies out of the ten raised an average of \$39 million and 5 are on track to IPO if they maintain their current trajectory.

Health Technology Statistics Exhibit 6

Statistics	2020	2019	2018
Number raising funds	5	6	2
Amount raised in 2019	194,100,000	429,455,581	223,000,000
Average amount raised	38,820,000	71,575,930	111,500,000
Average Scale-Up Score	25.6		
Average financial velocity	10.4	22.2	21.7
Scale-Up Scores above 25	4	6	6

The list of health technology Narwhals does not show the same forward momentum that the list of computer technology companies does. This is due to the fact that four companies graduated from the list in the last year.

Health Technology Narwhals Exhibit 7

Rank	Company	Founded	Total Funding (\$US)	Scale-Up Score	City
1	STEMCELL Technologies	1993	15,000,000	42.3	Vancouver
2	DalCor Pharmaceuticals	2015	153,851,699	32.8	Montreal
3	MedAvail	2012	150,672,224	28.7	Mississauga
4	Ironshore Pharmaceuticals	2008	200,000,000	27.1	Toronto
5	Inversago Pharma	2015	42,000,000	24.3	Montreal
6	Geneseeq	2008	135,700,255	22.5	Toronto
7	Deep Genomics	2014	56,700,000	18.4	Toronto
8	Lung Pacer	2009	75,382,169	17.6	Vancouver
9	Precision NanoSystem	2010	37,600,000	17.0	Vancouver
10	Nicoya Lifesciences	2012	12,571,540	14.2	Waterloo

Clean Technology

This sector is slightly different from other sectors as it comprised not just of product companies but of companies such as Enerkem which transforms waste into transportation biofuels, renewable chemicals, and everyday products as well as others such as Amp Solar which is a global developer of flexible clean energy infrastructure.

The results for the last year show the sector as being very promising for the future. Three companies out of the ten raised an average of \$117 million and seven are on track to IPO if they maintain their current trajectory.

Exhibit 8 Clean Technology Statistics

Statistics	2020	2019
Number raising funds	4	4
Amount raised in 2019	265,000,000	177,000,000
Average amount raised	66,350,000	44,250,000
Average Scale-Up Score	32.5	
Average financial velocity	12.7	14.5
Number on track to IPO	7	7

Clean Technology Narwhals Exhibit 9

Rank	Company	Founded	Total Funding (\$US)	Scale-Up Score	City
1	CSI Solar	2001	260,000,000	67.1	Guelph
2	Enerkem	2000	655,028,095	39.5	Montreal
3	GHGSat	2011	42,500,000	34.0	Montreal
4	Stormfisher Biogas	2006	349,787,329	32.5	Toronto
5	Li-Cycle	2016	2,700,000	31.9	Mississauga
6	CarbonCure Technologies	2007	12,428,641	26.9	Halifax
7	Carbon Engineering	2009	110,355,246	26.1	Squamish
8	Amp Solar Group	2009	153,480,044	23.7	Port Credit
9	Eavor	2017	24,270,546	22.6	Calgary
10	Grasshopper Solar	2007	210,320,668	20.3	Mississauga

Methodology

This study looked at the fundraising statistics of over 1,000 private Canadian technology businesses listed on Crunchbase as at December 31, 2020. It also looked at several hundred more on LinkedIn.

To accumulate the data, all Canadian companies in the database that would have more than \$10 million of funding were downloaded from Crunchbase. Companies were reviewed for eligibility and certain ones were excluded including:

- Closed companies
- Companies that were still in business but that have had significant reversals
- Public companies
- Those whose business was not primarily technology
- Companies that are now headquartered in the US.

To find companies with under \$10 million capital on record, LinkedIn was used and a search was made for companies with:

- Over 500 employees with over 25% growth
- 200 - 500 employees with over 35% growth
- 50 - 200 employees with over 65% growth but only included those comp. people in tech

The data were only collected from public sources and may therefore be incomplete. Despite our best efforts, we may have omitted a company that belongs on the Narwhal List or may have included one that does not fit. All efforts were made to check the veracity of the data. Please note that all readers are encouraged to report errors or omissions. If we have made a mistake in reporting any company statistics or have inadvertently left off a company, please contact us and we will be pleased to update the list in a subsequent release.

For a detailed explanation of Scale-Up Scores and the research conducted to establish this, please contact the author of this report.

About this report

The Narwhal Project

The Narwhal Project, was established to educate and advise companies on the economics of growth and scaling. We conduct research in order to discover the underlying factors that are essential to create world-class technology companies. Our objective is to understand how companies can accelerate their growth and how governments, companies, and academia can identify and adopt best practices in technology commercialization.

Read our collection of reports: narwhalproject.org

Charles Plant

Charles Plant, the founder of the Narwhal Project and author of this report, is a serial entrepreneur, innovation economist, and scaleup advisor. His advisory work is based on six years of research into what it takes to create world-class technology companies. Plant has written more than 37 research papers and a book entitled *Triggers and Barriers: A Customer Perspective on Innovation*. He is currently working on his second book: *Unicorn Math: Developing an Algorithm for Rapid Growth*.

Plant was co-founder and CEO for 15 years of Synamics, a software firm that provided mass calling platforms to telcos. He has been an officer, director and/or investor in more than 15 technology companies. He has worked for the MaRS Discovery District and has taught at York University's Schulich School of Business and at the University of Toronto. A Chartered Accountant, Plant also has an MBA in marketing and is currently pursuing a PhD in Economics.

For more information please contact cplant@narwhalproject.org

Partners

Communitech

Communitech helps tech companies start, grow and succeed. That's our mission, our mantra, our reason for being. Everything we do ties back to collaboration and helping—values that run deep in our organization.

Communitech was founded in 1997 by a group of entrepreneurs committed to making Waterloo Region a global innovation leader. At the time it was crazy talk, but somehow this community managed to pull it off. Today, Communitech is a public- private innovation hub that supports a community of more than 1400 companies — from startups to scale-ups to large global players.

For more information on Communitech: communitech.ca

Invest Ottawa

Invest Ottawa is the lead economic development agency for knowledge-based industries in Canada's Capital, facilitating economic growth and job creation in the City of Ottawa. Guided by a vision to help realize Ottawa's full potential as a globally-recognized, innovative and future-ready city, and the best place to learn, work, live, and play, Invest Ottawa delivers venture development and global expansion programs and services that catalyze the growth and success of entrepreneurs and firms. These include: small business training; mentorship; acceleration for technology firms; foreign business and investment attraction; local business retention and expansion in targeted sectors; commercialization; and marketing Ottawa's diversified economy and high quality of life.

For more information on Communitech: investottawa.ca

MaRS

MaRS brings together the innovation community to grow the economy and make an impact.

From advisory services to connections to talent, capital, customers and more, MaRS offers a range of high-value services that help high-growth companies succeed. We also provide access to the MaRS ecosystem, a curated community of entrepreneurs, investors, corporates, academics and government partners.

For more information on MaRS: marsdd.com

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