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EXCLUSIVE ONLINE CONTENT

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- Why it's necessary for CPAs to embrace coding skills

- How the CFE's 2020 Governor General's gold-medal winner made the No. 1 spot



Michelle Per, from KPMG in Toronto, Ontario is the recipient of the 2020 Governor General's Gold Medal Award as the top writer of the 2020 CFE. Others won the regional Gold Medals.



CPA Cheryl Ng and her son, Owen, at home in Waterloo, Ont.

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WHAT DO YOU THINK?

Send your letter to the editor to pivot.letters@cpacanada.ca or to 277 Wellington St. W., Toronto, ON M5V 3H2.

Letters may be edited for length and clarity.

A NEW BEGINNING

We have all endured some unprecedented challenges. But, 2021 gives us much to look forward to **BY CHARLES-ANTOINE ST-JEAN**



While this past year was challenging in so many ways, it also reinforced the importance of business principles and organizational culture if Canada is to build back better.

For Canada's accounting profession, these values include collaboration, sharing knowledge, professional ethics, community involvement and sustainability. Our more than 220,000 members play a vital role in ensuring a productive economy and the efficient allocation of capital—responsibilities that have rarely been as important as they are right now.

CPA Canada, meanwhile, has a long history of providing governments with feedback from its members. Advocacy and engagement through new groups, such as the federal government's Industry Strategy Council, will be particularly important as the economy adjusts to shifts now rippling across many sectors.

I'd like to talk about collaboration. At a time when so many people and businesses are experiencing unprecedented

hardship, organizations that embrace constructive co-operation lay the groundwork and provide a solid foundation. Throughout 2020, we have worked closely with the provincial, territorial and Bermudian bodies to ensure the profession is well-positioned to manage the changes coming at us.

A prime example was ensuring that the profession found a way to allow candidates to write the Common Final Examination, providing an opportunity to progress in their careers and contribute to Canada's economic recovery along the way. Other actions included organizing the profession's first ever national virtual conference, The ONE; and delivering CPA Canada's oil and gas conference, also virtually, exploring the theme of resilience in a particularly hard hit sector. All these projects succeeded because of extensive collaboration by the profession.

It's clear that such initiatives speak to the profession's core goal, which is to enable a healthy and growing economy. Last fall, the International Federation of Accountants released a pair of discussion papers outlining the role that the global accounting profession will play in promoting both international trading alliances and sustainable economic development in the months and years ahead.

Here at home, we will continue to push for long-overdue reforms to the national tax system. The federal government hasn't undertaken a comprehensive reform of the tax regime since 1967. We need to ensure the rules are fair, promote investment and job creation, and align more closely with the dynamics of the 21st-century knowledge economy. Indeed, if our collective goal in 2021 is to build a more resilient society that can compete in an increasingly digital world, then we need to move forward with these reforms. The profession continues to advocate for change and provide insights on how such reforms should work.

It's further worth noting that we are paying special attention to the needs of small- and medium-sized enterprises

(SMEs), which have been especially hurt by the pandemic. An important part of that effort is providing tax resources and updates for our members who are helping organizations or clients understand government stimulus initiatives. We are hearing these efforts provide comfort to practitioners working in small firms as the updates offer not only valuable information but also identify issues—even when there are no immediate answers. This confirms that they are not alone, firms large and small face the same problems.

As far as sustainability is concerned, accounting—by its nature—encourages more efficient use of resources and therefore has a substantial role to play. We are actively engaged with networks, such as Accounting for Sustainability, and are working to strengthen climate-related reporting to help support Canada's transition to a carbon-neutral future. However, this must also involve addressing challenges faced by certain sectors and regions.

Finally, I'd like to close with some observations about mental health. During The ONE conference last fall, I had a chance to participate in an online conversation with Denis Trotter, KPMG's chief mental health officer and the subject of a *Pivot* interview last year, in which he discussed his struggles with depression.

By the time you read this, we will be in the depths of winter—always a cold and dark season—but this year is also marked by our continuing struggle against the pandemic. Denis's story, however, reminds me about the importance of hope. We are hearing encouraging news about vaccines and seeing more stories about entrepreneurs and organizations innovating their way out of the economic storm of the past year. There is, it would seem, a silver lining: 2020 is done and we can now look ahead to 2021, the year when we regain control of our lives. Let's start now. ♦

TURN TO P. 18 to learn about the Cullen Commission and its mandate to address money laundering in Canada.

PIVOT

VOLUME 4 | ISSUE 1

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National Magazine
Awards: B2B
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CONTRIBUTORS

Ali Amad, Nathan Baker,
Bruce Ball, Nhuri Bashir,
Joe Berridge, Chris Bolin,
Steve Brearton, Rob Csernyik,
Daniel Ehrenworth, Danielle Groen,
Matthew Hague, Alexi Hobbs,
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Andrea Yu



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Heather Whyte, MBA, APR, CDMP

ASSOCIATE PUBLISHER
Tobin Lambie

PRINCIPAL, CONTENT
Douglas Dunlop

SALES DIRECTOR
Laura Cerlon

**ADVERTISING SALES,
ACCOUNT REPRESENTATIVE**
Ian McPherson
(416) 364-3333 x 4059
ian.mcpherson@stjoseph.com

DIRECTOR, LANGUAGE SERVICES
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Pivot is published six times a year by the Chartered Professional Accountants of Canada in partnership with St. Joseph Media. Opinions expressed are not necessarily endorsed by CPA Canada. Copyright 2021.

TORONTO

277 Wellington St. W., M5V 3H2,
Tel. (416) 977-3222,
Fax (416) 204-3409

MONTREAL

2020 Robert-Bourassa Blvd,
Suite 1900, H3A 2A5,
Tel. (514) 285-5002,
Fax (514) 285-5695

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Additional annual subscriptions are available at the following rates: members, \$32; students, \$45; non-members, \$55. Single copy, \$5.50. Outside Canada: \$89 for a one-year subscription; \$8.90 for a single copy. GST of 5% applies to all domestic subscriptions. For subscription inquiries, call (416) 977-0748 or 1-800-268-3793 from 9 a.m. to 5 p.m., Monday through Friday; fax: (416) 204-3416. GST registration number 83173 3647 RT0001. Publications Mail Agreement No. 40062437. Printed in Canada. ISSN 2561-6773. Return undeliverable Canadian addresses to the Toronto address above. *Pivot* is a member of the Canadian Business Press and Magazines Canada. All manuscripts, material and other submissions sent to *Pivot* become the property of *Pivot* and the Chartered Professional Accountants of Canada, the publisher. In making submissions, contributors agree to grant and assign to the publisher all copyrights, including, but not limited to, reprints and electronic rights, and all of the contributor's rights, title and interest in and to the work. The publisher reserves the right to utilize the work or portions thereof in connection with the magazine and/or in any other manner it deems appropriate. No part of this publication can be reproduced, stored in retrieval systems or transmitted, in any form or by any means, without the prior written consent of *Pivot*.

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LETTERS

Money for nothing

Pivot published a startling opinion column, "Money for nothing" (Sept./Oct. 2020), advocating for a guaranteed annual income for every Canadian (UBI). The writer, Francis Fong, was not advocating repairing holes in the well-regarded Canadian social safety nets, but for a monstrously costly guaranteed income for all. He offered no evidence for "growing inequality" in the country (I have seen analysis with an opposite point of view pre-COVID) or the harmful effects of automation and the gig economy. Glossing over the exponentially rising total public debt is one thing. Mr. Fong astoundingly ignores the greater cost to society, that of introducing a disincentive to work, not only for this generation but for future generations.

UBI would do nothing to engender productive, meaningful lives. A working economy demands creative, purposeful, future-building workers. "Money for nothing" is a shibboleth that Canada should choose to do without.

—R. John Campbell, CPA, CA (retired)
London, Ont.

Call to action

I agree with Chief Economist Francis Fong's article, "Money for nothing" (Sept./Oct. 2020). We need to lobby our elected politicians and government to approve a universal basic income (UBI) program. The strongest focus must be centered on those groups marginalized due to race, sex and/or poverty—the majority of victims being women and children. Despite the miseries created by the COVID-19 pandemic, we seem to turn a blind eye and not face the problem concerning the absence of a guaranteed livable income (GLI). There are far too

many people falling through the cracks. In order to address this situation, we are long overdue in making UBI or GLI available for all, and without attaching onerous conditions and restrictions to those who truly need the support. The longer we wait, the more negative effects will be burdened upon the victims, our community and our country.

—A. Stuart Mah, CPA, CMA
Vancouver

Age is just a number

With regards to the article “Money for nothing” (Sept./Oct. 2020), the main objection to UBI is its cost. But consider that Old Age Security is universal basic income for seniors. It’s taxable, clawed back (at 15 per cent) once income exceeds a certain amount, and is subject to income tax withholding, in some cases at

100 per cent. Why not gradually lower the age it is available at, and start the clawback at a lower income amount for younger people? This would be much less expensive than the \$228 billion quoted in the article and could be phased in over time.

—Alastair Murdoch, CPA
Kamloops, B.C.

A missed cast

As a CPA and salmon fly fisherman, I was curious to read the “Go fish” article (July/Aug. 2020). I must say that the article left a bad taste. Rather than a balanced and unbiased description that helps the reader form an opinion, this article sounded like an infomercial for a dubious company. I’d suggest having a look at one of the winning films of the 2019 Banff Centre Mountain Film and

Book Festival, *Artifishal*, for a different perspective on this topic.

—JF Nadeau, CPA
Ottawa

Cover to cover

Thank you for the most interesting edition of *Pivot* (July/Aug. 2020) that I’ve read in a long time. Pages and pages of human-interest articles about topics Canadians are thinking about right now. My father wanted to read the feature story as soon as he opened the mail. My mother is currently devouring the other articles in the magazine. Neither of my parents are CPAs. Thank you. You deserved the “Best Magazine” award.

—Donna Pinsky, CPA, CA
Montreal


FIRE-d up

I read with great interest your article on “The young and the restless” (May/June 2020). As a person who disengaged from a traditional career path and sampled retirement in 2000 at the age of 37, I hardly think millennials should be given credit for the “reinvention of retirement.” However, if it took millennials to make it an acronym (FIRE, Financial Independence, Retire Early) and to make it a movement (by spreading the word through blog posts and other social media), then more power to them. I’m thrilled to see other young couples step outside the norm and embrace a way of life that has worked out beautifully for my husband and I. I could identify with each one of your “FIRE-starters.”

I can’t tell you how happy I am to see that *Pivot* not only ran a story on the FIRE movement, but included profiles of five people who were not necessarily CPAs. It is so refreshing to see that the accounting profession has become more open-minded, embracing and applauding a diversity of professionals and a wider definition of what a successful career might be.

—Jennifer M. Smith, CPA, CA



A man with glasses and a brown blazer is holding a fan of Canadian 100 dollar bills in front of his mouth, as if he is about to say something. He is standing against a light blue background.

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FIRST IN

PURPOSE DRIVER

HUMAN TOUCH

Megan and Gordon Holley balance purpose with profits at the helm of one of just two financial firms in Canada with B Corp status **BY ALI AMAD**

Gordon and Megan Holley are CEO and COO, respectively, of Vancouver-based Humanity Financial Management Inc., the accounting firm they founded in 2014 that has grown to a 20-employee company. All of Humanity Financial's clients are social purpose enterprises, comprised of non-profits as well as Indigenous organizations, including Coastal First Nation–Great Bear Initiative, a collection of nine coastal First Nations in B.C. that work together to protect the coastal environment.

The couple first started their own firm in 2008 as Beankeepers Professional Bookkeeping. It was a natural step for Gordon, who hails from a family of accountants and spent a decade managing law firms in between stints as a tax specialist at EY and H&R Block. Megan, who originally planned to go into veterinary medicine, created information management systems for everything from libraries to mining companies in the '90s and early 2000s.

When Megan first met Gordon 27 years ago, she was struck by how adventurous he was (“He’d just gone bungee jumping the day before,” she recalls). “I thought she was out of my league,” says Gordon, a CPA, “but three weeks after our first date, we were engaged.”

“And three months after that,” Megan adds, “we were married!”

Giving back to the community has always been important to the Holleys, who volunteer on the boards of organizations such as the West Vancouver Foundation and Community Foundations of Canada. So it wasn't a surprise when, after operating Beankeepers for five years, they decided to rebrand and shift their focus from a general client base to specifically working with social purpose organizations to help build their financial capacity.

Last May, Humanity Financial took a further step toward giving back by becoming the first certified





B Corp accounting firm in Western Canada. B Corp companies commit to balancing purpose and profit through a “building back better” philosophy that tackles today’s biggest social and environment challenges like poverty, climate change and biodiversity. B Corp companies must also commit to public transparency and value creation for all stakeholders, not just shareholders.

There are nearly 3,500 B Corp companies in 74 countries, including ice cream maker Ben & Jerry’s and apparel giant Patagonia. But of Canada’s 275 B Corp companies, only two are accounting firms—Toronto-based Ethical Profit and Humanity Financial. The Holleys hope to inspire more CPAs to follow in their footsteps.

What inspired you to launch Humanity Financial?

Gordon: In the mid-2000s, we felt there was an opportunity to build a firm that specialized in professional bookkeeping. As an accountant, I was frustrated by the lack of quality in the files I’d get from clients over the years. Clients were paying for someone to do their bookkeeping during the year and then paying their accountant to do it all over again during tax season. So we decided to create Beankeepers Professional Bookkeeping.

Megan: But after a few years, we started discussing doing something more in line with our personal “why?” We wanted our careers to leave a positive legacy. To do that as an accounting firm, we knew we could leverage our financial knowledge to help

organizations that were trying to make the world a better place. That’s when Beankeepers transformed into Humanity Financial.

You focus entirely on social purpose entities such as Indigenous organizations, foundations and charities. How does it make you different from other accounting firms?

Megan: We don’t do tax returns, audits or any assurance work, which makes life easier for our employees. Sure, there are busy seasons—March 31 is year-end for many of our non-profit clients—but there isn’t the stress and long hours that you’ll find at traditional firms.

“WE REALIZED B CORP CERTIFICATION WAS LESS ABOUT US AND MORE ABOUT EVERYONE OUR BUSINESS TOUCHES”

Gordon: We worked with a business coach who convinced us that if we wanted to maximize the value we could create for our clients, we needed to specialize. Half of our business is project consultation and for the other half, we basically operate like an outsourced finance department.

Regarding your recent elevation to B Corp status, why is balancing purpose and profit and “building back better” as an accounting

The ABCs of B Corp

Want your business to become B Corp certified? Here’s a glimpse at what it takes.

Let’s get this out of the way first: the “B” stands for “beneficial.”

Certified B Corps are companies that operate with a mandate to balance purpose with profit. As the B Corp mandate states, “Society’s most challenging problems cannot be solved by government and non-profits alone.”

The B Corp certification program is run by Pennsylvania, Pa.-based B Lab, a non-profit with offices around the globe. In order to achieve B Corp status, businesses must qualify based on B Lab’s fairly rigorous assessment.

The certification process begins with companies answering an online B Impact Assessment (BIA) questionnaire that

takes anywhere from two to four hours to complete, during which a business is evaluated on whether or not it is “better for your workers, community, customers and the environment.” Upon completion, a company is given a B Impact Report, which includes a “B Score” from zero to 200—a minimum mark of 80 is required to qualify for B Corp status.

Eligible companies must provide documentation to support their answers and then undergo further assessment from a “B Lab Standards Analyst,” which may include interviews and site visits. Once a business is officially granted certified B Corp status, it is subject to annual fees calculated based on sales—a scale that begins at US\$1,000 for companies with sales at or below US\$150,000.

As B Corp’s official “Declaration of Interdependence” states, “We must be

the change we seek in the world,” and that accountability is a driving factor for businesses to pursue B Corp certification. But the benefits of B Corp status can go beyond building a better planet. According to a Purpose Power Index study, purpose-driven companies are almost 30 per cent more likely to be recommended to customers, attract employees and be given the benefit of the doubt in a crisis scenario. In order to retain their status, B Corp companies must go through an evaluation process every two years.

There are 275 B Corps in Canada, although very few in the financial sector. In addition to Humanity Financial, Manitoba-based Assiniboine Credit Union, run by CPA Kevin Sitka, recently became B Corp certified, achieving the sixth-highest B Score globally and the highest in Canada.

firm so integral for you? What makes B Corp certification different from corporate social responsibility (CSR) or environmental, social and corporate governance (ESG)?

Megan: B Corp certification goes far beyond CSR and ESG. It doesn't just mitigate the negative effects of business, it also creates shared value. B Corp certification is also validated through an independent third party, while CSR and ESG standards are usually created and reviewed internally. Ultimately, we have to create new, human-centred norms for doing business, whether or not we're in the midst of a pandemic.

Gordon: At first, we thought B Corp certification was a natural extension of our business model and brand. But as we went through the six-month application process, we realized it was less about us and more about everyone our business touches. We were encouraged to think about how we could make a positive impact on stakeholders and the environment. There are so many reasons why this matters today. Systemic racism, climate change, income inequality and this ongoing pandemic have shown why an economy dependent on short-term, pure-profit business motives is unsustainable. It feels like up until now, business has been part of the problem. We want to design a business that is part of the solution.

How will being a B Corp change your business operations and outlook?

Megan: It's already changed the way we feel about going to work every morning. It feels good to know you're being a force for positive change. We've also already implemented new policies to help our employees thrive. We don't expect them to work more than 40 hours a week and we pay above-market salaries. Employees are paid for up to 40 hours of volunteer work a year and can spend up to 15 per cent of their working hours on skills training. We also plan on reducing our carbon footprint and undertaking firm-wide anti-racism training within the next year.

Gordon: On a macro scale, all of our business decisions are now running through multiple lenses, including, "How will this decision impact our clients, our team members, our suppliers, our community and the environment?" Our hope is that we will attract clients who share our values and motivate other businesses to adopt the B Corp approach. Seeing how the pandemic has disproportionately impacted marginalized communities around the world is a pressing reminder of how crucial it is that we keep going in that direction. ♦

PHOTOGRAPHS BY ISTOCK

THE GREAT PAUSE

There's now a word to describe the decline in human travel and activity related to COVID-19 lockdowns and restrictions: anthropause. We're constantly reminded of the social, economic and health effects of the pandemic, but there are other areas where the "Great Pause" is having an impact —*Steve Brearton*

50%

REDUCTION IN SEISMIC NOISE

In July, a paper co-authored by 76 researchers, including McGill University's William Minarik, demonstrated that the anthropause has cut the Earth's seismic noise in half. Results varied by location. Sensors measuring ground vibration in Brussels recorded a 33 per cent decline, while a 10 per cent drop was recorded in New York City's Central Park.

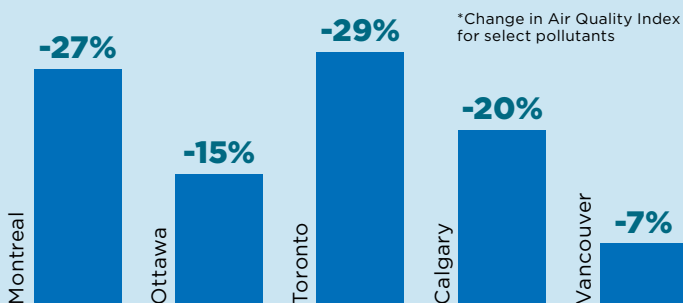


5,500

Increase in wildlife sightings reported to inaturalist.ca, the Canadian Wildlife Federation's plant and animal tracking portal, during the first days of April—a 58 per cent jump from the previous year. Reduced traffic and noise pollution are thought to be responsible for an uptick in sightings of wild animals in urban settings, including pumas in downtown Santiago, Chile, and jackals in parks in Tel Aviv, Israel.

LESS CARBON DIOXIDE, CLEANER AIR

During the first two months of the COVID-19 pandemic, daily global carbon dioxide levels declined by 17 per cent and there were corresponding declines in overall pollution levels. In Canada, pollution levels in the five largest cities dropped significantly in the weeks following the March pandemic lockdowns.



25

Number of emergency pigeon-feeding permits issued to animal rights' groups in May in Cologne, Germany, to prevent the birds from going hungry. "Pigeons are very loyal to their local habitat," a spokesperson from the German Animal Welfare Association told U.K.'s *Express* newspaper. "They will not leave the city centres and will starve to death if they are not provided with food soon."

PICTURE THIS

YURT ALERT

The rise of “glamping” helped put yurts on the map. But the pandemic means Canadian yurt-makers are busier than ever **BY DAVE ZARUM**

“Live life without corners,” reads Parks Canada’s webpage dedicated to yurts, the traditional circular structure originally developed by nomadic peoples of Central Asia.

Thanks in part to an active community of Canadian builders, the yurt has successfully migrated west, where the tent-like structure has grown in popularity in recent years; yurts have become the unofficial face of “glamping” in Canada. Parks Canada offers yurts for overnight stays at places like Kejimikujik National Park in Nova Scotia, Riding Mountain National Park in Manitoba, and New Brunswick’s Fundy National Park, where there are five yurt locations to stay in.

But with the COVID-19 pandemic taking hold, yurts have reached a whole new market of social-distancers looking for extra space. For Canadian yurt manufacturers, like Little Foot Yurts of Wolfville, N.S., and Pickering, Ont.-based Yurta, the demand has risen exponentially. With people encouraged to distance indoors, these lightweight pop-up shelters have become a viable solution for those wanting to invite visitors to stay on their property, while minimizing the spread of airborne virus.

“We’ve encountered a lot of people who own a cottage and live in the city and want to take advantage of the opportunity to get out of the city—but they want to share that experience with friends and family,” says Alex Cole, who co-founded Little Foot with his wife, Selene. “What they really need is a yurt.”

Cole says that since the pandemic began he’s gone from receiving a handful of inquiries to dozens each month. It’s not hard to understand why. Beyond their small ecological footprint, yurts are a lower-cost alternative to a standard outbuilding and, because they are not a fixed structure, there is often no need for construction permits (plumbing and electrical excepted). They can be winterized and are portable, with some designed to fit on the roof of a car after disassembly—most yurts are built with detachable wooden flooring, a canvas or vinyl tent covering and a wooden trellis frame that collapses like a baby gate.



Canadian yurt prices start at around **\$9K** depending on the size and amenities

“Our bread and butter has been cottage and land-owners who want a small bunkie on their property,” says Patrick Ladisa, president of Yurta. His phone has also been ringing more than ever and, amid the pandemic, has seen his client base expand to include commercial clients and hospitals looking to create additional space for nurses and other staff.

Even restaurants are embracing yurts, like Toronto’s Amsterdam brew pub, which purchased an \$11,000 yurt that can hold up to six diners. General manager Matt Peacock has called his yurt “a lifeline” during winter months when patios aren’t as attractive.

Canadian-built yurts start at roughly \$9,000 and, depending on the size and amenities, go up in price from there. Some feature fireplaces, patios and even indoor swimming pools. In many cases, the buyer doubles as the builder, with detailed plans provided and, in the case of Little Foot, even workshops offered by the manufacturers.

When Yurta first opened shop in 2004, its first client was what Ladisa calls a “harbinger of the Airbnb’ers.” Four years before the popular property rental company existed, Yurta’s first two sales were for structures purchased as guest houses available for rent.

Yurta’s Ladisa won’t go so far as to call yurts “mainstream” quite yet, “but there’s no question they’re entering the public consciousness more than ever.”

“[The pandemic] has really pushed a lot of people to say, ‘I want to get back to nature,’” he says. “There’s no question we’re seeing that rural-urban shift reflected in our business.” ♦



2



3



4



5



6

1. & 2. Yurta's Patrick Ladisa using a model to demonstrate a yurt's **contractible trellis** and transporting lumber at his company's Pickering, Ont. workshop.

3. Little Foot Yurts built this unit available for rent in Nova Scotia's **Kejimikujik National Park**.

4. Little Foot uses materials like ash and red maple, which is sourced locally using coppicing, a technique that cuts hardwoods at ground level and prepares the tree to regrow stronger. Co-founder Alex Cole (right) **steams the wood and bends it by hand** around a steel former. These techniques are adapted from English woodworking traditions and Central Asian yurt building techniques.

5. A **canvas rooftop** being sewn at Yurta's workshop. Most Canadian yurts are built to withstand the harshness of winter.

6. **Furnished interior** of a decked-out yurt.



The government has promised easy tax filing but could do more for low-income Canadians

BURNING ISSUE

KEEP IT SIMPLE. PLEASE.

Canadians need a tax system that uses smart policy and reliable technology to make filings and transactions easy for everyone

BY BRUCE BALL, VICE PRESIDENT, TAXATION, CPA CANADA

Among the plans laid out in September’s Speech from the Throne, the government said it will introduce free, automatic tax filing for “simple” returns to ensure people receive their much-needed benefits. For lower-income and vulnerable Canadians who find their taxes anything but simple, this could be a great step forward. But it’s only one step on the road toward simplifying the tax system for everyone.

Even at the best of times, tax policy-makers and administrators should aim to minimize the time spent by people and organizations to meet their obligations and access social benefits. Now more than ever, the tax system should rely on reasonable policies and cost-effective processes and technology to make tax filings, transactions and interactions as easy as possible for everyone.

The pandemic has underscored the importance of simplicity in tax policy design. At a time when delivering financial aid to vulnerable and lower-income Canadians was critical, the tax system was challenged, forcing the government into a tricky balancing act.

On one hand, tax deadlines (including waivers of interest and penalties) were pushed back to the fall to give Canadians more time to prepare their returns and make their tax payments amid the disruption.

On the other, lower-income and vulnerable Canadians were urged to get their returns in by late summer to avoid having their benefit payments interrupted—but without many of the usual supports that they need to prepare their returns properly, such as access to in-person volunteer tax clinics.

Although the government has taken steps to ease benefit applications, one key thing has not changed—you must file a personal tax return to claim most payments. For many lower-income Canadians, this is no small task. In fact, because so many tax credits and benefits are granted based on income, preparing tax returns for many lower-income earners can be harder than it is for those with higher incomes.

Over 20 non-refundable tax credits can be claimed on T1 personal tax returns. Many of these, like the credits for people with disabilities and medical expenses, are based not only on income but also on other, often complex eligibility requirements. There are also a number of special deductions with strict criteria that can be claimed for people in various situations.

For some groups, such as students, filing a tax return also opens secondary opportunities. They can transfer unused tuition amounts to a supporting person, claim unused amounts in later years, or report earned income from summer jobs that they can claim for RRSP purposes later in life.

Much of this support gets left on the table because many eligible Canadians don’t file the returns needed to claim it. Some don’t understand that some federal and provincial support payments may be receivable even if you aren’t liable for income tax. Some are confounded by the thresholds

and clawbacks based on family net income that complicate certain claims. Others may be overwhelmed by the lengths they need to go to determine whether they qualify and prove it to the CRA when they do.

It's for reasons like these that an automated tax filing program would be welcome, but these same reasons could hold it back. These programs are in place today in countries like New Zealand and

TAX POLICY-MAKERS SHOULD AIM TO MINIMIZE THE TIME PEOPLE SPEND TO ACCESS BENEFITS

the U.K. But their personal tax systems are much simpler than Canada's. It's not clear whether such a program would work here without tackling complexity in tax policy as part of the process.

Apart from income such as self-employment and rental income, the CRA already has most income-related information needed for filing. Many of us already download this data to pre-populated tax forms using the CRA's "Auto-fill my return" service. But the CRA does not have

information to enable the same support for most credits and deductions.

To fully automate the system, we think it will be necessary to reduce the tax preferences where the claimant must:

- determine whether they qualify
- supply the information needed to calculate and report the reduction

This could be achieved by allowing for standardized deductions or credits based on what lower-income Canadians reported in the past. In line with Canada's system of self-assessment, taxpayers should still have the option to itemize their claims if it's to their advantage.

Streamlining the rules to enable automated tax filing fits well with another government plan. A 2019 election pledge committed the government to conduct a comprehensive review of tax expenditures, aimed at eliminating unfair tax breaks for wealthy Canadians. We urge the government to expedite this review and to broaden its mandate to streamline tax credits and deductions and eliminate inefficient or poorly targeted tax preferences. This will help pave the way for a more automated tax system that works fairly and efficiently for all Canadians. ♦

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ANTI-MONEY LAUNDERING

CULLEN COMMISSION: AN EXPLAINER

The issue of money laundering has spurred Canada to bolster the country’s anti-money laundering (AML) efforts. In B.C., the Cullen Commission has begun to address the issue. Here’s what you need to know about the commission, its mandate and the role of CPAs in the war against money laundering.

WHAT: A public inquiry titled the Commission of Inquiry into Money Laundering in British Columbia. The inquiry is more commonly referred to as the Cullen Commission, after its head, Hon. Austin Cullen.

WHO: Presided over by Hon. Austin Cullen, a B.C. Supreme Court judge and former prosecutor, the Cullen Commission is hearing from experts across several fields, including gambling, real estate, law and accounting.

WHEN: The public hearings were launched in February 2020, with witnesses scheduled to be



The Cullen Commission hearings: what CPAs should know. [CPACanada.ca/news](https://cpacanada.ca/news)

heard until April 2021. The Canadian CPA profession is expected to address the inquiry in early January, while the Cullen Commission’s final report is scheduled to be submitted to government on May 15, 2021.

WHERE: Hearings are being held virtually due to COVID-19. A live webcast of the proceedings is available at cullencommission.ca.

WHY: Four reports, including one commissioned by the government of B.C. estimating that roughly \$47 billion had been laundered in Canada in 2018, led to the establishment of the inquiry. “All the things that make Canada a wonderful place to live also make it desirable for organized crime,” former RCMP deputy commissioner Peter German told *Pivot* last year (“Mr. Clean,” May/June 2020). The issue goes beyond organized crime, and can include fraud and other types of criminal activity.

HOW: Canada’s CPA profession plays a role in helping to strengthen Canada’s AML regime. Recently in Canada, the profession contributed to policy consultations regarding beneficial ownership transparency, which is seen as a valuable tool in tackling money laundering. On the international stage, the accounting profession has participated in discussions at the Financial Action Task Force, which sets international AML standards, and B20 forums. ♦

SHAM, WOW

A catalogue of recent cons
BY DAVE ZARUM

Bailed out

A Sunshine Coast, B.C., resident received a call from a woman claiming to be the respondent’s daughter who explained through tears that she’d been arrested, and hung up the phone. The phone rang again, now with a man on the line claiming to be the daughter’s lawyer. He explained how to transfer bail payment, and to tell the bank the money was needed for “personal reasons.” The “lawyer” added that a gag order prevented the Sunshine Coast resident from sharing any details with anyone. The funds were sent, but frozen soon after the resident’s intuition kicked in and the police were contacted.



5 Canadians—including three brothers—were charged by the Commodity Futures Trading Commission for their role in an alleged global binary options scheme that netted over \$165 million from U.S. victims. The same brothers, often seen on social media dating models and racing flashy cars, were also charged by the Ontario Securities Commission for defrauding Ontario residents of \$1.4 million.

\$12 MILLION

Worth of intentionally mislabelled raspberries were sent to Canadian consumers from Chile between 2014 and 2016, a recent probe from Chilean customs revealed. Chile-based Frutti di Bosco repackaged frozen raspberries from Chinese supplier Harbin Gaotai Food Co. Ltd. as Chilean-grown, shipping hundreds of tonnes to Canada. Harbin Gaotai berries were issued a recall in Canada in July 2016 and linked to a norovirus outbreak in Quebec.



“Puppy fraud”

Is how a Canadian Anti-Fraud Centre spokesperson described this prevalent scheme that targeted dog lovers during the pandemic via fake ads and shady sales practices. By mid-September, Canadians lost more than \$300,000 to puppy scams, double the entire total in 2019.



50 Approximate number of Quebecers who lost a total of \$2.3 million to a romance scam targeting seniors via online dating apps. Twelve people were arrested in Quebec and six in Côte d’Ivoire in connection with the scheme. Online dating scams are the most common fraud targeting the elderly.



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BY THE NUMBERS

OUT OF OFFICE

Starting in March 2020, Canadians shifted their behaviours as workers, consumers and social beings in an effort to curb the spread of COVID-19. To the extent that our jobs and responsibilities allowed, many of us started performing these roles remotely. The changes in our daily lives happened fast—almost as quickly as the term “unprecedented times” became something of a cliché. From plummeting retail sales to soaring internet usage, our habits were drastically altered in the process. Here’s a glance at how the pandemic affected the lives of Canadian workers in 2020. —Nathan Baker

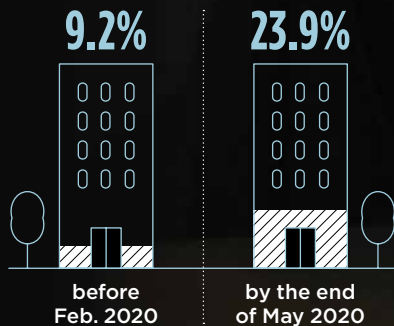
REMOTE WORK: THEN AND NOW

Percentage of Canadians working from home:



FROM CPA STUDY OF 1,000 EMPLOYED ADULTS

Percentage of Canadian businesses at which more than half of employees work remotely:



49% of employed Canadians surveyed on behalf of CPA Canada in September said their primary workplace location had changed due to COVID-19.

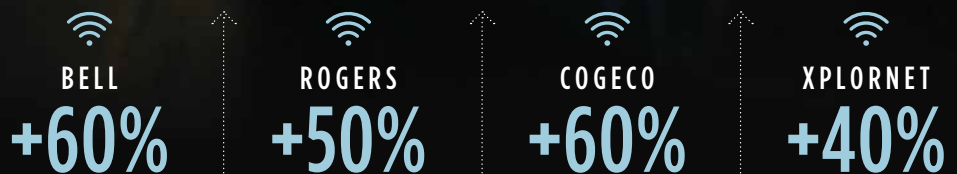
13.5% of Canadian businesses expect to have more than half their workforce working remotely after the pandemic.

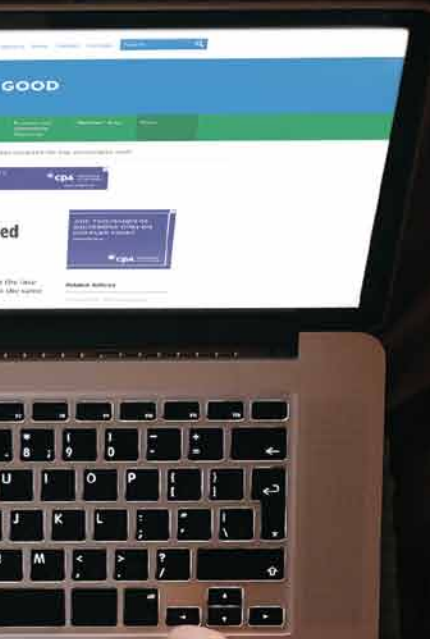


PLUGGED IN AND ONLINE

The large service providers reported major increases in home internet and data usage during the first three months of the pandemic, including up to **300%** growth in cellular network traffic.

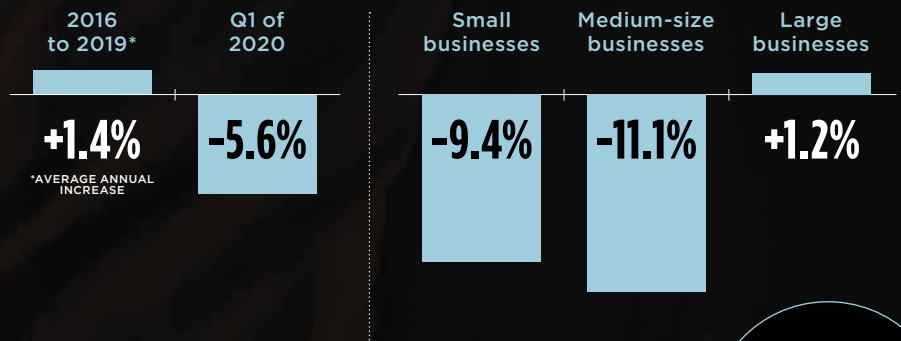
Increase in home internet usage:





PRODUCTIVITY

Hours worked at Canadian businesses in Q1:



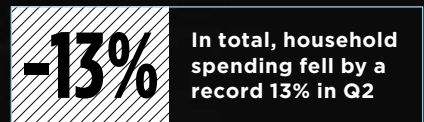
By September, Canadians surveyed on behalf of CPA Canada reported the following job impacts:



3 MILLION JOBS LOST
between February and June 2020

RETAIL AND HOUSEHOLD SPENDING

As people stayed home to limit the spread of the virus between February and May 2020, total retail sales fell by **17.9%**, but e-commerce sales increased by **99.3%** (\$2 billion to \$3.9 billion).



Retail subsectors hit by the largest declines in in-store sales from February to April 2020:

	IN-STORE SALES	E-COMMERCE SALES
FURNITURE AND HOME FURNISHINGS	-69.6%	+191.2%
SPORTING GOODS, HOBBY, BOOK AND MUSIC	-79.0%	+154.9%
CLOTHING AND CLOTHING ACCESSORIES	-84.2%	+83.3%

TRANSIT WOES

In cities across Canada, transit use plummeted once the COVID-19 crisis began, and recovery is happening at a snail's pace. For Canadians who did not work from home, **84%** of those who drove to work pre-pandemic continued to use their car. Yet only **24%** of those who relied on public transit prior to the pandemic continued to use those services.



Urban public transit in Canada, April 2019 vs. April 2020:

	2019	2020	% CHANGE
TRIPS	156.5 million	24.9 million	-83.4%
REVENUE	\$338.5 million	\$59.9 million	-82.3%

FEEL HOW

Interviews by Andrea Yu



The pandemic has transformed our kitchens into cubicles, our dining room tables into workspaces and school desks and our kids into officemates. We asked five Canadian CPAs how they're juggling the demands of the new work-from-home world order

In 2021, the office looks a lot different than it once did. Sure, there are perks to the new work-from-home lifestyle. Our commutes have shrunk. We've swapped out slacks for sweats. And midday dog walks aren't just allowed but encouraged. But all this flexibility comes with its own set of challenges: internet that drops out mid-Zoom conference, dining room tables that do triple duty as workspaces and school desks, the constant presence of children and pets and spouses and parents. Sometimes it feels less like working at home and more like living at work. We asked five Canadian CPAs how they're coping.



Michelle Balmer, 46

with her husband, Kevin Bartsch, 50, and their daughter Maren, 7
Rocky View County, Alta. • Vice-president of assurance for MNP

The beginning of the pandemic was incredibly challenging. I was trying to work from home while homeschooling my seven-year-old daughter, Maren. My husband, Kevin, used to work as a general contractor, but he's been a stay-at-home dad for a few years now, and his full-time job is working on our house. Thankfully, he was able to help our daughter with school while I worked.

At first, we tried to structure her time: she'd do schoolwork in one block, then play outside, then have screen time. Of course, we were being naive. If she wanted to go outside but we were pushing her to do schoolwork, she'd have a meltdown. So, after the first few weeks, our routine became a lot more fluid. We learned to be a lot more flexible as parents.

We also had to juggle work and virtual learning. One time, toward the beginning of COVID-19, my husband was out for the day running errands, and my daughter had a scheduled Zoom call with her

class. I set her up on the tablet in my office while I attended a meeting. I was frantically trying to turn my camera off and mute my video call to get her logged in, then mute and unmute her when she needed to talk. It was a colossal fail. My colleagues heard her class discussion, and her class heard my work call. At the same time, I'm so impressed by how she has coped with the pandemic. After COVID-19 hit, she started having virtual Barbie playdates with her friends. I hear them talk about the pandemic, like "Barbie has coronavirus. She can't go out. She's self-isolating."

I used to work in our Calgary office three or four days a week—my commute was anywhere from 90 minutes to two hours round trip each day. Now, I'm splitting that time between work and family. Our team at MNP is spread out across Canada. I was amazed at how fast our IT department got everyone up and running from home. I've probably learned more about technology in the last nine

months than I have in my whole life.

My main challenge has been our internet. We live in a rural area on a satellite connection, so even at its fastest speed, it's slow and unreliable. Bad weather, especially winter storms, will cause it to crash. There have been times where I'm hosting a video call with 50 colleagues and my connection drops. We can't have more than one person streaming at a time, so on several occasions I've found myself yelling up the stairs: "Anyone on Netflix or the internet, get off! Mommy's hosting a call!"

Before COVID-19, I was usually out of the house early, sometimes at 7 a.m. if I had a call with someone in Toronto. It's been a gift for me to work at home—now I get to do all the little things I missed before. I get to eat breakfast with my family, give Maren a hug and kiss to start her day, do her hair in the morning. Sometimes my husband and I play a game of cards or just sit and have lunch together. In the summer, we sat outside on the deck whenever we had the chance.

I enjoy working from home and would like to do it more than I did before. At the same time, I miss lunch dates with colleagues, coffee-room conversations and the collaborative energy I get from working with a group around the table. We have to be intentional about creating those things if we're not in the office.



Tyler Dougan, 43

with his wife, Carolyn, 42, and their children Henry, 13,
Martha, 11, and Alexander, 7

Halifax • Founder, Get Up & Grow

My wife, Carolyn, and I run our own accounting business. Our clients include more than 200 individuals as well as small and mid-sized organizations. We have a team of six and an office in Halifax, but even before the pandemic we worked from home most of the week. I would go into the office on Thursdays, and I'd be in Toronto for two or three days a month to meet with clients. Amazingly, when COVID hit, our kids' schools opened virtually on March 23, which was the day they were supposed to come back after March Break. They did attendance, sang the anthem and had a regular school day from there. They had a routine right from the start.

Most of the time, our schedule is hectic. We're usually driving our kids to practice and games. During tax season in April, things are even crazier. But when the government extended the tax deadline, our evenings in April suddenly

opened up. I would work until 6 p.m., then we'd eat supper together and watch a movie. We watched all nine *Star Wars* films in April for nine nights straight. We cherished that time together.

In May, our youngest son, Alex, broke both of his arms when riding his scooter. After his accident, he needed a lot of help at school, so Carolyn had to write, type, colour and bring his art ideas to life. She basically became a Grade 1 teacher, and she had to back away from work as a result. It was a huge adjustment, but she really enjoyed spending those months with the kids, eating lunch with them and seeing first-hand what they were studying and learning. The rest of us at work were able to pick up the slack.

There have been some challenges. I have an office, and everyone works in their bedrooms. The problem is, they're all right next to each other. One time, Henry was having a virtual French horn assessment across from my office. Martha was

doing a timed math quiz down the hall. I was on an important Zoom call. And downstairs in the kitchen, Alex and Carolyn were doing a physics experiment where they set up ziplines timing how long it took various stuffed animals to hit the floor. It was chaos. After that, whenever Henry had a French horn lesson or test, I blocked that time off on my calendar and took a break or a walk. If Martha had a test while Henry had to play his horn, she'd go to the basement.

These days, I have about 20 per cent more time that I'm not spending in airports or on the road. I've used it to focus on the company. Suddenly, I have the chance to think about marketing and business development initiatives to help grow our business. Meanwhile, my colleagues and I have learned how to be there for each other outside of work. Sharing stories about the realities of family life during COVID-19 has helped us bond.

We've had our ups and downs during the pandemic. When the shootings happened in Nova Scotia in April, the province was engulfed in shock and sadness. We chose not to shelter our children from it. Instead we held candlelight vigils with our neighbours. Talking about the tragedy made us even more aware of just how lucky we are to be safe and have each other.

Jingchan Hu, 35

with her husband, Tyler Cave, 36, and sons Aden, 7, and Theodore, 4
Thornhill, Ont. • Senior manager, tax, Crowe Soberman

I was born in Wuhan, but moved to the U.S. with my parents when I was nine. They were chasing the American dream. Immigration policies made it difficult for us to stay there long-term, so we moved to Canada when I was 13. Our extended family is still in Wuhan so we visit often. In January, we travelled there with my parents to celebrate Chinese New Year with our relatives.

There were already murmurings about the coronavirus—and about 40 cases—at the time of our trip, but there weren't any travel restrictions. Authorities said there was no clear evidence of human-to-human transmission. But things escalated quickly: by January 22, the government had announced that they were shutting down the city. We searched frantically for flights, and finally I ended up finding one. The tickets were first-class and would have cost something like \$40,000 to fly the six of us home. But I was ready to do it. Luckily, my cousin ended up finding us seats on the same flight for a fraction of the cost.

When we landed, the Health Canada official said we didn't have to quarantine because we weren't showing any symptoms. We decided to do it anyway just to be safe. It was about a month later that Toronto went into lockdown. At that point, we pulled Theodore from daycare, and Aden started doing school online. Meanwhile, I was swamped at work. In normal tax seasons, I work up to 12 hours a day. But suddenly I had to do my regular work and help my kids with school. We had to sit next to them for hours, making sure they watched their video lessons, paid attention and did the homework. It was a chaotic time.

I have an office at home, and Tyler works out of the living room. I would wake up at 7 or 8 a.m., get three hours

of work done between 9 a.m. and 5 p.m., then stay up working until after midnight some days. I tried locking the door to my office so I could concentrate on work, but my kids figured out how to pick the lock. They popped up in Zoom calls all the time. I was drinking a lot more coffee, too—up to three cups a day just to function.

We made it to the summer. The kids had a lot more screen time than we would have liked. Then, in September, we decided not to send our kids back to school. Tyler started waking up to work at 5 a.m. so he could help our kids with school while I worked during the day.

I have a saint for a husband. Still, we knew it wasn't sustainable to do our jobs and care for them at the same time. So we brought in our parents to help. They moved into our spare bedroom. Now, they sit with our kids every day to make sure they stay focused on their lessons and complete their activities.

Now that my parents are here, Tyler and I are both able to get more work done. Early on, I told my partners and coworkers that my schedule needed to be flexible. I might not get all of my work done by 5 p.m., but I'll get it done before I go to bed. Everyone has been totally understanding and supportive.



PHOTOGRAPH BY ERIN LEYDON



Cheryl Ng, 31

with her husband, Alex Hume, 33, and their son Owen, 15 months

Waterloo, Ont. • Associate director, Family Office Services, Fuller Landau LLP

When my son, Owen, was born in September 2019, I decided to continue working part-time. Being on maternity leave can be isolating, and I enjoy my job. After a month or so, we settled into a routine: I'd work for a couple of hours while the baby napped. Alex is a director of business development for a medical devices company, and he's able to work remotely. We were living in a 700-square-foot apartment in Toronto, and the building had some common areas where Alex could work. Of course, as soon as COVID-19 hit, all those spaces closed. All of a sudden, the

two of us were trapped in a tiny apartment with a baby. Alex would often be working at our desk in the living area next to the kitchen. If I needed to use the desk, he'd sit on the couch.

We fought a lot during those first few weeks. And once we were both home all the time, there was a lot more housework to do. When you're already sleep-deprived and stressed, finding dirty dishes in the sink is reason enough to start a cold war. But we figured things out. We used our washroom to use the phone, or the bedroom if Owen wasn't napping. If Owen was crying, one of us would have to leave the apartment to

take a call. He was generally a good sleeper, but there were a few times where he started screaming when I was on the phone. It turns out Owen loved being on video calls, too. He joined several Zooms without an invitation, but people were always understanding.

Around June, we started to feel the confines of our apartment. At this point, Owen could pull himself up and was cruising around like a race car. We couldn't keep him out of anything. And since he needed a bedroom with a door, Alex and I were sleeping in the den, which is right next to our workspace. It felt like we were living in a bachelor apartment.

We looked for two-bedroom apartments in Toronto, but the prices were crazy. We'd be paying \$2,500 to \$3,000 for the same amount of space we already had. So we started considering buying outside of the city. We looked into our carrying costs and realized they'd be about the same, or even less, than what we were paying in Toronto. We also wanted to have another kid, so we figured we'd outgrow a two-bedroom quickly anyway. With the tech boom, we'd been hearing a lot about Waterloo, Ont. It has the potential to grow, and we liked the idea of starting fresh.

I don't have much patience. Once I have my mind on something, I'm like, *Okay, we have to get it done*. More importantly, I didn't want to get stuck in our apartment during the upcoming winter lockdown. We contacted a realtor in July, and two weeks later, we bought a 1,500-square-foot house that's a 10-minute walk from downtown Waterloo.

At work, meanwhile, things were picking up. My team was short-staffed, so I returned from mat leave two and a half months early. There were a few times during that first month back where I thought, *I don't know if I can do this*. I was stretched so thin. But we got through that busy period and we managed to find a new home, too. The day before we moved to Waterloo, I found out I was pregnant with our second child. It was a surprise, but a great one. Alex and I are already fighting over who has to give up their office first for the new baby's room.

Dan Richard, 46

with his wife, Michelle, 47, and their children Madyson, 20, Myah, 17, and Tye, 11

Winnipeg • Co-founder and CEO, IND-Genuity Chartered Professional Accountants

I am a First Nations person, and I've spent my whole career working with and for Indigenous organizations, entrepreneurs and agencies. As of 2014, I was self-employed, and worked on contract for a year as a liaison officer for Indigenous people who were taken from their families as children during the Sixties Scoop. I led information sessions and helped them apply for settlement claims. In March 2019, I started my own company, IND-Genuity, which provides remote bookkeeping and accounting services.

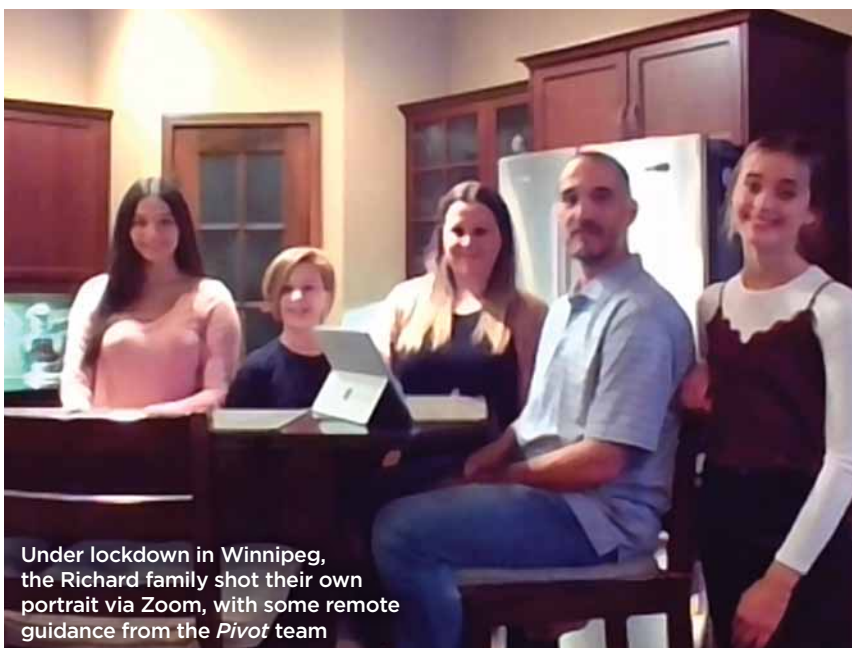
My business wasn't affected much by COVID-19. A lot of my clients receive government funding, so they stayed afloat during the pandemic. But my wife, Michelle, works in customer service for an airline. She was temporarily laid off

soon after COVID-19 hit. She was able to get CERB, so that helped with our finances. And it turned out to be a good thing, because she was able to help our kids with school. My daughter Madyson is studying art and theatre at the University of Manitoba, and she commuted to class before COVID-19. Switching to virtual learning was difficult for her, since so much of her program is about physical interaction. Most days, Madyson worked in her bedroom while I'd be at the kitchen table with Michelle and Tye close by. Myah would work at the kitchen island across from me. I'm on a lot of calls for work, which was really disruptive for everyone else, so after the first month, I was booted to the basement. We have a big table down there that we used for scrapbooking, and that became my desk.

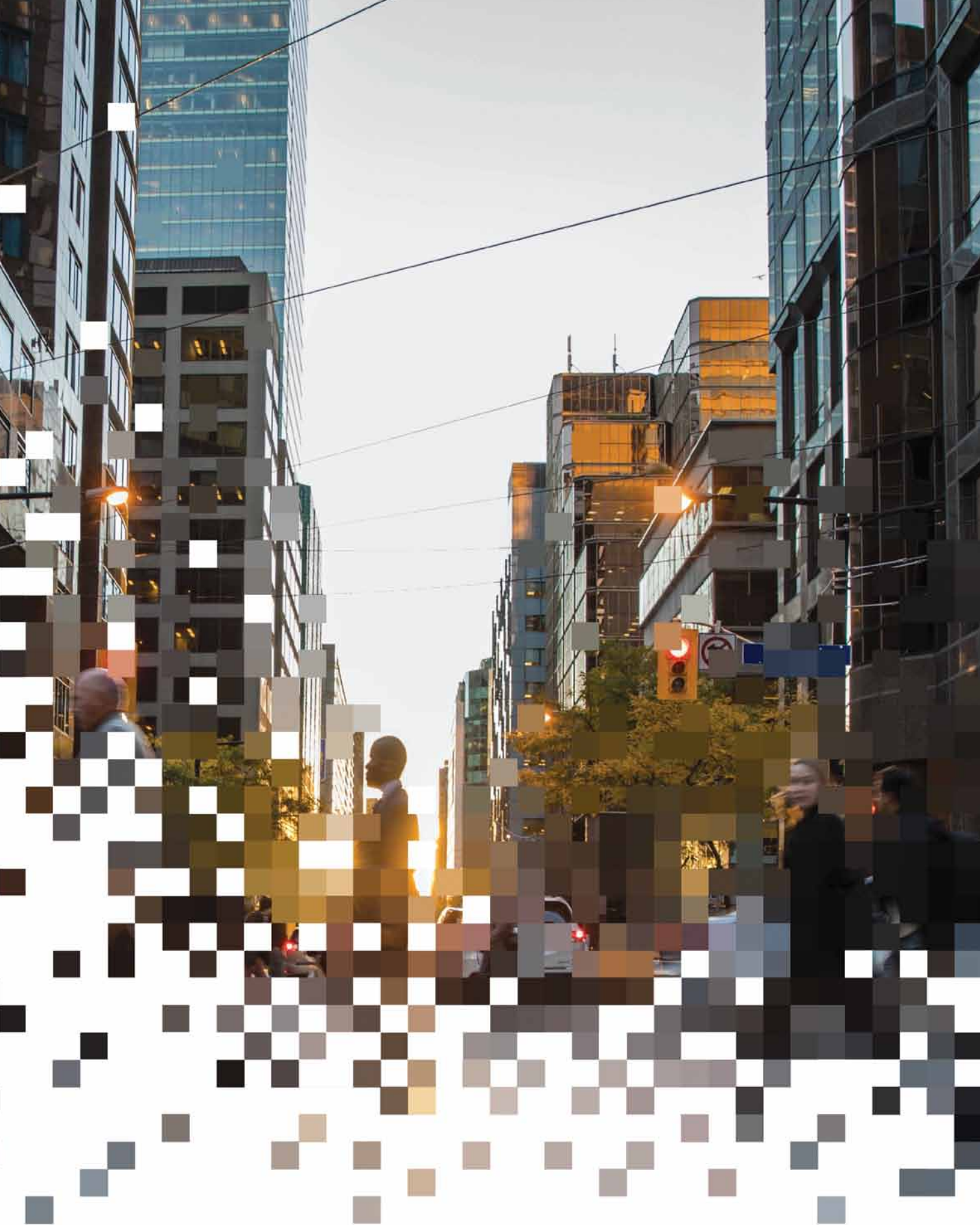
I got into a good routine working in the basement. I would close the door and schedule my tasks between 9 a.m. and 3 or 4 p.m. Then I would spend time with my family. We watched a lot of movies together and played cards and board games. We did themed movie nights where we'd cook new meals that went along with whatever movie we were watching.

In the meantime, my work has picked up. Since I was already working virtually before the pandemic, many companies got in touch so I could help them transition to remote accounting. I've also noticed that during COVID-19, organizations have finally had the time to sit down and review their finances, policies and procedures. It was something that they had been putting off. I had a lot of opportunities to help companies pivot to virtual work.

It's been hard to work with some of my regular clients because many of them live in Indigenous communities, and many of those communities have unreliable internet. They're on satellite, which is unstable and insecure—a big problem when you're working with financial data. Many Indigenous communities aren't allowing outsiders to come in, and I don't want to be the one to introduce the virus. So some of that work has been put on hold, and I understand why. Meanwhile, we've been able to do some of our work over the phone. A lot of COVID-19-related government supports and benefits require individuals and sole proprietors to have their taxes up to date, so I've been helping clients backfile their taxes so they can access all of the benefits available to them. We're going to be in these times for the foreseeable future. ♦



Under lockdown in Winnipeg, the Richard family shot their own portrait via Zoom, with some remote guidance from the *Pivot* team



The pandemic has already affected the way we live, work and move. Now it's forcing business leaders and urban planners to reimagine everything. Here's a glimpse into

THE FUTURE OF CITIES

Canada's cities are changing. Author and urban planning expert **Joe Berridge** explains how—and what to expect next



We're approaching almost one year of living with the virus. The extended COVID-19 crisis has already begun to change how and where we work. Now it's raising vital questions about the way we live and move around our landscape. For all its vastness, Canada remains overwhelmingly urban (81 per cent of Canadians live in cities), with roughly half our nation's wealth generated by just six metropolitan areas—all of which are poised to undergo some transformation resulting from the pandemic.

What will be the permanent changes to our cities? Are dense downtowns dead? Will we ever find a way to live and work successfully in high-rise buildings? Will people get back in the subway or on the bus in the numbers they used to? E-commerce and delivery services have radically changed the way we shop—what will be the enduring effects on retail?

First, a little caution: cities change very slowly. People have leases and mortgages, jobs and families, communities and connections that take years, not months, to restructure.

COVID-19, for all its damage, is not an earthquake or a civil war that forces people to move quickly.

The best way to figure out how our cities are going to change is to understand how they were changing before the pandemic; COVID-19 has both exposed the weak spots and demonstrated the strengths of the city.

The fundamental driver of city health is immigration—and Canadian cities will continue to be fuelled by that stream of energized new citizens. Frankly, it's still better to live in a Canadian city than almost anywhere else in the world. It's why Toronto, Vancouver, Montreal and Calgary regularly get top rankings in global surveys of the best places to live. So, there won't be a major property price crash. We'll see some changes in preferences—as a result, smaller city apartments may be re-priced slightly downwards, suburban houses slightly upwards, and the limited supply of desirable residences in attractive close-by towns and villages are in higher demand than ever.

Will we still go to the office? Yes, but not quite as much. Remote working has become functional and efficient, but has its limitations as well. So expect staggered workweeks and hours, and much lower office occupancy—as much as two-thirds of pre-COVID-19 rates. Suburban workplaces will continue to grow in importance, a trend established before COVID-19 but, don't be fooled: the

downtown office and residential space that already exists is not going anywhere.

Statistics Canada has estimated that at maximum only 38.9 per cent of our workforce has the potential to work in whole or part from home. For the majority of Canadians who work in critical occupations that require people at their workplace—the very people on whom our COVID-19 survival has depended—work and living patterns won't change significantly. This applies to construction workers, teachers, medical staff, retail staff, logistics and delivery people.

However, some more substantial challenges have emerged. In cities all over the world, people have stopped riding transit—subway ridership is barely a third of what it once was. What is especially alarming is that in most of those cities—Toronto, New York and London, for example—transit use was already stalling pre-COVID-19. What this means for the already fragile economics of urban transit is alarming. A complete rethink of how we move people around cities is going to be necessary. Only car travel seems to have regained its pre-COVID-19 levels, a severe setback for attempts to reduce greenhouse gas pollution.

One urban activity that is likely to change significantly is where and how we shop. E-commerce had already been rising as a percentage of retail activity pre-COVID-19 and is now soaring amid the pandemic. Meanwhile, many brick-and-mortar retail anchors—Nordstrom, Macy's, the Bay, Indigo and more—are in big trouble. Expect a significant triage of retail square footage, with smaller malls dying and big malls repurposing their big, empty units. Downtown-dependent retail and restaurant activity is dwindling. Main streets will continue their trend toward "experience shopping" and perhaps benefit from increased "work at home" traffic, although the slow return to indoor dining is going to be hard for the restaurants that, in the warmer months at least, have suddenly become a major presence on our cities' sidewalks.

The COVID-19 crisis has proven to be a severe stress test for our cities, but their inherent social

and economic strength, equity and dynamism will serve them well. However, the pandemic has also clearly exposed our most vulnerable. In city after city, the poorest neighbourhoods typically exhibited the highest levels of infection. These are the very communities in which many of those health, logistics, retail and other workers who kept us going through these testing times actually live. That recognition, so clearly illustrated in the maps of COVID-19 incidence, must urgently spur needed improvements to the environment of social housing and to the quality of local bus transit, both of which have been promised for years.

Predicting and examining the urban impact of the COVID-19 pandemic has been the subject of endless panels and podcasts all over the world (my Zoom app has been working overtime with all of the panel discussions I've been a part of), and for good reason. The pandemic is providing an opportunity for business leaders and urban planners to step back and re-evaluate the state of cities, processing changes both grand and granular.

Is the big, dense vibrant city over? No. It will rise again, as it always has after such challenges, albeit slightly changed. Will suburbs and satellite cities gain in relative attractiveness and importance? I believe so. Could we use the opportunity to redress the socioeconomic imbalance revealed by COVID-19? I hope so. The many elements of a functioning city—transit, work and living spaces, commerce, culture, architecture, social welfare—operate in unison. They are all parts of a working ecosystem and, as one is altered, the others are affected. The pandemic has left this system in various forms of reconfiguration, and the stakes are significant.

Canada is an increasingly urban nation; its future will be decided in its cities.

Joe Berridge is a partner at Urban Strategies, a global urban planning and design firm based in Toronto, and teaches at the University of Toronto. His book, Perfect City: An Urban Fixer's Global Search for Magic in the Modern Metropolis, was published by Sutherland House in 2019.

81
per cent
of Canadians
currently live
in cities

CITY WEALTH INDEX RANKINGS

Cities don't just house the majority of the world's citizens, they are also where business and industry leaders shape the global economy. U.K. firm Knight Frank's annual City Wealth Index ranks world cities based on three criteria: wealth, investment and lifestyle.



1 **NEW YORK CITY**
New York's GDP of **US\$1.77 trillion** in 2019 was more than all of Canada's and higher than the GDPs of all but nine countries.

HOW WE MOVE

Less public transit use and more cars. Automation and shifting priorities will shape the future city **BY JASON KIRBY**



The **COVID-19 pandemic** has thrown the world of urban transportation into disarray. Lockdowns and travel restrictions caused transit use to plummet and pushed municipal budgets to the brink, while the rise of remote work is upending what the daily commute could look like in the decades to come.

“For the last century, transit leaders and city leaders were talking about increasing the habit of transit ridership,” says State of the City founder Brian Kelcey, a public policy consultant with 30 years of experience working in cities like Winnipeg, Victoria and Toronto. “The cruel transportation Darwinism of COVID is breaking that habit.”

At the height of the first wave, transit ridership fell nearly 80 per cent across Canada, according to Google’s mobility tracking data. Ridership started to claw back by September but, as the pandemic’s second wave began in October, there were clear signs across the country that levels were quickly dropping off again—down roughly 70 per cent as of October. The outlook is not promising. A report prepared for Calgary’s transportation and transit committee analyzed three COVID-based scenarios—from a quick end in early 2021 to a “multi-year, multi-wave pandemic”—and their impact on transit demand. Even in the most optimistic scenario, commutes to downtown are projected to fall by 25 per cent.

“What made mass transit possible was that, over time, you could reasonably predict how many tens of thousands of people would be moving in a particular direction at a particular time of day,” says Kelcey. “That’s all up in the air now.”

In the short term, this will create a self-fulfilling crisis, whereby reduced traffic results in fewer buses and trains on routes, which in turn leads to overcrowding and more people avoiding transit. Longer term, it raises questions about how and where funding will be doled out for transit projects. Whereas, in recent years, the attention in cities centred on alleviating congestion in downtown transit corridors, the rise of remote work, satellite cities and the notion of the “15-minute city” (where workplaces, schools and all amenities are within a short distance from your home) will shift the focus.



SELF-DRIVING SHUTTLES like this one will hit the streets of an east Toronto neighbourhood in 2021 as part of a \$1.2-million pilot project

“We have to start asking cold hard questions about projects going forward, not only because of COVID but also the acceleration of technology,” says futurist Jim Carroll. “A lot of urban transit people still consider the idea of electrification and autonomous vehicles as a bit of a joke. But it’s not. Cars, trucks and buses are becoming big batteries on wheels.”

Some regions are already embracing new transit technologies. In June, Winnipeg-based bus manufacturer New Flyer announced a pilot project set for Connecticut to test its self-driving buses. In October, Tampa Bay, Fla., began running an autonomous shuttle to one of its transit centres. And Toronto is launching a pilot program in spring 2021 for a self-driving shuttle to carry residents from the West Rouge neighbourhood to the nearby Rouge Hill GO station.

While public transit has been slow to rebound, the private car is a different story. By the fall, vehicle traffic recovered to near pre-pandemic levels. Despite a year-over-year drop overall, auto sales began to climb back, too—light truck sales in Canada rose 1.8 per cent in Q3.

PHOTOGRAPHS: CITIES BY ISTOCK; BUS COURTESY OF TRANSDÉV



2 LONDON The financial hub of the U.K., where **17 per cent** of the world’s financial services are exported.



3 PARIS The Paris region is Europe’s leading economic area, accounting for **4.6 per cent** of EU GDP. It also boasts Europe’s largest commercial real-estate portfolio.

For his part, however, Carroll is skeptical that car sales will keep rising in the post-pandemic future. “As people spend more time at home, they will come to question the capital costs of owning a car,” he says. “It might lead to an acceleration, not of ride sharing, but car sharing.” With concerns over congestion and rising emissions, groups like Vancouver’s Mayors’ Council on Regional Transportation are urging cities to create “financial disincentives” to driving in peak conditions. This will also lead to an even greater need to create more incentives and infrastructure to foster electric vehicle (EV) use across cities.

In that regard, some places are better positioned than others. Quebec, for example, has 4,746 public charging outlets across the province—more than half of which are government-owned and operated—with plans to expand dramatically over the next decade. The province also offers rebates for EV purchases on top of existing federal incentives. Ontario’s 4,000-plus charging stations are mostly privately owned, with no provincial incentives in place.

One silver lining to the pandemic has been an explosion in bicycle use. Municipal governments across

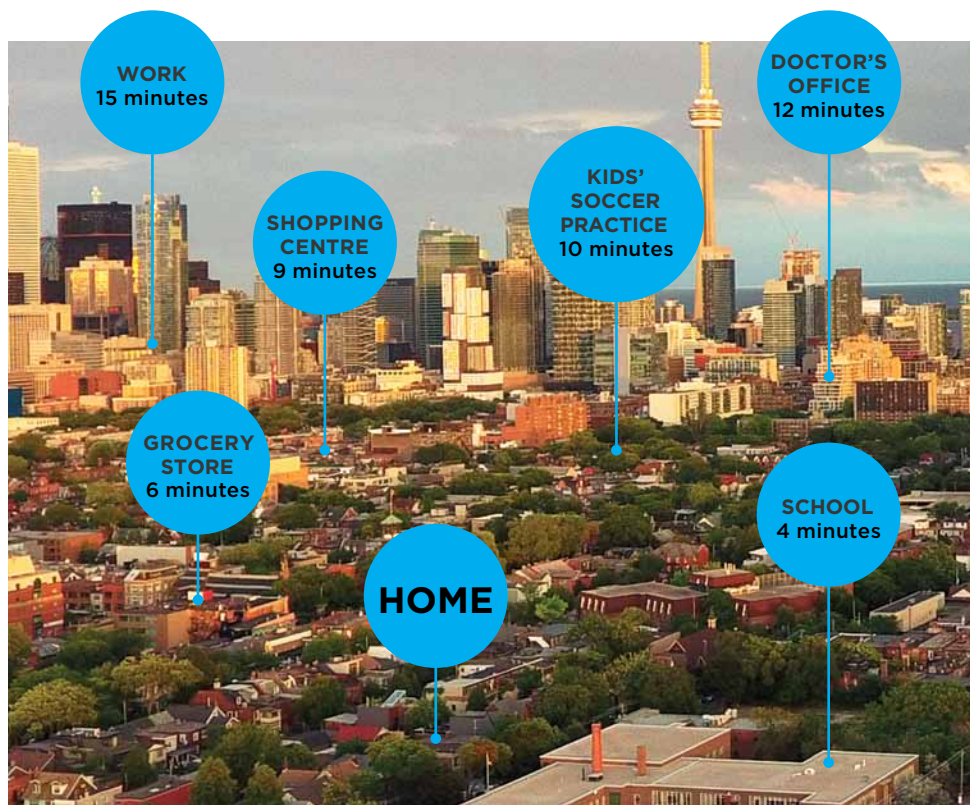
Canada gave riders safe space by restricting traffic on some major arteries. As winter dawned, most city programs favouring bikes over cars were curtailed, but many cities are examining ways to make bikes a more permanent part of people’s commutes. The federal government’s \$3.3-billion COVID-19 infrastructure program earmarked funds for “active transportation infrastructure” including trails and bike lanes.

For now, Kelcey says the best thing governments can do is preserve existing transit infrastructure, even if that means running empty trains and buses. “By keeping the systems alive, you’re not just paying for public safety by allowing for distancing on buses and trains,” he says, “you’re also paying for the flexibility to adapt these systems with fewer headaches once post-pandemic trends are clear.”

All told, the future of transit in cities is likely to be more dependent on cars and less on transit than anyone could have imagined a year ago. But that will be balanced by efforts to enhance alternative modes of transport like biking, while new technologies like EVs and automation are inevitably fast-tracked.

“15-MINUTE CITY” MODEL

Developed by Colombian scientist Carlos Moreno of the Sorbonne Business School in Paris, the “15-minute city” concept is hailed as an ideal post-COVID-19 urban planning model. The idea is simple: retail, business, recreation and residential areas are conglomerated into small regions patterned across the city. Beyond maximizing people’s time, the 15-minute city stops swarms of people travelling to and from one collective core, reducing everything from harmful emissions to potential infectious outbreaks. As a response to the pandemic, Paris Mayor Anne Hidalgo promoted the 15-minute city as part of her platform during a successful re-election campaign in June 2020. Leaders in cities like Barcelona, Shanghai, Melbourne and Ottawa (where a 25-year plan to create “15-minute neighbourhoods” was approved in December 2019) are all working to implement variations on the 15-minute model.



4 HONG KONG With **US\$40.1 billion** raised in 2019, Hong Kong has been home to the most active market for raising IPO funds for seven of the past 10 years.



5 LOS ANGELES The Port of Los Angeles and the Port of Long Beach handle more than **40 per cent** of all shipping containers bound for the United States.

WHERE WE WORK

Farewell to the workplace as we knew it.
Welcome, the pandemic-inspired
office space that will take its place



For all of the uncertainty surrounding the future of our cities, one widely held notion in the planning community is that, as remote work becomes more established, there will be a reduced demand for urban workspace. Downtown office dwellings will hardly disappear, but they will change in both form and function.

A survey by Colliers found 80 per cent of Canadian respondents would like the option of working remotely at least one day a week. Employers are listening. “What we’re hearing from the leadership of organizations,” says David Bowden, the head of strategy and consulting at Colliers Canada, “is that most people think the landing spot will be a hybrid model.” A staggered workweek in which two or three days are spent at home versus the office will soon be typical across cities.

But don’t mistake that for a decline in demand for office space overall.

In Canada’s largest cities, commercial vacancy rates are expected to remain tight. Ironically, the same tech giants who paved the way in shifting employees to remote work have also been snapping up empty office space. As office towers emptied in Manhattan during the summer of 2020, companies like Google and Amazon moved in swiftly. They’ve each announced expansion plans in Vancouver and Toronto as well.

Some are scaling back dramatically. In Ottawa, for example, Shopify is preparing to vacate its 170,000-square-foot headquarters and move to a smaller space as part of its “digital by default” strategy. For the majority of people who will return to offices, expect them to look and feel different. “For many years now, we’ve been trying to fit as many people into spaces as we can,” says Elaine Y. Cheung, a CPA and chief business officer at Stingray Architects, a mid-size architecture firm

in Toronto. “That’s going to swing the other way.”

Over the past three decades, the amount of space per person in offices has shrunk by 40 per cent, says Bowden, but a greater awareness—and need—for social distancing will reverse the trend. Organizations will have to invest in their workspaces if they hope to attract the best employees. “People will be reluctant to give up the things they have come to enjoy working from home,” says Bowden. “The employers that figure that out will be the winners.” Expect office buildings to be outfitted with “quiet areas,” greater access to green spaces, more bike storage, better health care amenities and improved ventilation systems.

This creates a challenge for businesses that occupy older buildings, where it may be too costly to retrofit. As these spaces are abandoned, developers have found an opportunity to convert them into residential properties. Such transformations are already underway in Calgary, for example, where there is a downtown office vacancy rate of nearly 30 per cent as a result of the energy sector’s woes.

New office tower projects will increasingly incorporate pandemic-inspired features. Take Chicago’s 12-storey Fulton East office tower—the original July 2020 opening date was pushed back as the project underwent a redesign that included “Toe-To-Go” pedals to call elevators, wall-mounted surface disinfection, thermal scanners at entrances, private outdoor balconies on each floor and an 8,000-square-foot rooftop garden.

Maximizing green space will be of particular interest to planners and developers. Many new buildings will look to incorporate elements of nature on a grander scale, a concept dubbed “biophilic design” (think: the living wall writ large). The design ethos is widely believed to increase dwellers’ health, happiness and productivity. Singapore, a leader in limiting the spread of COVID-19 through contact tracing, is also setting a standard in biophilic design that many cities are expected to follow.

The definition of workspace may have changed, but commercial towers will remain an integral part of the urban landscape. Their form, however, may change to appeal to employees, increase productivity and keep them safer from the next virus. —J.K.



6 **CHICAGO**
Considered the most diverse economy in the U.S., with no industry accounting for greater than **12 per cent** of the city’s workforce.



7 **SINGAPORE**
The Singapore economy has grown 7.7 per cent per year since gaining independence and in 2020 exported **\$27.2 billion** in financial services.

THE RISE OF BIOPHILIC DESIGN

As cities evolve, planners and architects are expected to place an even greater emphasis on biophilic design, the architectural ethos that aims to marry design elements with the natural world. You'll see it in office towers, housing units and public spaces in the form of living walls, indoor gardens and green spaces, natural lighting, integrated terraces and other features that will become commonplace as biophilia moves from the fringes to the mainstream.

The benefits are impossible to dismiss, ranging from improved airflow to lower energy costs, reduced stress and increased productivity—one study even showed that, in hospital spaces that use biophilic design, patients see on average an 8.5 per cent reduction in post-operation recovery time.

As a concept, biophilic design has been around for decades. Frank Lloyd Wright's 1964 Fallingwater house provided legitimacy to the movement, but it wasn't until recently that planners began to treat it as more than conceptual. Now, as the focus continues to shift toward improving people's well-being, biophilic design will be integral as cities develop after the pandemic.

Canadian companies like Vancouver's LGM Financial Services and Winnipeg's SC3 have incorporated biophilic design into their office spaces, while Edmonton and Toronto are the first Canadian cities to join the Biophilic Cities Network, which aims to guide its members toward the "vision of a natureful city."

New projects in places like Milan, Sydney and Singapore (a world leader in incorporating biophilic design into the urban landscape) are helping to set a standard in biophilic design. The rest of the world won't be far behind.

VITAE, MILAN Winner of the "Reinventing Cities" award, this mixed-use building to be completed in 2022 features an elaborate rooftop garden.



FALLINGWATER, LAUREL HIGHLANDS, PA.

Frank Lloyd Wright's biophilic wonder was named "best all-time work of American architecture" by the American Institute of Architects.



CHANGI AIRPORT, SINGAPORE

The Jewel terminal at Singapore's international airport features more than 100,000 plants and the world's tallest indoor waterfall.



8

BEIJING

The second-most populated city in China, Beijing is where **55** Fortune Global 500 companies are headquartered.



12

SHANGHAI

Home of China's largest stock exchange, the Shanghai Stock Exchange (SSE), and predicted to be the next global financial hub by **2025**.



CAPITASPRING TOWER, SINGAPORE
 To be completed in 2021, this financial district tower features a 98-foot open-air garden at its core.

WHERE WE LIVE

Will remote work and other factors speed up the flight to suburban regions—and beyond?



Well before anyone had heard of COVID-19, a stark migration pattern had already taken hold in Canada. Squeezed by booming real estate markets in major cities, families are fleeing to suburban communities and smaller regional cities. After the pandemic is over, experts say that trend is only going to intensify. As Murtaza Haider, a real estate management professor at Ryerson, puts it: “The forces of dispersion are overtaking the forces of agglomeration.”

So long boom towns, hello Zoom towns.

The phenomenon is in full effect in the U.S. already, where a survey conducted during the pandemic by the online real-estate listing service Zillow found 66 per cent of respondents would consider moving if they had the flexibility to work from home. Housing demand has surged for communities that surround major metropolises. Canadian brokerage Realosophy analyzed home sales in Toronto and its environs for the June to August period in 2020 and compared that to the previous year. The study found that sales in Durham, Dufferin and Simcoe counties were up by 40 to 65 per cent, compared to just 10 per cent in Toronto.

A similar situation is unfolding in what urban planners refer to as “secondary” and “tertiary” satellite cities across the country. Howard Ramos, a sociology professor at Western University who researches secondary cities, points to places like Halifax and Ontario cities like Windsor, Hamilton and London that have already witnessed five to 10 years of rising demand as real estate refugees fled high-priced cities. “COVID has shone a light on these trends and accelerated them,” he says. “Living in a 600-square-foot unit in downtown Toronto or Vancouver has only become less appealing.”

The migration away from cities may not be permanent—some experts believe the trend will slow by as early as 2022—but is significant, nonetheless.

As satellite cities continue to grow in popularity, entrepreneurs and new businesses will follow.



13 TOKYO
 Boasting **882** interconnected rail stations and moving 40 million people per day, Tokyo’s mass transit system is the busiest in the world.



15 SYDNEY
 More than **600** multinational firms run their Asia-Pacific operations from Australia’s largest city.

A 2019 report by real estate service company CBRE Group ranked Hamilton, Ont., number two in North America as a tech city of “opportunity,” while London, Ont.’s tech scene has boomed in recent years. In B.C., the interior cities of Kamloops and Kelowna are also well positioned to see their tech sectors grow.

One major hurdle Canada’s “Zoom towns” will face as they continue to grow is infrastructure, both in terms of transit and technology. “We need better digital infrastructure in rural areas; people need access to high-speed internet,” Ramos urges, “and we need transportation networks to make sure people can get back to bigger hubs when they need to.” In October, the federal government pledged another \$2 billion to fund high-speed internet infrastructure to under-served communities, on top of a \$1-billion

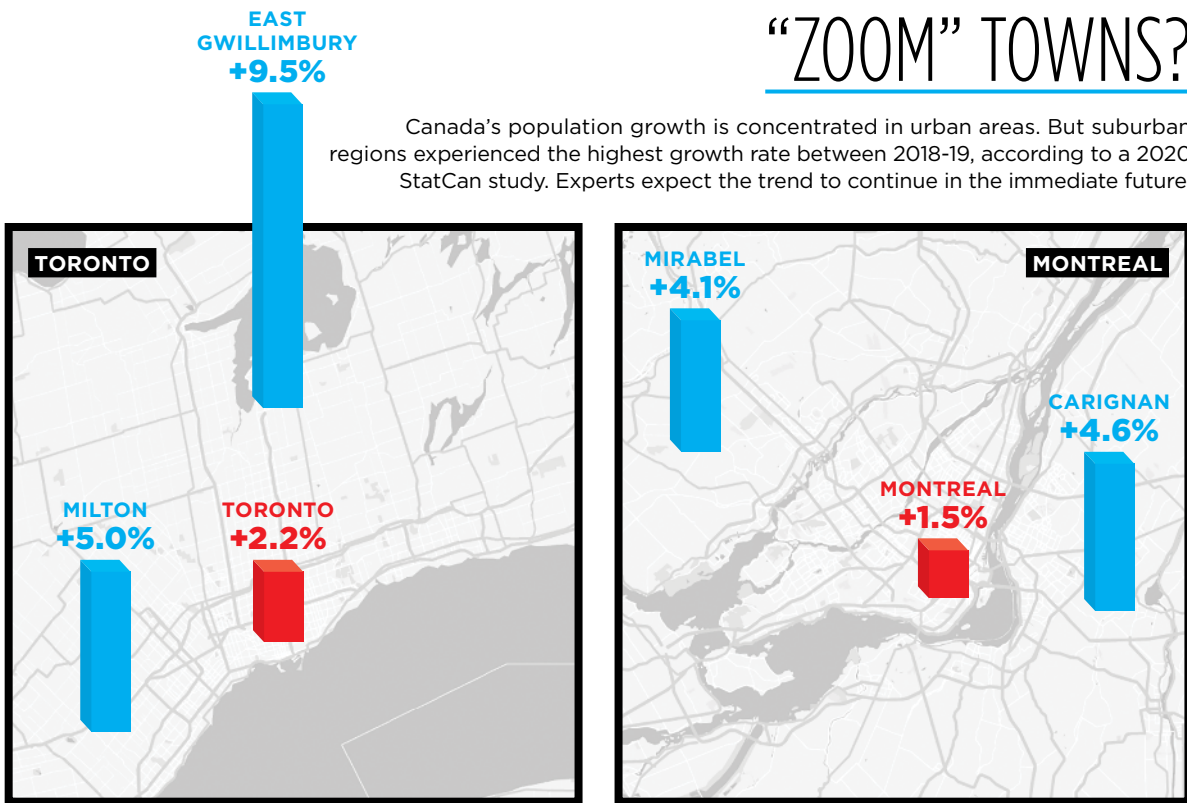
Universal Broadband Fund announced in the 2019 federal budget.

Some experts warn that the influx of new people expected to descend on smaller towns and cities could lead to the same housing affordability problems plaguing Canada’s largest municipalities. “We also need to ensure that what people love about small cities—they’re accessible, human-friendly, the local ties—is preserved,” says Ramos. “There will be a balancing act to make sure they maintain their unique character.”

Density-driven planning will remain a fixture in the post-COVID-19 landscape. Secondary communities will continue to grow as more people take advantage of new tech to move out of big metropolises, creating thriving new business sectors—as well as potential headaches for local planners grappling with the sudden population boom. —J.K.

“ZOOM” TOWNS?

Canada’s population growth is concentrated in urban areas. But suburban regions experienced the highest growth rate between 2018-19, according to a 2020 StatCan study. Experts expect the trend to continue in the immediate future.



18 **TORONTO**
Home to headquarters of **38 per cent** of Canada’s businesses, Toronto accounts for 18.5 per cent of Canada’s GDP.



20 **VIENNA**
In June 2020, electronic powerhouse Siemens opened a **€150-million** headquarters (“Siemens City”) for its new Austrian subsidiary.

Elevate your elevator pitch in the new year

By Bill Kimball

We know the end of the financial year is a critical time for you and your small business clients. Roughly 70-80% of businesses in Canada have a December year end, and before their year-end hits, many of them are thinking about changes they'll need to make in the new year. Those changes range from figuring out new technology to finding a new accountant.

We typically see a surge of technology resets occurring in the new year and this will likely be amplified in 2021 due to COVID-19. Businesses are increasingly seeing cloud technology as a way to help them evolve and survive in changing times because of the real-time visibility into their financial data. Xero commissioned The Next Chapter for Small Business study by Forrester Consulting to uncover the true impact of the pandemic on small businesses. The study found that 49% of business owners are using cloud technology during COVID-19, up from 32% in 2019.

This is equally a great time to reflect on some of the learnings you've had throughout the year around technology and how you'll incorporate these practices in the upcoming year. It's a crucial time to put a plan in place so you can lead your clients rather than be directed by them. You are the expert after all and they need your advice more than ever. Your clients and prospective clients will also be thinking about how to work with you, so it's an ideal time to start planning how you'll craft the perfect pitch for them.

Elevator pitches are pretty common these days, but perhaps you're wondering if you really need one for your accounting firm. While the term "pitch" sounds a little "sales-y," the whole point of this exercise is to be able to communicate the benefit of your business in a short amount of time, and hopefully encourage people to want to know more.

So what makes a good elevator pitch?

There's no real recipe when it comes to crafting the perfect elevator pitch, but here are some things to keep in mind.

Make it original

You could find an elevator pitch template online and simply drop in your business name, but that's not really going to help your practice. To make your pitch compelling, and ensure it resonates with your audience, you want it to be original and memorable. You want to frame your business in a way that will help customers better understand what you do and why they need you.

Humanize the details

A good elevator pitch should not be filled with jargon and buzzwords – it should be a friendly, humanized story that will connect with the listener. Think about it as if you're talking to a friend, not selling to a client. And don't script your pitch and recite it in the exact same way every time. Be flexible and change it up so that it feels natural, and authentic.

Tell them 'why' they should care

It's really easy to fill 30 seconds with a laundry list of all the things you do – but that's not what an elevator pitch should do. Touch briefly on your services, then elaborate on why people need it. What challenges for small businesses are you solving – cash flow, streamlining workflows, helping their business operate more efficiently? Yes, even as an accountant you are solving life problems. Think about what your audience wants and build your pitch from this perspective.

Brag a little

This is your chance to show confidence and leadership – to establish yourself as an expert and tell customers why they should choose you. Position yourself as an advisor with answers to wider business issues. Tell them how you can help them thrive in these challenging times, reduce the costs of doing business, and increase the speed of doing business. You are good at what you do and it's okay to say so!

Set yourself apart

Look at the competition and take inventory of what you're doing better, faster, or more efficiently – then build that into your pitch. Talk about specialization, team strengths, your unique process, impressive tools you use like Xero, and "sell" your unique strengths with confidence, personality and most importantly – proof.

Change things up

Your elevator pitch shouldn't be something that you write once, repeat a thousand times, and never refine. Think of it as a piece of clay that can be molded and reshaped as your business changes. You can tweak it for different audiences or change it seasonally and if you find your elevator pitch isn't opening any doors, maybe go back to the drawing board and start again.

Spread the love

To get everyone singing off the same song sheet, share your pitch with everyone on the team. They don't have to memorize it or use your words, however, everyone on the team should be telling a similar story. You can also get the whole team to play a role in writing it.

Don't expect miracles

Remember that an elevator pitch is just one of many pieces to the "conversion" puzzle. It may not win you business on the spot, however, it will hopefully lead to the next step – whether that's a call, meeting, or quote.

Your role as an accounting professional is to serve as a trusted business advisor to your small business clients. By showcasing your knowledge and value in your elevator pitch, you can make an impression on prospective clients and elevate your role as a true partner and extension of their business.



Bill Kimball

Head of Sales, Canada

Bill Kimball brings his love for the small business economy to Xero and has worked with some of Canada's early adopter cloud accounting firms. As Head of Sales in Canada, he oversees the company's growth in the country.

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WHAT WE DO

COVID-19 changed the way we experience arts and culture. What does the future hold for the cultural industry?



A vibrant cultural landscape not only helps make cities attractive tourist destinations, but also serves as a key contributor to creating a dynamic, soul-enriching place to live. It's why museums, galleries, theatres and the like are critical to maintaining a healthy city.

Before the pandemic, Canada's cultural sector was booming. A 2019 analysis by Statistics Canada pegged its direct economic impact in 2017 at more than \$53 billion—greater than that of the accommodation and restaurant sector, and half the size of the oil and gas sector. COVID-19 lockdowns have since devastated an arts and culture sector that employs more than 700,000 Canadians who now face a slow, uphill climb to recovery.

"The pandemic exposed this problem we have long had with underfunding in the arts," says Brenda Leadlay, executive director of the B.C. Alliance for Arts and Culture. "So many organizations could find themselves in dire financial straits."

To help artists and organizations survive, the federal government established a \$500-million emergency fund for cultural and sport organizations, while provincial governments also stepped up—for example, Quebec created a \$400-million cultural relaunch plan, while British Columbia earmarked \$21 million to support arts and culture. In order for the arts to survive, Leadlay insists the funding programs must continue, even after the pandemic.

"The cultural sector's importance to cities cannot be overstated," says Louis Patrick Leroux, associate dean of research at Concordia University in Montreal. Leroux has

spearheaded a project documenting independent artist initiatives taking place in Quebec during the pandemic—from alleyway circus performances to drive-in comedy shows. It all serves as evidence that artists and performers have shown great resiliency, and are playing a major role in reshaping public spaces. Leroux sees this period as a "historic opportunity" for artistic exploration of public spaces that will spark changes in day-to-day street life.

The exploration continues in institutions like museums and galleries, where the COVID-19 crisis has promoted the

increased use of digital and augmented reality technologies. The Virtual Museum of Canada, run by the Canadian Museum of History, funded dozens of digitization projects during the height of the pandemic at places like the Vancouver Holocaust Education Centre and Toronto's Bata Shoe Museum. Expect even further propulsion into the digital age by museums and galleries across the country, a trend that raises issues for the utilization of these cultural hubs. As Pittsburgh architect Bea Spolidoro notes in *Smithsonian Magazine*, as institutions shift further into the virtual world, their buildings are at risk of becoming "cemeteries for objects."

The cultural sector will continue to be a lifeline in Canada's cities, but continued funding, technological development and the use of public space as artist's canvas will be fundamental to its health. —J.K.



A drive-in comedy show in Montreal

URBAN HISTORY 101

This won't be the first time viral outbreaks have promoted change in cities. Here are three examples of major changes brought about by pandemic events.



As a cholera epidemic spread in the U.S. in the mid-19th century, planners and health officials in New York City responded by developing Central Park. Not only did the park create more space and greenery, it also featured a clean water reservoir.



When yellow fever, brought on by unsanitary conditions, wiped out 10 per cent of Philadelphia's population in 1793, it spurred the city to develop organized sanitation programs, along with a system of alleyways for garbage removal vehicles to manoeuvre. Countless cities followed suit.



As a response to the Black Death that decimated continental Europe in the 14th century, design concepts for expanding cities and townships in England placed a specific emphasis on creating open public spaces. ♦

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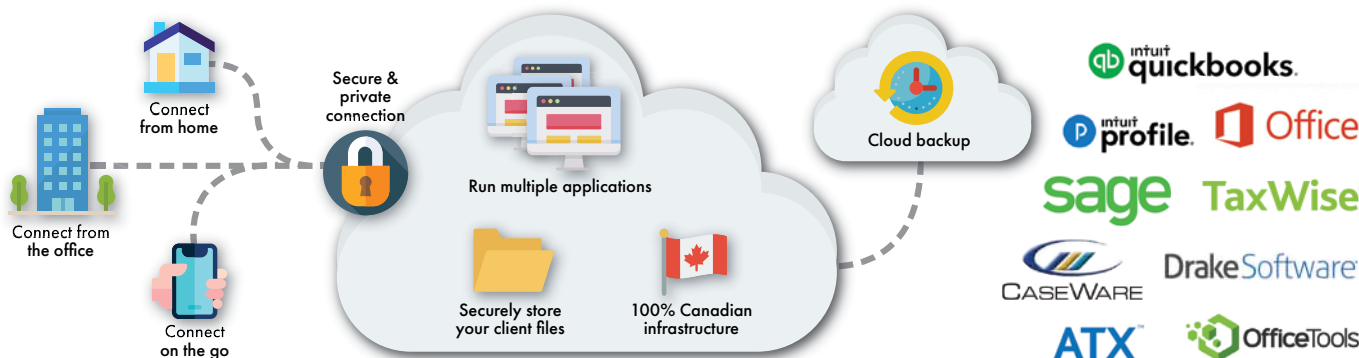
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Grace Chien
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Balraj Dhaliwal
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Jaspreet Sidhu
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The

Factor

These days, the real money isn't in products, but in ideas. The Business Development Bank of Canada is investing \$160 million to help entrepreneurs cash in on their intellectual property, and they've brought in superstar CPA and angel investor Lally Rementilla to lead the charge

BY DANIELLE GROEN
PHOTOGRAPHS BY DANIEL EHRENWORTH



In late March, just nine days after the WHO declared a global pandemic, Justin Trudeau made an announcement while in self-isolation at Rideau Cottage. Canada, he promised, would rapidly scale up production of the life-saving supplies that health care workers desperately needed. There would be more masks, more gowns, more hand sanitizer. There would be COVID-19 test kits that delivered results in under an hour. And there would be extra ventilators, roughly 1,000 of them provided by Thornhill Medical, a medical tech company in Toronto.

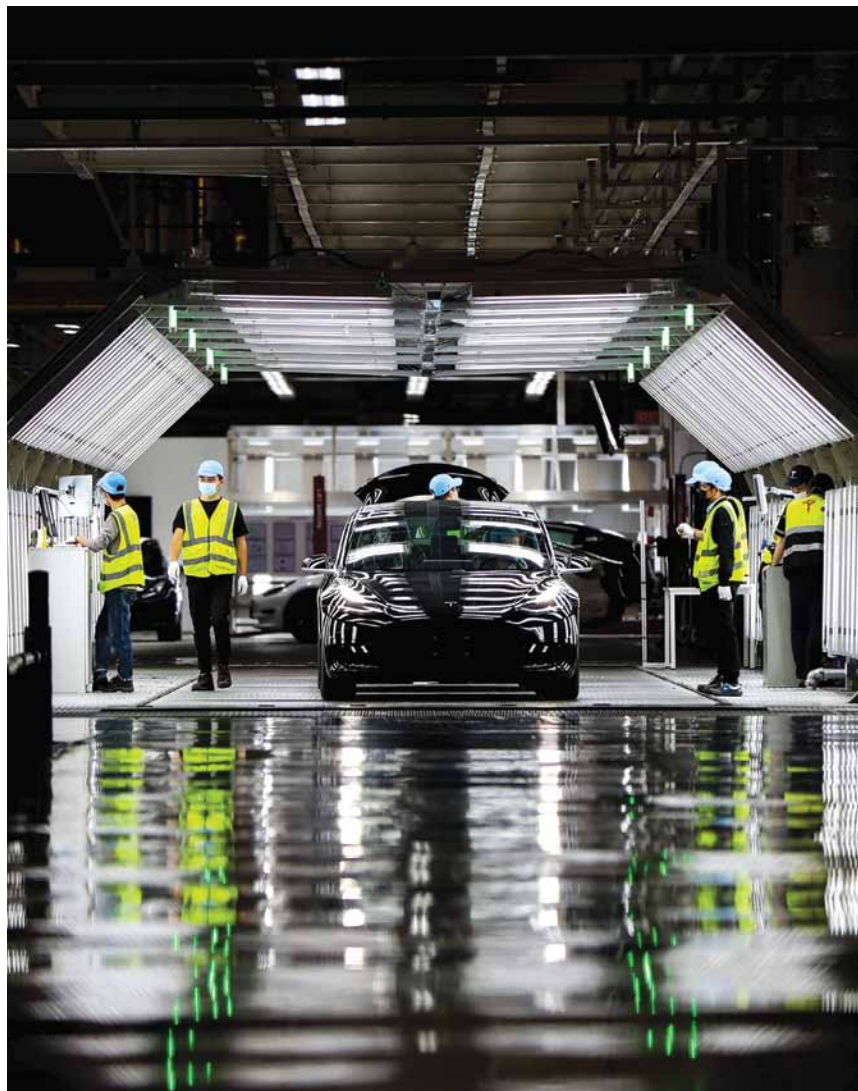
Actually, Thornhill's ventilators are more like portable ICUs: compact, battery-powered, capable of monitoring vital signs and delivering respiratory help with oxygen drawn from the air. Thornhill developed the devices more than a decade ago for the U.S. Marine Corps, which needed a lightweight platform to administer critical care in the field. By 2017, the company had secured customers in more than 30 countries and obtained dozens of patents for its technology. It was working on new products, like a mobile anesthesia unit and the first portable treatment device for carbon monoxide poisoning. But the sales cycle for these medical products is long, and each ventilator requires some 1,500 hard-to-source parts. At that time, the company urgently needed capital to grow. But Canada's big banks tend to be hesitant about lending to businesses like Thornhill Medical—where much of the value comes not from the product but from the intellectual property.

Over the past four decades, a giant shift has taken place from the 20th-century production-based economy, in which goods were manufactured and sold, to a 21st-century knowledge-based economy, in which ideas are the primary commodity. It's the difference between Walmart, which has stores and trucks and merchandise, and Google, which is now a verb. In 1970, for example, roughly a quarter of the American labour force held manufacturing jobs; by the early 2000s, that number fell to less than 10 per cent for the first time since the Industrial Revolution. In Canada, jobs at clothing manufacturers and textile mills dropped by nearly half between 2004 and 2008 alone. This evolution took place as the industrialized west discovered it was considerably cheaper to outsource its manufacturing to countries like China and India—and maintain its competitive advantage by generating new concepts instead, especially in the growing digital space. More than 90 per cent of the S&P 500 market value is now commanded by intangible assets like research, data, customer relationships, strategy, marketing and, crucially, intellectual property, or IP.

But ideas are hard to capture on a balance sheet, and banks must hold capital for the risks they take. It's a lot easier for a company to secure a loan by offering collateral like its buildings, equipment or land. This sort of loan requires less capital from a bank: if the business goes belly up, the loss can be recouped by selling off those hard assets, which still have considerable value elsewhere. That's trickier to do with intangible assets. There's no single metric or agreed-upon methodology for determining how much they're worth, nor is there a capital benefit for banks to use IP as security for loans. So most IP-rich firms find themselves out of luck.

Lally Rementilla, however, believes you can put a price on IP. Until early 2020, Rementilla, a CPA and angel investor, ran Quantius, an alternative commercial lender in Toronto. The company funded knowledge-based companies with intangible assets, particularly small- and medium-sized ones. In fact, for Rementilla, IP-backed financing is a way of hedging—not courting—risk. "It's our thesis that IP-rich companies have the unique portfolio, global

Researchers at Dalhousie University entered a partnership with Tesla to develop a battery. The company owns the patent.



customer base and strength to survive an economic downturn,” she says. “So we’re willing to put in the time to go very deep into understanding and appreciating their IP and intangible assets.”

That’s why, in 2017, Quantius provided Thornhill Medical with the financing it needed to launch three new products, more effectively source parts and make its supply chain more efficient. Bolstered by that success, Thornhill Medical secured Series A funding from a Shanghai-based private-equity firm the following year, and its revenue has since mushroomed by more than 800 per cent. By April 2020, in the middle of a global respiratory pandemic, they could deliver as many as 500 ventilators a month to

The new knowledge economy is the difference between Walmart, which has stores and merchandise, and Google, which is now a verb.

hospitals across Canada. “Thornhill Medical proved our thesis,” Rementilla says. “They had resiliency in tough economic times and they’re being sought out all over the world for their innovation.”

Now, Rementilla is in a position to help many more companies achieve similar success. In May 2020, Quantius’s five-person team joined the Business Development Bank of Canada, a Crown corporation that has committed more than \$36 billion to 62,000 entrepreneurs at various stages of development. Its investment arm, BDC Capital, wanted to unlock the potential of IP-rich companies that found themselves struggling to access capital and saw in Quantius a lender uniquely equipped to do just that. BDC Capital recently announced a \$160-million fund to support knowledge-based companies across the country in the form of equity and debt. It’s a huge opportunity for IP in Canada. “Our mandate has always been to help Canadian companies grow,” Rementilla says. This partnership with the BDC gives them the reach to do that on a much bigger scale.

Rementilla knows the value of a well-timed influx of cash. Her mother was a trained pharmacist in Olongapo, a city two hours west of Manila, who harboured a dream of starting her own drug store. An investment from her mother-in-law allowed her to open one store, then several more, and then a travel agency as well. Rementilla’s grandmother was in a position to offer that initial capital because she had built a successful series of businesses, spinning a street-corner comic-book stand into a commercial

real estate portfolio and a chain of gas stations. Rementilla remembers her grandmother personally hauling gas from the refinery, her truck barreling through zigzag roads. “There’s a difference between a family business and a business family,” she says. “We’re a business family. A real sense of entrepreneurship was ingrained in our psyche.”

In 1990, the Rementillas left the Philippines for more political stability in Canada. Lally ended up at York University’s Schulich School of Business, where she completed her MBA part-time while working at the telecom-equipment company Lucent. In 2003, the same year she received her accounting certification, Rementilla joined the dating site

Lavalife, eventually becoming the VP of finance and proving instrumental in its \$180-million 2004 sale. Her time at Lavalife also gave her an appreciation for the challenges faced by a company—even a very lucrative company—that didn’t truck in hard assets. “Frequently, as head of finance, I

would go to my bank and try to get a loan, and I felt like someone was always saying, ‘Lally, do you have a building? Do you have equipment?’” she recalls. “We had customers all over the world, we had a valuable intellectual property portfolio, but no one understood how we worked.”

She left Lavalife after eight years, serving as a board member of the Information Technology Association of Canada and launching Coco Capital, an angel investing practice geared toward female-led companies. In 2015, Rementilla joined Quantius as CFO, taking over as CEO four years later. She had a great deal of empathy for the loan-seekers who came through her office. “I have walked in the shoes of the companies we’re now financing,” says Rementilla, now the managing partner, intellectual property-backed financing at BDC Capital. “I know how hard it is to be fundraising all the time and how frustrating it is to be penalized because traditional lenders treat your assets differently.” And she wants to pull whatever cranks she can to help them focus on their growth.

To do so, her team goes deep—very, very deep—into a company’s IP portfolio. They scrutinize every possible intangible asset to see what makes the company different, what makes them strong, what might protect them. By analyzing patents around the world, for example, Rementilla and her team can identify a company’s direct competitors, plus emerging competitors who might pose a threat in the next year or two, as well as possible revenue streams from patent infringement. They can find opportunities for partnerships or licensing agreements. They can

see risks from a litigious field. They can even determine if a company is a little too innovative; sometimes, Rementilla says, there's danger in being first out of the gate. "That might mean the market isn't there yet. The uniqueness of IP isn't the only thing that drives success."

And after the valuation is finally made, it's done again and again. After all, once the team lends against an intangible asset, they want to make sure that asset grows over time. Among Quantius's past investments: the touchscreen tech startup Baanto International, the pharmaceuticals company Acerus and the e-learning software firm Lambda Solutions—which looks like a gangbuster bet now that millions of school kids are studying from home.

It's time-consuming work that demands a well-rounded valuation skill set, which is hard to find at a lending institution. In fact, it was hard to find at the BDC. When he was setting up the bank's nascent IP-backed financing initiative, BDC Capital executive VP Jérôme Nycz looked for that particular talent among the bank's 2,400 employees, but couldn't find what he needed. At the start of 2020, the BDC had discussions to invest in a fund led by Quantius, and found that they liked the team. "I said to Lally, you've got a high-performing team, but your challenge is access to capital. I've got the capital but I don't have the team," he says. Partnering up proved to be an elegant solution. Now Rementilla's team will help BDC Capital nurture IP development across Canada through a series of \$3- to \$10-million loans.

By investing in a business, Rementilla says, the bank will send a strong signal that a particular company has hugely promising IP, spurring other private- and public-sector funders to back IP-rich companies. "That is how you create a healthy ecosystem for innovation," she says.

Talk long enough to a Canadian IP expert and sooner or later they'll bring up the Tesla battery. In 2016, researchers at Dalhousie University in Halifax inked an exclusive five-year research partnership with Elon Musk's electric car company. Last September, they announced they'd developed a battery that would propel each vehicle for more than a million miles—twice the distance the cars currently get from their battery pack. The prestige belongs to the researchers, sure. But the patent belongs to Tesla.

How did this happen? Canada has fallen behind on protecting IP with patents—the essential tools for commercializing our innovation. It's been easy



“When you have a bank, a Crown corporation, putting money into companies that are focused on IP, it shows that IP matters,” says Myra Tawfik.

Lally Rementilla, a CPA and angel investor, recently joined BDC Capital to lead their IP-backed financing operation

for entrepreneurs and academics to assume that IP isn't a priority. In fact, at universities across the country, IP is frequently considered something you could trade away, since the government often doles out funding for research based on how many graduate students can be trained or papers published. "Then Tesla comes knocking and says we want this research and will give you millions of dollars to do it, and you'll get all sorts of grad students and publications out of it," says Myra Tawfik, professor of law and intellectual property commercialization and strategy at the University of Windsor. For an academic institution, that sounds like a pretty good trade. So Google funds the AI research emerging from the University of Toronto's Vector Institute. Huawei commits \$50 million to more than a dozen Canadian universities to develop ultra-fast wireless technology.

In exchange, any intellectual property that springs from the research belongs to the company—even though that IP can be worth infinitely more than the initial funding. “Tesla obviously needs those batteries,” says Shiri Breznitz, associate professor at U of T’s Munk School of Global Affairs and Policy. “But we don’t benefit from our research because we don’t protect it properly.” Instead, with the patent safely in Tesla’s California-based hands, the wealth generated from that million-mile battery flows out of Canada and into the States. And we know that IP-rich companies add a great deal to a country’s economy: they have up to 10 times the revenue of businesses without intellectual property, they pay their employees salaries that are 16 per cent higher and they’re 64 per cent more likely to be high-growth.

Other countries have long invested in IP literacy and resources: the Korea Invention Promotion Association, for example, offers a three-day, all-expenses-paid training program in Seoul for business to learn the ins and outs of IP. The United States Patent and Trademark Office provides pro bono legal services for inventors. The U.K.’s Intellectual Property Office developed a curriculum for elementary students as young as five through an age-appropriate IP resource called Cracking Ideas. Canada, at last, seems to be catching up. In 2018, the federal government launched an IP strategy that has since expanded to include a patent collective (which helps small- and medium-sized enterprises purchase and hold onto patents), a crackdown on patent trolls (who come after innovative companies for licensing income); inexpensive IP legal clinics for entrepreneurs held at Canadian law schools; and Indigenous IP initiatives that explore how IP interacts with traditional knowledge.

Then there’s the BDC’s \$160-million initiative—and, just as important, the message it sends. This isn’t an innovation fund or a tech fund. It zeroes in specifically on IP itself. “When you have a bank, a Crown corporation, putting significant money into companies that are focused on IP, it shows that IP obviously matters,” Tawfik says. And it might inspire others to follow suit. Rementilla has been busy speaking with various stakeholders, from Innovation Canada to the National Research Council of Canada to the Trade Commissioner Service, to shore up more support to help innovative Canadian companies grow and compete around the world. “We don’t want to just do this ourselves—we want to bring together an entire ecosystem,” she says. “That becomes the rocket ship.” ♦



Mission to MaRS

TORONTO’S LEGENDARY
STARTUP MACHINE MIGHT
BE HEADING WESTWARD

MaRS Discovery District, which occupies more than 1.5 million square feet in the heart of Toronto’s downtown startup district, helps tech innovators navigate the path from idea to startup to flourishing business.

Now the non-profit is reportedly engaged in talks with the University of Calgary to expand its operations to the school’s campus and introduce a new innovation hub to Western Canada.

The news of a potential MaRS expansion comes a year after a series of contentious budgetary rulings that caused an uproar among the region’s tech community. In 2019, the province announced controversial cuts to the tech sector—including freezing \$100 million previously earmarked for artificial intelligence development, and axing the Alberta Investor Tax Credit (AITC) program meant to boost grassroots businesses—and faced a storm of backlash. The province’s new and improved 2020 economic recovery plan attempts to remedy the situation, allocating more than \$200 million for programs like Alberta Innovates, the Alberta Enterprise Corporation and post-secondary school STEM education funding.

This is the environment that MaRS is hoping to enter, where it will be well-positioned to boost Alberta’s potential as a leading tech innovator.

“From Silicon Valley to Toronto, we’ve been receiving a lot of interest in the last few months from tech and innovation hubs,” wrote Doug Schweitzer, Alberta’s minister of jobs, economy, and innovation, on social media when the MaRS news broke in late September. “MaRS is just one of them.”

But MaRS, which could operate within the existing physical infrastructure of the University of Calgary, brings with it some special clout: specifically, two decades’ worth of experience that could help kickstart the process of turning Alberta into a haven for innovation.

“As one of the largest startup ecosystems in the world,” MaRS CEO Yung Wu told tech startup publication *BetaKit*, “we’re able to take this playbook and apply it to accelerate innovation across the country.”

A Trusted Guide to Sustainable Investing with Jarislowsky Fraser

Sustainable investing has entered the mainstream in the past decade. Climate change, global income inequality and other areas of concern have transformed how governments and businesses operate, with sustainability-first companies and green technologies growing at rapid rates and traditional industries adapting their practices to keep pace.

Sustainable investments have already surpassed US\$30 trillion globally and some estimates say it could top US\$50 trillion in the next 20 years. But this fast-growing market is filled with complexities and misconceptions that are challenging to navigate for investors, from high-net-worth individuals to established foundations, pension funds and corporations.

A LEGACY OF TRUST

As one of Canada's leading investment firms, Jarislowsky Fraser is at the forefront of the sustainable investing landscape. For more than five decades, Jarislowsky Fraser has worked with institutional and high-net-worth investors, in collaboration with their other advisers, to diligently manage their investment portfolios. Jarislowsky Fraser clients have always entrusted it with growing their wealth, with a view to building their legacies and providing for the future. Today, the firm serves more than 2,500 affluent individuals and families, often spanning multiple generations. Jarislowsky Fraser currently manages more than \$40 billion on behalf of its institutional and private clients.

Jarislowsky Fraser's demonstrated track record of delivering institutional-calibre investment capabilities to its clients is anchored by a disciplined approach built on time-tested conservative principles and decades of fundamental research. This pragmatic philosophy focused on quality is at the core of Jarislowsky Fraser's differentiated approach to sustainable investing.

GUIDING CLIENTS IN THE WORLD OF SUSTAINABLE INVESTING

At its core, sustainable investment involves an analysis beyond short-term profits, favouring instead factors that support long-term value creation. For example, shareholders, consumers and other stakeholders are increasingly

values. Jarislowsky Fraser utilizes proprietary tools to ensure ESG analysis is done systematically, and advocates for transparent governance, an engaged ownership approach, as well as collaboration with sustainability-focused organizations to advance sustainable investment practices for the benefit of all stakeholders.



demanding creative new takes on business growth, as well as business reporting, that provide more transparency and fully address and incorporate environmental, social and governance (ESG) factors. Jarislowsky Fraser believes that rigorously integrating ESG elements into bottom-up analysis of companies is intrinsic to gaining a complete picture of the quality of a potential investment. And yet, many investors have misconceptions and knowledge gaps about ESG and related areas, such as climate risk assessments and disclosures.

Jarislowsky Fraser's team of more than 60 investment professionals provides a wealth of expertise, offering a consultative approach that allows for personalized solutions to meet clients' specific objectives and

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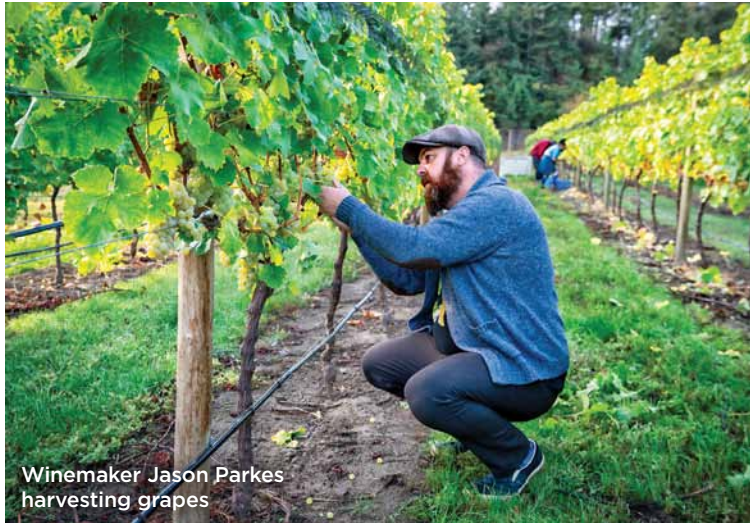
Indigenous wineries are bringing greater equity to the scene and weathering a shakeup that has otherwise hit tourism hard **BY CHARLENE ROOKE**

As drivers cross the William R. Bennett Bridge, travelling over Okanagan Lake into West Kelowna, B.C., the first destination on the right is Indigenous World Winery, owned by former Westbank First Nation elected chief Robert Louie and his wife, Bernice. The 120 medals the Louies have won for their bottles make it a popular draw on the Westside Wine Trail for visitors to the greater Kelowna area and a gateway to wine-touring the South Okanagan. Robert spent his youth in the area working on fruit and vegetable farms, “always working for somebody else,” he says. “At some point in time I wanted to have my own business where others would work for me.”

The Louies are among a handful of Indigenous operators making an impact in Canadian wine, an industry with an air of elitism and, traditionally, a notable lack of diversity. “A lot of times, people of colour work back of house rather than front of house,” says Carrie Rau, a Toronto sommelier-in-training from the Cree Nation and one of the founders of Vinequity, an organization supporting Black, Indigenous and other people of colour in the wine industry. “When the Black Lives Matter protests started,” she notes, “everybody became a little more aware.”

Operating since 2016, the Louies employ a peak summer-season staff of more than 30 at their winery and distillery, with “a strong contingent” of Indigenous staff, including two of their children. The positive impacts, however, reach further than employment. “Each time customers come in for a tasting,” Bernice explains, “we share stories that are personal to us and make us proud as Indigenous people to share our culture.”

Indigenous World Winery offers 11 varietals and four blends, in addition to vodka and gin. Four of their wines are named in Nsyilxcen, the



Winemaker Jason Parkes harvesting grapes



Indigenous World Winery owners Robert Louie and his wife, Bernice

PHOTOGRAPHS BY RYAN WIDDUP



Nk'Mip Cellars' Justin Hall

language spoken by the local Syilx people. Their gin label pictures one of its botanical ingredients, the bitter root *sp̓iɫm* (pronounced *speetlum*), a Syilx staple for thousands of years.

The company is one of some 1,800 Indigenous tourism businesses that generated \$1.9 billion nationally in 2017, representing more than 23 per cent annual growth in direct GDP impact, compared to 14.5 per cent growth in Canada's overall tourism industry, according to a Conference Board of Canada study. In B.C., every Okanagan winery is a tourism business. They are located in one of the province's top vacation destinations and the wine routes have become a major draw. Manufacturing may be their central focus but tourism is tightly woven into the business model.

Destination Canada research shows that 37 per cent of international visitors to Canada looked to include Indigenous experiences in their visit, with demand for those experiences far outpacing supply. Gastronomic experiences are among the most popular. "They want to have Indigenous culinary experiences, and some fine wine," says the president and CEO of the Indigenous Tourism Association of Canada (ITAC), Keith Henry, a Manitoba-born Métis who was raised in Saskatchewan. Pre-pandemic, ITAC was targeting revenue

growth of \$500 million and 25 per cent more jobs by 2021.

Of course, no one knows what the COVID-19 effect will be. While Henry estimates that 800 to 1,000 Indigenous tourism businesses could be forced to close permanently as a result of the pandemic, B.C.'s Indigenous wineries had a strong summer tourist season. Indigenous World kept its staff employed throughout the year, implementing health and cleaning protocols, and even launched a new sideline: selling hand sanitizer from its distillery.

That said, there were hurdles. In the beginning, they struggled to source containers for the sanitizer and there were regulatory steps for getting licensed to make and sell it. But once the lockdown eased, Robert says, business bounced back."

Further south in the Okanagan, Nk'Mip (pronounced *inka-mEEP*) Cellars—North America's first Indigenous winery, part of a destination resort in Osoyoos—opened slightly later in the season than normal due to COVID-19 shutdowns. Once safety protocols were in place, it resumed operations, hosting smaller groups of visitors for intimate tasting experiences with wine educators, and developing services that contributed new revenue streams, like premium

home delivery of wine and chefs' recipes for a dinner in.

Nk'Mip, which opened in 2002 and is majority-owned by the Osoyoos Indian Band in partnership with Canadian wine company Arterra, has broad distribution, with delivery available to any province that allows direct-to-consumer shipments.

Visitors to Nk'Mip are usually eager to meet North America's first Indigenous winemaker, Justin Hall. Raised in the Osoyoos Indian Band, Hall trained in auto mechanics and worked in the golf and hospitality industries before discovering the world of winemaking. He began at the winery 17 years ago as an eager but untrained cellar hand who for months hounded its winemaker, Saskatchewan-born Randy Picton, to give him a job. After hiring and training him, Picton eventually said, in Hall's recollection, "Do you want to drag hoses for the rest of your life or do you want to try your hand at management?" Now Hall is a college-educated winemaker who studied in New Zealand, trained in Australia, and currently oversees the company's white wine portfolio.

"The world probably wouldn't know half as much about the Osoyoos Indian Band and Nk'Mip without people drinking this wine," says Hall. The winery is named for "the ancestral winter grounds where we would meet," he explains. Its premium Qwam Qwmt (pronounced *kw-em kw-empt*) range means "achieving excellence" in the Okanagan language spoken by the Osoyoos Indian Band. "The name means a lot to us, to have it out there," says Hall, who frequently speaks to students and Indigenous groups about his passion for his work and about an industry that helps bring visitors to his community.

Now that he's an Osoyoos Indian Band councillor, the economic impacts of the development—which includes not only the winery but also Spirit Ridge resort, a spa, a golf course, restaurants and the Nk'Mip Desert Cultural Centre (all individually managed)—are even more apparent to Hall. "We're really growing the entire region... getting people back to our land." ♦



TECH

PIECE PRIZE

The outsized popularity of old-fashioned pastimes has outstripped manufacturing capacity during the pandemic, sending the makers of puzzles and other analog time-passers into overdrive **BY DAVID SAX**

Six years ago, when Alain Savard and Stephen Petit bought a then-54-year-old bankrupt Montreal paper-products business named Pierre Belvédère, their professional colleagues thought the move was, well, puzzling. After all, the two friends, both CPAs, had come up in the big leagues of business, first at Ernst & Young, and then at Bombardier (where Savard rose to the VP level), before the pair went off to start Alter Moneta, an equipment finance company they sold to Capital One and Element Financial in 2011.

“They said, ‘Alain, you’re crazy!’” Savard recalls.

On the surface, the move made little sense. When the smart money was chasing rapid growth in transformational digital technology—streaming, data, AI and the like—Savard and Petit were trying to turn around a company whose main products were paper agendas and notebooks, greeting cards, stuffed animals and jigsaw puzzles (a form of entertainment that has remained essentially unchanged since its debut in the 18th century). It was hardly a recipe for financial success in the 21st century—until the pandemic arrived.

Flash back for a second to those dark days of late March and the sudden arrival of lockdown. You are scared. You are confused. You are likely stuck inside for hours each day, alone, with your roommates or spouse or young children. The news offers endless misery and anxiety. Your sourdough starter is turning green. Netflix offers countless choices, but each one seems worse than the last. You just want something to do that can take your mind off the chaos, either alone or with the kids, and—please—anywhere but the screen you already have to sit in front of for hours each day. Something fun. Something timeless.

Something like a puzzle.

During the first six months of the pandemic, from March through to September of 2020, Pierre Belvédère sold as many jigsaw puzzles—more than 150,000—as it did the entire previous year. By the end of 2020, the company expected to more than double that number. The demand for puzzles remains high, “but the manufacturing capacity is at the limit,” Savard says. They simply can’t get enough puzzles made to meet the need.

While the pandemic has produced obvious winners (Zoom, Amazon, Fleischmann’s Yeast) and losers (restaurants, cruise lines, fitness studios), some traditional businesses have proven surprisingly resilient and relevant. Ravensburger, the German-based global market leader for jigsaw puzzles, with more than \$800 million in puzzles sold annually, reported that its U.S. sales had nearly quadrupled by April. Buffalo Games, a large puzzle maker in upstate New York, sold a million puzzles in a two-week span. As soon as puzzles hit the shelves of local stores (or their online equivalents), they were quickly snapped up.

Other similar analog products saw a lockdown lift. Tabletop games emerged as one of the few growth categories in the toy industry, as classic board games like Scrabble, Jenga and Monopoly flew off shelves, as well as more strategic games, such as Settlers of Catan, and even independently created and financed titles, like Frosthaven, which raised an eye-popping US\$13 million on Kickstarter. The global puzzle and game market, which was estimated by Grand View Research to be worth nearly \$16 billion last year, is expected to more than double in the next decade. Even though interest in various

tabletop games had been steadily growing over the past decade, all these brands and manufacturers were caught off guard by the sudden pandemic spike in demand. A lack of board game stock during the second quarter caused Hasbro and Mattel to miss out on the windfall, as buyers faced empty shelves. (Savard says that retailers like Costco and Walmart are still begging for more puzzles.)

Asked to explain the pull of puzzles across generations, Savard describes a typical holiday weekend at his country house on the St. Lawrence River. When he drives in from Montreal on a Friday night, he’ll place a new puzzle on the dining room table. Family, friends and guests will walk by, stop, pick up a piece and assemble the puzzle—sometimes together, often alone, one piece at a time, until it’s completed before the end of the weekend.

“You don’t have to do it for five hours in a row,” he says. “By the end of the weekend, everyone is touching it and it’s done.” In a world of increasingly siloed entertainment, delivered based on your browsing history and precise demographics and algorithmic-derived taste profiles, it’s a reprieve.

“As people spend their days navigating a never-ending deluge of Zoom meetings, many are looking for ways to unplug,” explains Ryan Raffaelli, associate professor at Harvard Business School and an expert on resurgent



analog industries. “Individuals crave human interaction with the physical world. Puzzle-making, baking and reading are all on the rise because they offer a much-needed escape from the confines of COVID-19.”

If the reasons for the sudden surge in puzzle interest were obvious, the fact that sales have remained healthy long after the end of lockdowns has not surprised Savard. “I think we expanded our clientele,” he says, noting that in the past, the company’s main customer was older, and picked up puzzles for nostalgic reasons. “We’re touching younger families, and different families, who are interested in doing something other than playing or watching something on the computer.”

Pierre Belvédère has already secured orders for more than 80,000 puzzles into the first quarter of 2021, and is planning to open a Canadian manufacturing facility by the end of next year (currently its puzzles are made in Poland and Italy). Considering puzzles need just two main ingredients—energy and cardboard, which Canada has in abundance—Savard believes the company can not only be competitive financially once it makes its own puzzles but can use its new commitment to green manufacturing to make them with recycled cardboard and hydroelectric energy. That, combined with Canada’s positive global image (which dominates its puzzle designs—of Rocky Mountain landscapes, bucolic skating parties in Quebec’s countryside, and nostalgic Montreal streetscapes complete with bagel shops and corner diners), could make Pierre Belvédère become a globally competitive puzzle player.

Even though friends called them crazy in those first days after Savard and Petit bought Pierre Belvédère, both men believe in the long-term growth potential for puzzles. Their company has been able to quickly pivot to meet the sudden, and unexpected, demand, but Savard knows chance played a huge role in their overnight success. “I always said, ‘It’s better being lucky than good, from time to time.’” ♦



DESIGN

HYDROGEN BALM

Airline manufacturers are sinking big money into carbon-neutral flying, even though profits have taken a nosedive. Here’s why the strategy makes sense **BY MATTHEW HAGUE**

Airbus, the world’s largest airplane manufacturer, recently made an announcement that, at the best of times, would seem audacious. The company, based in Toulouse, France, has committed to producing first-in-kind hydrogen-powered planes by 2035. The project, called ZEROe, has the potential to be a green salvation for the industry. Hydrogen, the most abundant matter in the universe, could result in zero-emission airplanes and quickly cut the industry’s emissions in half. It could also revolutionize the look of travel—

one of the ZEROe models has wings that blend into the body, very much like something Batman would fly.

The problem? Much of the technology needed to develop hydrogen-based planes doesn’t exist yet. Because hydrogen takes up three times the space of gasoline, new fuel cells are needed that are small enough to fit on airplanes, yet large enough to power long-haul flights. Worse: the timing. Airbus made the announcement in September 2020, in the middle of a year that the International Air Transport

ILLUSTRATION BY DAN PARSONS

Association, a global industry advocacy group with 290 member airlines, has described as the worst in aviation history. Because of COVID-19, travel has pretty much stopped. Airbus went from 2019 Q4 profits of more than €3.1 billion to 2020 Q3 losses of €1.16 billion. Air Canada, the country's largest airline and an Airbus customer, is in no position to order new planes, having lost almost 90 per cent of its revenues in 2020. Air Transat, another

“THERE WON'T BE DESTINATIONS TO FLY TO IF GLOBAL WARMING WASHES AWAY ALL THE BEACHES”

Canadian Airbus customer, lost almost 99 per cent of its revenues.

And yet, like Airbus, both Air Canada and Air Transat also upped their sustainability commitments in 2020. In June, Air Transat powered its first planes that use a blend of standard jet fuel and low carbon, bio-based sustainable aviation fuel made from cooking oil. The trips, from Hamburg, Germany, to Air Transat's base in Montreal, were considered carbon neutral because the airline paid to offset emissions and invested in tree planting to absorb the CO₂ released into the atmosphere. “It's very important that the companies making sustainable aviation fuels know there is demand,” says Teresa Ehman, Air Canada's director of environmental affairs. “It's very important that they keep developing the technology.”

With the aviation industry set to be one of COVID-19's biggest business casualties, investing in futuristic green initiatives might seem frivolous compared to more immediate concerns, like keeping pilots and flight attendants employed or trying to find a way to get passengers back in the air.

State sponsored bailouts have something to do with the green push. In the case of Airbus, the hydrogen planes are being spurred by a \$16.8-billion aviation-industry bailout from the French government. The money was meant to save struggling marquee companies

such as Airbus and Air France. But it came with a condition: 10 per cent had to be put toward developing a carbon-neutral plane. Concurrently, the European Clean Hydrogen Alliance, a public-private, multi-national initiative supported by the European Commission and many European countries, recently announced a €430-billion investment over the next decade to develop new hydrogen technologies.

Beyond bailouts, Werner Antweiler, professor at the University of British Columbia's Sauder School of Business, believes the current drive for sustainable aviation is motivated by a solid business case. “Airlines have known for a long time that the two big items for variable costs are fuel expenses and labour,” he says. “If they can develop reliable, renewable fuel sources, they can help lower their costs. The drive toward renewable fuel sources is driven by the likely scenario of carbon prices on jet fuel. In the short term, some of the technology might be more expensive. But we've already seen prices coming down for things like electric batteries [and] sustainable fuels.”

To Antweiler's point, in 2019, before COVID-19, WestJet, Canada's second largest airline, saw its 2019 passenger revenues grow by seven per cent. Planes were full. People were flying. Still, the airline's revenues dropped. The same year, the price of jet fuel jumped by 21 per cent, pulling WestJet's net earnings down by 39 per cent.

In contrast, Airbus believes that over the long haul, hydrogen, because of its abundance, will only get cheaper. “Independent forecasts from the International Energy Agency (IEA), International Renewable Energy Agency (IRENA) and McKinsey are all predicting that the necessary cross-industry scale-up will significantly reduce costs,” says Glenn Llewellyn, vice-president of the Zero

Emission Aircraft project for Airbus. “It is forecast that the price will be reduced from the 2020 cost of \$5 to \$7 per kilogram to \$3 per kilogram in 2030 and \$2 per kilogram in 2050.”

Making heavy investments during a downturn has been shown to work. According to research done after the 2008 Great Recession, financial downturns might actually be a fertile time for sinking money into sustainable innovation. A 2014 story in the *Guardian* newspaper detailed how corporations invested more in green tech after 2008 because green tech usually increases efficiencies, makes for tighter supply chains and leaves less waste.

Keith Lawless, senior director of environment, ETS, and strategic projects at Air Transat, underlines a bigger business case for airlines to go green: “Simply put, there won't be destinations to fly to if global warming washes away all the beaches and creates more extreme, unpredictable weather,” he says. “That reality has created a lot of awareness in the industry.” ♦

HEALTH

RIGHT ON TIME

Meet the Montreal woman who, while studying for her PhD, developed a smartwatch that can detect the earliest signs of COVID

BY ROB CSERNYIK

The invention that Azadeh Dastmalchi has focused her research on for the last decade took on a new life in 2020. Her groundbreaking VTLab smartwatch, which provides cardiac monitoring and measures vital signs, is being hailed for its potential to predict and monitor COVID-19.

The smartwatch, produced by her Montreal-based startup, VitalTracer Ltd., tracks vital signs like blood pressure, blood oxygen saturation, body temperature and heart and



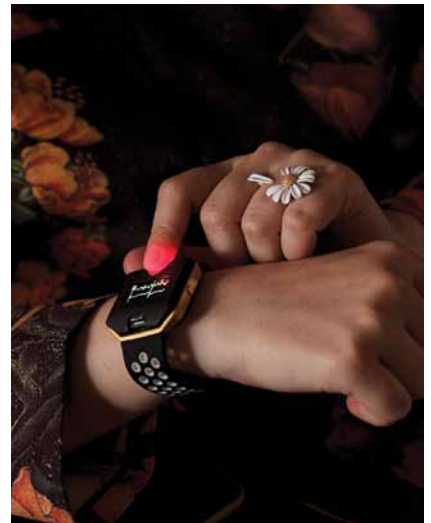
The VTLab smartwatch grew from Azadeh Dastmalchi's quest to find a monitoring tool for her father

respiratory rates. It can even track electrocardiogram (ECG) and photoplethysmography (PPG) signals that measure your heart's electric activity and your body's blood circulation.

Popular smartwatches like those from Apple, Fitbit and Samsung don't provide users with the same amount of raw data, claims Dastmalchi, and health care providers are rarely privy to those results. But the VTLab delivers its data directly to doctors

or caregivers via Bluetooth or Wi-Fi, and can be viewed on a smartphone and kept in the cloud.

She has accumulated more than a million dollars in research funding to date, with clinical trials set to begin at the ICUs at the McGill University Health Centre and CHU Sainte-Justine hospitals in January. In September, the concept earned her a social entrepreneurship award from the national research organization Mitacs. All of this while the



35-year-old juggles her PhD studies in biomedical engineering at the University of Ottawa.

Dastmalchi's research supervisor, Hilmi Dajani, a professor in the school's faculty of engineering, expects she'll make significant contributions to the field of health monitoring.

"She is not afraid to tackle one of the most challenging problems in biomedical engineering today, namely how to reliably measure vital signs using unobtrusive wearable devices," he says.

Initial reactions were mixed. Ten years ago, Dastmalchi vividly recalls her idea being dismissed by an expert she once described her vision to. Though she admits there were tears, they didn't last long.

“That’s my favourite challenge in my life,” she says from her Nuns’ Island home in Montreal. “If I offer an idea and they don’t believe in me, I try so hard to make it happen.” She recognizes it can be hard to change the perspective of senior researchers who are used to more traditional health care technology. “I don’t expect that they believe in AI technology that looks like a black box performing magic.”

Getting VitalTracer off the ground has proved to be less magic and more an exercise in patience. A few years into her research,

WITH DASTMALCHI’S SMARTWATCH, DOCTORS AND CAREGIVERS HAVE INSTANT ACCESS TO PATIENT DATA

a friend with a startup suggested Dastmalchi build her own company because there was a good market for her research focus on hypertension and blood pressure monitoring. But at the time she felt she lacked the business knowledge, so she started taking courses and attending workshops and eventually wrote a business plan. VitalTracer was established in 2016, while Dastmalchi was a full-time PhD candidate. By 2019 she had turned her focus to the company full-time.

The idea for a monitoring product first came about when Dastmalchi was seeking a smartwatch to help her late father, Kazem, monitor his hypertension. But this past year, as she followed news of the horrors COVID-19 was causing in Montreal seniors’ homes, she couldn’t help but think of her father, and wanted to find a way to offer peace of mind to caregivers and patients.

This led her team to research what vital signs and abnormalities could suggest COVID-19. Dastmalchi says the primary indicator is a patient’s blood oxygen level. With continuous monitoring, caregivers can notice if it becomes abnormally low, which is a good reason to administer a

COVID-19 test. With Dastmalchi’s smartwatch, doctors and caregivers receive that data in real time, allowing them to act preemptively.

Dastmalchi says the medical industry usually looks at a smartwatch as “a gadget rather than a medical device.” But with COVID-19 wreaking havoc, she’s seen that perception quickly shift. Doctors are exploring ways to provide effective home-care monitoring without direct contact with patients, and she believes her product can help facilitate this shift.

VitalTracer products are in the process of getting regulatory approval from Health Canada and the FDA in the U.S., with the hopes this will be achieved this year. Currently, the VTLab watch is only available for sale to researchers as a minimum viable product (MVP), meaning it’s still in a testing stage and researchers can provide feedback on its development.

“We provide the hardware technology to them so they can build their own software technology based on their own medical architecture,” Dastmalchi says. Apart from monitoring early signs of COVID-19, researchers have expressed interest in using the VTLab to track dementia, sleep apnea and cancer, among other health issues.

Dastmalchi says there are about 700 orders from five different research groups, and aimed for 1,000 by the end of 2020—and to at least double production in 2021.

The pandemic has left Dastmalchi envisioning bigger things for VitalTracer. In a pitch last year, investors referred to her watch as a “vitamin,” but that view has changed. “Now it’s a painkiller,” she says, “and everyone needs it really badly.” ♦

PIVOT RECOMMENDS

Off the clock

BY CHRIS POWELL



Watch

They say nostalgia’s not what it used to be, but we can’t help but wax on (and off) about Netflix’s *Cobra Kai*—an update of the *Karate Kid* franchise that’s so faithful to the spirit of the 1984 original it’ll make you want to pull out your old legwarmers and Mötley Crüe cassettes. Set in modern-day L.A., the show’s two main characters, Daniel LaRusso (Ralph Macchio) and his arch-nemesis Johnny Lawrence (William Zabka), are now grown up and operating rival karate dojos. Cue the well-choreographed karate fights. The third season drops on Jan. 8.

Read

Conventional wisdom used to be that learning was over once we left school. But, in *Beginners*, acclaimed journalist Tom Vanderbilt argues that education is a journey, not a destination. Vanderbilt spent an entire year learning new skills known for their difficulty and for possessing a “distinct lack of career marketability”—chess, singing, surfing, drawing and juggling—in order to appreciate the act of learning.

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THAT FUNNY GUY

Nova Scotia raised and educated Mohamad El Attar is an audit senior at KPMG Bermuda. He also runs a social media channel called That Muslim Guy that uses humour to educate people about Islam **BY CHRIS POWELL**

I'd been thinking about That Muslim Guy since university. As a Muslim, you see a lot of news where Islam is being misrepresented or the full story's not being told, or everybody's being painted with the same brush, and I figured,

"I'm tired of just complaining about it—why don't I do something about it?"

The main purpose of my channel is to educate people about Islam using comedy. **Religion is a very sensitive topic wherever you go and politics is a very sensitive topic.** You combine both [and] it's an explosion waiting to happen.

Everyone speaks the same language and that's comedy.

If people are willing to laugh, they're willing to learn. If I can present Islam in a manner that can make them laugh, they might also be willing to learn about it. Then, next time they see something on the news, they won't be as judgmental or react impulsively.

Up until high school I was typically the quiet kid. I got introduced to stand-up comedy and started watching famous comedians, like Dave Chappelle and Russell Peters, and just fell in love with it. **Apparently, I've always been funny. I was just always quiet about it.**

I've had people message me saying, "Thank you very much for these videos, I'm learning a lot as someone who's never been introduced to Islam." I've had Muslims reach out to me and say, "Thank you very much for presenting our religion in a good light." And, of course, when you're on the internet you're also going to have the occasional death threat. **I figure if you can survive busy season as an accountant, you can survive threats online.**

There is no one-year, two-year, 10-year goal. **The goal is to educate as many people as I can about Islam,** whereby they can laugh and see it as being normal rather than being taboo, and whenever they meet a Muslim, they don't have the media-spread perception of it.

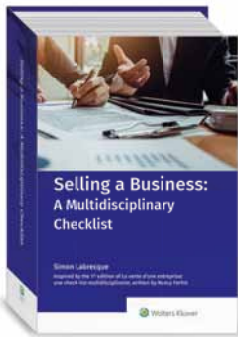
If I'm not doing my full-time job as an auditor, I'm doing videos. During the week, I'll sometimes dedicate two to three hours per day and, on the weekend, I could be spending five, six hours making videos, writing scripts and coming up with content. **It's a full-time job after my full-time job.**



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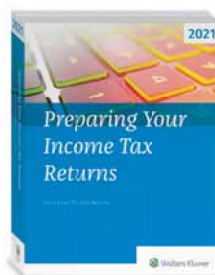


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