Strategic Report

Innovating to Survive: Are You a Leader or a Follower?

October 2019

BCF BUSINESS LAW

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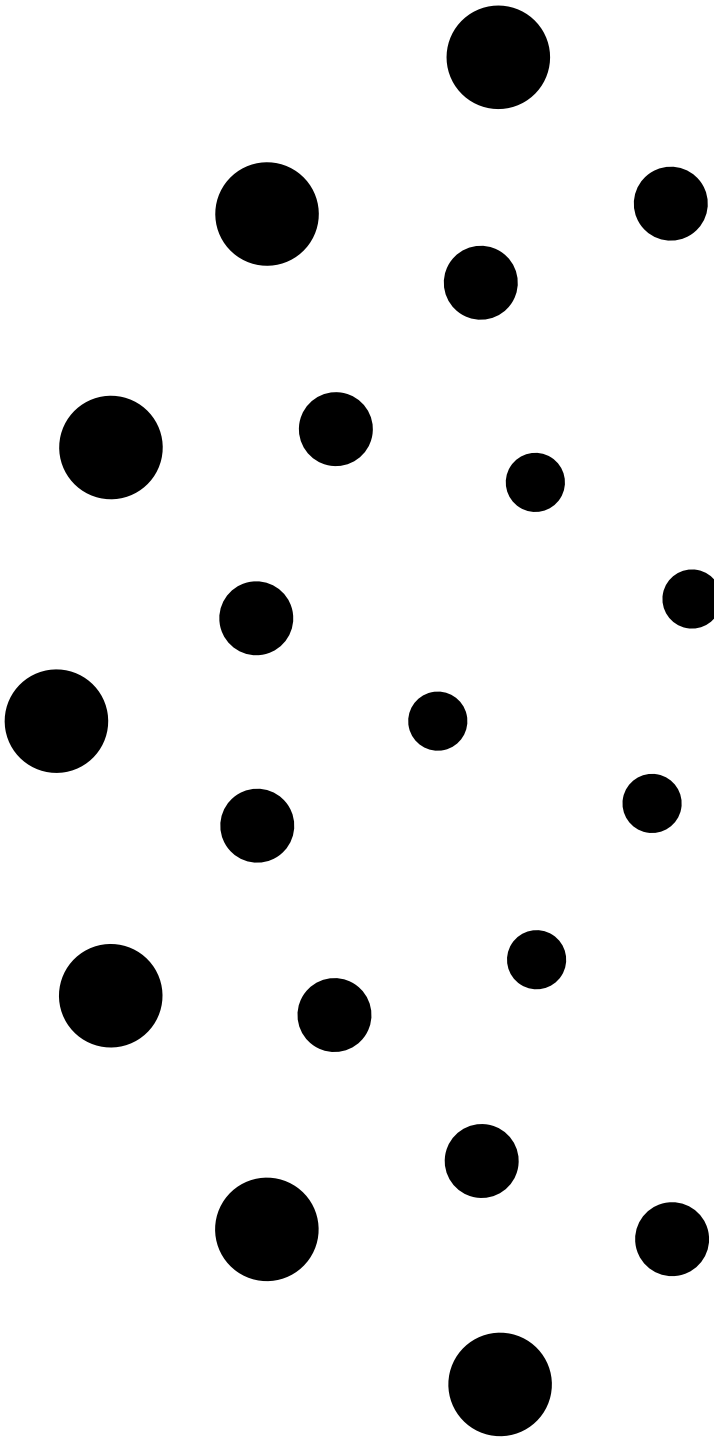

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Foreword

“We need to define a common vision.”

Dominique Babin
Partner, Lawyer
—
T. 514 397-2675
E. dominique.babin@bcf.ca

Are you a leader or a follower?

There has been a rapid acceleration in technological innovation in the last few decades. As little as twenty years ago, no one had a smartphone, fax machines were still in use and social media did not yet exist. Today, artificial intelligence can influence the outcome of elections, automation makes some fear for the loss of their jobs and data has become highly coveted.

What does the future hold for us? The pace of innovation is unlikely to slow down – it may even accelerate. This may raise some concerns, but it also paves the way to infinite possibilities for those who seize the opportunity.

It is both these concerns and the opportunities for Quebec companies that we wish to address in this Strategic Report on Innovation. Innovation is no longer an option: it is essential for the survival of our businesses and will be a key factor in Quebec’s future economy and its influence abroad.

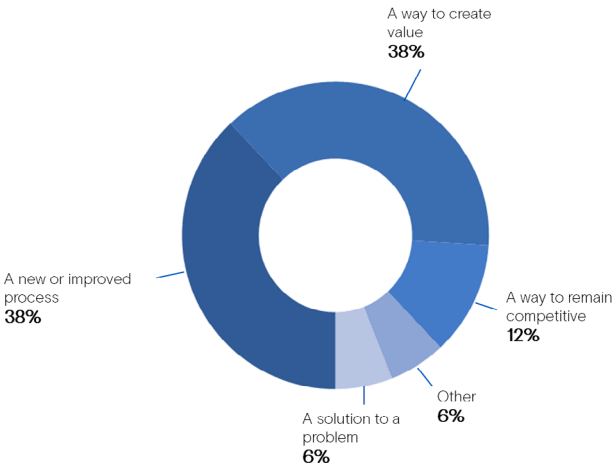
We must not simply let innovation happen to us, submit to new technology or adapt to it: we must guide it and ensure that it allows us to move forward, even if the path is not always clear. To do this, we must consult, reflect and keep an open mind.

In other words, we need to define a common vision.

Are you a leader or a follower? Do you let innovation happen to you or do you influence it? Do you apprehend new technologies or do you see them as opportunities? A necessary pain or a land of opportunity? We hope that this Strategic Report on Innovation will help you reflect on these issues, take a position, remain flexible and take full advantage of this era of change.

Are You a Leader or a Follower?

Results of the Innovation Survey Conducted by BCF Business Law – October 2019

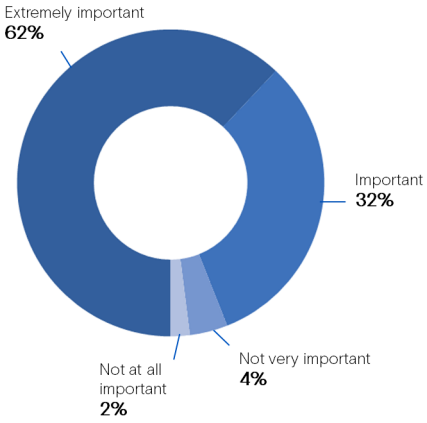


The innovation survey was conducted among the firm's 10,000 clients and business contacts, with the objective of measuring the relationship between their growth strategy and innovation.

How would you define innovation?

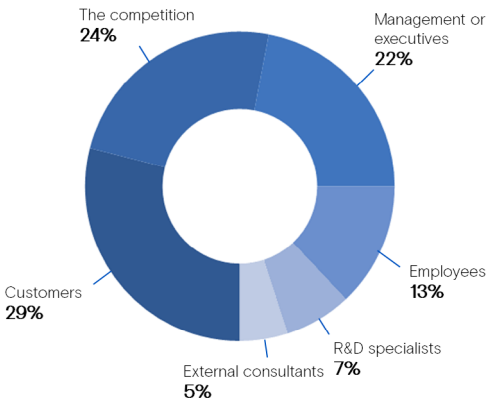
38% of the respondents define innovation as a new or improved process. An equally large proportion defines innovation as a way of creating value.

For over a third of respondents, the real issue is not "how to do it?" but "what value will this innovation create?" and "what impact will it have on clients, employees and the broader society?" Only 6% of respondents indicated innovating to solve problems.



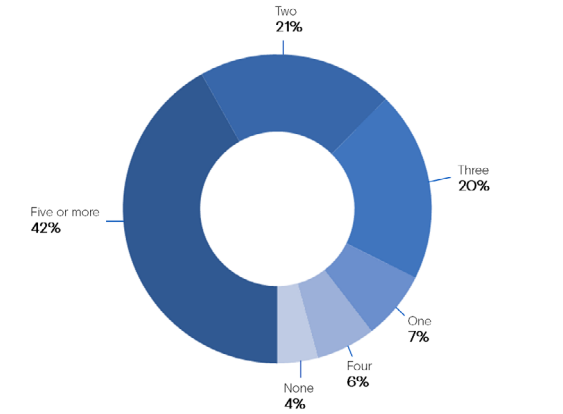
How important is innovation to you as part of a growth strategy?

Unambiguously, innovation is important or extremely important for nearly 95% of respondents. The strategic objective behind innovation is to create value for customers (33%) and increase operational efficiency (21%).



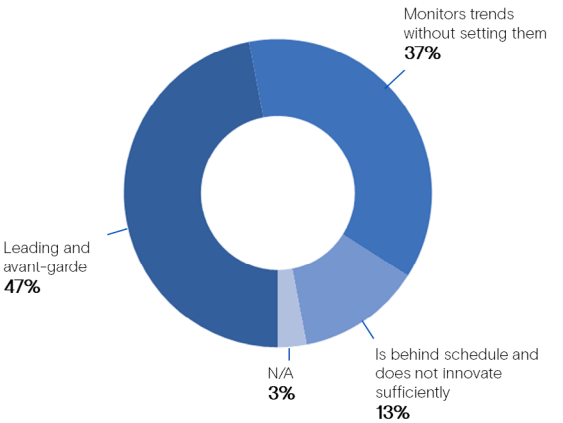
Which of these stakeholders drives you to innovate?

Almost one third of respondents indicated that those who drive them to innovate were not the research and development ("R&D") specialists nor the external consultants, but the customers (29%) and the competition (24%).

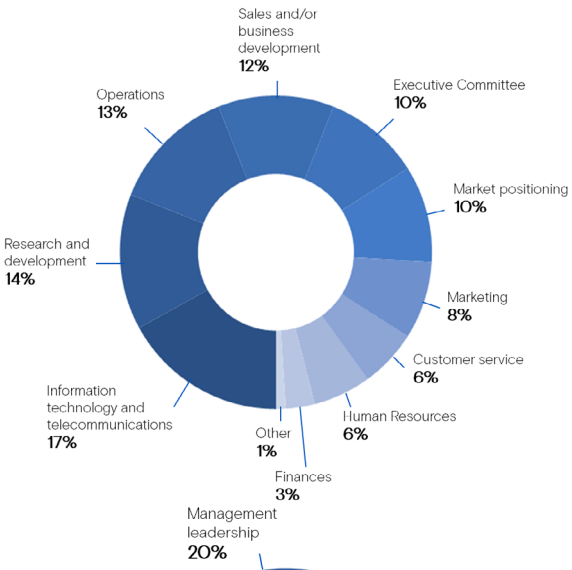


Compared to the market, where does your organisation stand in terms of innovative initiatives?

Innovation is booming and it reflects on our results: 42% of respondents have carried out five or more innovative actions in the past three years.

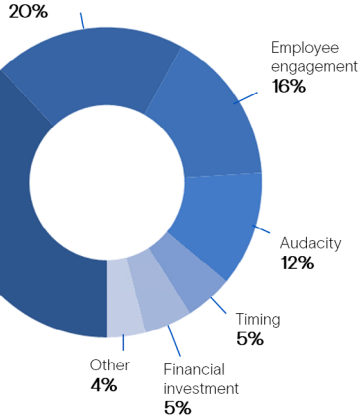


As for market positioning, 47% of respondents consider themselves as innovation leaders, while 37% consider themselves as trend followers, but without being ahead of them.



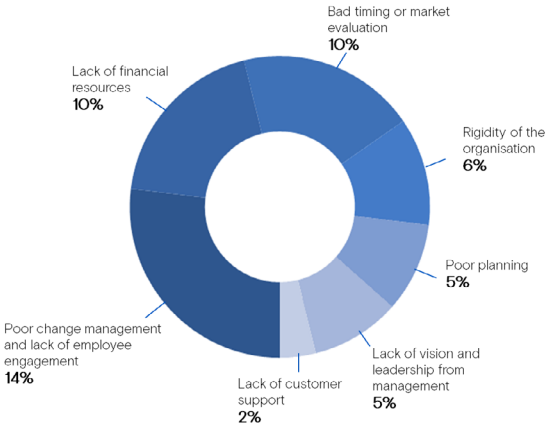
Which sector(s) in your organisation generate(s) the most innovation?

Information technology and R&D are areas that are perceived as most likely to generate innovation. Operations and Sales areas are ranked 3rd and 4th respectively.

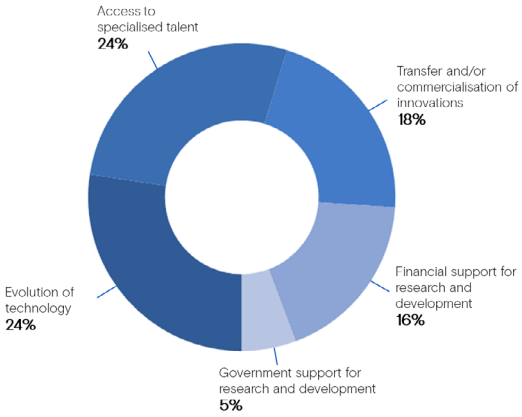


To what do you attribute the successes and the failures of your innovative initiatives?

While audacity, employee engagement and management leadership are important, innovation-generating teams need a common vision to achieve planned innovations.



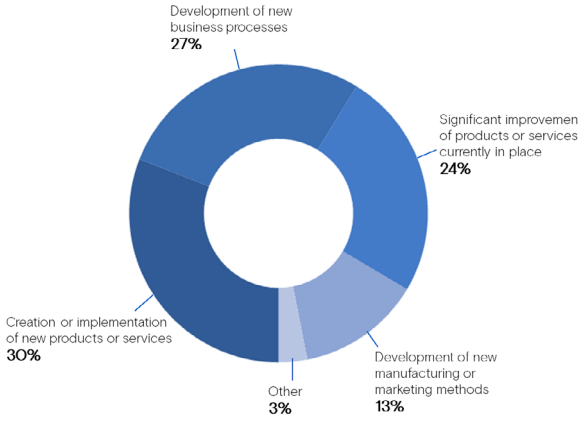
Change management and employee engagement are also identified by respondent as key challenges to successful innovation. Lack of financial resources and bad timing would also be among the potential factors of failure to consider.



What is the main challenge for innovation in your organisation?

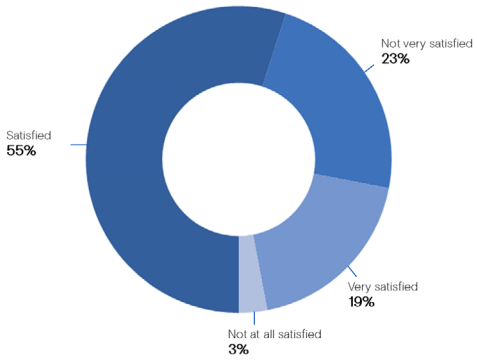
Close to a quarter of respondents believe that the main challenge in innovation is the technologies' unbridled evolution and the limited access to specialized talent.

39% of them are notably looking for skilled workers to supervise and support their innovation programs or processes.



In the last three years, what type(s) of innovative initiatives has your organisation implemented?

Invention or implementation of new products or services accounts for 30% of the innovative initiatives carried out over the last three years. Closely followed by the development of new business processes and the significant improvement of existing products or services.



How satisfied are you with your organisation's performance in terms of innovation?

While 94% of respondents consider the contribution of innovation to their growth strategy to be important or extremely important, 55% of them are satisfied with their organisation's performance, 26% are not very or not at all satisfied, and only 19% are extremely satisfied with their organisation's performance.

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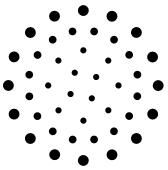

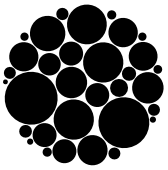

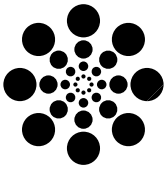

5G Technology Is Coming: Legal Questions Abound

By: Richard Epstein, Partner and Lawyer, and Adrien Mitchell, Articling Student

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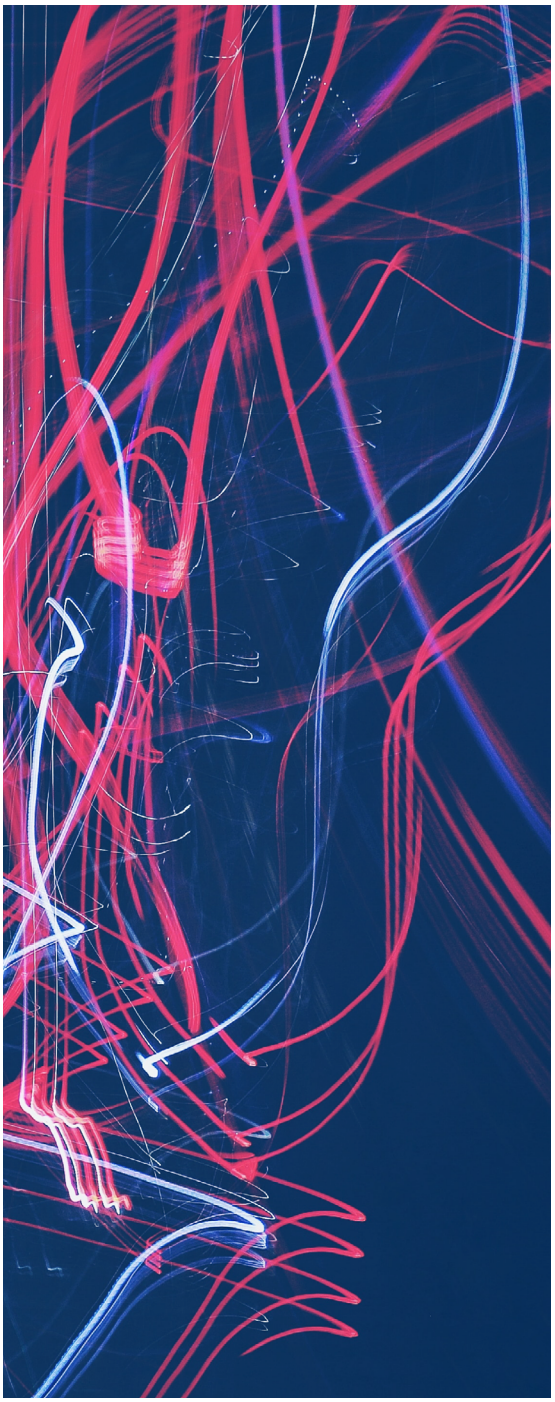
5G Technology Is Coming: Legal Questions Abound



A major paradigm shift is coming to the world of communications technology with the arrival of the fifth and latest generation of cellular network technology, commonly referred to as 5G.

This latest communication standard promises data transfer speeds up to 100 times faster than what is currently available. One of the major technical differences with older communication standards is that 5G uses, among others, short-wave technology. In doing so, it relies not on a few dozen cellphone towers scattered across an urban area in order to provide service but instead requires thousands of transmitters to be installed sometimes only a few dozen feet from each other. Often, these transmitters will have to be affixed to municipally owned utility poles and street signs while in other cases, network providers will have to negotiate with private landowners to allow for the utilization of their buildings.

In addition, because short-wave signals struggle to pass through solid objects such as trees and walls, these transmitters will also have to be just as numerous indoors as out. Logistics issues aside, the resulting networks can, however, allow for extremely high data transfer speeds combined with equally impressive low latency rates, effectively opening the door for never before possible use cases, such as fully autonomous self-driving car systems, high resolution and lag-free mobile video conferencing, as well as the true coming of age of Internet of Things (IoT) devices.

For all the benefits the technology will offer, it also comes with its own set of risks and challenges that need to be addressed before municipalities rush to deploy 5G networks. Many countries in Asia began the switch over to 5G a few years ago and so the western world is now scrambling to overhaul existing cell phone networks in order to remain competitive. This rapid deployment of 5G networks will create an urgent need to consider a broad scope of laws and regulations ranging from privacy laws to property rights, health and environmental laws, and liability for adverse impacts on the population. Lawmakers as well as citizens and corporations need to remain vigilant and demonstrate caution at every step of the way.

5G Technology Raises Serious Concerns About Privacy and Security

Recently, public discourse has been rife with talks surrounding the right to privacy. Privacy and security surrounding the rollout of 5G should obviously be a major concern to ordinary citizens for a number of reasons including the occurrence of location tracking, data mining, and sensitive data breaches.

Firstly, the sheer number of transmitters required for a working 5G network translates to an equal increase in potential points of failure that will be vulnerable to a physical breach or a disruption attack. Network providers and equipment manufacturers will undoubtedly have to put in place protocols in the event of such an occurrence in order to mitigate damages and limit their personal responsibility. Current data breaches often result in class-action lawsuits followed by large settlements and in some cases fines by regulators and nothing indicates that the current trend will come to an end any time soon.

Secondly, the increase in the number of transmitters, their proximity to one another, and the fact that their presence will be required both indoors and out means that users' location will be pinpointed with incredible accuracy. Using current cellphone towers to triangulate a person's location is accurate to an area of approximately two square km. The use of 5G transmitters, however, will knock that number down to a few square metres, effectively setting up the stage for much greater consequences associated with the misuse of location information. Cellphone providers have already been liable for selling their users' location data to advertisers and even more care must be taken as the stakes become even higher.

A third area of concern lies in what is commonly referred to as the Internet of Things or IoT and which involves the connection of a multitude of everyday objects and sensors in such a way that are all capable of communicating with each other. Because these objects and sensors oftentimes gather and share extremely large amounts of personal information regarding the location and the lifestyle choices of their users, the door is left wide open for identity theft and data mining by malicious actors as well as by advertisers looking for even more targeted ads.

New Use Cases, New Challenges

The increase in speed and decrease in latency of 5G signals means that new never before possible uses cases are going to emerge and revolutionize our daily lives. New use cases, however, also bring a new set of challenges. Two examples of industries that will experience drastic changes as a result of the advent of 5G are self-driving cars and the medical field.

Self-driving cars currently rely on a multitude of various sensors and cameras in order to allow for autonomous driving. As the number of these vehicles present on the road increases, communication among them will be required so as to avoid potential congestion and bottlenecking. In order to rely on a cellular network to relay information on the precise location, speed, and direction of moving vehicles and to do so between thousands of vehicles at a time requires tremendous speed and bandwidth, both of which are hallmark characteristics of 5G. However, what happens if the network carrying these signals fails or is subject to a cyber attack? Could cellular network providers or manufacturers be found liable for accidents or deaths resulting from such catastrophic events? These questions will undoubtedly be answered by courts in the foreseeable future.

Richard Epstein
Partner, Lawyer
—
T. 514 397-6700
E. richard.epstein@bcf.ca

Adrien Mitchell
Articling Student
—
T. 514 397-6699,3024
E. adrien.mitchell@bcf.ca

5G technology will also have the potential to revolutionize the healthcare field allowing for much faster transfers of large patient files, remote surgery, and real-time patient monitoring. These use cases bring up a slew of questions regarding the civil responsibility of network providers in the advent of a failure or a data breach given the obvious importance of the data being transported and the severity of the repercussions involving anything healthcare related. Medical practitioners and providers as well as insurance companies will also have to give some thought to the malpractice implications involved with an increase in remote procedures over 5G networks.

Health Risks Associated With 5G Technology

A significant area of apprehension for all stakeholders in the 5G sector lies with the impact on the general population regarding potential health risks associated with the exposure to large amounts of radio frequencies. Numerous studies raise concerns in respect of the negative impact emanating from exposure to cell phone waves. While there has yet to be conclusive evidence, the World Health Organization has nonetheless categorized current cell phone waves as potentially carcinogenic to humans.

Because of the upcoming omnipresence of hundreds of thousands of transmitters spread out in every corner of the continent, questions need to be addressed as a precautionary measure as well as purely for ethical reasons. Network providers and equipment manufacturers should be prepared for the potential pitfalls associated with class action lawsuits being brought forth and have plans in place for crisis management.

The Difficult Task of Governments and Municipalities

Authorities will have to strike the right balance between passing legislation and regulation that protects its citizens while simultaneously not stifling innovation and progress. A few governments in Europe have already halted 5G tests until more conclusive evidence of the technology's safety, both in terms of privacy and health, are more substantiated. While it may be difficult to predict the direction in which the future is heading, one thing is for sure: change is coming and it is coming fast.

In a second article on the legal implications of 5G [Different legislative approches to 5g], we explored how governments and lawmakers from around the world are managing their legislative and regulatory environments given the upcoming communications revolution and how past court decisions may impact future legal questions in the field.

Different Legislative Approaches to 5G

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By: Richard Epstein, Partner and Lawyer, and Adrien Mitchell, Articling Student

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Different Legislative Approaches to 5G

The offer of alluring benefits for new and disruptive technology to become omnipresent in a very short time frame is appealing. The adverse consequences could be very detrimental. Governments can choose to adopt legislation pre-emptively to protect against social concerns before the technology even sees the light of day or legislate to speed up the implementation of the technology and address social issues that may arise down the road.

This is the moment at which we as a society find ourselves with respect to 5G technology. Governments are choosing whose interests to serve: industry versus citizens.

In our first article on the legal implications of 5G [5G Technology is coming], we referred to anticipated benefits of 5G technology and raised privacy, security, health and environmental concerns. In this second article, we consider how governments and municipalities around the world are approaching 5G from a legislative standpoint. The approaches are literally all over the map.

In this article, we will look at how Europe and the United States are approaching the deployment of modern day telecommunications technology by legislating in drastically different manners. As we will see, the US is appearing to take the route of deregulation in the name of progress while European countries are showing more restraint and caution in the passing of their laws.

The FCC's Declaratory Ruling

Beginning with our neighbours to the south, the FCC, the American equivalent of our CRTC, released a Declaratory Ruling in late 2018[1] that, among other things, imposed much shorter time frames in which municipalities must approve 5G projects. As a result of this, municipalities and counties across the US now have as little as 60 days to green light 5G projects in their territory. When compared to the 150 days that used to be allowed under prior regulation, this new shot clock leaves very little time for municipalities to hold public consultation forums with their citizens and assert the potential environmental and health impacts a 5G project may bring about. The FCC justified its ruling by saying that it was "committed to doing our part to help ensure the United States wins the global race to 5G to the benefit of all Americans."

As expected, the ruling received quite the backlash when it was announced. Cities across the country voiced their concern over the lack of effective overview the rollback of regulations would create even if that was in the name of streamlining the process. Municipalities challenging the FCC's ruling lost a court battle in January of this year when the U.S. Court of

Appeals for the Tenth Circuit denied a motion to stay the Declaratory Ruling. The courts determined that the plaintiffs had not demonstrated that they would suffer irreparable harm if the ruling were to stand as is.

Health and environmental advocates suffered a further blow on August 8th 2019 when the FCC released a memo in which they proposed maintaining current RF exposure safety standards, implicitly suggesting that the standard was safe and would apply to the upcoming deployment of 5G devices. The proposal followed over six years of public input and review and was a result of close cooperation with the FDA's *Center for Devices* and *Radiological Health*. This memo is also indicative of the American government's views on the safety of 5G technology and their lack of apprehension over the health and environmental concerns voiced by community members across the US.

In an interesting turn of events however, the US court of appeals on August 9th, 2019 struck a blow to part of the FCC's ruling that disregarded environmental and historical preservation reviews when its judges wrote that those reviews were meant to "assess the effects of new construction on, among other things, sites of religious and cultural importance to federally recognized Indian Tribes." While the court ruling focused primarily on the property rights of American Aboriginal tribes, it nonetheless opened up the door for potential lawsuits from environmental protection groups.

The European Electronic Communication Code

On December 18th, 2018 and after an almost two-year long legislative process, the European Union finalized and released its *European Electronic Communication Code* (EECC).[2] The aim of the code was to completely overhaul the EU's member states' telecommunications laws by harmonizing them and future proofing them in preparation for, among others, the advent of 5G. While not a binding piece of law, the EECC is akin to a convention, offering suggestions on how to legislate, requiring each member state to adopt its own laws.

The text of the EECC begins by declaring that its main role is to establish a legal framework for the deployment of a future telecommunications network throughout Europe that is harmonious with existing laws and regulations, in particular those dealing with "public policy, public security and public health". This cautionary approach in the opening lines of the EECC is very telling of the content that can be found in the rest of the almost 200 page long document.

With the EU recently enacting its *General Data Protection Regulation* (GDPR) which provides for some of the world's strictest and most comprehensive data privacy laws, it should come as no surprise that the EECC contains many dispositions that require 5G network operators to design and maintain their networks with privacy and security as a priority. The EECC for example allows for member States to exclude companies that do not comply with their regulatory and legal framework, in the name of national security.

The EECC also imposes guidelines for high standards of reliability onto network operators. A European Commission report on the Cybersecurity of 5G networks recommended advanced security measures given that "the dependence of many critical services on 5G networks would make the consequences of systemic and widespread disruption particularly

Richard Epstein
Partner, Lawyer
—
T. 514 397-6700
E. richard.epstein@bcf.ca

Adrien Mitchell
Articling Student
—
T. 514 397-6699,3024
E. adrien.mitchell@bcf.ca

serious". The critical services referred to by the commission were reliable communications for "the safe and good operation of vehicles and their on-board communications systems", an obvious reference to self-driving cars.

Turning now towards health and environmental concerns, they are addressed directly by the EECC. The document goes so far as to explicitly state that "the need to ensure that citizens are not exposed to electromagnetic fields at a level harmful to public health is imperative". It also stresses the need to roll-out new networks across the continent in a "fair, efficient, and environmentally responsible way". Member States are even given the explicit right to limit the roll-out of new networks "based on the grounds of public policy, public security, or public health" if such a limitation is explained and justified by the State in question. While individual States can choose to limit or control the deployment of 5G on their territory, the power of local governments within those States to do so is not always as obvious.

A few European jurisdictions have halted 5G testing in the name of public safety. The Belgian government decided to temporarily shelve a 5G pilot program in Brussels in April of this year over concerns that the technology was potentially exceeding radiation limits imposed by the city. In Switzerland, the canton of Geneva issued a similar stop order with regards to the rollout of 5G antennas over similar health and environmental concerns. Because the Swiss federal government has exclusive jurisdiction over the field of telecommunications, the upcoming legal battle between State and local authorities should prove to be an interesting one.

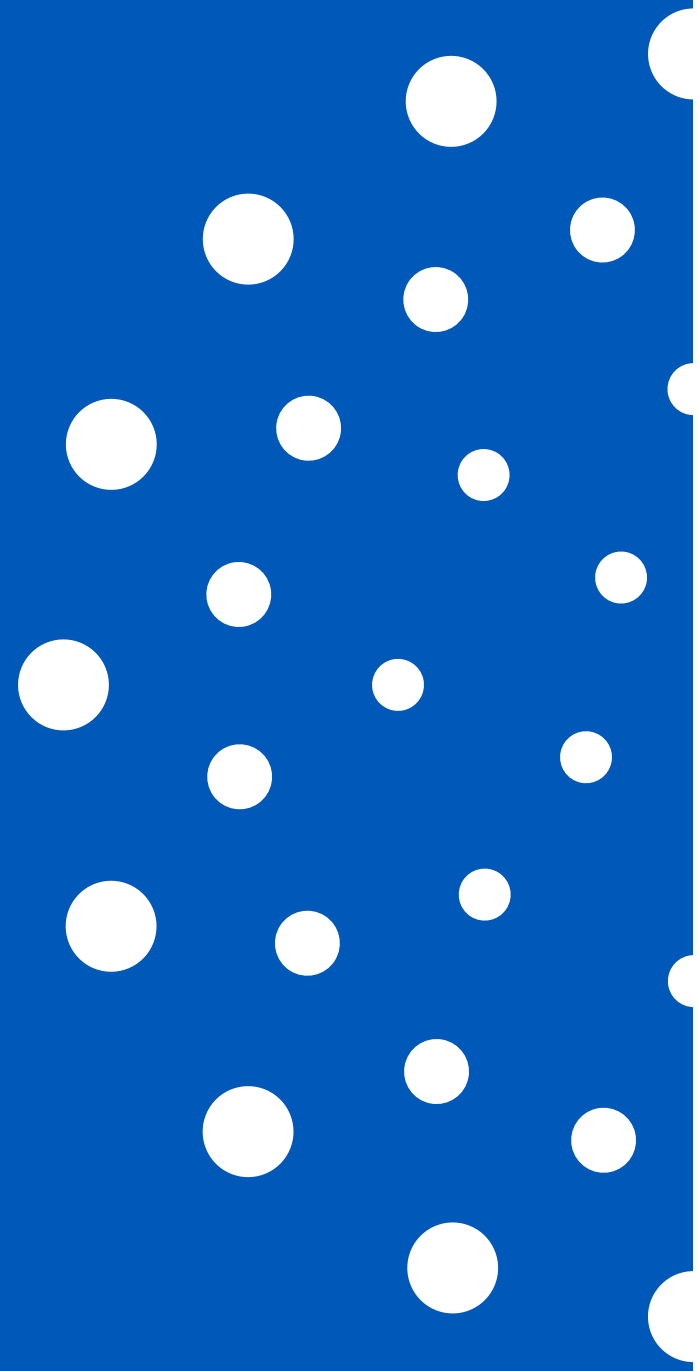
Tonia Antanazzi, a British MP, recently spoke out in the House of Commons during a parliamentary debate on 5G adoption in the UK. In her words "technology is wonderful and offers a great many benefits to all, but we cannot continue to deny that there is an impact of some people's health and wellbeing". She went on to say that cautionary legislation "is not about stopping progress; it is about making sure that there are no health concerns as a result of the technology, and about doing what is best for our constituents". This poignant testimony is an example of the type of debate actively going on in Europe and is very telling of the different manner in which 5G adoption is being handled across the pond.

Finding the right balance between progress and caution is a rather delicate juggling act.

The different actors involved have their own agendas, interests, resources and will. In an upcoming article, we will consider the Canadian legislative environment with regards to the deployment of 5G technology.

Innovation Needs Protection

By: Dominic Goudreault,
Partner and Patent Agent



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Innovation Needs Protection

Whether through years of hard work and research and development or due to a spark of genius in the middle of the night, you have come up with the next amazing product that will sell millions of units, the solution to a problem that has plagued your industry for years, or a valuable improvement to an existing product or process.

This is great! You want to tell your friends, family and clients about it. You want to put photos of it on your website and on social media. You want to publish an article about it in a scientific journal. You want to start a crowdfunding campaign. You want to find a manufacturing partner… STOP!

If your innovation has any value, you should first think about how you want to protect it. Failure to do so could result in a missed opportunity to fully exploit the benefit of the innovation for you or for your organization. Without proper protection, there is very little stopping others (including competitors) from copying your innovation which can lead to lost market-share, the loss of a competitive advantage, an inability to command a desirable price and even loss of interest from investors in supporting your business. This is why before sharing your innovation with the world, you should think about how to use intellectual property rights to properly protect the innovation.

What Is Intellectual Property?

According to the World Intellectual Property Organization (WIPO), "intellectual property (IP) refers to creations of the mind, such as inventions; literary and artistic works; designs; and symbols, names and images used in commerce". Intellectual Property Rights (IPRs), including trademarks, copyrights, industrial designs and patents are government granted property rights that provide protection for that intellectual property.

Trademarks can be words and/or symbols used to distinguish the goods and services of one company from those of another. For example, the name and logo of a company or the name of a product can be trademarks.

Copyrights protect artistic and literary works and are often associated with artistic works such as books, music and movies, but copyrights also protect more technical works as well such as computer programs, engineering drawings and maintenance manuals, among other examples. This article is copyrighted.

Industrial designs protect the aesthetic look of a product; its shape, form or ornamentation. What you have developed may function the same way as existing products but if it looks different in a distinctive way, then maybe industrial design protection would be valuable.

Patents protect inventions. Products, machines, processes, compositions and improvements to any of these can be inventions. Patents will be discussed in more detail below.

Another way to protect your innovation is to keep it secret. This is known as a trade secret or confidential information protection. Although this protection may not be suitable for all innovations, for some innovations, such as manufacturing processes that cannot be reversed-engineered by looking at the final product, this protection can be quite valuable. Trade secret or confidential information protection lasts as long as you keep the secret and so certain precautions should be taken if you want to take advantage of this.

You Need a Strategy

A product or innovation can potentially be protected by more than one type of intellectual property right. Also, a product or innovation can be the subject of more than one trademark, copyright, patent, and/or industrial design.

Take your smartphone for example. It likely has a logo, a product name, and/or a company name on it. These are likely all trademarks. The computer code for each of the applications running on the phone are protected by copyright. The ringtones are also protected by copyright. The shape of the smartphone and the app icons on the screen may be protected by industrial designs. Finally, the type of glass used, the way the wireless communication works, the battery and many other aspects of the smartphone are likely the subject of multiple patents.

As you can imagine, determining what to protect and how to protect it can be complex. Securing good intellectual property protection can be invaluable, and so making good decisions is critical. To make matters more complex, most intellectual property rights are territorial (i.e. they only give protection in the country where they are registered), making the decision about *where* to obtain protection is important. When considering these two issues, the need for a good intellectual property strategy becomes clear.

In order to establish an intellectual property strategy, you should meet an expert. For inventions, the expert is a patent agent. Together with your intellectual property expert, you can discuss your innovation, what already exists in the field of your innovation, the targeted markets and your competition. Based on these discussions, your intellectual property expert can help you determine what should be protected, how it should be protected and where it should be protected, in a manner that is in alignment with your budget.

Patents

As discussed above, patents are used to protect inventions. A patent gives the patent owner the right to exclude others from making, using and selling the invention protected by the patent. Generally, in order to be patentable, your invention has to be new, inventive (i.e. not obvious), and useful.

Dominic Goudreault
Partner, Patent Agent
—
T. 514 397-6659
E. dominic.goudreault@bcf.ca

One of the reasons to stop and think about IP protection before sharing your innovation with the world is because that sharing could prevent you from being able to obtain patent protection. Patents give territorial protection and most countries have what is called an "absolute novelty" requirement for granting a patent. This means that if you share your invention to others before applying for a patent, you will not be able to obtain patent protection for your invention in these countries. Two notable exceptions are Canada and the United States that give you a grace period of one year from the time you have disclosed your invention to file a patent application. Luckily, you can file a patent application in a single country before sharing your invention, and still be able to file that patent application in other countries at a later date (typically within one year of your first application). This should be determined as part of your intellectual property strategy.

In order to obtain a patent, a patent application needs to be prepared and filed with the patent office of the country where protection is desired. The patent application is then examined by the patent office and if all the requirements for patentability are met, the patent is granted.

A patent application is a document that describes the invention in detail and defines the scope of what is being protected. The best invention in the world may not be patentable if the patent application that was filed was poorly drafted, and it is very difficult, sometimes impossible, to salvage a poorly drafted patent application. It is therefore beneficial to work with a qualified patent agent.

Integrate Intellectual Property in Your Development Cycle

In order to be most effective, intellectual property should be integrated into the product development process and be in alignment with an overall business strategy. An IP professional can help identify R&D trends in your industry as well as potential risks associated with the patent rights of others. At later stages, the IP professional can work with you to ensure that the right technology is being protected in the right jurisdictions using the right IP protection mechanism, and well before any public disclosures occur. Similar integration of trademark strategies into product launches can be beneficial. For example, this could help you avoid choosing a product name, printing all the boxes, preparing all of the promotional material and ad campaigns, only to find out that this is already the subject of a trademark and you cannot use it.

Investment and Patenting Trends in Artificial Intelligence

By: Julien Lacheré,
Partner and Patent Agent,
Benjamin Koopferstock, Registered
United States Patent Attorney, and
Mohit Arora, Patent Agent in Training

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Investment and Patenting Trends in Artificial Intelligence

As we look down the road to future developments, it's clear that artificial intelligence (AI) will continue to play a larger and larger role in how we use technology to solve problems.

AI is a branch of computer science that is directed towards creating computers and machines that can learn, work, and react like humans. Today AI is already driving important developments in many different areas, including autonomous vehicles, medical research and diagnosis, and advanced manufacturing.

As AI moves from the theoretical realm to the global marketplace, its growth is fueled by a profusion of digitized data, continuing research leading to improved AI tools for developers, and rapidly advancing computational processing power. These forces are having a revolutionary effect — they allow us to detect patterns among billions of seemingly unrelated data points.

The development of AI has also become a critical geopolitical issue; AI is at the core of the technology race between the United States and China for worldwide leadership.

Investments Keep Setting Records in the AI Space, From Tech Giants to Early-Stage Companies

AI is a constantly transforming industry providing many opportunities to invest within a diverse market. Numerous established companies such as Nvidia, Alphabet (Google), Salesforce, Amazon, Microsoft, Baidu, Intel, Twilio, Facebook, Tencent, and many others have already invested billions of dollars on various projects associated with AI.

Universities and public research have been driving innovation in this space since the early days, and in recent years the pace has been picking up even further. The Canadian government recently earmarked $125 million for developing AI research as part of the Pan-Canadian Artificial Intelligence Strategy[1] In the U.S., the Massachusetts Institute of Technology (MIT) is investing 1 billion dollars to establish a new cross-disciplinary college of AI.[2]

Early-stage and mid-sized companies are also benefiting from the wave of massive investments in AI. In the second quarter of 2019, a new record amount of funding to AI startups was reached with $7.4 billion invested while the total funding to AI startups over the last 5 years adds up to more than $66 billion.[3]

Julien Lacheré
Partner, Patent Agent
—
T. 514 397-2633
E. julien.lachere@bcf.ca

Benjamin Koopferstock
Registered United States Patent Attorney
—
T. 514 397-5577
E. benjamin.koopferstock@bcf.ca

Mohit Arora
Patent Agent in Training
—
T. 514 397-5568
E. mohit.arora@bcf.ca

The AI Patent Landscape

The amount of research into AI has grown dramatically in recent years, and patent filings are reflecting this trend. There have now been nearly 340,000 patent applications for AI-related inventions, with patent filings growing by a factor of 6.5 between 2011 and 2017.[4] No surprise, the big tech powerhouses are leading the patent race with Microsoft piling up around 6000 AI-related patent applications and Alphabet piling up about 4000.[5]

Some of the primary industries in which AI patents are filed are telecommunications, transportation, life and medical sciences, and security.

Although there have not yet been many AI patents asserted in court, we expect an increase in litigation as the use of AI continues to grow.

Merger and Acquisition (M&A) Activities in the AI Space

In addition to developing AI solutions in-house, many corporations have used acquisitions to increase their AI expertise. Major technology companies like Google, Amazon, Microsoft, and Apple have spent billions of dollars to acquire numerous AI startups.[6]

One example of a major acquisition was Google's purchase of DeepMind Technologies, a UK-based AI company. DeepMind is well-known for developing AlphaGo, which became the first computer program to beat a professional Go player on a full-sized board in 2016. DeepMind was founded in 2010 and then acquired by Google in 2014 for £400 million. At the time of the acquisition, DeepMind Technologies was holding numerous patents relating to architectural details of neural networks and to aspects of training neural networks.

Why Should AI Startups Invest in Patents?

Even though a startup is unlikely to engage in patent litigation, there are still numerous benefits to applying for patent protection of an AI invention.

Investors considering a startup will likely look at whether the company owns or has applied for patents covering inventions that are key to the company's business model.

Owning relevant patent assets can also make a company more desirable for an acquisition, and potentially increase the value of the company. For complex technology like AI, patents can be used as a tool to signal to investors that credible research and development has been done.

Although it's a bit counterintuitive, patents can actually make it easier to collaborate with other companies. After a startup files a patent application, the startup can disclose the invention to other entities without worrying that someone else will copy their invention. The patents can also be used to formalize a framework for collaboration or licensing of the underlying technological developments. This can be particularly useful for AI startups wanting to collaborate with larger companies.

Finally, as AI-startups grow, having a portfolio of strategic patent assets will help maintain higher margins, discourage competitors from entering the market, and deter competitors from suing for patent infringement. Investing in patents sooner rather than later can help an AI startup lay the foundations for a long-term competitive edge.

Is Your Company Implementing a New Technology System? Remember to Protect Your Data

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By: Nicolas St-Sauveur, Lawyer

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Is Your Company Implementing a New Technology System? Remember to Protect Your Data

Companies are constantly evolving, whether it is to increase productivity, overcome labour shortages or simply keep up with industry leaders. Implementing new technologies is one way to reach these goals.

Today, technologies that do not use information technology are rare, and information technology necessarily means data processing.

In this short article, we will only cover data relating to an identified or identifiable individual, which we will call personal information, the term used by Quebec and Canadian privacy laws.

Personal Privacy at the Core of All New Technology

In order to avoid penalties, which in some situations can amount to up to €2 million or 4% of worldwide revenue, or to avoid a costly class action, companies should consider how personal information will be handled from the beginning of the system's implementation. This is the principle of "Privacy by Design".

By applying this principle, companies ensure that privacy compliance is a central concern when implementing new technology. Moreover, this principle should be applied as soon as the time comes to select the new technology to be used.

Choosing a technology that facilitates the application of this principle will save time and money when launching the system into production. It will be more costly for the company to comply with privacy law requirements after a new system has been fully deployed without having considered the protection of personal data beforehand.

Although this principle is not established as a formal obligation in Quebec and Canadian legislation as it is in Europe, we believe that Quebec and Canada will follow suit in the upcoming reforms to our privacy laws.

The 7 Foundational Principles of Personal Privacy Protection at the Design Stage

The concept of Privacy by Design developed by the former Information and Privacy Commissioner of Ontario, Dr. Ann Cavoukian, puts forward seven foundational principles:

Nicolas St-Sauveur
Lawyer
—
T. 418 692-4501
E. nicolas.st-sauveur@bcf.ca

1. Proactive not Reactive; Preventive not Remedial
2. Privacy as the Default Setting
3. Privacy Embedded into Design
4. Full Functionality – Positive-Sum, not Zero-Sum
5. End-to-End Security – Full Lifecycle Protection
6. Visibility and Transparency – Keep it Open
7. Respect for User Privacy – Keep it User-Centric

Without going into more detail on the principles listed above, upon configuring the implementation of a new system, the collection of personal information should be limited to the purposes necessary for the business, which are disclosed to the affected persons. By default, personal information should only be made accessible to a limited number of people within the company on a "need-to-know" basis.

Moreover, the company should at all times know the type or nature of personal information collected, its location in its systems, its retention period and to whom it discloses or transfers the personal information it holds and processes in the course of its activities.

It must be able to easily update or delete this personal information. Therefore, any new system should have functionality that allows the company to comply with these requirements as well as with requests from individuals who would like to exercise their rights with respect to their personal information held by the company.

Choosing a Cloud or a Physical Server?

When a new system is installed entirely on the company's own server, control over personal information is easier and less risky than if the same system were implemented on a third-party controlled cloud server. However, in some cases, this third party may have greater financial resources than the company and may be able to acquire state-of-the-art security systems.

In any case, if the new system is hosted and provided by a third party in cloud computing mode, an agreement between the company and the third party is strongly recommended, or even mandatory in some cases, to govern the processing of personal information shared by the company with that third party.

While it is true that technology can increase a company's productivity, care must be taken to implement it properly and to avoid any surprises resulting from poor management of personal information used by this new technology.

The question is not whether or not your company will be the object of a cyber attack, but when and if it is ready to face it.

Our Technology Law and Privacy Practice Groups can help you implement internal processes for managing personal information as part of the implementation of new technology. Our professionals can also prepare you to act in the event of a cyber attack or simply to respond to requests from individuals from whom you collect personal information.

Legal Issues Surrounding the Industrial Revolution 4.0

By: Dominique Babin,
Partner and Lawyer

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Legal Issues Surrounding the Industrial Revolution 4.0

The manufacturing sector is currently undergoing a significant transformation, which is commonly referred to as the Industrial Revolution 4.0.

This would be this sector's the fourth revolution, following the arrival of mechanisation around 1760, the internal combustion engine around 1870 and electronics from 1969. This current industrial revolution relates to the digital revolution and combines several technologies, thus blurring the lines between the physical, digital and biological spheres.

The main challenge for the Industrial Revolution 4.0 is to actually manage the convergence of these spheres, while remaining aware of the many issues, including any legal ones that this entails. In light of this, we have therefore attempted to identify some of these issues and emerging trends, particularly in the areas of data protection, civil liability and intellectual property.

No Revolution Without Data

One of the pillars of Industry 4.0 is artificial intelligence. Thanks to AI, we should see greater optimisation of the supply chain, maintenance facilitation, and should be able to anticipate customer requests. However, the use of artificial intelligence requires a large amount of data, some of which is obtained through smart objects. Data protection issues are therefore central to the Industrial Revolution 4.0, including business data and technical information, but also data that relates to customers, individuals and their purchasing preferences.

Governments are increasingly focused on protecting this resource that has become data. In recent years, particularly in Europe, we have seen significant changes in the laws designed to protect personal data. We should also see such changes in Canada. In the United States, a record $5 billion fine was recently levied against Facebook for data privacy violations. Other recent cases in the newspapers highlight the real risks surrounding data leaks.

Governments: Increasingly Aware of the Value of Data

Governments are also more aware of the economic and strategic value placed on data. Many people are unaware of this, however export controls could apply to the export of technical data (and even electronic transfers), as well as certain products, including those that use cryptography. Similarly, the fifth-generation standard for mobile networks (5G) raises questions due to the ability to transmit data at a very high rate. It is likely the United States authorities will continue to strictly enforce their export laws and economic sanctions, which target strategic technologies or specific countries, individuals or entities, and which sometimes have extraterritorial significance.

Dominique Babin
Partner, Lawyer
—
T. 514 397-2675
E. dominique.babin@bcf.ca

The increasing use of *cloud* technologies does nothing to simplify the management of data transfers, so we can expect to see an increase in inadvertent violations if the rules are not clarified or simplified.

Business data from companies must be protected through technology solutions, contracts and business processes. In doing so, it is essential that companies are well equipped and advised in this regard. IT solution and system providers must therefore offer appropriate guarantees and compensation, in addition to applying standards that ensure the availability, integrity and confidentiality of the data entrusted to them.

Robots' Responsibility – Beyond Science Fiction

Revolution 4.0 also relies on the use of robots, some of which will use artificial intelligence. However, the Civil Code of Québec provides certain responsibilities of the custodian, manufacturer and distributor of a property for the autonomous act or lack of security of that property. What will be the impact of artificial intelligence on this liability regime? Of course, robots cannot be held responsible for the decisions they make, nor can they compensate victims! It will therefore be necessary to adapt the civil liability regime to take into account this new reality. For example, a compensation program such as the Quebec Automobile Insurance Plan could be put in place.

3D Printing Is Also Central to Industry 4.0

Not only does 3D printing allow for greater customisation of objects, it also reduces the need for inventories, the cost of logistics and lead times. However, companies must ensure that they do not infringe on any intellectual property held by third parties, for example in the form of patents or industrial designs on printed objects. In return, it will probably be very difficult to control and to prevent counterfeiting. Will new control mechanisms emerge? In our opinion, this will probably have to wait until 3D printing has a significant impact on the sale of spare parts.

An Industrial Revolution at Its Full Potential?

To reach its full potential and make our companies smarter, more efficient and more profitable, the Industrial Revolution 4.0 must involve a number of stakeholders who, historically speaking, have not been traditional partners. The rules to be implemented should foster a climate of trust and predictability, and be relatively standardised across most countries in order to promote the abolition of silos as well as the use of the best technologies.

The expected benefits of Industry 4.0 are worth the investment needed to create this climate of trust. In 2018, the manufacturing sector represented nearly 14% of Quebec's GDP and more than 89% of its exports.[1] However, the transition to Industry 4.0 is essential to the survival of manufacturing companies, and Quebec is lagging behind. By way of comparison, in 2017, 25% of manufacturers in Quebec identified them as 4.0 businesses, while this percentage was 55% in the United States and 75% in Germany.[2] A dynamic adaptation of rules and practices in the field should not only support, but also promote the inevitable shift that is essential to the survival of the manufacturing sector.

Role of Foreign Workers at the Heart of Canada's Strategic Innovation and Talent Plan

By: Julie Lessard,
Partner and Lawyer

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Role of Foreign Workers at the Heart of Canada's Strategic Innovation and Talent Plan

Innovation is about rethink, rebuild and grow. Innovation is a concept that has always existed, nourished by dreams, creativity and human talent. To date, Canada has implemented many programs and incentives to encourage direct foreign investment. The country also prioritized attracting global talent with a strong commitment to Canadian society, and these efforts generated positive results overall.

The Canadian plan launched by Employment and Social Development Canada (ESDC) includes several measures that are notably focused on increasing the number of professional, science and tech-related jobs to 40% of total employment opportunities. A skilled and competitive workforce is central to economic growth; there are multiple actions to be taken to build this skilled workforce. Whether it concerns education, training, entrepreneurship, promoting science or immigration programs, the goal remains the same: to develop a skilled, innovative and competitive workforce in Canada.

Immigration has a recognised demographic and social role, but these days it is also an economic force that no nation can afford to ignore.

The contribution of global talent to economic growth and innovation is undeniable. According to the Conference Board of Canada , at least 35% of Canada research chairs are the result of immigration, and nearly one-quarter of Canadian patents are held by foreign co-inventors. The same study also shows the contribution of immigrants to international trade as well as the attraction of direct foreign investment. The importance of diaspora networks is also growing.

For innovative companies, the ability to attract and retain the best talent is essential in order to compete against global rivals. Canada is well positioned on the world stage in terms of attracting foreign workers, particularly through the deployment of various immigration strategies facilitating the entry of skilled workers into Canada who bring value-added knowledge and know-how to Canadian companies. These efforts undoubtedly contribute to economic growth and the creation of better local jobs for Canadians.

The recent Global Talent Stream programme facilitates the arrival of certain temporary foreign workers, who are highly sought by innovative companies. Launched in 2017 as a Pilot Project, and made permanent in the most recent federal budget, this programme is central to the overall government strategy meant to help Canadian businesses of all sizes prosper. The goal of this programme is not only to attract the best global talent, but also to ensure skill transfer to Canadian citizens and permanent residents, and local jobs creation.

Julie Lessard
Partner, Lawyer
—
T. 514 397-2260
E. julie.lessard@bcf.ca

In brief, this programme allows high-growth innovative companies to benefit from fast track processing of work permit applications for certain highly skilled positions in two weeks instead of the few months that it often takes with the usual temporary foreign worker programme. The targeted positions include computer systems managers, computer analysts and consultants, software engineers and designers, interactive media programmers and developers, and database analysts. Expedited processing is also applied to underlying visa applications for foreign nationals who also require visas to enter Canada. This opportunity to recruit foreign talent much more quickly aligns more closely to the needs and reality of innovative companies and allows them to be more attractive and competitive in a constantly changing world where talent acquisition is a real challenge.

This competitive advantage allows Canada to stand out in North America, comparing favourably to the United States' immigration system, which imposes quotas and generally involves much longer processing times for the same type of workers. The Canadian system is thus becoming attractive not only to global talent, but also for foreign direct investment and the creation of R&D centres that will benefit from this facilitated access for the most skilled workers.

There are many benefits from the new programme to the Canadian economy. In particular, in return for the benefits provided under the programme, registered companies commit to creating local jobs and training their local workforce. Under the pilot project, those employers who have taken advantage of the programme, have already committed to creating 40,000 jobs for Canadian citizens and permanent residents, creating 10,000 co-op internships and investing over CAD $90 million in training.

Immigration is now at the heart of global economic strategy; Canada must seize the opportunity offered by the current global context. Fostering access to global talent for our innovative companies through programmes adapted to businesses and economic context is a tool available to global and local companies alike to succeed, pushing the limits of innovation and creativity beyond all borders.

Tech Trends of the Past and of the Future

By: Ilya Kalnish, Partner, Patent Agent and Trademark Agent,
Oleksiy Malashenko, Patent Agent, and
Gleb Shalabanov, Law Student

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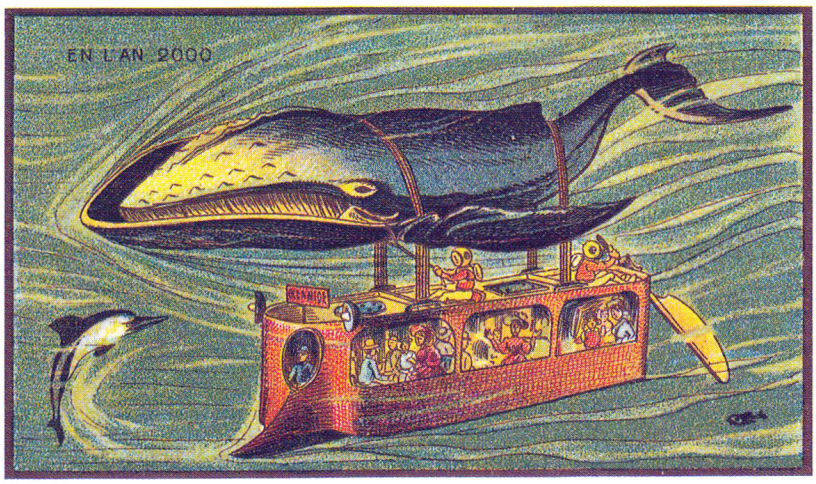
Tech Trends of the Past and of the Future

Over a century ago, a group of French illustrators, including Jean-Marc Côté, was tasked with producing an image series depicting technological advances that they imagined the mankind would achieve by the year 2000. Today, some of the predictions appear absurd to us, like a tram car strapped to the belly of a humpback whale, while others – not so much.

A careful observer, however, may notice a recurring motif in the futuristic illustrations: people dreamed of flying. The idea of a flying automobile was first introduced by Jules Verne in his 1904 novel, Master of the World. Later, in the early 40's, Henry Ford famously stated: "Mark my word: a combination airplane and motorcar is coming. You may smile, but it will come."

Will it really though?



A Whale-Bus

Mobility: Automation vs Flight

Cars that are being manufactured today are considerably more advanced than what was driven a decade, let alone a century ago. For instance, as self-driving software, LiDAR technologies and other detection hardware are being refined, capability and especially reliability of automated vehicles are dramatically increasing.

It is expected that in the near future, cars without a steering wheel or gas pedal will be the norm.

There are even levels to this "madness".

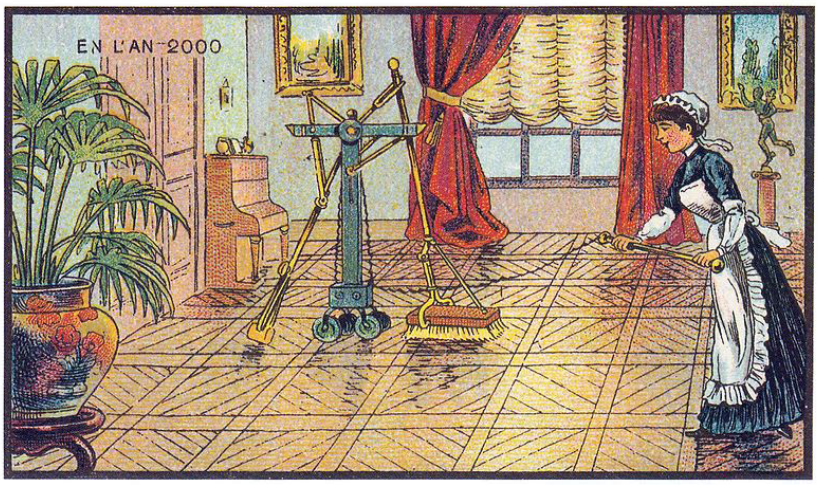
Automotive giants such as GM, Ford, Honda, BMW, and Volvo, just to name a few, foresee autonomous capabilities implemented by as early as 2020 and which range from *level 1 automation*, where only small steering and acceleration tasks are performed by the computer without human intervention, to *level 5 automation*, where vehicle movement is fully automated without any human intervention under all conditions.

When it comes to making cars fly, however, engineers have expressed some doubts. When presented with the idea, the CEO of Tesla, Elon Musk, responded that launching individual cars into the air is laughingly unrealistic: the noise and airflow that their engines would produce would make living in cities unbearable.

According to Musk, the plausible solution is to go down rather than up.

Underground tunnels can be dug at different depths and he believes the resulting 3D transport system would completely relieve traffic congestion. He believes in this concept so much so in early 2017 Musk founded *The Boring Company*, an infrastructure and tunnel construction enterprise, with the goal of alleviating current traffic limitations in the City of Los Angeles.

Another prediction made by the French illustrators was the idea of a "smart home". Our ancestors dreamed of equipping their residences with robotized machinery that responds to the needs of the occupants. The technology would make the home more comfortable and secure, implement convenient solutions to everyday problems and provide entertainment for owners and guests alike.



Electric Scrubbing

Internet of Things: The Web of Tomorrow

The concept of a fully smart home, at one time only encountered in science fiction, has moved closer to realization in recent years. Smart speakers like the Amazon Alexa, Google Home and Yandex Station utilize a plethora of

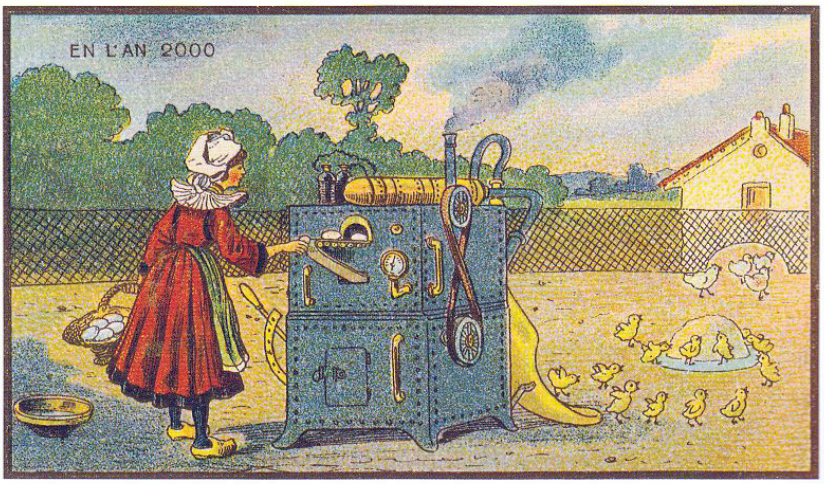
These technologies are being developed at such a fast pace that it is believed that in just a few years it will be difficult to discern whether one is speaking to an ASR engine or with another human being.

newly developed Automatic Speech Recognition (ASR) techniques and machine learning algorithms that enable these devices to understand and respond to voice commands for accomplishing a variety of tasks. Some of them pertain to simple control of home ambience (e.g., lights and temperature), while others, more advanced tasks, pertain to control of other electronic devices, provision of scheduling and entertainment options, voice-based search engine querying, and much more. Leading companies are filing a large number of patent applications related to voice-based interfacing with smart devices, which is a strong predicter of next generation human-machine interactivity.

These technologies are being developed at such a fast pace that it is believed that in just a few years it will be difficult to discern whether one is speaking to an ASR engine or with another human being.

Although they are not domesticated robots *per se*, all of these devices make it easy and convenient for occupants to automate everyday tasks and the inevitable widespread adoption of these smart technologies, which enable seamless connectivity among local and remote devices and applications, and fueled by customer demand will shift society towards a new era of domestic living.

On a more controversial note, our ancestors, very much alike modern selves, have been fascinated with the idea of becoming Gods. We are not talking about becoming Gods in a Judeo-Christian sense, but rather in a Nature-Controlling sense. As seen in the image series in question, the illustrators have imagined intensive breeding methods as being achieved by the year 2000, something seemingly similar to what we refer to as cloning.



Intensive Breeding

Homodeus: Genetics and Human-AI Interface

A field currently displaying high potential for advancement is genetics. If this somehow eluded you, we are now empowered to perform gene editing, which is an agglomeration of techniques allowing for human genes to be edited through the insertion, deletion, modification or replacement of DNA sequences. Gene editing can be carried out for various reasons, but mainly to prevent or even cure certain diseases.

Gene editing is a controversial subject which will surely become more prevalent in the future.

Ilya Kalnish

Partner, Patent Agent, Trademark Agent

—

T. 514 787-2789
E. ilya.kalnish@bcf.ca

Oleksiy Malashenko
Patent Agent

—

T. 514-787-2787
E. oleksiy.malashenko@bcf.ca

Gleb Shalabanov
Law Student

—

T. 514 397-2642
E. gleb.shalabanov@bcf.ca

Many take issue with the morality of genetically altering humans. Is it "*right*" for a parent, solely on the basis of their theological stance, to avoid screening their child for potentially life-threatening diseases that can be cured or prevented, or is it "*wrong*" for the same parent not to perform the necessary procedures for preventing or curing their child while being in possession of the essential tool in their toolkit?

Same goes for ethics. Is it "*right*" to allow genetically-induced enhancement of our physical capabilities in sport competitions, or is it "*wrong*" not to allow athletes to compete in newly-required divisions if they willingly so-choose to enhance their performance?

That being said, alteration of the human genome can present serious risks to early adopters. Among many other dangers, gene editing may cause unintended consequences for the patient or their offspring. For these reasons, currently gene editing is effectively banned in many countries of the world, including the US and most of Europe.

If you think gene editing opens the Pandora's box, the subject of our next topic could break it altogether.

What the French illustrators certainly could not predict is the ongoing merger between Human and Machine. For example, researchers from Germany and Korea are developing a mind-powered exoskeleton – a robotic device fitted around one's hips and legs – that would allow people who suffered severe spinal cord injuries, or people with neurodegenerative diseases, like Amyotrophic Lateral Sclerosis (ALS), to walk again. In fact, a lot of research is being done to develop technologies that help people regain control over their movements through a combination of robotics and brainpower (formally known as brain-computer interface control systems). Some of these systems work by having microware implanted in the brain which is configured to record electrical signals produced by neurons. Other electronic components are then used on top to amplify, filter and broadcast the signals, producing motion data that can be fed into a processor coupled to the exoskeleton for enabling human-desired movement.

In a distant future, humanity may become even more deeply connected with machine than what was previously discussed in the former section of this work.

In 2016, Musk introduced his new project – Neuralink. The company aims to effectively merge human brains with artificial intelligence (AI), where the latter would serve as an additional cognition layer for radically increasing our cognitive abilities. Eventually, the goal is to increase the bandwidth, or simply the rate of data being exchanged between brain and computer.

We are aware that some of our own ideas of the future may not end up materializing. After all, we are not much different from our ancestors. Nevertheless, other technological developments and scientific discoveries that are beyond even our wildest dreams may be right around the corner.

As Carl G. Jung once said: "Until you make the unconscious conscious, it will direct your life and you will call it fate." It is therefore imperative for us to strive forward while consciously acknowledging the immense power and capability of human ingenuity in order not to suffer a fate not worth mentioning.

What About the Name of Your Innovation?

By: Johanne Auger,
Partner and Trademark Agent

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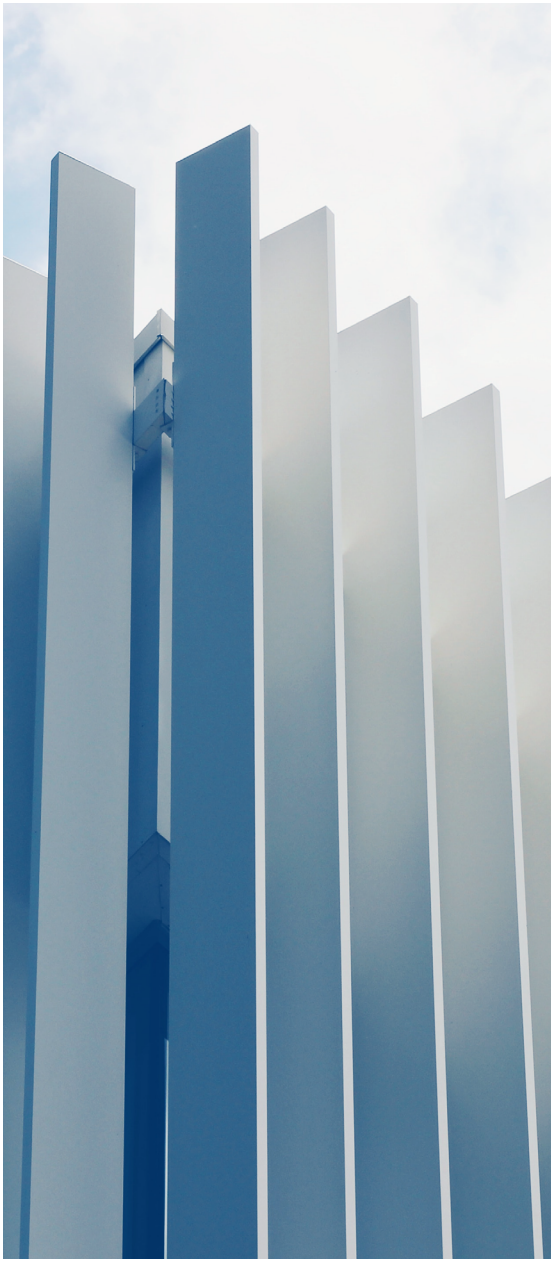
What About the Name of Your Innovation?



You have innovated and intend to work your way on the market. Good. Your innovation will undoubtedly have a name. Are you sure it's available? Here are some precautions to take into account when it gets to trademarks and domain names, earlier than later.

You have possibly carefully chosen a name under which your innovation will be marketed. The name may correspond to the name of your business or may specifically designate the products and services you are getting ready to launch. It elicits exactly what you had in mind, and you are proud of it. Obviously, you researched this name online to make sure no one else was already using it. Now, you're ready to launch! But are you really?

Although searching the Internet to make sure the name isn't being used already is recommended, the fact that you have not found anyone else who is using that exact name does not suffice. To avoid infringing on third-party rights, you also need to check whether the name you've chosen is available.

In fact, the name with which you choose to identify your business, products, or services is a trademark, and it can only be rightfully used if it is not at risk of being confused with third-party trademarks (registered or not) and business names that are already being used in the same line of business.

How Can You Assess the Potential for Confusion? The Main Factors

It is simply not sufficient that the exact name you chose isn't being used, or is spelled differently than a registered name. There are other factors to be considered when assessing the potential for confusion between the name you've chosen and existing business names or trademarks, including **similarities in terms of visuals, phonetics,** and **suggested ideas, in addition to the activities, products, and services targeted** by the business and any related businesses.

For instance, the MILLENIUM brand (fictitious example) can co-exist as both a door and window repair, as well as an accounting service, because these are completely different sectors. However, MILLENIUM, as an accounting service, would not be able to co-exist alongside MILEÜM, NULLEMIUN or MILLENAIRE for cloud computing services.

Check the Availability of the Name as Soon as Possible

It is important to make sure your name is available, ideally before you start to use it, but even after you've started using it if you neglected to do so earlier.

In fact, the more widespread a name's use is, the more third parties are likely to hear of your existence and object to your use of the name, as it might infringe on their rights. Accordingly, these parties could initiate legal proceedings to force you to stop using the name, and they could also claim any damages you've caused or the profits you've generated.

Performing an availability search costs very little, especially compared to the costs and problems involved in having to change your name. Formal legal demands, legal proceedings, removal of all material in circulation, making changes to your website, choosing and rolling out a replacement name – not to mention the stress, time, effort, and needless expense associated with the entire process – these are the last things your business needs while you're trying to carve out your space in the market.

What Are Your Target Areas?

It is therefore paramount for any innovating company, regardless of its size or line of business, to verify the availability of its trademark sooner rather than later. You must act in accordance with your marketing strategy, both in terms of products and services to be offered, and in terms of the geographic area of your target market.

In fact, the rights to a business name or trademark are territorial in scope, that is to say, dependent on country or jurisdiction (such as the European Union, which currently includes twenty-eight (28) member states). Indeed, your thought process and the steps you take to verify the availability of your trademark must necessarily consider your marketing plans over the short- and long-term (3 to 5 years) for the geographic markets where you expect to operate, because a name that's available for use in Canada will not necessarily be available in the United States, the European Union, Mexico, China, or Russia. Determining the availability of your trademark abroad must, among other things, take into account the fact that each country or jurisdiction has different legal rules. For example, certain countries will grant trademark rights to the first user, while others will grant them to the first applicant.

It is also important to distinguish the act of registering a business name with the Quebec Enterprise Registrar from the concept of using and registering a trademark for the same name. Unfortunately, a business name registered with and authorized by the Quebec Enterprise Registrar provides no guarantee that you will be able to use the same name as a trademark. In fact, the legal effects and principles applicable in this situation are distinct and the searches performed by the Enterprise Registrar are cursory. Accordingly, a corporate or business name that has been registered in the Quebec Enterprise Register does not give you carte blanche to use that name in Canada in connection with all activities, products, and services the business intends to deal in.

Johanne Auger
Partner, Trademark Agent
—
T. 514 397-6721
E. johanne.auger@bcf.ca

Ultimately, you must exercise great caution. Among other things, this means verifying and making sure that the name you are hoping to use, and potentially register for your business, products or services, is available as a trademark.

Your Domain Name Guarantees Nothing!

Contrary to popular belief, registering a domain name for your business provides no right to the name as such. Although a domain name might be available to be registered, that does not mean that the name in question can be used freely in the marketplace without infringing on third-party rights.

In short, you must verify the availability of your name and trademark as soon as possible. Performing this due diligence will spare you tremendous costs and inconveniences of all kinds. This verification must consider a range of factors that, once covered, will provide you with the level of comfort required to roll out the name you've chosen. It will also allow you to obtain the protection you want (and should have!) in accordance with your marketing and expansion plans.

Please do not hesitate to contact our team of trademark specialists who already assist a large number of innovating companies across a wide range of business sectors. They will be more than happy to help you make sure your trademark is available to be used, and potentially registered, in Canada and abroad.

Where Does Québec Stand in Terms of Privacy Class Actions?

By: Shaun E. Finn, Lawyer, and
Danielle Miller Olofsson, Chief Privacy and Knowledge Officer and Lawyer

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Where Does Québec Stand in Terms of Privacy Class Actions?

Although the existing case law remains limited, privacy class actions in Québec are on the upswing. Major data breaches that have occurred over the course of 2019 have each given rise to applications for authorization (certification).

Furthermore, the existing case law imposes a relatively modest burden at the authorization stage: that of alleging that the cyberattack, data breach or communication of personal information complained of constituted a fault (or infringement) that caused the applicant to suffer compensable harm.

The Scope of Privacy Rights

In Québec, the right to privacy is explicitly recognized in article 5 of the *Charter of Human Rights and Freedoms* ("*Québec Charter*").[1] *The Civil Code of Québec* ("C.C.Q.") also provides at article 3 that every person has "the right to the respect of his name, reputation *and privacy*."[2] The rights to reputation and privacy are further described at articles 35 to 41 of the C.C.Q.

Section 10 of Québec's *Act respecting the protection of personal information in the private sector* (the "*Private Sector Act*") states that "[a] person carrying on an enterprise *must take the security measures necessary to ensure the protection of the personal information* collected, used, communicated, kept or destroyed."[3]

Section 63.1 of the *Act respecting access to documents held by public bodies and the protection of personal information* is substantially similar.[4]

Although these statutes do not provide a personal right of action to claim damages in the event of a statutory infringement, such an infringement could be invoked in the context of an extra-contractual claim brought under the general liability regime set out in article 1457 of the C.C.Q.

The Seven Principles Drawn by Québec Courts

Alleged infringements involving large numbers of people, such as a cyberattack, a major data breach or the unauthorized communication of personal information, can – and usually will – result in a class action brought pursuant to the Québec *Code of Civil Procedure* ("C.C.P.").[5]

Québec courts adopt a flexible approach to the authorization of class actions. In *Infineon Technologies AG v. Option consommateurs*, the Supreme Court stated that "[w]hen undertaking an analysis with respect to the authorization of a class action, it is essential not to conflate or confound

the authorization process with the trial of an authorized action on its merits. Each of these stages serves a different purpose […]."[6]

Québec courts have ruled on a number of authorization applications from which important principles can be drawn.[7]

1. **The fact that an organization has sent a notice to clients regarding a breach of privacy can be used by an applicant to demonstrate an appearance of fault.** In *Larose v. National Bank of Canada*, for instance, three portable computers were stolen from the Montreal headquarters of the National Bank of Canada. Shortly thereafter, the bank published a press release, which was followed by a letter to affected clients informing them of the theft and advising them to keep alert. The Superior Court of Québec noted that while the letter from the respondent did not necessarily constitute an admission in law, it did suggest that the proposed class action had a "good colour of right" that invited further analysis.[8]

   However, failure to inform its consumers or customers of a breach of their personal information could also justify the authorization of a class action, especially if the plaintiff is able to demonstrate that the breach had the effect of increasing the damage suffered or incurring additional damage.

2. **Allegations that personal information has been put at unnecessary risk can also be enough to demonstrate an appearance of fault.** In *Mazzonna v. DaimlerChrysler Financial Services Canada Inc.* and *Belley v. TD Auto Finance Services Inc./ Services de financement auto TD inc.*, which were based on the same incident, the Superior Court in both cases found that the applicants had demonstrated an appearance of fault by making a *prima facie* demonstration that the respondents did not meet their obligations to safely store and transfer personal information.[9]

3. **An organization's failure to meet its own internal security requirements can also be used to demonstrate an appearance of a fault.** In *Sofio v. Organisme canadien de réglementation du commerce des valeurs mobilières (OCRCVM),* the respondent admitted in a notice sent to the individuals concerned that the lost portable computer containing personal information on approximately 50,000 clients of brokerage firms was only guarded by one level of protection, even though their internal policies prescribed two levels of protection. The Superior Court, while it did not comment on this fact, found that the low burden of demonstration of an appearance of fault had been met.[10]

4. **Although allegations of actual identity theft and/or fraud stemming from the loss of personal information are not essential to demonstrating compensable harm, they often play an important role.** For example, in *Larose* it was alleged that the identity of applicant Larose had been used by an unauthorized third party to obtain a loan and a number of credit cards.

   Likewise, in *Belley*, the applicant alleged that he was the victim of identity theft and that four vehicles had been purchased by a fraudster using a "void" cheque from his bank account remitted to a Chrysler dealer. In both cases, the Superior Court found that the applicant had successfully demonstrated an appearance of harm.[11]

Shaun E. Finn
Lawyer
—
T. 514 397-6899
E. shaun.finn@bcf.ca

Danielle Miller Olofsson
Chief Privacy and Knowledge Officer, Lawyer
—
T. 514 397-4573
E. danielle.millerolofsson@bcf.ca

5. **Allegations of actual moral damages, absent allegations of identity theft or fraud, can also be sufficient to demonstrate compensable harm. But it is imperative that the allegations be sufficiently detailed.** In *Sofio CA*, the Québec Court of Appeal noted that the applicant alleged three forms of harm: (i) stress; (ii) time spent monitoring his bank accounts, credit card statements, and mail more carefully; and (iii) time spent obtaining credit monitoring services from Equifax and TransUnion (paid for by the respondent). According to the Superior Court, these did not constitute sufficiently detailed allegations of harm.[12]

   More recently, in July of 2019, the Superior Court dismissed a data breach class action in *Bourbonnière v. Yahoo! Inc*.[13] In this case, the applicant sought "to institute a class action on behalf of all persons residing in Québec whose personal and/or financial information was stolen from the Defendants as a result of cyberattacks which occurred after January 1, 2013."[14] The applicant also wanted "to represent all other persons, businesses, entities, corporations, financial institutions or banks who suffered damages or incurred expenses as a result of the data security incidents."[15] The Court refused to authorize the class action since the applicant failed to demonstrate having suffered any compensable harm and therefore the existence of an arguable case as "The law does not recognize upset, disgust, anxiety, agitation or other mental states that fall short of injury."[16]

6. **Mere allegations of potential harm are not sufficient to justify the authorization of a class action.** In *Mazzonna*, the applicant alleged that the respondent's negligence caused her injuries, including "anxiety, inconvenience, pain, suffering and/or fear due to the loss of their personal information. Referring to the decision in *Larose*,[17] the Superior Court underlined that the applicant's allegations of potential harm should not be taken into consideration when assessing the *prima facie* existence of injury at the authorization stage.[18]

7. **The period of time that elapses between the loss of personal information and identity theft and/or fraud can be taken into consideration when assessing causation.** In *Belley*, even though some facts pointed to a cause other than the loss of data for the identity theft alleged, the Superior Court decided that the very short space of time between the loss of the data and the incidence of identity theft was sufficient to establish "an arguable case for the [applicant]" at authorization.[19]

The costs and uncertainties of class action litigation – not to mention the legal disclosures, slumping stock price, and tarnished reputation which can follow in its wake – underscore the importance of proactive institutional planning when it comes to the collection, storage, communication, and securing of sensitive data and personal information.

BCF has specialized teams dedicated to Privacy and Data Protection and Class Action Defence that can advise you on these issues regardless of your industry or the legal circumstances in which find yourself. The authors are currently writing a book on privacy class actions in Canada for Thomson Reuters.

About BCF

With more than 500 employees and 275 professionals, BCF Business Law is the go-to firm for business leaders, growing companies, and well-established global enterprises that have chosen Quebec and Canada as a stepping stone to growth and success. Our entrepreneurship not only distinguishes us from the competition but has earned us the recognition of one of *Canada's Best Managed Companies* for the 12th year in a row.

BCF understands its clients' business which makes us the ideal partner for ambitious startups, well-established private and public companies, investment bankers, venture capital and private equity firms. BCF's pragmatic and forward-thinking solutions turn clients' dreams into viable and innovative businesses. Our relentless pursuit of excellence has earned BCF the trust of companies in all sectors of activity throughout Quebec, Canada and the world.

MONTREAL

—

25th Floor
1100 René-Lévesque Blvd. W.
Montreal, Quebec H3B 5C9
T. 514 397-8500
F. 514 397-8515

QUEBEC CITY

—

Complexe Jules-Dallaire, T1
2828 Laurier Blvd., 12th Floor
Quebec City, Quebec G1V 0B9
T. 418 266-4500
F. 418 266-4515

Notes

Different Legislative Approaches to 5G

[1] https://www.fcc.gov/document/fcc-facilitates-wireless-infrastructure-deployment-5g

[2] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L_.2018.321.01.0036.01.ENG

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[1] CIFAR Pan-Canadian Artificial Intelligence Strategy, https://www.cifar.ca/ai/pan-canadian-artificial-intelligence-strategy.

[2] Brittany Shoot, *MIT Is Investing $1 Billion In New College With Computing, AI Focus* (Oct. 16, 2018), https://fortune.com/2018/10/16/mit-college-computing-artificial-intelligence-billion-dollars/.

[3] Gabriela Barkho, *Funding for Artificial Intelligence Startups Reaches Record High in 2019* (July 26, 2019), https://observer.com/2019/07/artificial-intelligence-startups-funding-record-high-2019/.

[4] World Intellectual Property Organization, *WIPO Technology Trends 2019: Artificial Intelligence*, https://www.wipo.int/edocs/pubdocs/en/wipo_pub_1055.pdf.

[5] World Intellectual Property Organization, *WIPO Technology Trends 2019: Artificial Intelligence*, https://www.wipo.int/edocs/pubdocs/en/wipo_pub_1055.pdf.

[6] Michael Guta, *Is it any Surprise who is Buying all the AI Tech Startups?* (Feb. 16, 2019), https://smallbiztrends.com/2017/12/most-artificial-intelligence-startup-acquisitions.html.

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[1] Baromètre industriel du Québec, STIQ, 10th edition

[2] Study published by the Canadian Advanced Technology Alliance « Le secteur manufacturier avancé – Enquête sur l'automatisation du secteur manufacturier au Québec ».

Role of Foreign Workers at the Heart of Canada's Strategic Innovation and Talent Plan

[i] Conference Board of Canada study released 29 April 2018

Where does Québec stand in terms of privacy class actions

[1] CQLR, c. C-12.

[2] C.C.Q., art. 3 [Emphasis added.].

[3] QPA, s. 10 [Emphasis added.].

[4] RLRQ, c. A-2.1.

[5] CQLR, c. C-25.01.

[6] [2013] 3 SCR 600, para. 58.

[7] *Larose c. Banque Nationale du Canada*, 2010 QCCS 5385 (Que. S.C.), *per* Beaugé J.C.S. (authorization granted); *Mazzonna v. DaimlerChrysler Financial Services Canada Inc.*, 2012 QCCS 958 (Que. S.C.), *per* Lacoursière J.S.C. (authorization dismissed); *Sofio c. Organisme canadien de réglementation du commerce des valeurs mobilières (OCRCVM)*, 2014 QCCS 4061 (Que. S.C.), *per* Prévost J.C.S. (authorization dismissed), 2015 QCCA 1820 (Que. C.A.), *per* Bich, Savard and Schrager J.C.A. (dismissal of authorization confirmed by the Court of Appeal); *Belley v. TD Auto Finance Services Inc./ Services de financement auto TD inc.*, 2015 QCCS 168 (Que. S.C.), *per* Lacoursière J.S.C. (authorization granted), leave to appeal refused, 2015 QCCA 1255 (Que. C.A.).

[8] 2010 QCCS 5385 at para. 26 (Que. S.C.), *per* Beaugé J.C.S. [hereinafter "*Larose*"].

[9] 2012 QCCS 958 at paras. 24-30 (Que. S.C.), *per* Lacoursière J.S.C. [hereinafter "*Mazzonna*"]; 2015 QCCS 168 at paras. 54-55 (Que. S.C.), *per* Lacoursière J.S.C., leave to appeal refused, 2015 QCCA 1255 (Que. C.A.) [hereinafter "*Belley*"].

[10] 2014 QCCS 4061 at para. 34 (Que. S.C.), *per* Prévost, J.C.S. [hereinafter "*Sofio CS*"].

[11] *Larose*, at para. 26; *Belley*, at para. 66.

[12] *Ibid.*, at para. 18.

[13] 2019 QCCS 2624 [hereinafter "*Bourbonnière*"].

[14] *Ibid*, at para. 1.

[15] *Ibid*.

[16] *Ibid* at para. 38, citing *Mustapha v. Culligan of Canada Ltd.*, [2008] 2 SCR 114.

[17] *Larose*, at para. 27 [Emphasis added].

[18] *Mazzonna*, at para. 66.

[19] *Belley* at para. 61.

BCF

BCF Business Law
25th Floor
1100 René-Lévesque BLVD. W.
Montreal, Quebec H3B 5C9
T. 514 397-8500
F. 514 397-8515

BCF Business Law
Complexe Jules-Dallaire, T1
2828 Laurier BLVD., 12th Floor
Quebec, Quebec G1V 0B9
T. 418 266-4500
F. 418 266-4515

BCF Global
75, rue de Tocqueville
75017 Paris, France
T. +33 (0)1 44 17 14 14
F. +33 (0)1 44 17 98 99

bcf.ca