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# PROOF OF STAKE

## Blockchain Matters for Small and Medium Sized Businesses



Vital to Canada's prosperity and widely reputed as the engine of our economy, small and medium-sized enterprises (SMEs) remain competitive through their forward thinking ingenuity and innovative ideas. Will that entrepreneurial Canadian spirit tap into the blockchain for business trend to figure out if their line of business is compatible with blockchain? Can business owners cut through the hype to identify what blockchain might mean for their business?

At Miller Thomson, we are focussed on SMEs across the country. By proactively staying current and informed on the rapidly evolving developments in the Blockchain, cryptocurrency and smart contracts areas, our lawyers are actively providing guidance to business owners and their management teams. Working together with our clients, we have gained real world knowledge and experience. It is from this vantage that we have compiled the second edition of Proof of Stake.

With our multi-disciplinary strategic focus on Distributed Ledger Technology (DLT), Miller Thomson is expertly positioned to advise Canadian SMEs on the regulatory, legal and practical business implications of blockchain solutions. Blockchain-based transactions can and will transform every industry sector. We are all keenly aware that a blockchain, artificial intelligence, cryptocurrency, and IoT patents race is currently occurring. Our tech-savvy and business minded team of lawyers are prepared to help business owners, business families, as well as corporations navigate both legal and regulatory issues. We are there for our clients as they strategize and build a commercial advantage and address a range of specific concerns such as business risk, privacy and security.

Our team of business lawyers are here to help and look forward to working with you.

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# Chains and Links

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## Communications and Interaction Between Blockchains

By James Swanson, Special Adviser

The Internet had its beginnings as a redundant messaging protocol for the U.S. military, subsequently spreading to other areas of government and academia and ultimately around the world. While messages on the early network could rout around nuclear warfare, security was not a significant design element (if you were on the Internet in the early days, you were one of the approved user groups and therefore deemed to be OK).



asset. The Web, however, continues to be plagued with cyber security concerns and similar issues that make it a risky way to store or transfer anything of value.

As demonstrated by a few examples of the Web's current deficiencies: online repositories of information are routinely hacked, credit card and banking information stolen, our privacy destroyed, and sometimes even our identities appropriated; no information with any online presence is truly safe. Even the online repositories of law enforcement, academia, the military and government intelligence agencies have been compromised.

As a result, when it comes to transfers of actual value, the Web often fails to make the grade. Even simple money transfers or payments, particularly between countries, continue to require intermediaries such as banks, and remain slow, costly and unreliable at times.

If we could solve the Web's security issues, any digital asset could be safely stored, transferred or shared. Examples could include not only money, but things that are, or can be, digitalized, such as securities and financial instruments, but also things not always thought of as assets including, votes in an election, our identities, or health records.

Solutions are at hand. Blockchain technologies can solve a number of problems that have persisted on the Web, including double spending (where digital assets are copied, distributed, sold or "spent" more than once) and the lack of security in online databases and other stores or transfers of value.

Blockchain, or distributed ledger technology (DLT), is increasingly becoming a new layer over the earlier Internet and over the Web itself, and not just as Bitcoin or other crypto currencies.

New instances and applications of Web-based blockchain technologies are popping up almost daily, and trends to widespread adoption are increasingly apparent. The Nasdaq is using a blockchain-based technology, Nasdaq Linq, providing capitalization tables which businesses can use to manage shares in their companies. The Nasdaq has also tested its digital blockchain based shareholder voting system in Estonia, a nation which has also implemented distributed ledger technology to securely store more than a million of its citizens' health records.

In the early 1990s, the Web was introduced as essentially a new layer over the Internet's pre-existing protocols. Even with the introduction of the Web, security was not treated as a significant concern. In fact, the design of the Web treated every web page and online resource as equal.

The Web has evolved significantly since those early days, experiencing incredible growth in use and adoption, and it has dramatically changed the way we exchange information. That said, the Web continues to run on comparatively older protocols such as TCP/IP, which, although standard, accepted and universally used, still leave security as somewhat of an after-thought.

While we can use the Web and other Internet technologies to store and send (generally at virtually no cost) any kind of data imaginable including, text, emails, photos, videos, around the world in the blink of an eye, we increasingly want that information to include transfers of value. These transfers of value do not just include money and payments, but any kind of digital





## Approaches are emerging to deal with these issues

*Interledger* ([www.interledger.com](http://www.interledger.com)) is an open protocol which is being developed by a number of companies and contributors, as a part of the W3C (the World Wide Web Consortium) which is well known for similar activities with respect to the Web. *Interledger* is intended for the express purpose of sending payments across different ledgers, connecting banks, stock exchanges, digital wallets, payment networks, and so on. Open and effective protocols are what is needed to really unlock the potential of blockchains for commerce and consumers.

A new *Internet of Value*<sup>1</sup> may be arriving. With that will also come new and novel technological, social, business and legal issues, requiring new and creative solutions. It kind of feels like 1994 all over again. ♦



**Jim Swanson**

## ABOUT THE AUTHOR

**Jim Swanson** brings decades of practical experience in legal issues related to technology, intellectual property and new media. He enjoys helping clients to grow their business, deal with complex and leading edge legal issues and resolve disputes in a results-oriented manner. He regularly lectures at universities and conferences and is often sought out to educate boards of directors and government officials.

Blockchain-based platforms and services (such as smart contracts or applications of Artificial Intelligence) can eliminate intermediaries while still enabling trust in transactions between strangers. In addition, the costs and the amount of time required to conclude a transaction and secure transfers of value can be greatly reduced, in some cases to near zero.

Some initial efforts to develop blockchain platforms and solutions have focused on existing platforms built by third parties. For example, Ethereum, with its ability to allow programming and the operation of smart contracts, has been an early choice. There are, however, disadvantages to building on someone else's foundation and betting on its performance and scalability, while not having control. The other drawback to using a pre-existing foundation is that it may mean that you cannot have all the features you really need or want.

At this time numerous discrete blockchain platforms are coming online, operating in specific industries or addressing specific use cases, but often competing with each other. The result may be something like the early days of the railways when compatible gauges were not always used so rolling stock from one might not run on another. In the blockchain world, this means a bunch of discrete "silos" of distributed ledgers that are not necessarily capable of any interaction or communication. That said, most of these new blockchains are useful at least as far as they operate on their own. There is, however, increasingly a need for communication between disparate blockchains to allow the technology to do what it is truly capable of.



# ICOs and Token Offerings Disrupt Traditional Capital Raising

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By Derrek Fahl, Partner



The world's first Initial Coin Offering (ICO) can be traced back to 2013, when \$500,000 of "MasterCoin" coins were sold for 5,000 BitCoins. At the time, the term "ICO" didn't even exist. How times have changed. According to a report prepared by PwC, there were approximately 552 ICOs launched in 2017, raising just over \$7 billion. In the first half of 2018, there were 537 ICOs launched, raising more than \$13.7 billion. If the cryptocurrency bubble has burst, the market doesn't appear to have paid attention to it.

On reflection, there has not been a more successful capital-raising tool since perhaps the advent of crowdfunding; and for small businesses, especially small tech start-ups, there has been no better tool in history to raise capital than the ICO. ICOs and token sales have, in several ways, completely disrupted and truly revolutionized capital raising for companies in this space.

Below are four examples.

First, control of capital for ICO investments has shifted markedly away from big investment banks and back to individual investors. Historically, investment banks, private equity firms and the like aggregated capital from thousands of investors, and then a tiny (in relative terms) group of people decided how these funds would be deployed.

If you were an SME looking for capital, you would come, cap in hand, hoping to catch the eye of someone, anyone willing to invest in your company (almost regardless of the terms). Contrast that with the ICO marketplace, where big i-banks have to date been largely left out of these capital raises. Instead, companies make their pitches directly to the world at large, through white papers (or web pages) detailing their business case and offering and each individual decides whether or not to participate in an offering.

This approach represents a vastly different capital raising model than the historical “dog and pony shows” that inundate Bay Street and Wall Street boardrooms every day. Rather than seeking a single VC or other institutional investor, these blockchain-based start-ups are acquiring capital from hundreds, and often thousands, of individual token purchasers. In this sense, ICOs truly are crowdfunding 2.0.

Second, the investment world has become a much smaller place. In the ICO world, geography is almost meaningless, both to investors and to issuers seeking capital. It is not uncommon for token issuers to have, among their token purchasers, residents of 20 or even 30 or more countries.

On the flip side, an investor in Canada can look at offerings around the world. Under the “old” investment paradigm, it would have been virtually impossible for an individual investor to even know about, let alone invest in, a private Estonian digital wallet company. Now, it can happen with ease. Think about the power of that

for small business. Regardless of where you’re located, you can reach investors everywhere. Your ability to raise capital is based on your idea, not geography.

Third, these token offerings are marketed, bought, sold and, perhaps most significantly, resold in an almost completely decentralized and unregulated manner. Securities regulators, especially in North America, are fighting the good fight, trying to force these new assets and capital raising activities into their historical rules and policies. However, the “square-peg, round-hole” analogy is nowhere more pronounced in securities regulation than in regards to the application of securities rules to ICOs. The result is a significant disconnect between the desires and expectations of, on the one hand, market participants and, on the other hand, regulators.

It goes without saying that some form of regulation is necessary to manage the marketplace and to weed out the bad actors. However, the old “process” is largely being rejected, especially in terms of investors’ ability to trade these tokens on secondary market exchanges. In this regard, the investing public far prefers liquidity and, as such, seems quite willing to let the marketplace regulate the resale of tokens in place of the securities law-based regimes. According to CoinMarketCap, millions of cryptographic tokens with a monetary volume exceeding \$10B USD are traded on the secondary market **every day**. There is a demand for liquidity outside of traditional stock exchanges, and the token secondary market has re-shaped the world as compared to traditional private placements, which are virtually illiquid.

Fourth, the use of smart contracts on a blockchain has given rise to what is being called the “token economy”. This term is a broad one meant to capture the notion that anything – any security, any asset, indeed, anything at all – can be tokenized. And if something can be tokenized, it can be owned in a fractional sense. Anything from real estate to fine art can be subdivided into infinitesimal pieces, each such piece represented by a token that can be owned and traded independent of others (all immutably recorded on the blockchain). This tokenization allows companies an alternative to traditional debt or VC financing as a means to unlock or monetize anything they have of value, from software to intellectual property to, as noted, tangible property and assets.





There are companies today creating and selling tokens that represent tiny fractional interests in high end rental units all over the world. Indeed, the ICO concept, for perhaps the first time ever, allows a direct line between companies seeking capital and the world at large; and if the statistics noted at the outset mean anything, both ICO issuers and token buyers are enjoying this new method of raising capital.

In the end, so many “traditional” private company capital raises are beset by the very problems these disruptive ICOs overcome:

- (i) the control by the intermediaries, be they investment or regulatory;
- (ii) the narrow scope of the investor pool;
- (iii) the cost of regulatory compliance; and
- (iv) illiquidity.

The cumulative effect of these problems made it difficult, often to the point of being impossible, for SME’s to raise capital using traditional means. The ICO world, however, has created a faster, cheaper workaround to these issues that, in less than two years, has gained solid placement in the capital raising marketplace. ♦



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## ABOUT THE AUTHOR

**Derrek S. Fahl**, is Partner in the Corporate M&A and Capital Markets Specialty Group who prides himself on creativity in problem solving. He works primarily in blockchain and cryptocurrency, mergers and acquisitions, securities law, corporate governance and secured lending transactions.

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## Is your company contemplating an ICO?

### *How ready are you?*

**Take the ICO Readiness Test to find out. This test consists of a review and analysis of ten key criteria resulting in a customized report and score. It is an economical first step to help determine your company’s ICO compliance and readiness for market.**

**Contact Partner Derrek Fahl for more information.**



# Blockchain: A SME Solution to Regulatory Burdens?

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By Alexis Evdoxiadis

Employing 60% of Canadians, small to mid-sized enterprises (SMEs) are undeniably the foundation of the national economy. However, they face significant headwinds. According to the Canadian Federation of Independent Business, compliance with regulations costs SMEs a conservatively-estimated \$31 billion annually – 45% more per employee than the United States. To large enterprises, these costs may mean relatively nothing. To a small business, they can mean everything.

An issue with broad economic impact, Canada isn't just reliant on SMEs for employment, but as risk-taking drivers of growth and innovation. However, the small scale that makes them essential to the economy leaves them open to disproportionate burdens from fulfilling the same reporting rules – now often international in origin – as large enterprises. When it comes to compliance, SMEs suffer from asymmetric impact. Can blockchain technologies help reduce these burdens and level the playing field?

A successful trial on blockchain for regulatory reporting by the Government of Ireland and industry leaders suggests 'yes'. Cryptocurrencies still dominate the headlines, but the underlying framework of blockchain provides a transparent, unalterable chain of verification, with potential benefits for some of SMEs largest 'red tape' expenses.



### Traceability

Demonstrating provenance of assets and a complete chain of custody to regulators are critical for industries like pharmaceuticals, agriculture, manufacturing and logistics. Blockchain can provide a full accounting of an asset's history, including inspections. It can also protect against counterfeiting and reveal evidence of tampering, an especially important issue in consumables.

#### Early adopters:

Penske Logistics, Carrefour, DuPont, Dow Chemicals



### International Trade

More than 70,000 of Canada's exporting businesses are SMEs, and a single shipment can involve up to 200 communications documents. In addition to asset verification that can reduce extensive, redundant inspections and reconciliations, blockchain can smooth international trade through the use of unified platforms and 'smart contracts' that deliver full packets of relevant data. These provide compliance assurance to both the vendor and client, reducing administrative and accounting costs.

#### Early adopters:

Maersk, Walmart, Amazon, UPS



### Data Security

The encryption that forms an essential component of blockchain allows users to monitor data for tampering and through requiring consensus, exclude altered transactions from the database. The transparency involved in the chain helps monitor security breaches and comply with client data protection policies.

#### Early adopters:

KPMG, Acronis Cyber Security, DARPA, Ericsson



### Identity Verification

'Know Your Client' (KYC) regulations like those by FINTRAC are growing more rigorous in an effort to combat money laundering, tax evasion and terrorism finance. Large administrative requirements and redundant information replication make current methods burdensome and expensive.

#### Early adopters:

Deutsche Bank, ING, ALD Automotive, Société Générale





Blockchain still has obstacles to widespread use, including the European Union’s General Data Protection Regulation (GDPR), which requires the ability to fully erase personal information. Despite this, the growth of blockchain in Europe continues. The use of permissioned blockchains and other methods of structuring sensitive data can preserve privacy while maintaining its advantages of transparency and security.

Major industries may be taking the lead; however, this is an accessible technology with minimal infrastructure requirements. Blockchain doesn’t have to be expensive or complicated to implement, and

smaller-scale businesses like cannabis production are already moving forward with adoption. Education, government support and industry engagement can all help to democratize blockchain’s benefits across manufacturing, retail and exporting industries.

Increasingly rigorous and globalizing regulatory systems will always have an asymmetric impact, but Canada’s SMEs may have a potent new tool to help them stay competitive. Not by resisting many inevitable forms of regulatory changes, but by gaining full control over an element that truly is under their domain – their own data management. ♦



Alexis Evdoxiadis

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**Alexis Evdoxiadis** is a Calgary-based writer and entrepreneur with a background in journalism and Political Science. Her focus is on exploring exciting new applications for emerging technologies including distributed ledger and machine learning. She serves as the Secretary of the YYChain which is a collection of industrial, government and academic stakeholders driving the development and adoption of (primarily) distributed ledger technologies.

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## ABOUT YYCHAIN

**YYChain Innovation Association** is a member-driven not-for-profit organization focused upon upgrading Calgary’s blockchain ecosystem from research, industrial and legal perspectives. Founded in 2018, YYChain acts as a keystone organization, drawing together the people and organizations from which new blockchain opportunities will emerge. YYChain works with its members to share opportunities and support a culture of trust inspired by the Rainforest.





# Intelligent Blockchain: The Intersection Between Blockchain and AI

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By Prof. Alexander Wong and Tai W. Nahm, Partner

Rapid advances in blockchain technologies have created explosive growth in the development of real world applications to harness their strengths in creating immutable records – such as in the fields of cryptocurrency, banking, finance, smart contracts, supply chain and others. However, with real world experience, it has also become apparent that these blockchain technologies have some inherent weaknesses, which if left unresolved could stifle progress and ultimately limit the extent to which blockchain technologies may be adopted.

This article discusses the intersection between artificial intelligence (AI) and blockchain technologies, and how these complementary technologies may be used together to overcome some of the inherent weaknesses of each.



As mentioned in the accompanying articles, blockchain technologies already have numerous real world applications and are being field tested for use in addressing serious problems, such as the issue of unreliable land title systems that, surprisingly, still exist in some parts of the world. However, as promising as blockchain technology is, it has also become apparent that the technology has inherent limitations.

One such limitation is the efficiency and scalability of a blockchain, as its distributed ledger grows ever larger with an increasing number of transactions. With each new block added to the blockchain, it may rapidly grow to become unwieldy. An illustrative example is a popular cryptocurrency with an ever growing blockchain, which has exploded to almost 200x its size of just six years ago. It utilizes a brute force approach to mining a new block by having multiple miners around the globe compete to solve complex mathematical problems to verify and confirm currency transactions, and to create a new block which can be added to the chain. With the ever growing size and the increasing number of transactions, the amount of computer processing power necessary to perform the mining task is so massive that cryptocurrency miners attempt to locate their data centres in locations with the least expensive electricity rates in order to be profitable.

Another limitation is the security and privacy of a blockchain, given that it is by definition a distributed technology, often having multiple endpoints at which the blockchain technology interacts with its users. In a typical blockchain application, an endpoint would be a computer node or device that interacts with the blockchain. While access to a blockchain typically requires both a public key and a private key strong enough to thwart hacking, the keys themselves are vulnerable to being stolen from a user's device at these endpoints.

Artificial intelligence (AI) technologies can play multiple roles in addressing some of the inherent limitations of blockchain technology. For example, in addressing the problem of scalability and efficiency of blockchain, decentralized AI technology could be employed to manage and improve the efficiency of the processing required to maintain a distributed ledger. As an example, an AI system overseeing a cryptocurrency blockchain could intelligently manage allocation of global processing resources required for mining, such that the mining process becomes more efficient and energy requirements are significantly reduced. AI technology could also manage who processes what, and effectively assign or restrict participation of miners in the mining process so that

it is not necessarily a winner-takes-all result with everyone else's effort being wasted.

Another way AI could be employed is to manage intelligently the growth of an ever-lengthening chain of blocks. While a key benefit of a blockchain is its immutable nature and the ability to maintain a record of every transaction, at some point, it is not necessary to keep every single transaction record since the genesis block is readily available. Rather, AI technologies could be employed to prune and archive the oldest records intelligently in order to keep the length and size of a blockchain manageable for validating nodes. AI technologies could also manage and help resolve any forks that may develop in order to minimize conflicts between two divergent paths that may develop.



With its powerful machine-learning capabilities, AI technology could also gather and analyze statistical performance data from the distributed blockchain network and use that analysis to maintain optimal performance of the blockchain over time. All of this is, of course, easier said than done, and the effective implementation and marriage of AI technologies and blockchain technologies will take years to develop and perfect. However, the potential for employing AI technologies to address some of the inherent limitations of blockchain is significant and makes this development effort well worth pursuing.



With respect to security and privacy of blockchain, AI technologies could monitor and detect anomalies in blockchain activities across the distributed nodes; and learn from this to make earlier detection of malicious activities possible. The AI could also be trained to take automated steps to thwart or contain the malicious activity. This enhanced blockchain security would then be able to reduce the inherent risks of a distributed network, thus enhancing trust in the blockchain. AI technologies could be used to crawl through a blockchain to identify illicit content or to analyze a chain of transactions for illegal activity. AI could be utilized to contain any illicit content, although this proposed use does raise some interesting technical and legal issues regarding how one can maintain the integrity of the blockchain while locking down illegal content.

Harnessing the power of both AI and blockchain technologies, and with the strengths of each helping to address the weaknesses of the other, the potential new applications and the problems they could help address seem endless. It will be fascinating to see what the marriage of both technologies will bring, both in the near future and beyond. ♦



**Prof. Alexander Wong**



**Tai W. Nahm**

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Finally, AI could be used to analyze data it collects as it crawls through a blockchain in order to develop a better model. For example, a blockchain used in the healthcare industry may contain records of patients and their health histories, including diagnosis, treatments and outcomes. While there are privacy concerns to be addressed, much could be learned from such data, which could allow the AI technology to identify better outcomes and recommend better treatments customized for each individual patient or group of patients (based on the similarities and patterns detected by the AI).



## Why blockchain?

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By John Dugdale, Co-founder

Blockchain, smart contracts, and decentralized applications are part of a new set of web-enabled technologies that are foundational to how we will use the internet in the future. Imagine a tomorrow where information and assets are shared online, without the need for a central authority to verify and secure the transfer. In the simplest terms, the internet itself ensures the secure exchange of an asset, be it a picture or a house or even a professional degree/certification.

This evolves current commercial business models that rely heavily on brokers, banks, and other middlemen who provide verification and clearance of transactions, into what is referred to as a “peer-to-peer” business model, where technology becomes the trusted system for verifying and clearing transactions between two or more “peers”, ie. a buyer and a seller. Outside of commerce, blockchain will be used to speed up the verification of anything that can be classified as an asset such as land titles, medical records, identity, degrees and certifications, copyrights, contract terms, etc. In all of those examples, blockchain becomes the “chain of truth” and a helpful tool for those who work in fields where double data entry and verification is a key part of their role. In doing so, it drastically reduces the time and cost related to those activities. It is for all of these reasons that blockchain is moving society away from using the internet for information sharing and towards relying on the internet for value and intelligence sharing.

Today, we already find ourselves surrounded by technology, regardless of the industry we work in. We don’t see blockchain in everyday life yet but we are seeing more artificial intelligence, robots, drones and sensors in both our private and professional lives. All of these make daily life easier by removing mundane activities from our schedules. The benefits they bring us has inspired TerraHub’s mission to grow the awareness necessary for professionals to understand blockchain and other emerging technologies, and how they can best support one’s role.

TerraHub is the exclusive Calgary blockchain company that provides awareness and education for professionals across a wide berth of industries. We feel strongly that learning together is empowering and that our exciting technical talent can make Alberta a hub for blockchain in both business and industrial settings.

Beyond education, TerraHub’s mission expands into turning the world’s most compelling blockchain ideas into transformative business applications. This work has taken us into agribusiness for product origin tracking and supply chain, oil and gas accounts payable and upstream operations, employee/contractor certifications, healthcare, construction and real estate development and leasing.

As a result of our work with both post-secondary institutions and industry, in 2018, TerraHub developed a blockchain Credential Wallet. Originally intended for post-secondary credential verification with distributed storage and sharing; interest in the Wallet quickly grew, for professionals and skilled trades. The wallet gives the holder instant access to their verified degrees, licenses and accreditations, along with the ability to instantly share this information electronically with an employer. The Wallet holder is in control at all times of who has access to this information.

Our work is just beginning, and we look forward to collaborating with those in the legal profession across all industries represented in Alberta for building foundational products and services in blockchain. ♦



**John Dugdale**

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# Canada's Trademark Law Amendments: A Long Gestation Period Brings the Promise of Much Needed Improvements

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By Catherine Dennis Brooks, Partner and David Schnurr, Partner

Whether a start-up, an established SME, or a multinational organization, trademarks are in many ways the face of the business. Canada's long-awaited trademark regime changes will come into force on June 17, 2019. As the changes will impact almost everything related to trademark registration in Canada, from the filing of an application through to renewal, it is important for businesses to take proactive steps now to prepare for the implementation of the new law that might offer cost saving opportunities as well as potential for broader rights in Canada and globally.

The federal government has, over the last few years tabled amendments to the *Canadian Trademarks Act* (CTA) and its regulations. On November 14, 2018 the new Trademark regulations were published in The Canada Gazette, Part II. The trademark regime changes represent the most significant changes to Canada's trademark laws in both substance and procedures since 1954.

The trademark amendments were designed to enable ratification and implementation of international treaties relating to trademarks, particularly the Singapore Treaty, the Madrid Protocol and the Nice Agreement. The amendments are also aimed at modernizing and harmonizing Canadian trademark law and practice with those of numerous other jurisdictions around the world, including substantial alignment with trademark law and practice in the European Union. These changes were necessitated in part by Canada's obligations under international trade obligations, including the Canada-European Union Comprehensive Economic and Trade Agreement (CETA).

The long, slow process leading to the implementation of Canada's new trademark regime has led to some positive developments that address the most highly criticized aspect of the amended legislation - the elimination of the requirement that a trademark be used, in Canada or elsewhere, in order to obtain registration of a mark in Canada.

Use has been a key component of the Canadian trademark system since the trademark legislation was first enacted in 1868. There was widespread concern directed toward the fact that there no longer would be a requirement to state a date of first use in an application or, in the case of "proposed use" applications, to file a declaration of use prior to registration. The registration process, although quicker and easier, would be fraught with uncertainty and higher costs for trademark applicants. This is because the change would make it more difficult to determine when (if ever) trademark owners started using a mark in Canada and therefore more difficult to assess which party has prior rights in a mark.

With first use date information no longer available on the Trademarks Register for applications filed after the new legislation comes into force, trademark owners will have to arrange for investigations regarding third party trademark use in Canada in order to assess the availability of a mark in Canada, or to assess whether to institute opposition or infringement proceedings. In this regard, a marked increase (perhaps two or

three-fold) in the number of trademark opposition filings is anticipated after the new legislation takes effect. The elimination of the use requirement has led to a deluge of filings by trademark squatters hoping for financial gain in anticipation of the new legislation.

A National Intellectual Property (IP) Strategy announced by the Federal Government in April 2018 addresses concerns regarding greater investigation costs and speculative filings by trademark squatters. In general, the IP Strategy is designed to improve awareness of intellectual property by Canadian businesses and to encourage creators, entrepreneurs and innovators to participate more actively in the intellectual property system and to actively protecting intellectual property through registration in Canada and abroad.

The *Budget Implementation Act, 2018*, No. 2 (Bill C-86) will implement the Strategy through further amendments to the *Trademarks Act*. Of note, Bill C-86 establishes new opposition and invalidation grounds to deal with trademark squatting, including for example, a new bad faith filing opposition ground. It also requires proof of trademark use in order to enforce rights in a trademark within the first three years after registration.

The announcement of these further changes is welcome as they address two significant concerns identified by trademark owners, practitioners and academics regarding the trademark regime amendments as they were first proposed in 2014. At this time, it appears likely that the implementation of the additional will be aligned with the June 17, 2019 in-force date of the new trademarks regime.

Some of the key changes that trademark owners should be aware of and may want to include in their current and ongoing intellectual property protection strategy include the following:

- **Filing and Prosecution Process and Requirements**  
Applications will not have to include dates of first use and the filing of a declaration of use will not be required for a mark to proceed to registration. New applications will have to comply with the Nice classification system which classifies all goods and services included in an application. Currently this can be done voluntarily. Existing registrations will have to be amended to include classified goods and services descriptions that comply with the Nice Agreement within six months of receipt of a CIPO notice and as part of the renewal process.



The definition of a trademark has been expanded and will result in protection of non-traditional trademarks such as colours, scents, tastes and moving images.

It will be possible to divide and merge trademark applications and registrations (for example, in order to push approved goods and services into publication phase, while maintaining disputed goods and services in active prosecution).

- **Registration Term and Renewals**

The new term of registration will be ten (10) years for registrations issued after June 17, 2019 and renewal requests will only be accepted within the six (6) months prior to the renewal deadline or the six (6) months after the renewal deadline. The term for registrations in existence before the coming into force date will remain at fifteen (15) years and will not be converted to a ten (10) year term until the next renewal deadline.

- **Fees**

The trademark application filing fee will be \$330 for the first class, plus \$100 for each additional class of goods / services. This is an increase from the current fee of \$250 for all goods and services, regardless of the number of classes.

The \$200 registration fee will be eliminated.

The renewal fee will be \$400 for the first class, plus \$125 for each additional class of goods / services. This is an increase from the current fee of \$350 for all goods and services, regardless of the number of classes.

- **International Applications**

Importantly, via the Madrid Protocol the new trademarks regime will enable Canadian applicants to secure trademark registrations around the globe without the need to effect filings in individual countries.



## Recommendations

In light of these changes, we recommend that trademark owners:

1. Review their trademark portfolio and adopt an aggressive filing strategy in advance of the 2019 in-force date to protect any marks that are not yet registered.

This approach will take advantage of the fact that there is currently greater certainty with respect to the availability of marks for use and registration in Canada and there is only one fee regardless of the number of goods and / or services covered by the application.

2. As the changes are expected to result in an influx of Canadian trademark application filings from applicants around the globe, it will be more important than ever to monitor new filings through a trademark watch service subscription in order to identify potentially infringing marks.
3. Renew registrations with renewal deadlines prior to June 17, 2019 to take advantage of the current 15 year renewal term.
4. Plan to use Madrid Protocol for future international filings. ♦



Catherine Dennis Brooks



David Schnurr

## ABOUT THE AUTHORS

**Catherine Dennis Brooks** is a Partner in the Intellectual Property Specialty Group and a registered Trademark Agent specializing in all aspects of trademark and copyright law. She assists clients in managing their domestic and international trademark portfolios through clearance and prosecution, licensing, opposition and cancellation proceedings, and enforcement strategy. Importantly, she brings considerable experience in transactional work involving intellectual property and commercialization of IP through licensing, distribution and development agreements.

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**David Schnurr** combines qualifications as a Registered Patent and Trademark Agent in both Canada and the U.S. with his extensive experience in business law to provide a full range of intellectual property and information technology advice to clients. Notably, David has prosecuted hundreds of patents and trademark applications around the world and manages significant IP portfolios for several global clients. A Partner in the Intellectual Property Specialty Group, David is a nationally recognized leader in the area of technology contracting covering a wide range of agreements.

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## Trademark Watch Service

As a result of Canada's new trademark law, having a watch service to alert you to newly filed and published applications will be more important than ever.

With the new changes, information on the use of trademarks will no longer be included in trademark applications, so filing will be easier and applications will proceed to registration quickly. Subscribing to Miller Thomson's Trademark Watch Service will alert you to trademark applications filed by others before they are registered so that you can oppose confusingly similar or infringing applications expeditiously.

Being aware of applications that you should oppose before registration allows you to avoid expensive and lengthy expungement proceedings in Federal Court. It also allows you to take action without waiting for the three year registration period before a non-use cancellation proceeding can be initiated.

Now more than ever, a Watch Service is an important part of your brand protection and enforcement strategy.

To learn more about Miller Thomson's Trademark Watch Service, contact any member of the Miller Thomson Intellectual Property Specialty Group.



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# From Branding to Blockchain

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By Wayne Logan, Partner



Branding cattle that is. While this article focuses on cows, blockchain technology offers benefits to most all food tracing agricultural industry participants. Blockchain can accurately track food through all stages of production, processing and distribution right to the consumer. Proper food tracing eliminates illegal or unsustainable food production practices and food fraud. Consumers are now requiring regulators and industry to do the right thing. As the physical commodity (cows in this example) moves along the supply chain, everyone on the network is linked together on that blockchain thereby bringing transparency, provenance, traceability and economic benefits.



Members of the agricultural industry are always looking for ways to better their businesses. Emerging companies should pay attention to the ways blockchain is sure to influence the habits of farmers and ranchers and make agricultural record keeping more efficient and increase revenue.

This article focuses on ranchers' current practises in data collection and livestock certification and how blockchain can be used to streamline these processes. We contacted two long-time beef ranchers to discuss industry practices and the potential applicability of blockchain to their family business.

## 20 Years, 200 Cows and 2000 Acres

Christine and Wally Lentz have been ranchers for over 20 years. On their 2000 acres in northern Alberta, they have raised three boys and become established members of their local farming community. Currently, they have 200 head of cattle. After years in the business, they have an eye to the future, which is likely to include blockchain.

## The Life of a Cow

From birth to death, the major milestones in a cow's life are recorded and certified using a variety of systems and databases.

When one of the Lentz family's cows gives birth, a Radio Frequency Identification (RFID) number is assigned and tagged to the calf and registered with Canadian Cattle Identification Agency (CCIA). This number details where and when the calf was born.

All owners of livestock have a government-issued premises ID, which is associated with their individual piece of property. In the event of a disease outbreak or natural disaster, the premises ID allows the government to locate potentially affected livestock and inform their owners.

DNA testing is used to trace back the lineage of purebred calves. This information is recorded in databases maintained by various purebred associations. Every time a bull mates with a cow, this is also recorded.

After birth, a cow may require several visits from veterinary professionals for vaccinations as well as treatments and medications for illness or injury. Records of these visits are not recorded in any public database but are kept privately by the rancher and the veterinarian.

Verified Beef Production Plus (VBP+) is a voluntary program used by beef producers who wish to be certified as meeting certain production standards. The VBP+ program also gives members access to different markets, which can lead to increased profits. After submitting paperwork, the ranch is inspected to ensure compliance with standard beef production practices and certification is granted. Records have to be regularly submitted to maintain the certification.

Whenever a cow is sold or transported, a 'manifest', is completed to record the details of the event. A manifest is a standardized document, issued by a government agency called Livestock Identification Services (LIS). Calves that will later be consumed as beef are generally sold to feed lots. These feed lots keep detailed production and health records in their own databases to ensure compliance with government regulations.

At the time of slaughter, the RFID number is retired from the CCIA database. At this point, any new records in relation to the beef are stored in databases other than those originally used by the cow's owner. Any further records are kept separately from the databases maintained by the cow's owners throughout its lifetime.

## What Blockchain Can Do

As it stands now, the Lentzes must navigate a maze of systems to track each of their 200 cows. Along the way, systemic inefficiencies mean they are losing both time and money, precious commodities on any ranch. When every participant in a cow's life is keeping private records, opportunities for inaccuracies and even fraud are created due to a lack of inter-party awareness and accountability.

Blockchain can be used to more efficiently and effectively keep track of records and certifications for livestock. The multitude of separate databases would be streamlined into a single, easily manageable accessible blockchain system to be updated throughout a cow's life by ranchers, veterinary professionals, transporters, purchasers, feed lot employees and slaughterhouse operators.

Blockchain uses a peer-to-peer (P2P) verification process, which addresses any concerns about data-tampering and accountability by requiring that each authorized party on the blockchain verify and certify any changes before they are made and hosted on the blockchain. The verified information can then be reviewed by third parties, including consumers, on a public blockchain.

Blockchain is easy to use. Like any other business, time is money on a ranch, meaning simplicity is key for data collection and storage. The processes behind blockchain all occur behind the scenes and its added benefits do not add complexity to record keeping. Ranchers like the Lentzes can rest assured that using blockchain technology will only make their work easier, simpler and more profitable.

## An Eye to the Future

Current trends in the agricultural industry are already moving towards integrated, publicly accessible databases. The Beef InfoXchange System (BIXS) is a database that compiles detailed data entered by users throughout a cow's life, which potential buyers can then access. This style of data collection provides a template for the future of blockchain in agricultural recordkeeping.

The complex process of recording the milestones in a cow's life demonstrate how current practices for agricultural record keeping are flawed. With the introduction of branding, cattle ranching was forever changed; now, it is blockchain that will quietly revolutionize the agriculture industry.

We know emerging companies are developing and commercializing agricultural blockchain technologies. Miller Thomson understands all aspects of the agriculture sector and has the expertise to assist not only emerging companies but family enterprises as well. ♦



**Wayne Logan**

## ABOUT THE AUTHOR

**Wayne Logan** is a Partner in Miller Thomson's Business Law Practice. Wayne leads the firm's focused area of Blockchain, Cryptocurrency and Smart Contract and is also co-leader working in the areas of Entertainment and Media Law. His practice encompasses Intellectual Property, corporate/commercial, entertainment and Blockchain technology law.

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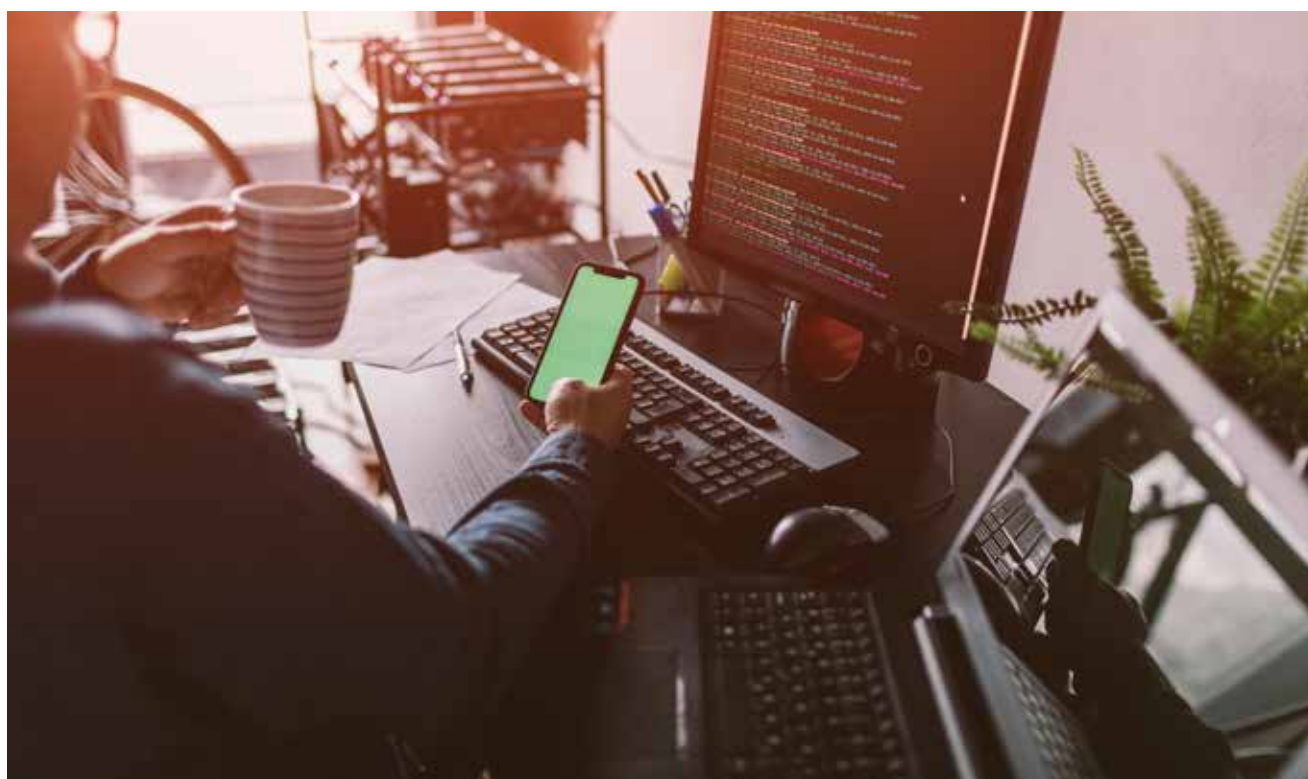
Miller Thomson Law Students **Alissa Ricioppo** and **Steve Rehak** supported research and editorial development.



**Christine and Wally Lentz**

## ABOUT THE LENTZ FARM "C BAR RANCH"

C Bar Ranch is owned and operated by the Lentz family at their home near Whitelaw, AB. Christine and Wally have been ranchers for 27 years. They currently have 200 mother cows in what is primarily a Black Angus herd. C Bar Ranch follows a natural beef program; the Lentz family does not use implants and they are Verified Beef producers.



# Simplified Agreement for Future Tokens (SAFT): an unexpected case of taxation

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By Marc Richardson Arnould, Partner

Almost every business, at some point during its life cycle, will require third party capital to grow and expand. The financing options traditionally available to business owners are debt, equity, or a combination thereof (e.g., a convertible debt instrument).





For some businesses, however, there may now be a viable alternative to these traditional sources in the form of the Initial Token Offering (ITO). However, the direct sale of tokens to subscribers by way of an ITO can be quite costly.

As a means to this end (i.e., to finance the ITO), an issuer could enter into a simplified agreement for future tokens (SAFT) with accredited investors pursuant to which the issuer, immediately upon signing the agreement, receives funds from an accredited investor in consideration for the future delivery of functional tokens once the compatible platform/network becomes operational. In essence, a SAFT is akin to a prepaid (commodity) forward agreement. The question is then: how are SAFT proceeds to be taxed to the issuer?

## The SAFT: demystified

A SAFT is a promise made by a prospective issuer to an accredited investor for the future delivery of functional tokens in consideration for immediate payment by the latter of a fixed (discounted) price. More specifically, the transaction consists in an initial sale of a SAFT at a discount by the issuer to accredited investors.

Consideration for the SAFT will be prepaid by such investors immediately upon entering into the agreement. The SAFT proceeds will then be used by the issuer to develop an operational network/platform, which will permit the functional use of the compatible tokens.



Once the network/platform is operational, the issuer will deliver to the investor the functional tokens. The investor will then be able either to use the tokens to gain access the network/platform's product(s) or service(s) or to dispose of them (most likely) at a profit. A SAFT is, essentially, a prepaid forward contract and, as such, requires the issuer's compliance with relevant Canadian securities laws and regulations.

## SAFT Proceeds: Canadian Federal Income Tax Implications

Tokens are to be treated as a "commodity" for Canadian federal income tax purposes (see e.g., CRA document no. 2013-051470117 (December 23, 2013)). Proceeds derived from the sale of tokens – including by means of an ITO, a direct pre-sale of tokens, or through a SAFT – should be taxable to the issuer as income in the taxation year of receipt. That being said, the Canadian cryptocurrency sector appears to view SAFT proceeds as non-taxable in the year of receipt. The commonly expressed position is that inclusion of such proceeds in income is to be deferred until the taxation year in which tokens are delivered to the investors. This view is unfounded in law. And yet, despite considerable SAFT engagement in Canada, deferring the income inclusion of SAFT proceeds has gone curiously unchallenged.

In fact, SAFT proceeds should be treated as a prepayment of income for purposes of Canadian federal income tax legislation. Generally, a prepaid amount in respect of goods to be delivered in a subsequent taxation year will be included in income in the taxation year in which such amount is received. Depending on the circumstances, a taxpayer may be able to defer the recognition of such income (through a deduction and reserve mechanism) until the time at which the goods are delivered. The ability to claim a reserve, however, is subject to a number of conditions, including the following:

*"[a] taxpayer could not claim a reserve if under an agreement with its client, the taxpayer was allowed to retain the prepayment made by the client in any event, regardless of whether or not the services or goods will in fact ever be provided. In other words, under this type of clause, the taxpayer would be allowed to retain the prepayment even if the taxpayer did not fulfill its obligations under the contract and was in default" (CRA document no. 2005-0141171C6F (October 7, 2005)).*

In the case of SAFT proceeds, it is unlikely that an issuer will be able to claim a reserve. The terms of a SAFT generally do not impose on the issuer an obligation to either complete the project or repay the prepayment. Accordingly, SAFT proceeds should be

recognized in income in the year of receipt. That said, SAFT proceeds may nevertheless be offset against the issuer's current operating losses incurred in, prior to, or subsequent to, the year of receipt.

## Conclusion

Admittedly, the upfront inclusion of SAFT proceeds in an issuer's income may potentially serve to discourage business owners from entering into a SAFT. The Canadian federal and provincial governments levy a tax on income earned by a corporation resident in Canada. Combined federal and provincial general corporate tax rates range from 26.5% (Ontario) to 31% (Nova Scotia). To the extent that the issuer to a SAFT is a corporation, SAFT proceeds will be subject to the relevant corporate tax rate in the year of receipt. That being the case, an issuer relying on a SAFT for financing purposes will suffer a tax leakage equal to the applicable corporate tax rate in respect of SAFT proceeds. This would not be the case where capital is raised through equity or debt. Yet, given the amounts that have been raised through token offerings during the first two quarters of 2018, liability for tax in respect of SAFT proceeds may actually be of little or no concern to issuers. Nevertheless, given the foregoing tax treatment, it may be advisable to consult legal advisors in order to determine whether there may be a possibility to structure certain investments in a manner which, while complying with securities legislation, is more tax efficient. ♦



**Marc Richardson Arnould**

## ABOUT THE AUTHOR

**Marc Richardson Arnould** is a Partner in Miller Thomson's Tax Practice. He specializes in Canadian and international corporate, trust and partnership taxation relevant to the structuring and ongoing operation of private equity and cryptocurrency funds and the financing and continued activities of start-up and emerging entities – with a particular focus on venture capital funds and technology companies, including businesses engaged in distributed ledger technology, artificial intelligence (AI) and the internet of things (IOT).

Marc also advises on corporate finance transactions, from private placements and traditional initial public offerings (IPO) to crowdfunding campaigns and initial coin/token offerings (ICO/ITO). In addition, Marc's practice includes both more traditional corporate M&A, acquisitions, holding and exit planning as well as advising investors and issuers on structured financial instruments, including derivatives, hybrid securities, securities loans/lending arrangements, and securitization transactions.

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## Innovation in the Legal Industry

Miller Thomson is proud to be a founding member of the Global Legal Blockchain Consortium (GLBC). The GLBC's mission is to 'organize and align stakeholders in the global legal industry with regard to the use of blockchain technology...'

**[www.legalconsortium.org](http://www.legalconsortium.org)**



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## About Blockchain, Cryptocurrency and Smart Contracts

With recent development and application of Blockchain, Cryptocurrency and Smart Contracts, the Internet is becoming a truly revolutionary platform for all sorts of business processes including not only communication and related data management and documentation challenges, but also product and services marketing, payment processing and, most importantly, value attribution and exchange.

Blockchain, Cryptocurrency and Smart Contracts are almost certain to impact almost every form of modern business.

It will also transform how companies interact with their stakeholders and how governments deal not only with their citizens, but also with each other. Huge issues of data security and digital file administration are at play.

Just as the technology is emerging in fits, starts and the occasional false step, the law is struggling to keep up with the proliferation of possibilities that Blockchain, Cryptocurrency and Smart Contracts present.

Today, the law and regulation governing securities, telecommunications, currency and consumer protection, to name a few, are all being carefully reviewed, both within national jurisdictions and through global and/or multi-jurisdictional agencies, with a view to reform and revision.

Miller Thomson is prepared for both the turmoil and the opportunity that Blockchain has unleashed, not just for crypto-currencies and ICOs, but also for the wider universe of ledger-enabled business process solutions that are now beginning to appear.

From start-ups and emerging companies to the angel investors and venture capitalists who back them, right through to the established data-dependent and data-exchange driven operations in banking and finance, entertainment, transportation/logistics and large industrial operations, especially those that use the Internet of Things where Blockchain technology solves big problems, Miller Thomson is equipped to advise.

Whether the client is large or small and whether Blockchain, Cryptocurrency and Smart Contracts are central or peripheral to its future success, our team at Miller Thomson has acquired the practical expertise and depth to provide valuable insight and real-time guidance about what is happening around the world. We can advise on what the law currently or potentially permits and prohibits in Canada and how inherent risks of a proposed business idea can be reduced or eliminated. Most importantly, we can advise how transactions rooted in Blockchain technology need to be appropriately and accurately documented.

Because Miller Thomson is a national full-service law firm, our Blockchain, Cryptocurrency and Smart Contracts team is able to deal with a range of legal issues including:

- Capital markets
- Cybersecurity
- Financial services
- Intellectual property
- Litigation dispute resolution
- Mergers & Acquisitions
- Private equity / Venture Capital
- Tax
- Entertainment & Media

For more information about cryptocurrency, ICOs, or blockchain technology, contact any member of Miller Thomson's Blockchain Group.

# Navigating turmoil



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With blockchain regulations still in development, exactly where regulations will apply is not always clear. Companies can find themselves subject to different laws in different jurisdictions. Our multi-disciplinary team of lawyers focussed on blockchain, crypto currency and smart contracts bring practical expertise and experience to help business leaders navigate effectively and make informed decisions.

**Equipped to advise with real time guidance**



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