Blockchain: Five Things to Know

Yvonne R. Castillo

While the conventional wisdom around blockchain is that it's a technology only affecting financial markets, the reality is that design and construction stakeholders, including lawyers, ought to pay attention too. If you don't, you risk falling behind on an important trend that has the potential to disrupt markets, including your own.

The interesting (yet exciting) thing about blockchain is that it's hard to predict the uptake of applications and their implications for the future because it's still very early days and real-world applications are being developed and tested right now. Technologists warn, however, that this early stage shouldn't be ignored and is similar to the mid-1990s when, for example, we were all being introduced to email (the “killer app” of the first generation of the internet). Many, including myself, didn’t really appreciate at that time the disruption that this simple application would have. In fact, I have a strong memory of my first encounter with email: I was working in my office as a young public defender when the “IT guy” knocked on my door to ask if he could install email on my computer. When I asked what I would do with this application and he explained that it would allow me to send messages to my colleagues in the office, I laughed. Why would I need to send messages through my computer when I could simply walk down the hall and talk to them in person?

With that in mind, here are the five things you should know about blockchain.

1. At its core, it’s just a database.

If you Google blockchain, you’ll get websites replete with technical jargon like “crypto-currency,” “global ledger,” “distributed ledger technology,” “mining,” or “immutable record.” But when you filter through all the “technical-ese” of these resources, blockchain technology is fundamentally just a database that has special design features that make it innovative, even revolutionary. Its architecture is significantly more secure via a framework that pairs a public and a private key (the secure identity piece) that enables one-way encryption and decryption for sharing (an append-only process) that is date-stamped and difficult to tamper with, making it much more difficult to hack. So why should you care? In any circumstances in which data is shared — whether at a project level, operations level, or via legal contract — blockchain applications are relevant.

2. Its framework is decentralized so risk is distributed.

Unlike traditional databases, where one party controls the data or information in the database, blockchain technology is a decentralized transaction ecosystem where multiple parties to the database (or network) contribute transactional data in real time and all have a complete copy of the latest version and the history of previous versions. Access is decentralized and the risk is distributed so that no one single party carries the risk of a breach. Thus, hackers can’t hold data or records ransom, for example, because all parties have a full and complete copy of the database and its transaction history. The use of the word “transaction” in this article refers to any
circumstances in which a “thing of value” is shared with another entity. Therefore, architectural services, engineering services, legal services, and construction services are all part of the transaction ecosystem and can be transacted over the internet, which makes blockchain applicable and valuable not just to financial services, but to all commerce — including the design and construction industry.

3. It eliminates the middle man.
Blockchain enables true digitization, where agreements to provide services are digitized with tokens (that can represent USD or other assets) and those tokens are divisible (like a dollar can be broken down into pennies) and can be transferred via the internet without needing intermediaries to process or verify the transaction. Unlike traditional transactions where a bank, credit card company, or other intermediary is required to verify and validate the release of the “thing of value,” blockchain-based transactions are processed using an algorithm through a decentralized network of computers.

For example, in a neighborhood where homeowners have rooftop solar panels and one homeowner produces more energy than needed, blockchain technology cuts out the middle man (i.e., the utility) and enables homeowners to sell their excess generated energy in real time to a neighbor. In fact, this scenario is playing out in a pilot project in Brooklyn.

The medical industry is also neck-deep in blockchain pilot projects. One such application is aiming for “womb to tomb” medical records, with the goal of breaking down silos in medical recordkeeping, giving patients the power to securely manage their health records, and ultimately deploying holistic care. With blockchain technology, an infant’s birth is recorded in a digital, blockchain-based record; all subsequent health care treatment is recorded in the same digital record for that person’s entire life. Access to health-care history is provided by the patient who gives access to the provider through a private, cryptographic key. With this use case, gone would be the days that patients have to recollect from memory (or a paper file) their medical history for future health-care providers’ use.

4. It’s getting big attention in statehouses across the country.
Already in 2018, fifteen state legislatures (Arizona, California, Colorado, Connecticut, Florida, Illinois, Maryland, Missouri, Nebraska, New Jersey, New York, Tennessee, Vermont, Virginia, and Wyoming) are currently considering or are in the process of passing legislation related to blockchain or its potential applications. Most of this legislation explicitly enables blockchain technology (albeit not necessarily required), mandates agencies to explore the technology, or formally institutes the study of the technology for use. Compared to last year when only seven state legislatures were actively exploring legislation and just three in 2016, this year’s uptick is an indicator of a trend that will likely continue to grow.

5. The design and construction industry is ripe for the transformational change blockchain represents.
Several potential use cases may connect blockchain to the design and construction industry. No other industry needs better, more efficient ways to collaborate and transact. Projects of all sizes involve multiple stakeholders and phases — from financing and funding to planning to design and, finally, to construction, maintenance, and operations. How might blockchain bridge communications between so many stakeholders and streamline this complex process?

One particular area to watch is smart contracts. Smart contracts are self-enforcing contracts enabled with blockchain technology. What’s interesting about this application is that it behaves as a governing mechanism of the relationships between the parties, similar to a traditional contract, but more of a “government on wheels” mechanism because the terms and conditions are connected to the flow of funds and aid in automating a sequence of events. It’s an active, self-enforcing contract that is automated through a series of coded “if/then statements.” In other words, it’s an automated contract.

In its simplest form, a smart contract operates like a vending machine: You put money in, get the good of your choice, get your change, and the machine itself is designed to be secure in that the effort required to break into it isn’t worth the amount of money it’s designed to hold.

In a more complex transactional environment such as the design/construction industry, you can imagine breaking down a more traditional contract for design and construction services into a series of actions that are connected to payments. So the governance document not only governs the agreement for services between the parties, but also self-executes on payments and acts as a project management platform all in one. For example, if service X is provided, then payment X-1 is made automatically and service Y (presumably, in this example, the next task/service in line) is notified that work can begin. The question isn’t whether smart contracts are coming to the design and construction industry, but when. Innovators or early adopters of the technology will undoubtedly have the market advantage.

A Decentralized Autonomous Organization (“DAO”) is another potential application. DAOs are created through a bundling of smart contracts. A DAO is an organization, such as a non-profit or corporation, that is organized and operated through software instead of people. While still in a nascent stage of research and development, it’s feasible that buildings or
facilities could be organized as DAOs. For example, as a DAO entity, a condominium project with the aid of the internet of things (integration of sensors and meters) could support self-maintenance services, collect rents through connected digital wallets, serve as the platform for tenant voting on building issues, and more.

Finally, blockchain allows for tokenized public finance of infrastructure, which builds on crowdfunding and P3 — but in a blockchain environment that cuts out the friction and costs of traditional bond initiatives and has great potential to democratize access to wealth-building through “mini muni bonds.” (See case studies City of Denver and City of Cambridge). Indeed, more of the investment money goes directly to projects in need rather than middlemen, and the process is much more transparent and auditable. The first such project in the United States was expected to be launched in May 2018 by the City of Berkeley through a partnership with Neighborly, an online investment platform, but apparently politics has entered the fray and the process has slowed. Regardless, the cherry on top for this effort — when it finally comes to fruition — is its economic development incentive structure: If investors desire, interest earned on bonds, as proposed, may be redeemed through tokens rather than cash — which could be accepted by local retailers and restaurants which, in turn, could layer on discounts/loyalty rewards.

Blockchain technology’s impact on funding public infrastructure may very well be game-changing and deserves to be closely watched. In time, blockchain will just be a technology that runs (behind the scenes) the applications we all know and love and we’ll no longer be so obsessed with its functionality and purpose. For now, it behooves us all to understand, at an early stage, just how groundbreaking it could really be because it’s shaping markets, helping us understand how much more efficient and productive we can be, and is creating new jobs that we never imagined before.

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Clawback Agreements – Friend or Foe?

Katharine E. Kohm

The voluminous productions of client documents, both in electronic and hardcopy formats, normal in construction litigation come with the ever present risk of inadvertent disclosure to the opposing party and, thereby, the catastrophic waiver of privilege. Rule 502(b) of the Federal Rules of Evidence creates somewhat of a safety net for inadvertent disclosures, but requires compliance with a number of conditions. Attorneys frequently instead rely on clawback agreements for extra certainty and to eliminate the obligation to satisfy the conditions of rule 502(b). Here’s the concern with clawback agreements - in the event of a dispute between parties, a court, depending on the circuit or state, may not enforce a clawback agreement unless it explicitly displaces the Rule 502(b) standard.

Read the full article on UC Online at www.ambar.org/FCLUC.

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Are Agency CM’s Now “At Risk” for Contractor Claims?

Michael Lane

Agency construction managers (CM’s) often serve a vital role representing the interests of an owner and overseeing work on a project. Does the performance of those advisory or administrative duties give rise to liability to a third party with whom a CM does not have a contract? This question has been the subject of legal battles for decades. The courts confronting this issue have almost universally ruled that a CM -- not to be confused with a construction manager at risk or CMAR -- does not owe a professional duty to anyone other than the owner. But one Louisiana court recently ruled that a CM does owe a general contractor a duty to perform its services to a professional standard. Does this decision signal a new trend on the horizon?

Read the full article on UC Online at www.ambar.org/FCLUC.

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Mike Tarullo – A Forum Cornerstone

Robbie MacPherson

Mike Tarullo was given the Cornerstone Award in April 2018. Owing to strict Forum editorial guidelines, I was asked to explain why in less than 700 words.

Early on in his Forum “career,” Mike got involved in Division 4 Project Delivery Systems. A Graduate Engineer, Mike worked in the industry before becoming a lawyer. Mike knew new delivery systems would bring big changes. He also knew that construction lawyers could make a real contribution as those changes played out.

His work in Division 4 led Mike to look for a bigger role in the Forum and eventually submitted his nomination to be a Governing Committee member. I was on the committee that would be vetting the nominations. Mike’s was unlike any others.

As you may know, and if you don’t please take note, most people self-nominate. When you think you are ready please consider putting your name in the hat. It is a Forum myth that one of the qualifications is being able to match the Division numbers with Division names.

Being lawyers, each nominee puts together a compelling case for their selection as a GC Member, recounting accomplishments in the Forum and what they see as the Forum’s future and their role.

Mike’s brief for himself was just that, brief. It was an email saying he would like to be considered. It’s not that Mike thought he was a shoe-in, he just doesn’t blow his own horn. But if Mike was not going to make the case for himself, I would.

When it came time to talk about Mike I knew more about what Mike had done and could do for the Forum than he did. But there was no need for my speech. Almost at once, everyone agreed Mike would make a great GC Member, and just like that it was a done deal. I am still taking credit for at least being prepared to make the case for Mike. Mike was of course a tireless GC Member and then Forum Officer and had many accomplishments during his tenure.

Mike made a concerted effort to manage and control the Forum’s finances and budgeting. Mike was also one of the first Forum leaders to encourage the Forum to use its resources to benefit not only our members, but other organizations, such as Tulane University’s Katrina rebuilding program and ACE Mentor. That effort is now formalized in the Forum’s Reserve Spending Program.

You have probably seen the recent reports about declining ABA Membership. The ABA is now reorganizing itself, hoping to reverse that trend. Mike predicted that need many years ago and made sure the Forum was always thinking about its members. More than ten years ago, Mike told senior ABA officers the ABA’s priorities were in the wrong place. Mike encouraged more support for groups like the Forum that provided quality education, publications, and opportunities for fellowship. Mike pointed out that the Forum added value and had a growing membership, unlike the overall ABA, which was losing membership. Perhaps they should have listened more carefully to Mike way back.

Mike was the visionary behind the Searchable Knowledgebase. The Knowledgebase, available on the Forum’s webpage, has links to all Forum Program Papers and PowerPoints going back to 2002.

Mike was also behind both the Forms and Substance Program and book. Where else can you find forms ranging from The Irrevocable Standby Letter of Credit, a Marshalling and Staging Agreement, a Swingway Agreement, and, one of my favorites, the much heralded Reciprocal Negative Easement Agreement, often used by under assistant west coast promotion men. Forms and Substance is just like Mike. It offers dependable and practicable guidance and advice.

While doing all that for the Forum, Mike has been active in the Central Ohio Builder’s Exchange and the Exchange’s Foundation, which raises money to fund industry advancement initiatives. Mike encouraged the Exchange to give Mike its 2015 Cornerstone Award, the first time it was given to an attorney.

Mike Tarullo is a true Forum Cornerstone.

ROBBIE MACPHERSON, Gibbons, P.C., Newark, NJ
Federal Contract Modifications: Getting Your Client out of the Cost Analysis Weeds

Sean Dowsing

For many federal contractors, negotiating a contract modification with their government counterpart, the contracting officer, is a nightmare. Contracting officers’ default answer when faced with a contract modification proposal is often to conduct a “cost” analysis which “is the review and evaluation of any separate cost elements and profit or fee in an offeror’s or contractor’s proposal.” 48 C.F.R. § 15.404-1. In other words, it is a line-by-line analysis of the contractor’s proposal in which profit and contingency are sliced and diced in an effort to save the government money. For a large proposal, this analysis is frustratingly slow and often fails to address the contractor’s concerns with respect to risk and profit, all while the government maintains the power to simply issue a unilateral contract modification and force your client to perform the work anyway. It is death by a thousand cuts. Contractors lose the ability to balance risk and profitability among the various scopes of work needed for the changed condition.

Before we dive much further, let’s look at how this issue typically arises and the point at which counsel is retained. Your client has an existing contract to provide services to a federal government agency. Your client encounters a changed condition that was not originally envisaged by its contract and the government agrees. The government issues a request for proposal to your client to perform the additional work. Your client prices it out, submits the proposal and, at the government’s request, provides a copy of its proposal breakdown. The government contends that the contract modification is not subject to competition, so a cost analysis must be performed. The contracting officer analyzes the bid breakdown line by line, nit-picking every individual element of the proposal in an effort to reduce the overall proposal price. Your client has contingency that is built into the individual cost items to adequately compensate for the risk and effort associated with the additional work. The fact that the contract modification will affect your client’s work with its other clients (i.e., your client must dedicate more resources than originally planned to this particular contract) is not a concern to the contracting officer. Knowing that the contracting officer can issue a unilateral contract modification if negotiations break down, your client engages you as counsel to assist with negotiations and begin claim preparation if necessary.

Now that you have stepped in as counsel to assist with negotiations, what can you do to get negotiations back on track? Your client is hoping that you will find a loophole or some new perspective that will get the client out of the line by line cost analysis. Your goal as counsel is to go from “cost” analysis to “price” analysis, which is “the process of examining and evaluating a proposed price without evaluating its separate cost elements and proposed profit.” 48 C.F.R. § 15.404-1(b)(1). Price analysis is the 10,000 ft. view. More often than not, it is hugely advantageous to your client because (1) it does not analyze proposed profit, and (2) your client can have contingency in the individual line items without them being picked apart. For example, if your client believes an extra employee may be needed to perform a scope of work, your client can price that into the proposal without it being individually scrutinized in a “price” analysis approach. In a cost analysis, the inclusion of that extra employee will be scrutinized and likely not paid for.

In getting from cost to price analysis, your first hurdle is 48 C.F.R. § 15.404-1(a)(2) which states that “price analysis shall be used when certified cost or pricing data are not required.” 48 C.F.R § 15.403(b) delineates when certified cost data is required. Of particular relevance is the exemption for adequate price competition, in which instance certified data is not required. 48 C.F.R § 15.403(c)(1). Adequate price competition can be established by showing that the contractor’s price is reasonable in comparison with the same or similar items, adjusted to reflect market conditions. 48 C.F.R § 15.403-1(c)(1)(iii).

There are three techniques that can be used to establish adequate price competition: (1) If your client has performed similar work in the past, that work and its price can be presented to the contracting officer to show that the contractor’s latest proposal is in line with what it has performed previously; (2) You can use the Freedom of Information Act (state and federal versions) to identify similar contracts performed and their prices paid; (3) You can hire an outside consultant to assist. Counsel should take care to protect the work-product privilege when an outside consultant is engaged. After all, if negotiations fail, litigation is likely.

Once adequate price competition has been established (and it is thereby determined that the contractor does not have to provide certified pricing data), the next step is proposal analysis techniques. See 48 C.F.R § 15.404. The C.F.R does not treat all price analysis techniques equally. The two preferred methods are: (1)
comparing the proposal prices to others received in response to the solicitation; and (2) comparing the proposal prices to historical prices paid for the same or similar work. The first method is not applicable here because your client is involved in a sole-source type contract modification.

As to the second method, by now, your client has obtained prior pricing data for similar work which is how it got over the 48 C.F.R § 15.404-1(a)(2)’s certified data requirement in the first place. This data can be presented to the contracting officer, modified for market conditions and other economic factors, and then used to determine whether your client's proposed price is reasonable. This data can also be presented alongside an outside consultant's report to strengthen the case. By presenting this data and making arguments as to changes in the market, you have put the contracting officer in the position of denying the historical prices paid and the relevance of the outside consultant's report—which is a tough pill to swallow if that is the only data available to the contracting officer.

Contracting officers often do not have the in-depth FAR knowledge necessary to come to this analysis on their own. You and your client need to take them there. Once you have established that certified pricing data is not required and present your historical prices paid, you will have successfully moved your client's negotiations from the painful “death by a thousand cuts” cost analysis to the 10,000-foot-view price analysis. This will let your client control its risk on the individual line items and, in the event that the contracting officer is not receptive, you have set your client up for a future claim against the government.

## ABAUnderConstruction Online

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These additional articles are available on the online page of Under Construction Online

- **When Less Is More: The Dangers Of Multiple Inconsistent Arbitration Agreements** By: Adam Stone and Kaytie Pickett, Jones Walker LLP, Jackson, MS
- **Third-Party Discovery in Arbitration? Do Not Count on It.** By: Heather L. Heindel, Perkins Coie, Seattle, WA
- **Indemnity Agreements as “Other Insurance” – The Consequences of Unallocated Settlement Proceeds** By: Lawrence O. Held, Tri-City Electrical Contractors, Inc., Altamonte, FL
- **The Argument for Both a Second Opinion of Expert Witness Reports and Brevity** By: David A. Scotti, Scotti Law Group, Pittsburgh, PA
- **How to Structure Persuasive Prehearing Brief in Construction Arbitration** By: Kate Krause, Krause Dispute Resolution, Denver, CO
- **When (and How) Should a Mediator Evaluate the Case?** By: D. Scott Gurney, Frost Brown Todd, LLC, Cincinnati, OH
- **Getting to Know the Forum: Fall Meeting Recap through the Eyes of Young Lawyers** By: Aaron R. Klein, Stites & Harbison, PLLC, Louisville, KY, Laura J. Sova, Woods & Aitken, LLP, Denver, CO

### Message From the Editor

Join UC’s New “ABA Connect” Webpage

We created a community for Under Construction on ABA Connect (https://connect.americanbar.org). ABA Connect is a dynamic place for ABA members to network and exchange ideas. Login to ABA Connect and join our community. We will post our recent articles and hope that you will share your comments. We also started a new series in this edition called Construction Law 101. In these articles, we will cover the basics for our growing law student and young attorney members. To help spread the word, please share our articles on social media - #ABAUnderConstruction @ABAConstruction. Thank you! Tom Dunn (@rtomdunn).
**MESSAGE FROM CHAIR-ELECT**

**Observing, Listening, Learning, Leading**

**Kristine A. Kubes**

I am honored to write as your Chair-Elect for the ABA Forum on Construction Law. I am so glad that you are here. This organization is “the place” to be as a construction lawyer – as the Forum offers the best continuing legal education, thought leadership, and network of construction lawyers.

In the event we have not yet met, please allow a brief introduction. I am the founder of a small construction law firm in Minneapolis, MN, that focusses on serving design and construction professionals. I have been a member of the Forum since 2001 and have been giving my time to the Forum in some form of leadership since 2004. I was raised in a construction family and am the daughter of a carpenter. As a young child with a healthy level of intellectual curiosity, I pleaded with my father to allow me into his workshop. I wanted to understand how his tools worked, how what he built fit together, how to read a plan, etc. My father was a wise and patient man who taught me early about negotiation. You see, the terms for admission to the carpenter’s workshop were as follows: “You have to stand still, don’t talk, and don’t touch anything.” A tall order for a young child, but I was thrilled with the opportunity and met those terms over and over again throughout my youth.

Now, if you think about it, a person can learn an awful lot when one stands still, does not talk, and does not touch anything. Observing and listening are great teachers. What did I learn? How to read and plan and be careful with my work, as I watched my father handle his tools and projects with precision and care. The importance of attending to the detail of each step in a project. “Measure twice before you cut once, Kristine.” Humility, as different trades have different and important skills to contribute to a successful project. How to wait for an outcome. “This is a patient person’s job,” he’d say. How quality matters. How one’s integrity of workmanship is one’s measure that should be protected at all costs.

Those lessons formed me and are still part of me today, whether I am in the office, on the work site, in court, or serving the Forum. I am an observer, a listener, and a learner. At the Forum, my learning at the substantive programs has made me a better construction lawyer. In observing many excellent, selfless Forum leaders, I have learned that leadership is not about advancing one’s own agenda, but rather about serving the best interests of the Forum and creating opportunity for others. Yes, a leader must have the innate character and skills to be selected to serve and lead this great organization. But as a leader – whether of the whole Forum or any of its parts – a leader has an obligation to the Forum, to colleagues, and to the greater legal community to work with integrity and courage, and continue creating opportunities for others to grow and learn and lead.

In observing society and the greater legal community in recent times, I have noted a decline in civility and professionalism, which can often be accompanied by intolerance and a lack of inclusiveness. These conditions are pervasive and can lead to a lack of respect for others, bullying, and harassment. As lawyers, we are called to respect the law and all persons. We are called to be the leaders in our respective communities for respectful, civil dialogue and problem-solving. The ABA just published in September 2018 its Business Conduct Standards, which provides a great resource/reminder for all of us as we practice and serve. You may find these standards online at https://www.americanbar.org/about_the_aba/aba-business-conduct-standards.html. Please join me in this conversation over the next three years, as we work toward restoring civility in the practice of construction law and the civic arena.

In closing, I look forward to getting to know you during my three years of service and leadership in the Forum. I am here to listen to you and to work with you toward the great Forum Mission of “Building the Best Construction Lawyers.”

**Announcement of Forum Nominating Committee for 2018-2019 and Solicitation of Interest for Chair-Elect and Governing Committee Member Positions Due by January 11, 2019**

Pursuant to Section 6.1(a) of the Forum By-Laws, Thomas Rosenberg has appointed the following Forum Members to the Nominating Committee: Catherine Bragg, John Cook, Tom Dunn, Will Hill, Kristine Kubes (Chair), and Cassidy Rosenthal. The Nominating Committee is charged with nominating one Forum Member for the position of Chair-Elect, and four Forum Members for the four open positions on the Governing Committee. Those persons wishing to be considered for either position should submit their expression of interest/self-nomination to Kristine Kubes (kristine@kubeslaw.com) by Friday, January 11, 2019. For more information, visit www.ambar.org/constructionlaw.
Midwinter Meeting, 2019
Public Construction Projects: Not Always a Hollywood Ending
Millennium Biltmore Hotel, Los Angeles, California
January 30 – February 1, 2019

We invite you to trade the cold and gray of winter for the blue skies and warm breezes of Tinseltown. Our program celebrates the town’s creativity and vitality while exploring the ins and outs of the backbone of much of our national construction industry: public construction. Where would the movies be without airports, roads, bridges, museums, water treatment plants, and filled potholes to support them? Our program is designed to answer questions about public construction law and even more importantly, to teach smart lawyers what questions to ask. And don’t miss the practicum—a legal writing seminar from the guru himself, Bryan Garner! We hope to see you on the red carpet!

Register at www.ambar.org/constructionlaw.