



PROGRAM MATERIALS

Program #2959

April 3, 2019

Get Smart on the Law of Smart Contracts

Copyright ©2019 by James Gatto, Esq., SHEPPARD,
MULLIN, RICHTER & HAMPTON LLP. All Rights Reserved.
Licensed to Celesq®, Inc.

Celesq® AttorneysEd Center

www.celesq.com

5301 North Federal Highway, Suite 180, Boca Raton, FL 33487

Phone 561-241-1919

Fax 561-241-1969

Get Smart on the Law of Smart Contracts

James Gatto

Blockchain and Digital
Currency Team Leader

Sheppard Mullin

Email: jgatto@sheppardmullin.com

Phone: +1.202.747.1945



Background



James G. Gatto
Partner, Sheppard Mullin

202.747.1945
jgatto@sheppardmullin.com

Blockchain Technology and Digital Currency team leader
Open Source Team Leader

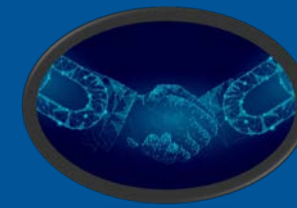
Areas of Practice

- 35 years of experience focused on all aspects of intellectual property, internet and technology law, including patent, trademark, copyright, trade secret and open source
- Heavy focus on blockchain, smart contracts and crypto currency IP, regulatory and contractual issues
- Advise clients on offensive and defensive IP strategies, licensing and technology transactions and agreements, regulatory issues, especially ones driven by innovative business models and/or disruptive technology

Recent Honors

- Cryptocurrency, Blockchain and Fintech Trailblazer, *The National Law Journal*, 2018
- Go-To Thought Leadership Award for Blockchain Technology Law, *National Law Review*, 2018
- Top Rated Lawyer, *Martindale-Hubbell AV Preeminent®*
- IP Stars, *Managing Intellectual Property*, 2013-2014, 2018
- Regional Legal Leader, DC/Metro, *The National Law Journal*, 2018
- *Super Lawyers*, 2006-2008, 2010-2014, 2017-2018

What are Smart Contracts?



smart contract:
“a set of
promises,
specified in
digital form,
including
protocols within
which the
parties perform
on these
promises.”

“a set of promises”

- Depending on the model of smart contract deployed (see page 9: *What are the different models for smart contracts?*), such promises may be contractual or non-contractual
- They may consist of contractual terms and/or rules-based operations designed to carry out business logic

“specified in digital form”

- A smart contract operates electronically
- It consists of lines of code as well as the software that prescribes its conditions and outcomes
- Contractual clauses and/or functional outcomes are embedded as code within software

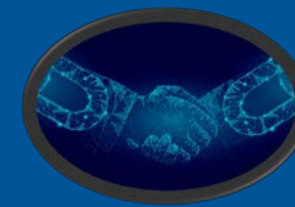
“protocols”

- A computer protocol in the form of an algorithm constitutes a set of rules for how each party should process data in relation to a smart contract
- Technology-enabled, rules-based operations enable actions to be performed, such as the release of payment

“within which the parties perform”

- The idea of automated performance is at the heart of a smart contract
- Driven in part by the technology that typically hosts a smart contract (that is, blockchain technology), smart contracts are traditionally regarded as irrevocable
- Once initiated, the outcomes for which a smart contract is encoded to perform cannot typically be stopped (unless an outcome depends on an unmet condition)

What are Smart Contracts?



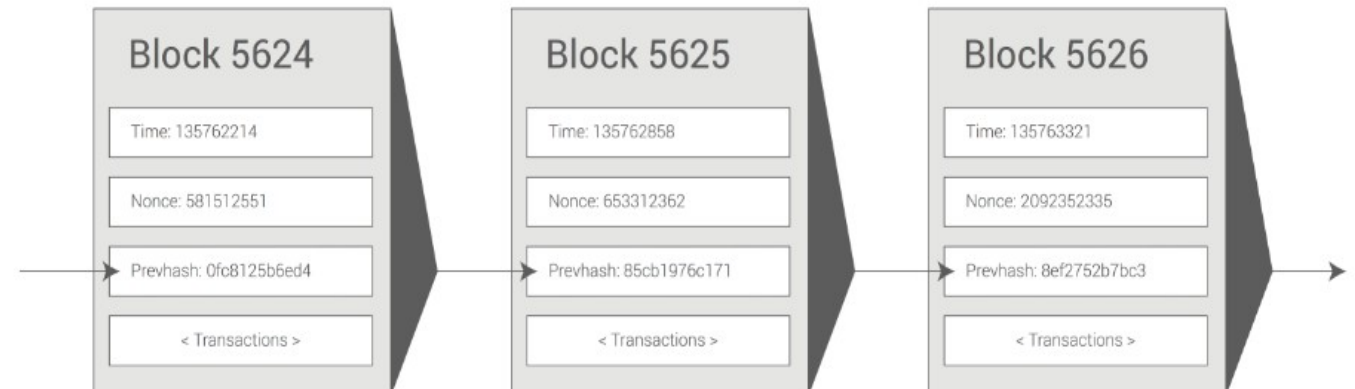
- Not necessarily “legal contract” (but can be)
- Operational terms of an agreement directly written into and executed by lines of code (e.g., like bill pay but can be more complex)
- Programmatically implement a series of **if-then** rules without the need for third-party human interaction (conditional logic)
- Can receive data/input from various sources (e.g., IoT enabled sensors, “oracles”)
- May **self-enforce remedy** in event of default
- Code can be stored on a distributed, decentralized blockchain network

Trusted Transaction

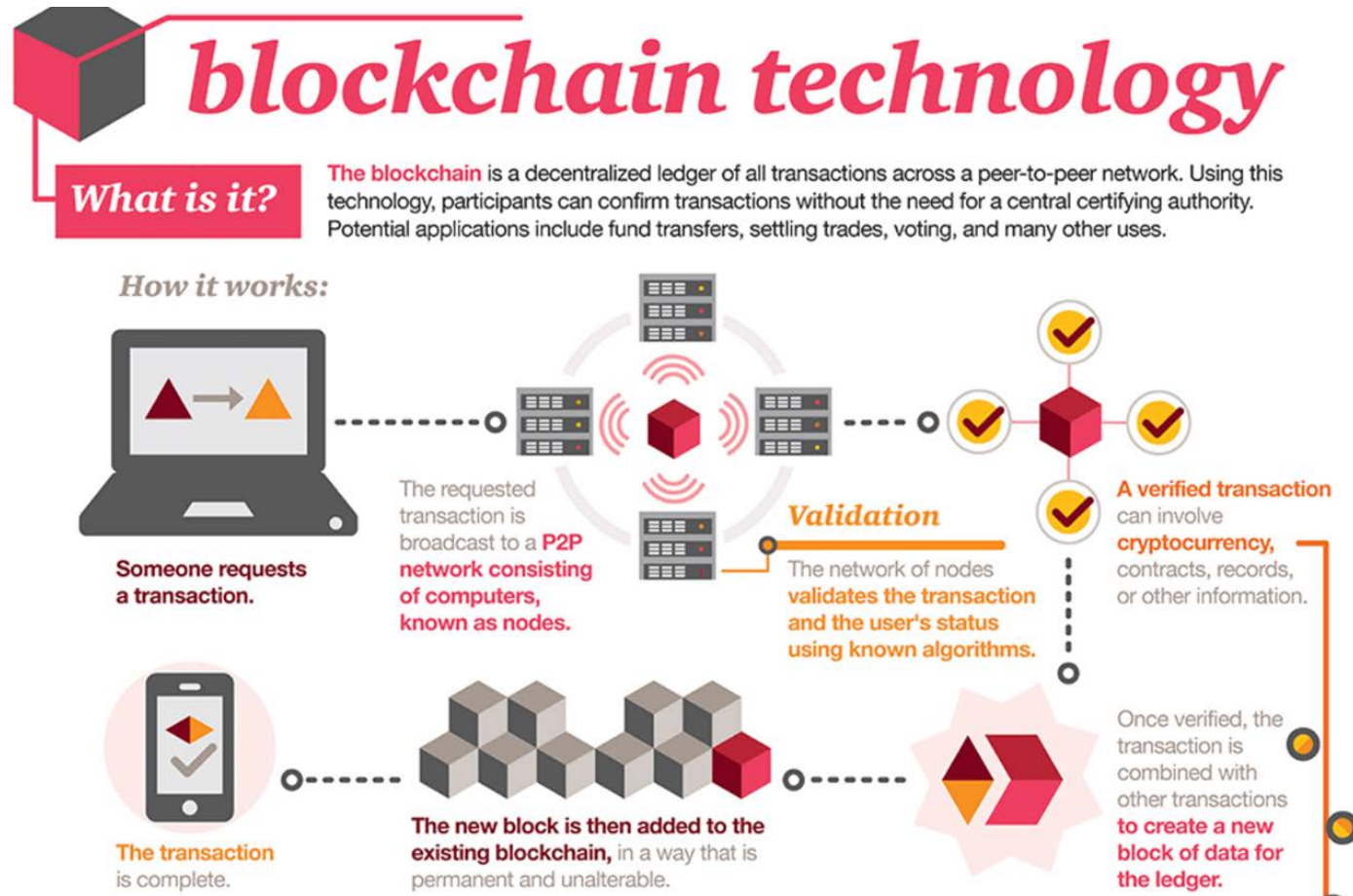


What is Blockchain?

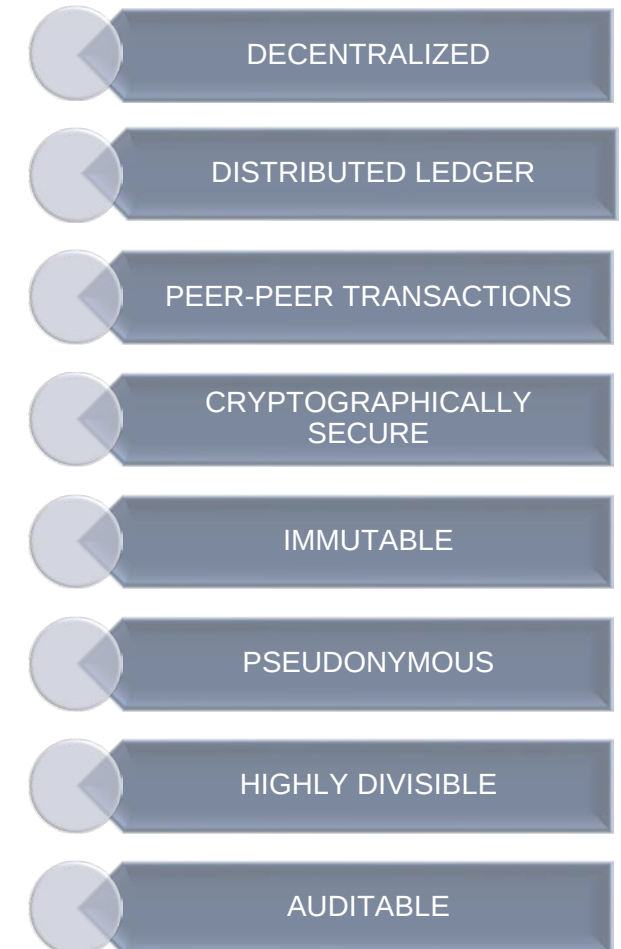
- Form of Distributed Ledger Technology (DLT)
- Many types of blockchains
 - Public/private/hybrid
 - Permission/permission-less
- Blocks are “chained” together



How Does Blockchain Work?

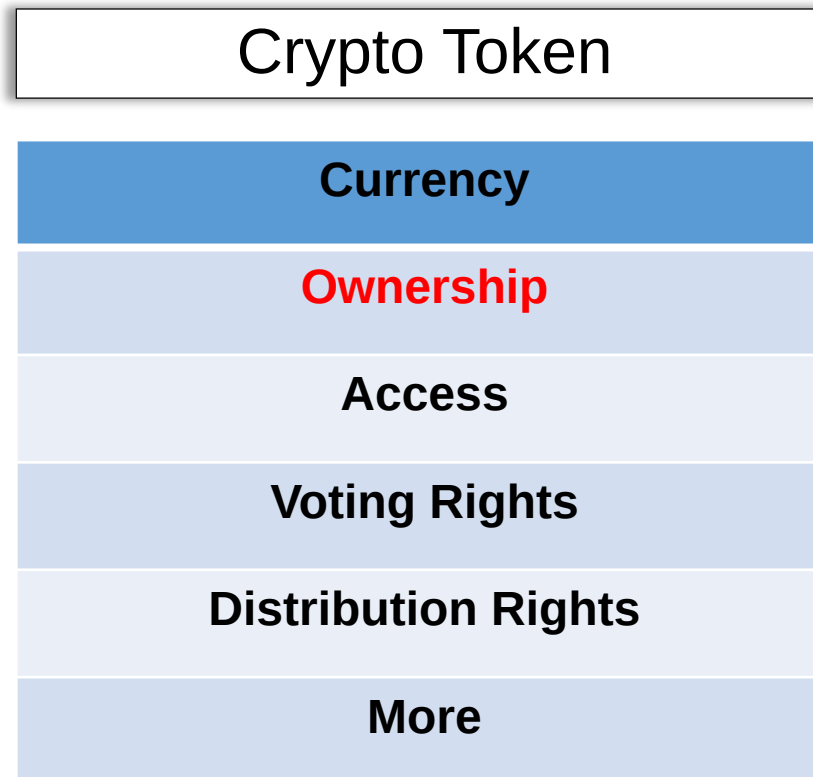


Key Advantages to Blockchain Technology



What are Crypto Currencies and Tokens?

- Digital currencies/tokens that use cryptography for security
- Transactions recorded to a blockchain or other DLT
- Can be distributed by issuer directly or listed on an exchange (ICO, STO, TGE)
- Can be transacted via a **wallet**



Crypto Currency



Bitcoin



Litecoin

How is Blockchain Technology Different?

TRADITIONAL DATABASE TECHNOLOGY	VS	BLOCKCHAIN
Centralized Transactions		Peer-to-Peer Transactions
Centralized Validation		Network Validation
Transaction Records Siloed (central control)		Transaction Records Distributed (copied to multiple locations)
Authorized Users Only		Open or Trusted Peers
Data Can Be Deleted or Overwritten		Immutable Record
Physically Secured, Firewalled		Secured by Cryptography
Limited visibility		Open or Limited

Smart Contracts

- Leverage advantages of blockchain – place **trust** in network/consensus protocol rather than a “central” entity
- Can **disintermediate** low value entities
- Not just an automated transaction
- Can use crypto currency or tokens with smart contract (not necessary but can provide advantages)
- Can encode **remedy** in the event of default – self enforcing without the need for lawyers, courts or judges

Smart Contract Examples

Example 1: auto pay car loan vs. blockchain loan with tokenized collateral

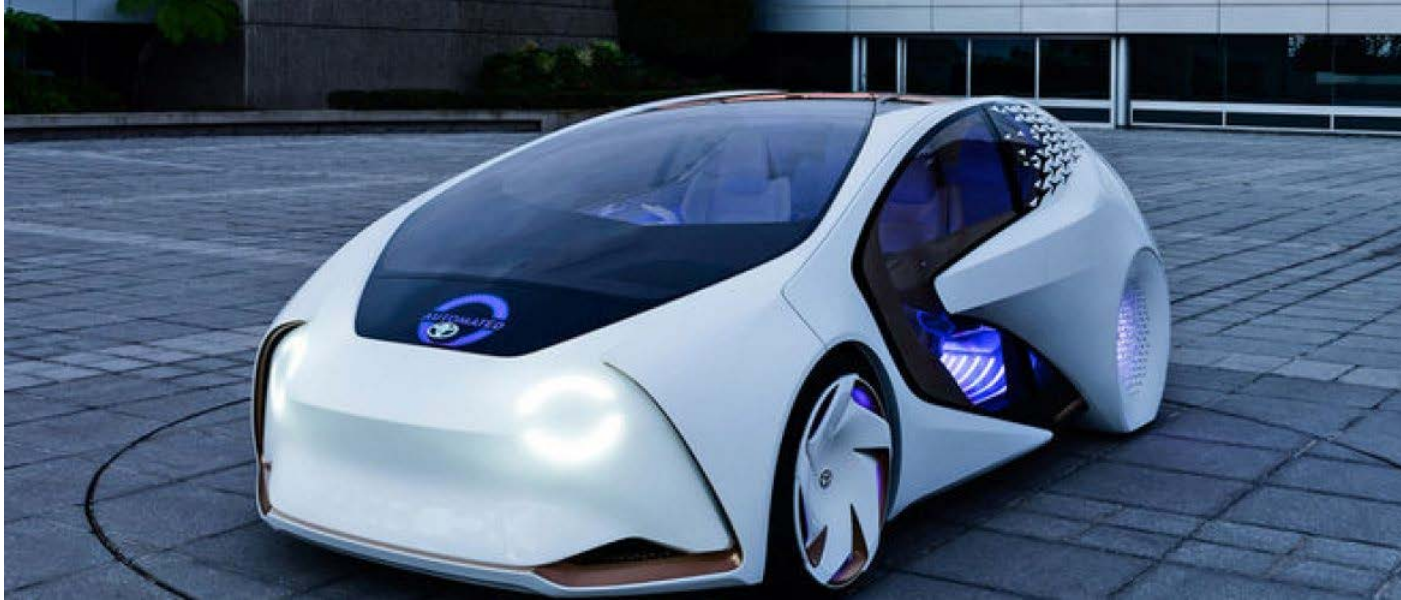
What Happens When Breach
of Auto Pay?



What Happens When
Breach of Blockchain Loan?



Toyota Prototypes Ethereum Blockchain Based Car



supplying cars with a chip which contains “an Ethereum node, an IPFS node and NodeJS”

Oaken Innovations MIT Media Labs

A Blockchain-based Property Ownership Recording

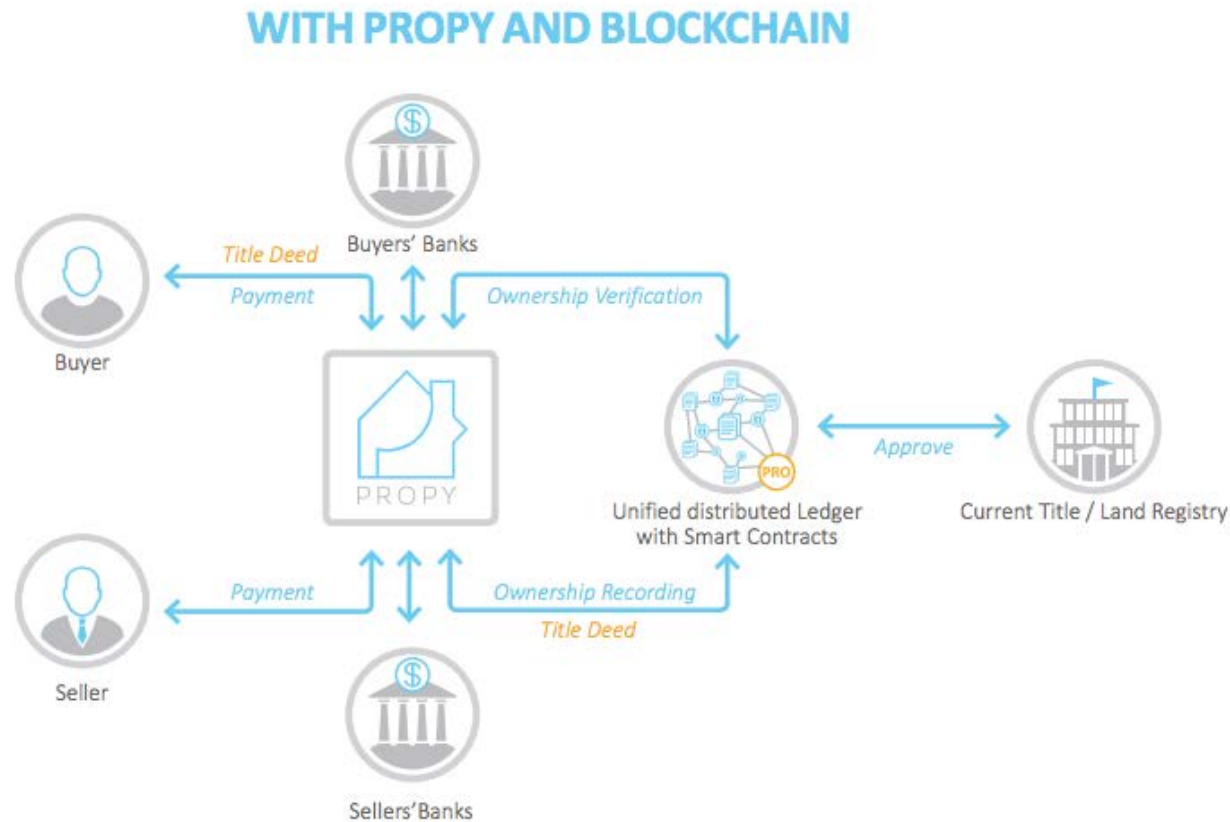
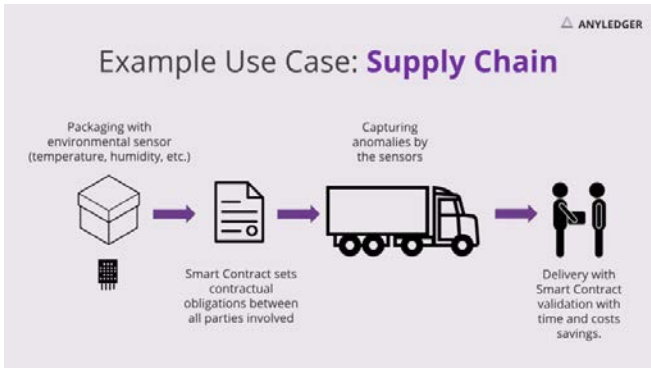


FIGURE 3. Interaction of transaction participants via the blockchain, described in further detail in Section 2.4

- The Propy Registry is powered by smart contracts to track and execute real estate transactions according to regional regulations
- By using the Ethereum blockchain, Propy allows brokers, buyers, sellers, and title agents/notaries to sign off on transactions using private keys within their existing legal frameworks

Smart Contract Example – Supply Chain

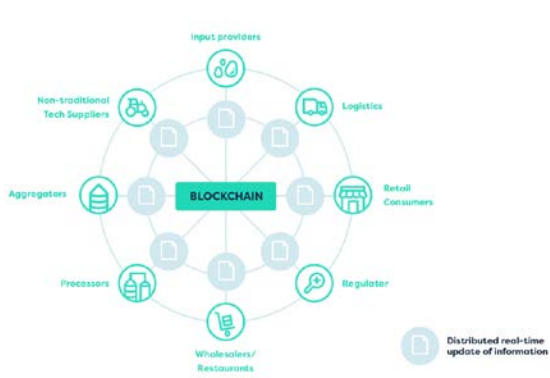


Food Cold Chain

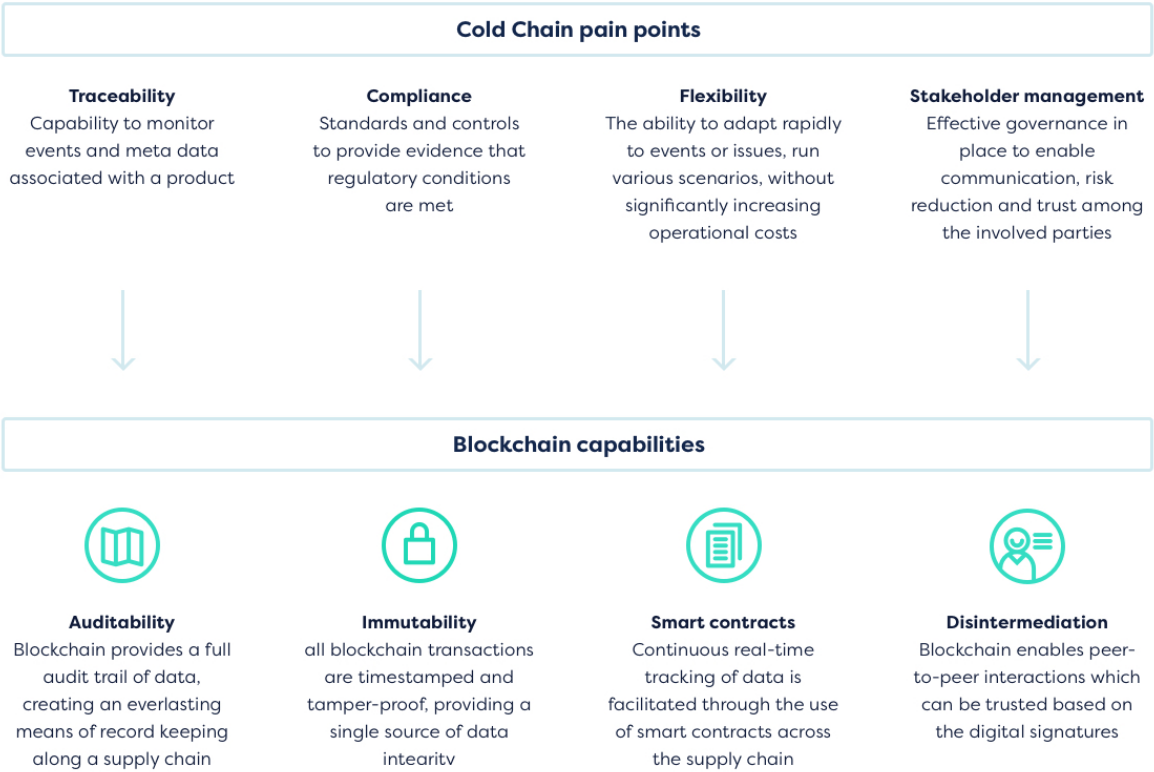
Today



Tomorrow



Why Blockchain in cold chain make sense



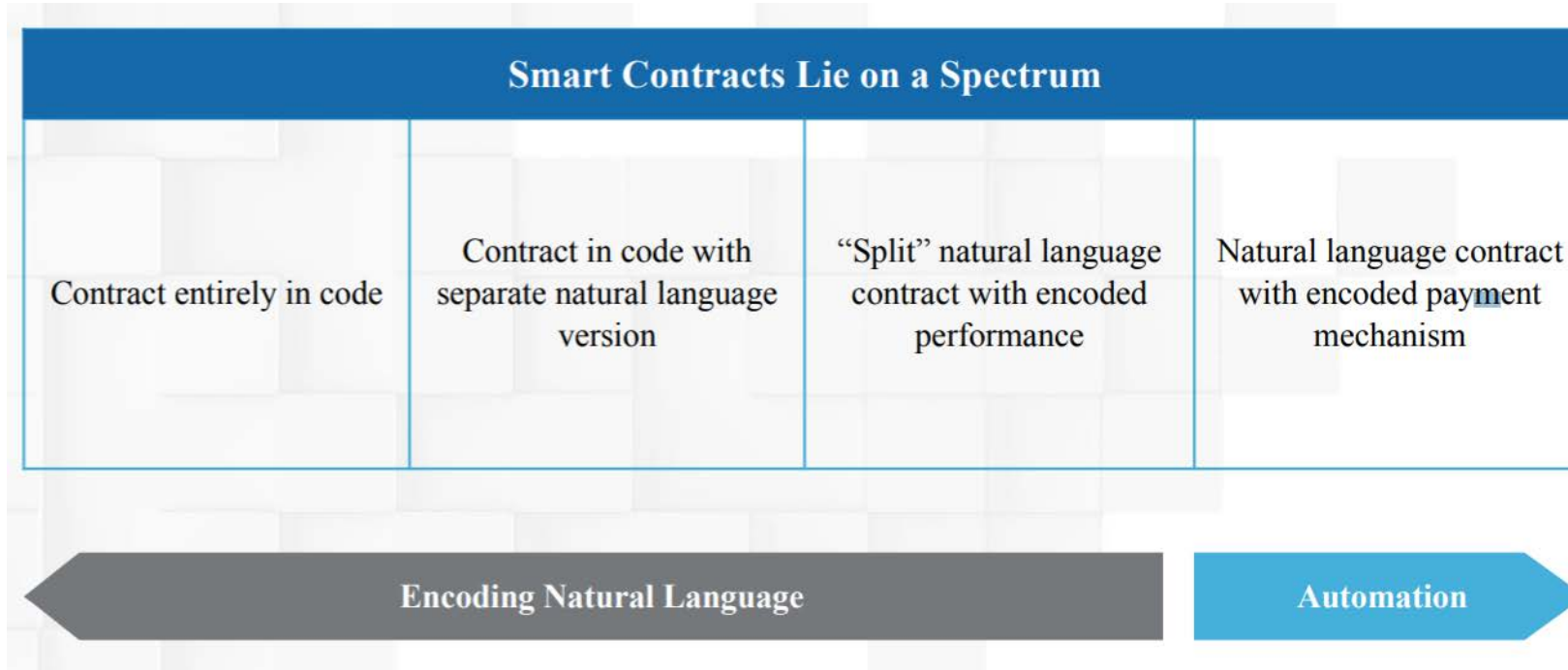
Benefits for Music Industry



White Paper

Applying “Contract Law” to Smart Contracts?

A smart contract may represent all, part, or none of a legal contract



Applying “Contract Law” to Smart Contracts?

Contract law principles apply to smart contracts

Formation

Who are “parties”?

Mutual assent?

Performance and Execution

Mistake?

“Commercially reasonable efforts”?

Breach

Enforcement?

Jurisdiction?

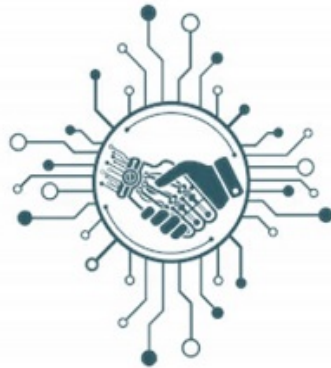
Other?

Electronic Signatures in Global and National Commerce Act (the “E-Sign Act” 15 U.S.C. §7001) and the Uniform Electronic Transactions Act (the “UETA”), which has been enacted 47 states

Overview of Legal Issues - CFTC



A PRIMER ON **SMART CONTRACTS**



Existing law and regulation apply equally regardless what form a contract takes. Contracts or constituent parts of contracts that are written in code are subject to otherwise applicable law and regulation.

- Commodity Exchange Act and CFTC regulations
- Federal and state securities laws and regulations
- Federal, state, and local tax laws and regulations
- The Uniform Commercial Code (UCC), Uniform Electronic Transactions Act (UETA), and Electronic Signatures in Global and National Commerce Act (ESIGN Act)
- The Bank Secrecy Act
- The USA Patriot Act
- Other Anti-Money Laundering (AML) laws and regulations
- State and federal money transmission laws

Overview of Legal Issues - CFTC

October 16, 2018 CFTC Commissioner speech:

smart contract developers may be held liable for aiding and abetting CFTC rule violations if they could reasonably foresee, at the time they created the code, that it would likely be used by U.S. persons in a manner violative of CFTC regulations

If it proves to be reasonably foreseeable a “strong case could be made that the code developers aided and abetted violations of CFTC regulations.”

Overview of Legal Issues - SEC

U.S. Securities and Exchange Commission (SEC) - November 2018 settlement with a smart contract developer relating to an unregistered securities exchange

The matter related to a digital “token” trading platform for bringing together buyers and sellers for digital asset securities through the combined use of an order book, a website that displayed orders, and a “smart contract” run on the Ethereum blockchain

The “smart contract was coded to validate the order messages, confirm the terms and conditions of orders, execute paired orders, and direct the distributed ledger to be updated to reflect a trade.”

The SEC noted that the platform “had both the user interface and underlying functionality of an online national securities exchange and was required to register with the SEC or qualify for an exemption.”

State Laws Addressing Blockchain

- **Arizona** ([HB 2603](#))
 - Officially recognized data stored by corporations on the blockchain as well as blockchain and **smart contract-secured signatures and records as legally valid**
- **Tennessee** ([HB 1507](#))
 - Recognized the legal power of smart contracts and **“the legal authority to use blockchain technology and smart contracts** in conducting electronic transactions.”
- **Ohio** ([SB 220](#))
 - “A record or contract that is secured through blockchain technology is considered to be in an electronic form and to be an electronic record.”
 - Ensures that Electronic signatures secured through blockchain technology are also considered to have the same legal standing as any other electronic signatures defined under the act
- **Delaware** ([SB 69](#))
 - Legalizes corporate authorization, issuance, transfer, and redemption of shares through a distributed ledger
 - Protect companies from lawsuits alleging breach of fiduciary duty for utilizing blockchain technology
- **California** ([AB 2658](#))
 - Introduces legal definitions of “blockchain technology”
 - Establishes a working group to study the uses, benefits, and risks of blockchain technology

State Laws Addressing Blockchain

■ Wyoming

- [HB 19](#) provides an exemption for virtual currency (e.g., Bitcoin, Ethereum, etc.) used within Wyoming from money transmitter laws and regulations
- [HB 70](#) provides that a person who develops, sells or facilitates the exchange of an open blockchain token (a “consumer” or “utility” token) is not subject to specified securities and money transmission laws
- [SF 111](#) provides that virtual currency is not subject to taxation as “property” in Wyoming.
- [HB 101](#) provides for the **maintenance of corporate records** of Wyoming entities via blockchain so long as electronic keys, network signatures and digital receipts are used.
- [HB 126](#) modifies Wyoming’s corporate code to permit the formation of “Series LLCs.” The intent of this legislation is to promote Wyoming as a jurisdiction of choice for securities formation and to compete with Delaware and Nevada for corporate registration revenue.

Overview of Legal Issues

Patents

- What aspects of blockchain technology are patentable?
- Who is infringing in distributed system?

Open Source

- When does open source make sense for dApps?
- Issues with open source
- Forking?

Blockchain Patents and Open Source (see papers [here](#), [here](#) and [here](#))

Additional Information

Sheppard Mullin's Blockchain Technology and Digital Currency team helps clients develop innovative and comprehensive legal strategies to take advantage of what may be the most disruptive and transformative technology since the Internet. We focus on advising clients on how to meet their business objectives, without incurring unnecessary legal risk. Our team includes attorneys with diverse legal backgrounds who collectively understand the vast array of legal issues with and ramifications of blockchain technology and digital currencies. [More Information](#)

- For more information on current Blockchain and Cryptocurrency news and regulatory developments, please visit our Blockchain and Cryptocurrency - Law of the Ledger Blog at: lawoftheledger.com



James G. Gatto
Partner, Sheppard Mullin

202.747.1945
jgatto@sheppardmullin.com