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RESEARCH BRIEF

Banking Is Only The Beginning: 36 Big Industries Blockchain Could Transform

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[Bitcoin & Blockchain](#) [Fintech](#)



Banking isn't the only industry that could be affected by blockchain tech. Law enforcement, ride hailing, and many other sectors could also have blockchain in their future.

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Bitcoin and other virtual currencies are made possible by what's known as blockchain technology. Blockchain is essentially a global public ledger capable of automatically recording and verifying a high volume of digital transactions, regardless of location.

Bitcoin's popularity is proving blockchain's usefulness in finance, but entrepreneurs have come to

believe blockchain could transform many more industries. Ultimately, the use cases for a transparent, verifiable register of transaction data are practically endless – especially since blockchain operates through a decentralized platform requiring no central supervision, making it resistant to fraud.

As startups use blockchain to drive greater transparency and veracity across the digital information ecosystem, they're boosting awareness of the technology in sectors ranging from infrastructure to public policy. Here are the latest innovative ways companies are harnessing the power of global blockchain.

WHAT IS BLOCKCHAIN TECHNOLOGY?

Become an expert on blockchain in this briefing. We'll provide the definitions and analogies you need to know for bitcoin, blockchain, cryptocurrencies, and more.

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1. BANKING

Banking is just the beginning. But from a macro perspective, banks serve as the critical storehouses and transfer hubs of value. As a digitized, secure, and tamper-proof ledger, blockchain could serve the same function, injecting enhanced accuracy and information-sharing into the financial services ecosystem.

Swiss bank UBS and UK-based Barclays are both experimenting with blockchain as a way to expedite back office functions and settlement, which some [in the banking industry](#) say could cut up to \$20B in middleman costs.

Banks are among the [growing number](#) of financial services giants investing in blockchain startups such as [R3 CEV](#), which is working with an 80+ member consortium of banks, regulators, and technology partners to develop Corda, a blockchain platform designed to be the “new operating system” for financial markets.

2. MESSAGING APPS

Popular among cryptocurrency enthusiasts, encrypted messaging app [Telegram](#) is raising an initial coin offering (ICO) to fund development of a blockchain platform. The decentralized messaging platform is an obvious threat to apps like [Slack](#) because it's planning to raise the largest ICO in history, totaling \$1.2B for its ecosystem of 170M users. The smart money investors [rumored](#) to be participating in the ICO include Benchmark, Sequoia Capital, and Kleiner Perkins Caufield & Byers.

Similarly, chat platform [Kik](#) has done an ICO for in-app currency. And [Line](#), Japan's most popular message service, is allegedly [planning](#) to expand into cryptocurrency trading.

3. HEDGE FUNDS

Backed by names including First Round Capital and Union Square Ventures, [Numerai](#) is taking the hedge fund model — employing a bunch of traders and quants — and decentralizing it. Numerai sends its thousands of disparately located quants encrypted datasets and asks them to build predictive models, and the best contributors are rewarded with Numerai's token called Numeraire. Then, Numerai takes the strategy and creates a meta-model to make trades. In some ways it's a blockchain-based spin on [Quantopian](#)'s model for rewarding data scientists, except it's less a competition and more an invisible collaboration.

4. VOTING

Elections require authentication of voters' identity, secure record keeping to track votes, and trusted tallies to determine the winner. In the future, blockchain tools could serve as a foundational infrastructure for casting, tracking, and counting votes — potentially eliminating the need for recounts by taking voter fraud and foul play off the table.

By capturing votes as transactions through blockchain, governments and voters would have a verifiable audit trail, ensuring no votes are changed or removed and no illegitimate votes are added. One blockchain voting startup, [Follow My Vote](#), has released the alpha version of its stake-weighted end-to-end blockchain voting solution.

5. INTERNET IDENTITY & DNS

In the current web, it's difficult to establish your true identity, and your personal information lives on company servers for apps you use with little inter-operability (even using Facebook as a log-in only gets you so far). Platforms like [Blockstack](#) and uPort think there's a future where your identity can be easily carried with you around the internet. On Blockstack, for instance, a user will access apps atop decentralized networks, and have perfect portability of their data.

6. CRITICAL INFRASTRUCTURE SECURITY

The current internet architecture has proven easy to hack, especially when it comes to IoT devices. As critical infrastructure like power plants and transportation all become equipped with connected sensors, the risks to civil society as we know it are great. Companies like [Xage](#), for example, are employing blockchain's tamperproof ledgers to sharing security data across industrial device networks.

Though blockchain's ledger is public, its data communications are sent and verified using advanced cryptographic techniques — ensuring that data is coming from correct sources and that nothing is intercepted in the interim. Thus, if blockchain is more widely adopted, the probability of hacking could go down, as the cyberprotections of the technology are more robust than legacy systems.

Other potential applications include using blockchain to provide massive scale data authentication. For example, using its blockchain-enabled KSI (Keyless Signature Infrastructure), cybersecurity startup [Guardtime](#) tags and verifies data transactions.

7. RIDE SHARING

Ride apps like Uber and Lyft represent the opposite of decentralization, since they essentially operate as dispatching hubs and use algorithms to control their fleets of drivers (and dictate what they charge). Blockchain could inject new options into that dynamic: with a distributed ledger, drivers and riders could create a more user-driven, value-oriented marketplace.

Startup [Arcade City](#), for example, facilitates all transactions through a blockchain system. Arcade City operates similarly to other ride-sharing companies but allows drivers to establish their rates

(taking a percentage of rider fares) with the blockchain logging all interactions.

This allows Arcade City to appeal to professional drivers, who would rather build up their own transportation businesses than be controlled from a corporate headquarters: drivers on Arcade City are free to set their own rates, build their own recurring customer base, and offer additional services like deliveries or roadside assistance.

8. INTERNET ADVERTISING

The internet as we know it emerged with ad hoc solutions for advertising. In aggregate, ads add tons of mobile data usage to loading web pages, and both advertisers and consumers suffer from any lack of protocols. Brave recently ICOed its **Basic Attention Token** (BAT) to compensate advertisers and users. Instead of a middleman like Google or Facebook's ad arm, advertisers will list directly onto Brave's blockchain-based browser. Users who opt in receive fewer, but better targeted ads without the malware. And advertisers get better data on their spending.

9. CRYPTO EXCHANGES

One way blockchain reduces conventional cybersecurity risk is by simply removing the need for human intermediaries – thus lessening the threat of hacking, corruption, or human error. Ironically, some of blockchain's most successful companies are **fairly centralized middlemen**, and many new projects are “**dogfooding**” the buying and selling of blockchain-based currency by putting the whole exchange on a blockchain.

One high profile project here is **Enigma**, which claims MIT and Flybridge Capital as supporters. Enigma is the developer of Catalyst, an off-chain decentralized exchange and investment platform that works without the need of a third party to act as clearing house.

Another high-profile decentralized exchange is Ethereum-based 0x.

10. EDUCATION AND ACADEMIA

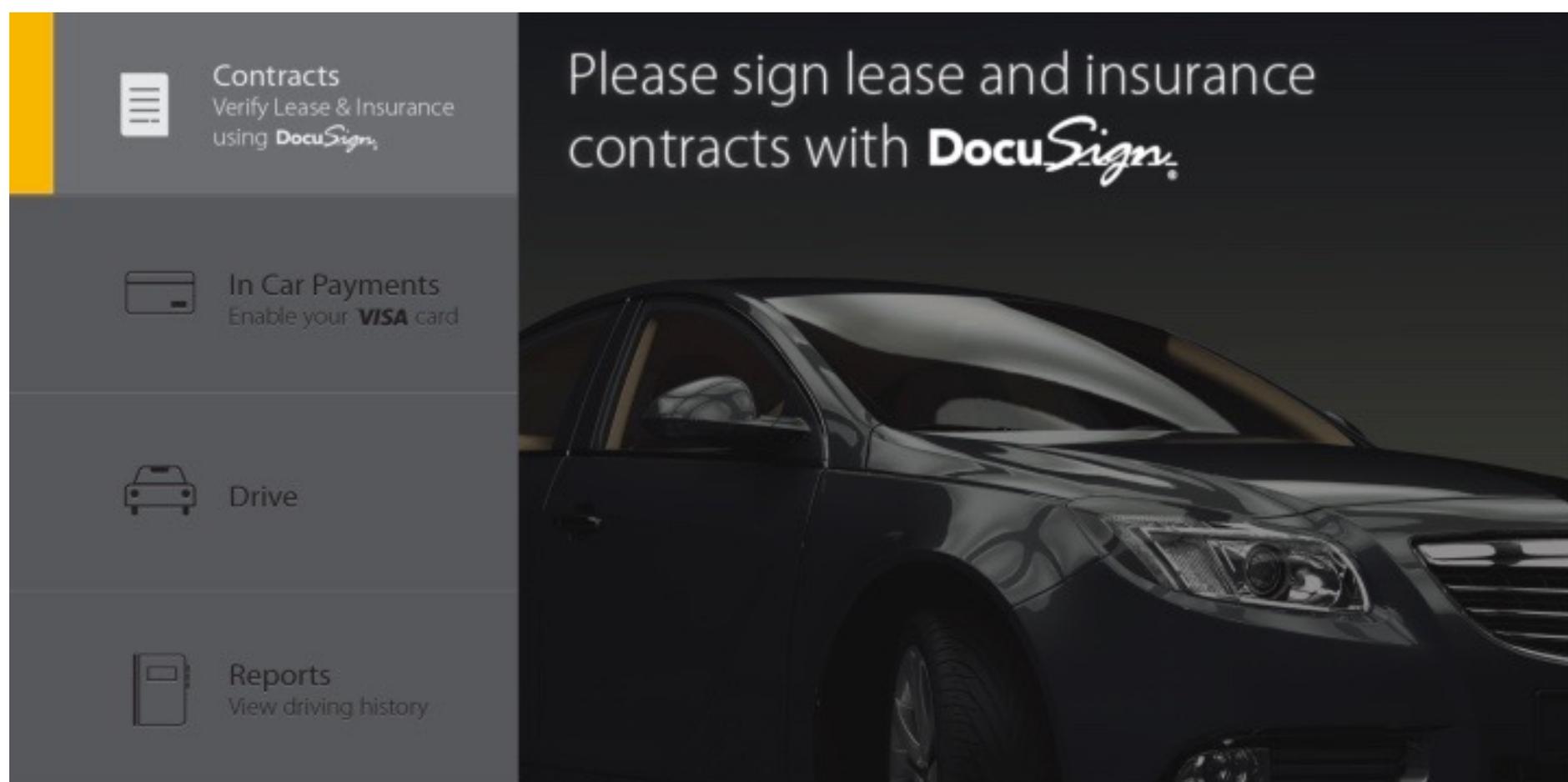
By nature, academic credentials must be universally recognized and verifiable. In both the

primary/secondary schooling and university environments, verifying academic credentials remains largely a manual process (heavy on paper documentation and case-by-case checking).

Deploying blockchain solutions in education could streamline verification procedures – thus reducing fraudulent claims of un-earned educational credits.

Sony Global Education, for example, has **developed** a new educational platform in partnership with IBM that uses blockchain to secure and share student records, while **Learning Machine**, a 10-year old software startup, has collaborated with MIT Media Lab to launch of the Blockcerts toolset, which provides an open infrastructure for academic credentials on the blockchain.

11. CAR LEASING AND SALES



The experience of leasing, buying, or selling a vehicle is a notoriously fragmented process for stakeholders on all sides of a transaction, but the blockchain could change that. In 2015, Visa partnered with transaction management startup **DocuSign** on a proof-of-concept project that used blockchain to streamline car leasing – transforming it into a “click, sign, and drive” process.

With the Visa-DocuSign tool, prospective customers choose the car they want to lease and the transaction is entered on the blockchain’s public ledger. Then, from the driver’s seat, the customer signs a lease agreement and an insurance policy, and the blockchain is updated with that information. If the technology were to be implemented in practice, it’s not a stretch to imagine that a process of this sort might be developed for car sales and registration as well.

12. INDUSTRIAL IOT & MESH NETWORKING



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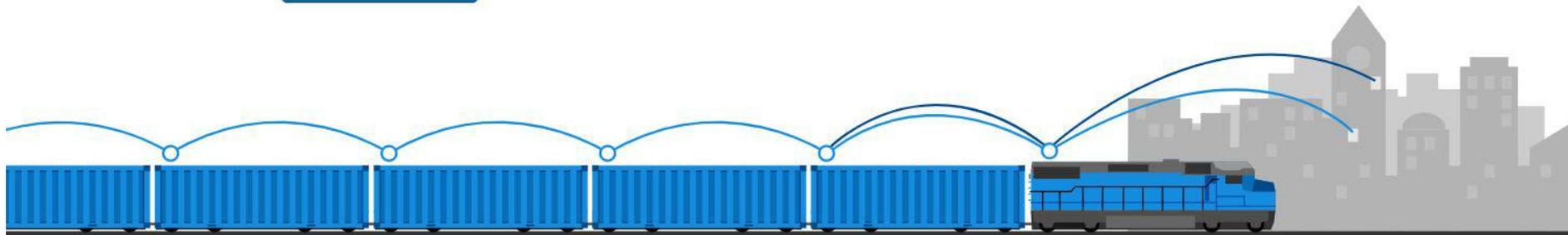
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IBM and Samsung have been working on a concept known as ADEPT, which uses blockchain-type technology to form the backbone of a decentralized network of IoT devices. With ADEPT (“Autonomous Decentralized Peer-to-Peer Telemetry”), a blockchain would serve as a public ledger for a massive amount of devices, which would **no longer need** a central hub to mediate communication between them.

Without a central control system to identify one another, the devices would be able to communicate with one another autonomously to manage software updates, bugs, or energy management.

Some startups are looking to build blockchain technology into an IoT platform as well. For example, **Filament** (formerly Pinocchio) provides a decentralized network for IoT sensors to communicate with each other. By encrypting down to the hardware level and leveraging blockchain technology, Filament’s decentralized network stack allows any device to connect, interact, and transact independent of a central authority.

13. CLOUD STORAGE

Enterprises that offer cloud storage often secure customers’ data in a centralized server, which can mean increased network vulnerability from attacks by hackers. Blockchain cloud storage solutions allow storage to be decentralized – and therefore less prone to attacks that can cause systemic damage and widespread data loss.

Dubbed the “Airbnb for file storage,” Filecoin is a high-profile crypto project that rewards the

hosting of files. This could help create a decentralized version of S3 from Amazon Web Services. The company behind it, [Protocol Labs](#), has garnered investment from Union Square Ventures, Naval Ravikant, and The Winklevosses, among a number of prominent names. But Filecoin is just one of many projects in this area, and other token names in storage include Storj and Siacoin.

[Storj](#) is beta-testing a blockchain-enabled cloud storage network to improve security and lower the transaction costs of storing information in the cloud. Storj users can also rent out their unused digital storage space in a peer-to-peer manner, potentially creating a new market for crowdsourced cloud storage capacity.

14. CLOUD COMPUTING

Blockchain-based processing projects like Golem are allowing users to rent out their CPU capacity and be rewarded with tokens. Similarly, Ethereum itself has been [informally called](#) the “world’s supercomputer” because of its ability to execute smart contracts and its mining is ASIC resistant (allowing everyday PC owners to compete proportionally with big mining operations).

15. FORECASTING

As more industries embrace blockchain in a holistic way, the research, analysis, consulting, and forecasting industries could also be shaken up by the technology: with an unshakably accurate transaction record supporting their data analysis, forecasting operations will have a stronger foundation for using machine learning algorithms to cultivate targeted predictions and insights.

Even now, blockchain is creating new a new “predictions market.” [Augur](#), built on the Ethereum blockchain, allows users to forecast events and be rewarded for predicting them correctly. The service remains in beta, but the company says the entire process will be decentralized and will enable users to place bets not only on sports and stocks, but on other topics such as elections and natural disasters.

16. MUSIC/ENTERTAINMENT RIGHTS AND IP

Entertainment entrepreneurs are turning to the blockchain to make content sharing fairer for creators using smart contracts, whereby the revenue on purchases of creative work can be automatically disseminated according to pre-determined licensing agreements.

Before pivoting into an entertainment think tank, **Mycelia** was launched with a focus on producing “intelligent songs” supported by blockchain technology and cryptocurrencies. **Ascribe.io**, a product of **BigchainDB**, also works to provide a trackable, verifiable record of ownership between artists and their work.

British blockchain startup **JAAK** also has plans to work with music rights holders and other entertainment-industry stakeholders. JAAK, which provides an operating system for content, is developing a platform that allows media owners to convert their repository of media, metadata, and rights into “smart content” that can self-execute licensing transactions on the Ethereum blockchain.

17. STOCK TRADING

For years companies have worked to ease the process of buying, selling, and trading stocks, and now new blockchain-focused startups are looking to automate and secure the process more efficiently than any past solution.

For example, **TØ.com**, a subsidiary of Overstock, wants to enable stock transactions online using blockchain tech. The “t zero” platform integrates cryptographically secure distributed ledgers with existing trading processes to reduce settlement time and costs and increase transparency and auditability.

Partnerships with existing trading networks and exchanges will help blockchain take off in the space. Blockchain startup **Chain** (which is also mentioned below) is a leader on that front: the company helped orchestrate a **live blockchain integration** that successfully connected Nasdaq’s stock exchange and Citi’s banking infrastructure.

18. REAL ESTATE

Pain points for buying and selling property include a lack of transparency during and after transactions, copious amounts of paperwork, possible fraud, and errors in public records.

Blockchain offers a way to reduce the need for paper-based record keeping and speed up transactions – helping stakeholders improve efficiency and reduce transaction costs on all sides of the transaction.

Real estate blockchain applications can help record, track, and transfer land titles, property deeds, liens, and more, and can help ensure that all documents are accurate and verifiable.

Tech startup [Ubitquity](#) offers a Software-as-a-Service (SaaS) blockchain platform for financial, title, and mortgage companies. The company is currently working with Land Records Bureau in Brazil, among other stealth clients, to input property information and record documents through the blockchain.

19. INSURANCE

Companies like [AirBnB](#), [Tujia](#), [Wimdu](#), and others provide a way for people to temporarily exchange assets – including private homes – for monetary value. The problem, however, is that in the absence of a public record it has been nearly impossible to insure assets on such platforms.

Together with blockchain startup [Stratumn](#), which helps developers build trustworthy applications enabled by Blockchain features, professional services firm Deloitte and payment services provider [Lemonway](#) recently unveiled a blockchain-enabled solution called LenderBot.

LenderBot is a micro-insurance proof of concept for the sharing economy that demonstrates the potential for blockchain applications and services in the industry. LenderBot, which allows people to enroll in customized micro-insurance by chatting through Facebook Messenger, enables blockchain to serve as the third-party in the contract between individuals as they exchange high-value items through the sharing economy.

20. HEALTHCARE

Healthcare institutions suffer from an inability to securely share data across platforms. Better data collaboration between providers could ultimately mean higher probability of accurate diagnoses, higher likelihood of effective treatments, and the overall increased ability of healthcare systems to deliver cost-effective care.

Use of blockchain technology could allow hospitals, payers, and other parties in the healthcare value chain to share access to their networks without compromising data security and integrity.

To that end, startup **Gem** has launched the Gem Health Network, a blockchain network for the global companies across the continuum of healthcare. (Gem is using Ethereum blockchain-enabled technology to create a secure, universal data-sharing infrastructure for the space.) **Tierion** is another blockchain startup that has built a platform for data storage and verification in healthcare; both Gem and Tierion recently partnered with Philips Healthcare in the **Philips Blockchain Lab**.

21. SUPPLY CHAIN MANAGEMENT

One of the most universally applicable aspects of blockchain is that it enables more secure, transparent monitoring of transactions. Supply chains are basically a series of transaction nodes that link to move products from point A to the point-of-sale or final deployment.

With blockchain, as products change hands across a supply chain from manufacture to sale, the transactions can be documented in a permanent decentralized record – reducing time delays, added costs, and human errors.

Several blockchain startups are innovating into this sector: **Provenance**, for one, is building a traceability system for materials and products, enabling businesses to engage consumers at the point of sale with information gathered collaboratively from suppliers all along the supply chain (and thus substantiate product claims with trustworthy, real-time data).

Others include **Hijro** (formerly Fluent), which offers an alternative platform for lending into global supply chains, and **Skuchain**, which builds blockchain-based products for the business-to-business trade and supply chain finance market.

22. ENERGY MANAGEMENT

Energy management is another industry that has historically been highly centralized. In the US and UK, to transact in energy one must go through an established power holding company like Duke Energy or National Grid, or deal with a re-seller that buys from a big electricity company.

As with other industries, the distributed ledger could minimize (or eliminate) the need for intermediaries. Startups like **Transactive Grid** – a joint venture between **LO3 Energy** and Brooklyn-based Ethereum outfit **Consensys** – are rethinking the traditional energy-exchange process.

Transactive Grid uses Ethereum blockchain technology to enable customers to transact in

“decentralized energy generation schemes,” effectively allowing people to generate, buy, and sell energy to their neighbors. LO3 Energy also has projects that include Brooklyn Microgrid and Project Exergy, the latter being a proof-of-concept for harnessing excess heat expelled by computers.

23. SPORTS MANAGEMENT

Investing in athletes has generally been the purview of sports management agencies and corporations, but blockchain could decentralize the process of funding athletes by democratizing fans’ ability to have a financial stake in the future of tomorrow’s sports stars.

The concept of using the blockchain to invest in athletes (and earn returns) has not been tried on any significant scale. Yet at least one organization, [The Jetcoin Institute](#), has promoted the idea of fans using cybercurrency – in this case, “Jetcoins” – to invest in their favorite athletes and receive small a portion of the athlete’s future earnings (as well as VIP events, seat upgrades, and so on). Jetcoin has experimented with this approach in a partnership with the Hellas Verona soccer team in Italy, among others.

24. GIFT CARDS AND LOYALTY PROGRAMS

Blockchains can help retailers offering gift cards and loyalty programs to make those systems cheaper and more secure. With fewer middlemen needed to process the issuing of cards and sales transactions, the process of acquiring and using blockchain-reliant gift cards is more efficient and cost effective.

Similarly, increased levels of fraud prevention enabled by the blockchain’s unique verification capability also save costs and help prohibit illegitimate users from obtaining stolen accounts.

[Gyft](#), a [First Data](#)-owned online platform for buying, sending, and redeeming gift cards, has partnered with blockchain infrastructure provider [Chain](#) to run gift cards for thousands of small businesses on the blockchain, in a new program is called Gyft Block.

Another startup, [Loyyal](#), is innovating to make loyalty incentives more easily exchangeable across different sectors (think multi-branded “Airline/Retailer/Consumer” rewards) by using blockchain to support and verify their value.

25. GOVERNMENT AND PUBLIC RECORDS

The management of public services is yet another area where blockchain can help lessen paper-based processes, minimize fraud, and increase accountability between authorities and those they serve. Some US states are taking it upon themselves to realize the benefits of blockchain: the [Delaware Blockchain Initiative](#), launched in 2016, aims to create an appropriate legal infrastructure for distributed ledger shares, to increase efficiency and speed of incorporation services.

Illinois, Vermont, and other states have since announced similar initiatives. Startups are assisting in the effort as well: in Eastern Europe, the [BitFury Group](#) is currently [working](#) with the Georgian government to secure and track government records.

26. GUN TRACKING

Blockchain's distributed ledger offers several opportunities around gun ownership and usage. If gun possession-related information were logged and connected through blockchain, it could provide a connected infrastructure for tracking where weapons came from in the event of unlawful use.

A startup called [Blocksafe](#) is focusing on creating a blockchain-based system for weapons tracking and accountability, which would enable gun owners to track their guns' locations and stay informed as to whether lost weapons had been fired.

Long-term, other opportunities exist in creating public-private partnerships around such information, such as linking existing No Fly List information to blockchain transaction records to more effectively prevent unlawful gun purchases.

27. WILLS AND INHERITANCES

Wills are a highly specific kind of contract, providing an ideal use case for a blockchain smart-contracts solution. In addition to the challenge of verifying the deceased's actual death, will-related litigation often involves challenges to the "genuineness" of a will – that is, whether the legal interpretation aligns with the deceased's intentions.

While the application of blockchain would not completely remove these challenges, it would make it easier to identify factual information, provide verifiable transaction data, and dismiss claims that are without merit.

Through its Blockchain Apparatus initiative, [Blockchain Technologies Corp.](#) is developing a [self-executing will system](#) with a blockchain that will automatically check the government's "Death Master File," maintained by the U.S. Social Security Office, to verify that a person did in fact pass. Then, pre-programmed rules setup by the person will automatically distribute their assets to beneficiaries, eliminating the need for executors and court battles regarding the integrity of the will.

28. RETAIL

Currently, consumers' sense of trust in the retail system is mainly linked to their trust in the marketplace where their purchases are being made. (As an example, trust is a key element of [Amazon's success with customers](#).) Blockchain could decentralize that trust, attaching it more to the sellers on various marketplaces and platforms than to the sites themselves.

Startups like [OpenBazaar](#) are developing decentralized blockchain utilities to connect buyers and sellers, without a middleman and the associated charges. OpenBazaar operates as an open-source, peer-to-peer network offering merchants no fees and no restrictions on what can be sold. Customers purchase goods using any of 50 cryptocurrencies, and sellers are paid in Bitcoin – with all associated data distributed across the global network instead of stored in a central database.

29. CHARITY

For those making charitable donations, blockchain provides the ability to precisely track where your donations are going, when they arrived, and whose hands they actually ended up in. From there, blockchain can deliver the accountability and transparency to address the perennial complaints around charitable donations – including the organizational inefficiency (or even financial misconduct) that can prevent money from reaching those it was meant for.

Bitcoin-based charities like the [BitGive Foundation](#) use blockchain's secure and transparent distributed ledger to give donors greater visibility into fund receipt and use. The company has launched a beta version of GiveTrack, a blockchain-based multidimensional donation platform that provides the ability to transfer, track, and provide a permanent record of charitable financial transactions across the globe. By leveraging GiveTrack, charities can drive stronger trust with donors.

30. LAW ENFORCEMENT

In police investigations, maintaining the integrity of the chain of evidence is paramount, so a distributed, hard-to-falsify record kept via blockchain could provide an added layer of security to the evidence-handling process. In addition, blockchain can be leveraged for flagging certain kinds of transaction patterns – giving police a heads up when an individual engages in suspicious financial activity.

Startups are innovating to bring these benefits to law enforcement. **Chronicled** is developing sealable, tamper-proof containers with near-field communications chips that register container contents through a blockchain system – creating an ideal solution for evidence management in law enforcement.

Elliptic, meanwhile, is developing a system to continually scan bitcoin registries, uncovers complex relationships within the transactions, and flag suspicious transactions/histories for potentially alerting law enforcement.

31. HUMAN RESOURCES

Conducting background checks and verifying employment histories can be time-consuming, highly manual tasks for human resources professionals. If employment and criminal records were stored in a blockchain ledger (and thus free from the possibility of falsification), HR professionals could streamline the vetting process and move hiring processes forward more quickly.

Chronobank is one blockchain project aimed at disrupting the HR/recruitment industry, with a specific focus on improving short-term recruitment for on-demand jobs (in cleaning, warehousing, e-commerce, and so on). The startup aims to use blockchain to make it easier for individuals to find work on the fly and be rewarded for their labor through a decentralized framework via cryptocurrency, without the involvement of traditional financial institutions.

32. BUSINESS AND CORPORATE GOVERNANCE

The benefits of using blockchain for smart contracts and verifiable transactions can also be applied toward making business accounting more transparent. The **Boardroom** app, for example,

provides a governance framework and app enabling companies to manage smart contracts on the public and permissioned Ethereum blockchains.

The app provides an administrative system for organizations to ensure smart contracts are executed according to rules encoded on the blockchain (or to update the rules themselves). Boards can also use the app for shareholder voting by proxy and collaborative proposal management.

Aragon is going even further, using blockchain to “disintermediate the creation and maintenance of companies and other organizational structures.” Believing that **decentralized organizations** can solve the world’s worst problems, Aragon is developing tools to help companies use blockchain to manage their entire global workforce. The company sees blockchain as a tool to welcome more employees and contractors from developing countries into North American and European businesses.

33. CREDIT HISTORIES

Lenders minimize the risk posed by loans or lines of credit to small businesses by evaluating their histories using business credit reports. These third-party reports – issued companies such as Dun & Bradstreet – are inaccessible to the small business owners (beyond the basic profile information they provide to the credit bureau). This can make business owners feel like credit bureaus have all the power over loan terms, even though the credit bureau may be assessing outdated or inaccurate information to determine their reports.

Lumeno.us is one startup using blockchain technology to make business credit reports more accurate, transparent, and shareable. Lumeno.us normalizes semi-structured financial data using a proprietary application of collaborative tagging and advanced analytics. From there, it provides business owners the tools to share their data in order to get a loan, find trusted partners, or manage a portfolio or network.

34. 3D PRINTING/MANUFACTURING

3D printing and “additive manufacturing” (aka building 3D objects by adding layer-upon-layer of material) are highly technology-driven processes, whereby the digital files involved can be easily transmitted with the click of a mouse. Consequently, parts and products are easier to share and track – leading to smarter digital supply networks and supply chains.

Using blockchain to support these evolving infrastructures can eliminate security vulnerabilities, protect intellectual property from theft, and streamline project management, ultimately helping the 3D printing and additive manufacturing sectors to grow and scale.

A new stealth startup in this area is [Genesis of Things](#), which is working to combine 3D printing, blockchain, and IoT-sensor technologies to create more advanced manufacturing processes. In doing so, they hope to lower the costs of 3D printing custom items (using airline parts as a case study on their website) and automate more aspects of production and transactions.

35. CROWDFUNDING

The crowdfunding industry emerged to “disintermediate” capital formation by giving backers (aka “pledgers”) or individual investors the ability to directly fund creators and entrepreneurs, providing a natural alignment with blockchain capabilities.

For example, the movie [BRAID](#) became the first major feature film to be financed through a token “crowdsale” on the Ethereum blockchain through its \$1.7M campaign on [Weifund](#).

Initial Coin Offerings (ICOs), in which companies sell cryptocurrency-backed tokens in their companies in the same manner as a publicly-traded company sells stock, are another example of blockchain-powered crowdfunding – startups such as [OpenLedger](#) make that possible. Individuals may soon invest in real estate using “crypto crowdfunding,” as well: Singapore-based [Real Estate Asset Ledger](#) (REAL) intends to use blockchain technology to inject greater liquidity and transparency into real estate investing.

36. COMMODITY-BACKED CURRENCY

Some real-world currencies are backed by underlying physical commodities that have intrinsic value, and for a long time the US Dollar had an equivalent in gold.

In a pioneering experiment, Venezuela’s president Nicolas Maduro planned to create a national cryptocurrency called “Petro” that will be backed by the country’s ample oil reserves. And Vladimir Putin has commissioned his team to make a blockchain-based version of the Russian currency rouble. Many saw it as a [ruse](#) for both countries to circumvent US sanctions. However, it could be the beginning of nation-backed cryptocurrencies that are tied to commodities, especially for resource-rich countries.

Another project called BananaCoin offers tokens that can be bought with Ethereum or Bitcoin and the price is tied to the price of 1 kilogram of bananas on the international market. In a commodity-backed spin on crowdfunding, tokenholders would indirectly be supporting an organic banana farm in Laos that plans to export to China, where bananas are in high demand.

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