

New Tech on the Block: Dubai's Blockchain Strategy and Why it Matters

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What is a Blockchain?

Technically speaking a "Blockchain" is a distributed ledger of records, arranged in data batches called "blocks", that use cryptographic validation to link themselves together into an unbroken "chain". The encryption process, known as "hashing" is carried out by multiple computers. If they all agree on the answer, each block receives a unique digital signature.

What is attractive about Blockchains are that they are secure by design, as the distributed nature means it is very hard for anyone to tamper with the data – as a hacker would have to get access to every copy of the database contemporaneously to be successful.

Old transactions are preserved forever in a Blockchain and new transactions are added to the ledger irreversibly. Anyone using the network can check the ledger and see the same transaction history. That means the ledger cannot be altered, only added to, and it is updated for everyone on the network at the same time.

While the concept of mutual distributed ledgers is not new, the Blockchain has gained more recent prominence as the technology underpinning the Bitcoin cryptocurrency.

What Blockchain technology enables is a way to validate transactions through little or no human intervention.

Instead of requiring the involvement of middlemen and manual processing, a potentially huge amount of transactions could be validated automatically using Blockchain technologies.

If banks and other financial institutions can increase the speed of transactions and reduce costs in the banking system, it should mean cheaper and more efficient services for consumers. For example, sending money overseas could become nearly instantaneous.

Blockchains also have wider potential beyond financial services.

Blockchains are suitable for recording events, medical records, identity management and other records management activities.

Smart Contracts

Blockchain ledger technology could be used not only for decentralised transactions but also for smart (i.e. automated and computable) transactions and smart (computable and self-executing) contracts that can take advantage of smart transactions.

To be clear, the term "smart contract" does not refer to a true contract in legal terms. Essentially, a smart contract is a piece of software code that two or more parties program to cause certain actions to happen in

response to the occurrence of specific conditions.

From a UAE perspective, Article 12 of Federal Law No.1 of 2006 on Electronic Commerce and Transactions appears to have anticipated “smart contracts” as it provides that valid and enforceable contracts can be formed by computer programs (defined as “automated electronic agents”) that include two or more electronic information systems preset and pre-programmed to carry out the transaction, even if no individual is directly involved.

Dubai Blockchain Strategy

The Dubai government has clearly recognised the potential of Blockchains and through the introduction of the Dubai Blockchain Strategy (the “Strategy”) it is pioneering the application of new Blockchain based technology. If the Strategy is successfully implemented, Dubai should have the first Blockchain powered government.

The Strategy is a result of a collaboration between the Smart Dubai Office and the Dubai Future Foundation. Going forward the Dubai Future Foundation will oversee the implementation of the Strategy and the Smart Dubai Office has been tasked with its execution.

The Strategy is built on the three pillars of:

- government efficiency;
- industry creation; and
- international leadership.

Under the first pillar of “Government Efficiency”, the Strategy is intended to contribute to increased government efficiency by enabling a paperless digital layer for all city transactions, supporting Smart Dubai initiatives in the public and private sector.

Documentation, such as visa applications, bill payments and license renewals, which the Dubai government estimates currently account for over 100 million documents each year, will be transacted digitally under the Strategy. It has been estimated that the use of Blockchain technology could contribute savings of up to 114 MTons CO2 emissions from trip reductions, and redistribute up to 25.1 million hours of economic productivity in saved document processing time.

Under the second pillar of “Industry Creation” the Strategy will introduce a system for enabling the creation of new businesses using Blockchain technology (the Dubai government in its announcement of the Strategy expected the volume of the Blockchain market to hit US\$300 million over the next five years). Industries that would likely benefit from Blockchain technology include: real estate, fin-tech and banking, healthcare, transportation, urban planning, smart energy, digital commerce and tourism.

The third pillar of the Strategy is “International Leadership”. Under this pillar, Dubai will open its Blockchain platform for global counterparts to enhance safety, security, and convenience for international travellers to Dubai.

Under the Strategy, international travellers will benefit from faster entry with pre-approved passport and security clearance and visas; easier mobility within Dubai due to approved drivers licenses and car rental; guaranteed wireless connectivity; enhanced tourism and pre-authenticated temporary digital wallets and payments.

The third pillar of the Strategy is to be delivered through a Global Trust Network with partners in Europe, North America and Asia.

Prior to the launch of the Strategy the Dubai Future Foundation had already founded the Global Blockchain

Council, an initiative that includes 42 government entities and private companies to discuss the best applications in Blockchain technologies.

As a distributed ledger Blockchain based systems have the potential to reduce or eliminate many categories of validation and verification issues for simple transactions. There is no need for trusted third parties such as banks to complete transactions.

Consequently, Blockchains could become the norm for data records sooner rather than later.

Through the Strategy, the Dubai Government is recognizing Blockchain as the next step in digital transformation of the public and private sector and positions Dubai as a leading center for Blockchain development and innovation.

Al-Tamimi & Company's Technology, Media & Telecommunications team regularly advises on technology related issues including encryption and electronic contracting, and telecommunications and media related transactions. For further information please contact Andrew Fawcett (a.fawcett@tamimi.com).