



Seoul Emerging As The First Blockchain City

Seoul has morphed into a first-tier Technocracy and intends to become a coveted 'global city.' Mayor Park says blockchain will “bring a fundamental change to society” and indeed it will, but citizens will have other thoughts about it. □ TN Editor

Used car salesmen typically aren't rated highly on trust. They usually languish at the bottom of the rankings just above journalists and politicians. But the life of a used car salesman is about to become a whole lot easier in Seoul as the city is deploying blockchain technology to establish a trust system to restore credibility to the used car market and help the downtrodden salesman to better manage title transfers, accident history, car conditions and more.

It is one aspect of 14 set out in a US\$109-million blockchain masterplan launched last October by Seoul's mayor, Park Won-soon. According to Park, the [Promotion Plan for Blockchain City Seoul](#) will boost the blockchain industry—considered to be at the core of the Fourth Industrial Revolution—across multiple areas of his city.

What is blockchain?

Blockchain is a dispersed data storage technology which stores all transactions across various computers. Having information stored in a decentralised format makes it impossible—according to the city—to forge or manipulate. Due to this, it is applicable in sectors that require a high level of security and credibility such as finance, healthcare, logistics, and more.

IT market research institution, Gartner, forecasts that the world's blockchain market will expand into a US\$3.16 trillion market by 2030. Due to this, there is a high level of global competition to lead the blockchain market.

Vilnius in Lithuania took the lead in February 2018 by launching Europe's first international [blockchain technology centre](#). Switzerland has prepared and drafted blockchain industry guidelines while China created the world's largest start-up fund (around US\$1.4 billion) for blockchain. Competition is lining up between cities with Dubai and Moscow also leading the blockchain charge.

“Blockchain is an innovative technology that has the potential to bring a fundamental change to society,” says Park. “It has caught the world's attention as a fuel for innovative growth that can boost a city's competitive edge.”

According to the Seoul plan, a fund worth 100 billion won (US\$88.5 million) will be set up in collaboration with the private sector. Park said that the Seoul Metropolitan Government will boost the blockchain industry's ecosystem through five years of concentrated investment. In 2018, 14 administrative services began implementing blockchain technology (see box) in various steps to overhaul public services that are directly connected to the lives of citizens.

The plan is to develop Seoul from a “great e-government city” to becoming a blockchain-based smart city with a competitive edge.

“Seoul with its advanced ICT sector has the power to become the world's best in blockchain industry and technology,” he adds. “We will

aggressively support the blockchain industry to transform Seoul into an international blockchain city.”

Fourteen administrative services to be powered by blockchain:

1. **Direct democracy via citizen participation:** By 2019 the aim is to create an online voting system (m-Voting, Democracy Seoul) where people can vote for major policies or engage in the community decision-making process. The city will share the voting process and results with all participants in a transparent manner. In the future, this can be widely used to decide on communities’ pending issues.
2. **Document-less online verification:** The plan is to implement blockchain when selecting recipients for various services such as public employment, welfare service, and more. Blockchain will help minimise the verification process by storing verification data on the blockchain for institutions to search, instead of having the applicants visit various agencies to obtain documents. The city will integrate this into the employment sector in 2019 and expand into various businesses starting in 2020.
3. **Comprehensive management of Seoul Metropolitan Government mileage (S-Coin):** Starting in 2019, Seoul citizens can deposit, use, convert, and claim individual mileage rewarded by the Seoul Metropolitan Government for participating in city policies. Citizens can deposit mileage using S-Coin via the Seoul Citizen Card app and use it to top up transport cards, donations, and pay local taxes.
4. **Establish a trust system for used-car sales:** Sellers can manage used-car title transfers, accident history and car conditions via blockchain to prevent fraud and to restore credibility to the used-car market. This will be carried out in the Janganpyeong used-car complex by 2019. Afterwards, it will expand to other used-car complexes.
5. **Prevent delayed payments for part-time workers:** Blockchain will be used to manage part-time workers’ contracts, payments, and to improve working conditions. Based on working

hours, payment calculations will be automated, and payments will be made. Starting in 2019, this will first be applied to the city's affiliated agencies. In 2020 it will be linked to other relevant agencies for further expansion.

6. **Comprehensive verification of the Seoul Citizen Card:** The city will provide a Seoul Citizen Card app service which allows about 400 city and district public facilities to be used via a single card. The plan is to implement a comprehensive verification feature using a single PIN instead of having to go through a separate membership application process.
7. **Automated subcontract payment:** The city will automate Seoul's public work payment via blockchain to protect the rights of workers and small business owners. The system will create an electronic contract between involved parties and automatically make payments based on the contract.
8. **Citizen-led smart healthcare:** Personal healthcare records can be stored on encrypted blockchain with consent to create a shared system among medical institutions. This will help to prevent overlapping treatment and save medical costs, while providing customised healthcare. In order to achieve this, an information strategy plan will be drafted next year, beginning with sharing personal healthcare records.
9. **Prevent fraud and misuse of online civil documents:** The government will issue the 29 types of online civil certificate documents via blockchain. This will strengthen the protection of personal information and prevent counterfeit documentation. Individuals can store and manage certificate files via electronic wallets which will be added onto the Seoul Citizen Card.
10. **Share history of donation and contribution details:** A blockchain-based process will enhance transparency and credibility. By 2020, a comprehensive management system for 'Donations and Contributions' will be established to compute relevant tasks and to share donation records.
11. **Revolutionise the management system for private trust funds:** By 2020, the city plans to create a management system which automates trustee selection, performance evaluation, and trust fund records. This will increase transparency for private

trust fund businesses and reduce the workload for trust institutions.

12. **Manage the life cycle of electric vehicles:** By 2020, a comprehensive management system will manage the overall life cycle of electric cars via blockchain. For example, applying for an electric car subsidy will all be managed under the blockchain system. Existing processes that were handled manually will be automated thereby helping to prevent any fraud regarding mileage records.
13. **Trading eco-friendly solar power:** Electricity produced from a solar power generator will be managed via blockchain. The process of selling and buying surplus electricity will be automated and set up so that payments can be made using Seoul's mileage S-Coin.
14. **Set up a blockchain standard platform:** The city will set up a standard platform so that other administrative agencies can also utilise blockchain technology. Within a year, standards for blockchain applicable tasks such as e-forms and integrated verification process will be prepared. Going forward, a common model which can be utilised by other administrative agencies will be developed.

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