

## Blockchain in Sweden & the Nordic Region

### A Brief Overview

**B**lockchain-based solutions are in place and in use in multiple business and industrial sectors in Sweden and neighbouring countries. In terms of venture capital investment in blockchain enterprises Sweden was ranked fourth worldwide, behind the US, the Netherlands and the UK, in a 2016 study by the Swedish National Innovation Agency.

The public sector too has perceived the value of blockchain for secure, tamper-proof data storage and in creating transparency in services provided by central and regional government. In some respects public authorities have gone even further in exploring blockchain than the private sector.

These are still early days for blockchain but Swedish business and government have been quick to see the opportunities and developments are moving ahead. Here are a few examples

#### **Automotive**

Last year the Volvo Car Corporation implemented a blockchain solution in part of its supply chain management. Specifically the company aims to safeguard against unethical sourcing of certain raw materials. Priority in this area is attached to the cobalt used in electric vehicle batteries for the Volvo and Polestar marques. Large quantities of cobalt are mined in central Africa under conditions close to slave labour.

Using the blockchain solution in managing the progress of cobalt from the mine to the Volvo assembly line the company aims to ensure that the material originates only from jurisdictions with internationally acceptable working conditions such as Australia.

In addition Volvo Cars has, reportedly, extended blockchain-based supply chain management into other component areas where the technology allows greater efficiencies and lower transaction costs as well as the secure degree of transparency referred to above.

#### **Energy**

Entirely new business relations and processes can be created by blockchain according to major Nordic energy provider Fortum.

Based in Helsinki, Finland but trading across the region, Fortum has signalled its awareness of the potential for new business models and greater efficiencies in the energy market.

Direct sales of electrical power from small or private producers have been technically possible for some time. Blockchain makes them possible and practical from a legal and safety perspective. In Fortum's view a decentralized system of energy trading is on the cards.

Amongst other things blockchain has the potential to create confidence between partners which will be the basis for such a system. A new blockchain-based market would, according to Fortum, also offer the opportunity for greater flexibility in terms of increasing or diminishing volumes of purchase as required.

On the ethical front a blockchain-based market also offers the possibility of identifying the origin of the power bought by the user. While security of contract is assured by the transparency of blockchain there remains work to be done on the technical safety dimension of, for example, peer-

to-peer trading. But given the potential for market growth and the interest shown by a player such as Fortum the development of the form of energy market outlined above may not be far off.

### **Transport & Logistics**

Axess Transport, based in Halmstad, Sweden is specialized in the transport of new passenger vehicles.

In 2018 Axess entered into a joint venture with three other major road transport players, based in neighbouring countries, aimed at creating a cross-border blockchain-based business to coordinate and secure long-distance logistical services.

Vinturas, the joint venture owned by Axess and its three corporate partners provides, amongst other advantages, a more cost-effective service as the blockchain solution reduces or eliminates various transactions associated with collection and distribution services. In addition the innovative solution permits improved planning and scheduling which, in turn, makes possible greater efficiencies for its customers in terms of warehousing and JIT delivery.

### **Finance**

Valega Capital, based in Helsinki, Finland provides blockchain-based management and analysis of financial transactions to the banking and finance sectors. In addition to ensuring transparency and tamper-proof levels of security to transactional records Valega's blockchain solution also offers an efficient and cost-effective tool for the application, by the banking sector, of EU financial industry directives such as PSD2 och ESMA amongst others.

As the entire sector moves towards implementing blockchain solutions more widely Valega confidently expects to provide similar secure and transparent solutions to so-called FIAT transactions (cross-border transfers based on certain world currencies).

### **Property / Real Estate**

The Swedish National Land Survey / Lantmäteriet teamed up with private sector business last year, 2019, to demonstrate the advances already available from blockchain solutions in real estate transactions and the enormous potential which will likely be realized in coming years.

Among private sector partners in this exercise were Sweden's biggest wireless communications provider Telia, two major banks, systems integrator Evry and a number of specialized business consultants. Blockchain solution developers played a key role in the exercise and the National Tax Authority was also a partner.

The Land Survey's objective in bringing together so much expertise was to highlight and help drive a development towards blockchain solutions in the property market which they calculate could lead to annual savings of at least five billion Swedish kronor / c. 760 m CAD on transactions. Additional gains for buyers and sellers of property would arise, the Land Survey estimates, from sharply increased competition among property market service providers.

### **Applied Research and Further Development**

The Swedish National Competition Authority / Konkurrensverket issued last year, 2019, a landmark research document focused on the potential for blockchain technology to improve efficiencies in multiple sectors while also making possible greater transparency in business transactions.

By so doing the way was open, in the eyes of the authority, for eradication of various forms of illegal practices based on, for example, falsification of documentation etc.

Compiled in cooperation with engineering and technology researchers at the University of Linköping the report documented the potentially large role of blockchain solutions in verifying the authenticity of certification and licensing of various products and services across the economy.

Additionally the report speculated that blockchain could potentially be employed to cut costs in industry and business by permitting as decentralized, but more efficient, organizational structures.

**Additional Information and Follow-Up**

Contact Vicrevi Communication Stockholm for further advice, sector contacts and updates on all sections of this report.

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