

Anti-theft sticker protects your valuables without revealing their location

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VTT Technical Research Centre of Finland and Streamr have developed a prototype adhesive ID tag based on blockchain technology, which enables valuable goods to be protected without revealing their location. Possible applications include electronics, jewellery and caviar.

The tag developed by Streamr and VTT is based on a smart [contract](#), using blockchain [technology](#), between the owner of the goods and the transport company. The contract defines the terms and conditions of transportation and storage, and the fee. For the purpose of monitoring the terms of the smart contract, a range of smart sensors are embedded in the tag which identify issues such as the location, acceleration and temperature. Parties previously unknown to each other can use [blockchain technology](#) to co-produce and maintain databases in a decentralised and reliable manner.

For example, the owner of the product cannot see accurate transport information on the goods unless the terms are violated. Data is processed either in encrypted form or managed by a third party, such as Streamr, which provides platform data and smart contracts for presentation and processing.

"In the future, there will be more demand for online applications of this kind, which ease everyday life based on decentralised technology and smart contracts. Similar systems have already been tested for the needs of the healthcare sector," says Research Scientist Visa Vallivaara of VTT.

The product concept was developed as part of the Towards Digital Paradise project funded by Tekes – now Business Finland – with VTT investing in the smart contract logic and ID tag. It was based on Tekes' major strategic research breakthrough, The Naked Approach, which explores the embedding of digitalisation and user interfaces in our everyday environment. Tampere University of Technology, Aalto University, the University of Oulu, the University of Lapland, Demos Helsinki, Nokia, Skandal Technologies, Nextfloor, Premix Oy and Napapiiri Hub are involved in the project alongside VTT and Streamr.

Tomorrow's safe and secure society demands means and tools to detect, prevent and recover from incidents. VTT envisages and develops technologies and systemic models for comprehensive safety and security. Solutions to counter threats provide opportunities for trouble-free life and business.

"The anti-theft sticker is a prime example of the importance of applied research and of the collaborative approach to developing new innovations. Streamr's ability to integrate and visualise smart contracts and real-time data combined with VTT's technology and blockchain expertise form an outstanding combination," says VTT's Tua Huomo, EVP of Knowledge Intensive Products and Services.

The anti-theft sticker should be ready this autumn. A prototype was presented for the first time at the Consensus Event for blockchain operators from 14 to 16 May in New York, where VTT was found at Streamr's stand.

Provided by VTT Technical Research Centre of Finland

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