Intrinsic ID and Guardtime Create Blockchain-based Security Architecture for Renewable Energy Trading System Supporting Rotterdam’s ‘Digital Twin’ Initiative

AMSTERDAM and SUNNYVALE, Calif. (PRWEB) September 17, 2019 -- Intrinsic ID, the world’s leading provider of digital authentication technology for Internet of Things security, and Guardtime, the global leader in enterprise blockchain, today announced the companies have completed their joint work on a blockchain-based security architecture for a renewable energy trading system. This distributed-ledger-based real-time energy marketplace for solar, wind and battery is in support of the city of Rotterdam’s “Digital Twin” initiative.

The companies completed presentation and demonstration of the Phase II Small Business Innovation Research (SBIR) project “Open Energy Network” to the Dutch Ministry of Economic Affairs, BlockLab and Enterprise Agency RVO, which stimulates entrepreneurs in sustainable, innovative and international business.

Rotterdam is creating a “digital twin” for the city, which will act as a platform for a new era of digital city applications. The digital twin is a smart 3D model of Rotterdam that accurately represents the streets, buildings, public spaces and other physical elements of the city. The critical nature of this marketplace demands best-in-class security, including a hardware-based root of trust powered by SRAM PUF – physical unclonable function – complemented by blockchain-based distributed ledger technology.

The project is funded under a contract awarded by the Dutch government and the city of Rotterdam, and managed by BlockLab, a subsidiary of the Port of Rotterdam. BlockLab develops use cases with alliances including engineers, developers and end users, with a focus on energy and logistics.

“We have demonstrated how Intrinsic ID’s SRAM PUF technology and Guardtime’s KSI blockchain technology create synergistically a strong solution for the renewable energy markets,” said Pim Tuyls, chief executive officer of Intrinsic ID. “It is a pleasure to have created a combined solution together with Guardtime for the City of Rotterdam to allow them to optimize energy utilization in a secure manner.”

KSI Blockchain is an especially efficient method for issuing and verifying signatures which accelerates the scalability of SRAM PUF.

“We are thrilled to have worked on this project together and look forward to deepening our relationship with Intrinsic ID,” said Mike Gault, chief executive officer of Guardtime. “Traditional technologies such as PKI are completely impractical in a world of 5G networks and edge computing and new approaches, such as the combination of Intrinsic ID’s PUF technologies and Guardtime’s KSI Blockchain, will become increasingly more important.”

The project was prompted as an answer to a major challenge the region of Rotterdam faces, the suboptimal utilization of energy capacity. To address this, the Dutch government seeks to transform energy markets from closed and centralized to open and distributed. The metropolitan region of Rotterdam and The Hague have a combined population of 2.2 million, with 1 million homes and 128 thousand companies – including the Port of Rotterdam, the largest port in Europe.
In Phase I of the joint project by Intrinsic ID and Guardtime, a cloud-based demonstrator with connected smart meters was developed, combining the core strengths of the two companies. Intrinsic ID’s BroadKey is a proven software solution for authentication of IoT devices such as smart meters. Authenticating smart meters securely at a hardware level by means of software, identifying every member in the network, brings the necessary level of IoT device security and makes it impossible for unauthorized devices to join. Guardtime’s KSI Blockchain is used to ensure integrity and time of every event in the network – making them verifiable independently, regardless of vendors, distribution networks or service providers.

Phase II of the project goes beyond the proof of concept and is tackling the challenges of scalability and end-to-end security for this multiparty complex ecosystem of energy network. Intrinsic ID has worked on the Firmware-Over-The-Air secure updates of smart meters, allowing millions of smart meters to receive verifiable updates with the latest software and firmware libraries, system policies and network configurations. This enables managing millions of smart meters in a time-efficient and low-cost way by avoiding time-consuming manual efforts.

Intrinsic ID and Guardtime supported an extra security layer to support trustworthy communications. This allows the reading values of smart meters to arrive to a decentralized trading platform reliable and secure, without intermediate networking parties have access to them, and assuring that the smart meter cannot deny the authenticity of the measurements.

About Guardtime
Guardtime is the world’s leading enterprise blockchain company. The company was founded in Estonia in 2007, where it products are used to underpin Estonian digital society, and has since expanded with a presence in the UK, Middle East, Asia and the Americas. Example solutions that the company has built, working with industry partners, include GDPR compliance as service, physical anti-counterfeit, marine insurance data exchange, physical supply chain track and trace, digital content management, software lifecycle management, critical infrastructure protection and health-care interoperability.

About Intrinsic ID
Intrinsic ID is the world’s leading digital authentication company, providing the Internet of Things with hardware-based root-of-trust security via unclonable identities for any IoT-connected device. Based on Intrinsic ID’s patented SRAM PUF technology, the company’s security solutions can be implemented in hardware or software. Intrinsic ID security, which can be deployed at any stage of a product’s lifecycle, is used to validate payment systems, secure connectivity, authenticate sensors, and protect sensitive government and military systems. Intrinsic ID technology has been deployed in more than 150 million devices. Award recognition includes the Cyber Defense Magazine InfoSec Award, the IoT Breakthrough Award, the IoT Security Excellence Award, the Frost & Sullivan Technology Leadership Award and the EU Innovation Radar Prize. Intrinsic ID security has been proven in millions of devices certified by Common Criteria, EMVCo, Visa and multiple governments. Intrinsic ID’s mission: Authenticate Everything™. Visit Intrinsic ID online at www.Intrinsic-ID.com.

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