

Fujitsu and Rice Exchange Bring to Market First Global Blockchain Rice Trading Platform

News facts:

- First digital platform for global rice trading – the world's largest agricultural commodity,
- Rice Exchange's blockchain platform automates and simplifies the complexity of rice trading, increasing security, transparency, efficiency, traceability and trust with verifiable, immutable data
- Fujitsu's expertise in Hyperledger Fabric blockchain technology helps create an enterprise-standard, automated platform for removal of friction in the rice supply chain, lowers risk and cost for traders, insurers, shippers and other stakeholders

Munich, November 05, 2019 – Fujitsu and [Rice Exchange](#)¹ (Ricex) today announce that they are bringing to market the world's first global blockchain-based rice trading platform. This brings unparalleled security, transparency, efficiency, traceability and new levels trust to the \$450 billion global rice market.

Ricex is the first digital platform designed for buying and selling rice, one of the world's largest agricultural commodity. The platform digitalizes rice trading using a blockchain distributed ledger technology (DLT) platform. Through it, buyers, sellers and service providers can easily find each other in a digital environment, efficiently conduct trades, and arrange insurance, shipping, inspection and settlement with the assurance of seamless integration and verifiable data.

"The Rice Exchange platform brings transparency, efficiency and security to the global rice trade," says Stephen Edkins, CEO of Ricex. "The distributed ledger technology from our partner, Fujitsu, enables us to remove the many barriers that have prevented transparent, low-risk trading in rice, and allows trade buyers to purchase this vital food staple with full confidence that they are getting a quality product at a fair price."

The use of a DLT platform injects new levels of trust and efficiency into the highly fragmented international rice trade. It creates verified, immutable data for all stakeholders, such as buyers, sellers, shippers, inspectors, insurers, regulators and payment system operators. The use of a distributed ledger removes friction and delays in the supply chain, ensuring security and transparency in international rice trades by allowing all stakeholders to see the same verifiable data, in real-time.

For example, the Ricex platform allows buyers to search for rice that has been certified as sustainably-grown. This gives buyers certainty about the provenance of the rice and in turn allows producers to charge a premium for their product.

Frederik De Breuck, Head of the Fujitsu Blockchain Innovation Center in Brussels, says: "Sustainability, track and trace, and provenance are at the heart of the Rice Exchange, which is another powerful example of the real-world

use cases for blockchain. Ricex has shown great vision in adopting Fujitsu's approach to distributed ledgers as a supplementary layer in larger enterprise architectures, and not an end-to-end solutions by themselves. We have placed a focus on making sure the DLT can interoperate with existing infrastructures. This is how we deliver true value from investment in this exciting new technology."

New Fujitsu DLT solution runs on Hyperledger Fabric

Fujitsu is delivering a production-ready, private, permissioned² DLT scale-out solution running on [Hyperledger Fabric](#)³, a DLT especially developed for enterprise use with advanced automation features. Ricex selected the [Fujitsu Blockchain Innovation Center](#) (BIC) in Brussels as key integration partner to develop the solution because of its blockchain expertise, in particular with architectures built on Hyperledger Fabric, and because of Fujitsu's flexible DevOps approach, covering both operational and development services, using the scrum/agile methodology⁴.

The Fujitsu BIC relies on Microsoft Azure to provide the platform for its agile development and to deliver the production environment for Fujitsu's 'Blockchain as a service' offerings such as DocumentFlow and InvoiceFlow. As Fujitsu grows the Rice Trading platform, it intends to leverage Azure's global scale as a secure and reliable foundation.

"The Rice Exchange digital platform transforms the global rice trade using blockchain. With more global regions than any other cloud platform, Microsoft Azure is the perfect foundation for Ricex and Fujitsu to successfully deliver this exciting solution," said Takuya Hirano, Vice President, Global SI Partners, Microsoft Corporation.

The opaque, complex and process-intensive rice trading business

Rice trading is an opaque, complex and extremely process-intensive business, often still paper-based. Certification requirements for rice imports vary by region and documents must be checked and matched manually, which is expensive and prone to costly human error. Documents must also travel globally with the goods, with the risk of loss of time due to faulty or lost documentation. The Rice Exchange platform simplifies documentation compliance, leading to lower transaction costs and back-end operations, and providing full transparency.

Increasing volumes of rice are now traded internationally, up five fold in 30 years. This is being driven by demographic growth and concerns over food security and water usage. But unlike other major grain crops, rice has a wide variety of types and finishes. This makes pricing a lot less homogeneous, with trading managed by a relatively small group of individuals, with little transparency. The parties involved rarely have a full, transparent view of the rice market and market participants find it difficult to establish whether a buyer or seller has a clean track record for fulfilling contractual obligations.

Stakeholders in the rice supply chain have grown accustomed to these inefficiencies and have accepted their impact on price and margin as a 'cost of business'. However, digital transformation based on distributed ledger technologies has created the means to rectify these costly and inefficient drawbacks.

Notes to editors

¹ Rice Exchange brings transparency, security and liquidity to the \$250 billion global rice trade. Its private, permissioned, blockchain-enabled marketplace is the go-to venue to trade and commercialize rice. Since launching the rice trading Early Adopter Program in October 2018 more than 400 Early Adopters from over 60 countries have signed up with the intention to trade seven million tons of rice. Early Adopters include importers, exporters, distributors and traders.

² Permissionless Blockchains allow anyone to participate. They are most commonly used in cryptocurrencies. Permissioned Blockchains restrict access in terms of who can perform various actions on the blockchain. They assume some levels of trust, and are potentially more useful for many business applications than permissionless

³ Fujitsu participates as a premium member of the Governing Board and as a technical steering committee member of the blockchain technology called [Hyperledger Fabric](#), managed by the Linux Foundation. Because Hyperledger is a permissioned network, all the participants are known. This simplifies the consensus mechanism significantly, allowing the maximum transaction rate to go beyond 1,000 per second, which makes it more suitable for enterprise use. The aim of Hyperledger Fabric is to build a blockchain platform for all industries with functions for enterprise use. A key differentiator is that it incorporates automation through flexible smart contracts and has been designed to work with multiple utilities and tools, the programming languages [Go](#) and Java for example, for high efficiency development and subsequent ease of maintenance. Automation is effected through Chaincode, a smart contract written in Go that typically handles business logic agreed to by members of the network.

⁴ The architecture is built on Hyperledger Fabric 1.4.x LTS (private permissioned blockchain) . It is driven by ensuring traceability and evidence during each of the steps of the business workflow, including the integration layer for third parties and service providers. A separate audit ledger allows for auditable actions and evidence of trades and activity.

The Fujitsu Blockchain Innovation Center

Fujitsu's Blockchain Innovation Center offers a 'Proof of Business Assessment in a week' that focuses on the business value of a blockchain project, including possible external stakeholders and enterprise fabric of a company. It includes implementation of a Minimal Viable Product (MVP) solution. For organizations that have already started to discover the possibilities of blockchain and have created their use case either in code or on paper, the 'Proof of Business: Use Case Architecture Deep Dive' goes deeper in the assessment than the 'Proof of Business Assessment in a week'. Customers can request an offer via their in-country sales contact or via emeia.blockchaincenter@ts.fujitsu.com

Online resources

- Blockchain Innovation Center microsite: <https://www.fujitsu.com/be/microsite/blockchain/index.html>
- Fujitsu Technology and Service Vision microsite : <https://www.fujitsu.com/global/vision/>
- Read the Fujitsu blog: <https://blog.global.fujitsu.com/>
- Follow Fujitsu on Twitter: http://www.twitter.com/Fujitsu_Global
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- For regular news updates, bookmark the Fujitsu newsroom: <https://www.fujitsu.com/emeia/about/resources/news/newsroom.html>

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