



Digitisation: the silver lining of the supply chain disruption cloud

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The global trade of agri-food commodities is facing severe supply shocks and dislocations. *Force majeure* events like the 2021 Suez Canal blockage, Covid-19, the ensuing spike in container freight rates, adverse weather events and the war in Ukraine have complicated the business of putting food on the table. The disruptions have exposed structural weaknesses, triggered food inflation, reduced farmer income and are now jeopardising food security.



Sarah Fowler, International Economy analyst at Oxford Analytica, comments: "The pandemic accelerated the trend towards digitisation with the shift to remote working. Investment in regional supply chains and self-sufficiency is underway but talk of globalisation being reversed is overdone. Cost is an important factor in supply chains and new infrastructure takes time to put in place and is expensive. Limited multilateral appetite for international initiatives creates space for private sector initiatives."

Agri-food commodities are ripe for supply chain optimisation

Agricultural commodity markets have been slow to embrace technology but the need to do so is now pressing. Agri supply chains face many risks: performance, climate, geopolitical and finance. Performance risk is high given the perishable nature of the goods. Securing trade finance has always been a challenge.

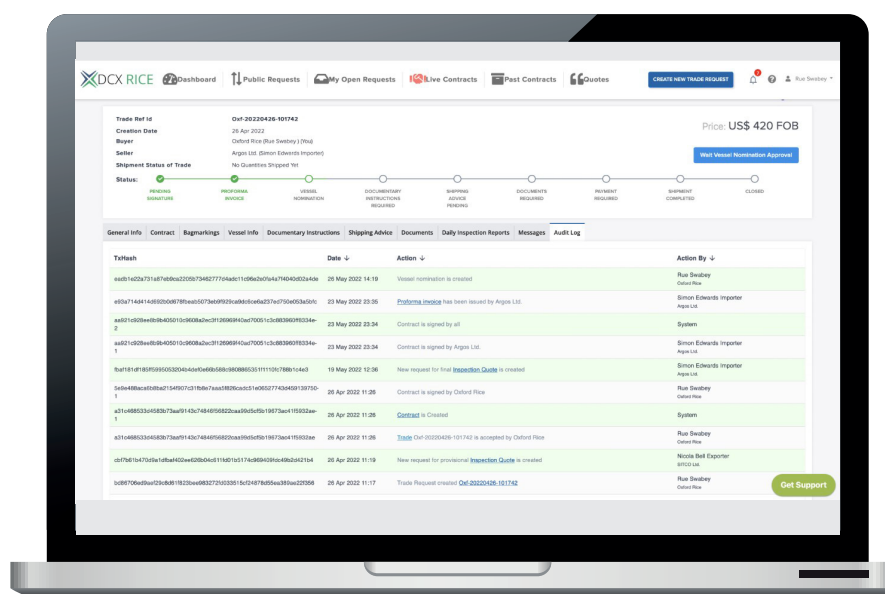
In today's turbulent markets, the ability to switch to a reliable alternative supply chain is vital for producers, distributors and ultimately consumers. Supply chain participants need confidence that deals are solid with reliable counterparties, that risks can be assessed and managed, legal documents stored on a consensual audit log and the history of the transaction immutably preserved. The time is ripe for the adoption of digital supply chains.

Blockchain-enabled platforms overcome frictions

The solution lies with blockchain technology. Supply chain solutions that deploy this technology overcome the frictions and burdens associated with the physical trade and delivery of commodities. Users benefit from improved market access, cost savings and price and supplier discovery. Fraud and human error are substantially reduced via smart contract solutions. Trades are traceable with each mouse click converted to a hash and stored on the audit log.

Integrated service partners add value

Inspection agencies, insurers and shippers are easily integrated with digital trading platforms



Date-stamped tamperproof audit log

enabling users to raise instant quotes and book services online. Service providers can offer competitive rates thanks to the availability of real-time data and the transparency afforded by blockchain-enabled marketplaces.

Singapore-incorporated **Digital Commodity Exchange (DCX)** builds and operates digital marketplaces for the global trade of fertiliser, grains, pulses and rice. **Stephen Edkins**, CEO of DCX, comments: "Blockchain technology is well suited to agri-food commodity trading. It provides the trust and transparency that allows fraud to be reduced and risk to be accurately assessed and managed. The tamper-proof audit log generated during a trade allows users to share their verified trading history with suppliers of trade finance and other services. This unlocks access to services that small and medium-sized market participants are currently excluded from and thus broadens the market and drives value creation."

ESG targets underpinned by traceability
In response to food safety concerns and

consumer demand for sustainable produce, stakeholders are implementing back-to-the-farm schemes. Platforms that use blockchain technology generate trusted data that allows buyers to assess environment, social and governance (ESG) impacts and to make informed decisions. DCX Rice works with the Sustainable Rice Platform (SRP) to advance the market for sustainably-grown verified rice.

Users enjoy cost and time savings and trusted connections

Users are embracing the marketplaces and over 1 million tonnes of agricultural commodities have been traded since 2020. **Róbert Jakab**, MD of Emirates Foods, says: "Since we became users of DCX, our company has benefited from improved efficiency and faster processes. Uploading a trade request and agreeing terms with the seller is very easy. We can quickly and easily agree all contract terms. The biggest benefit is the establishment of long-term business partnerships based on trusted data. The platform is designed to safeguard against fraud and poor-quality products."