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CHAIN BUSINESS INSIGHTS
SUPPLY CHAINS REIMAGINED

Executive Summary

If there was a league table of industries that are currently grappling with wide-ranging change, the food industry would surely occupy a position near the top. In addition to global forces such as rising demand for food across the world and shifts in consumer buying preferences, the industry faces technological innovation that is advancing at a rapid pace. For example, sensor networks that deliver detailed profiles of products moving through supply chains are growing in both size and sophistication.

Another essential element of the change management challenge is transforming an industry structure that is inherently siloed. The farm-to-table supply chain comprises countless players that are functionally and geographically diverse. Many of these entities are largely unaware of each other, and have very different commercial agendas. This fragmented structure inhibits the free flow of information up and down the supply chain.

Clearly, the food supply chain is extremely complex, but it is possible to discern certain key requirements that are critical to the industry's future. Traceability is one; the ability to trace product pathways back through a supply chain. Engendering trust between trading partners and being able to quickly and accurately verify the identities of players such as suppliers and distributors are other examples.

This is where blockchain technology is playing a vital role. Blockchain is basically a specialized database that offers capabilities such as tamper-proof data storage, providing a single source of the truth, and smart contracts that automatically execute agreement terms. In combination, these capabilities promote the supply chain traceability, trust and veracity that are vital to the industry's future competitiveness.

Solution providers have recognized this opportunity, and are developing applications in many areas. Blockchain-based solutions that facilitate the buying and selling of commodities, use cryptographic seals to identify items moving through supply chains, capture and analyze numerous data

points on products, are among the innovations under development.

Some of these solutions are live; others will be launched in beta mode within a year. Over the next two years or so, blockchain-driven supply chain applications will become part of the food industry landscape.

That doesn't mean blockchain is about to gain widespread adoption. There are still many hurdles to overcome before the technology is a widely accepted supply chain tool. Resistance to change and the need to integrate blockchain solutions into complex IT systems are two of the obstacles that impede the technology's adoption.

Still, the food industry is under increasing pressure from customers and government agencies to change the way its products are made and delivered, and it seems inevitable that blockchain will be a key part of its response