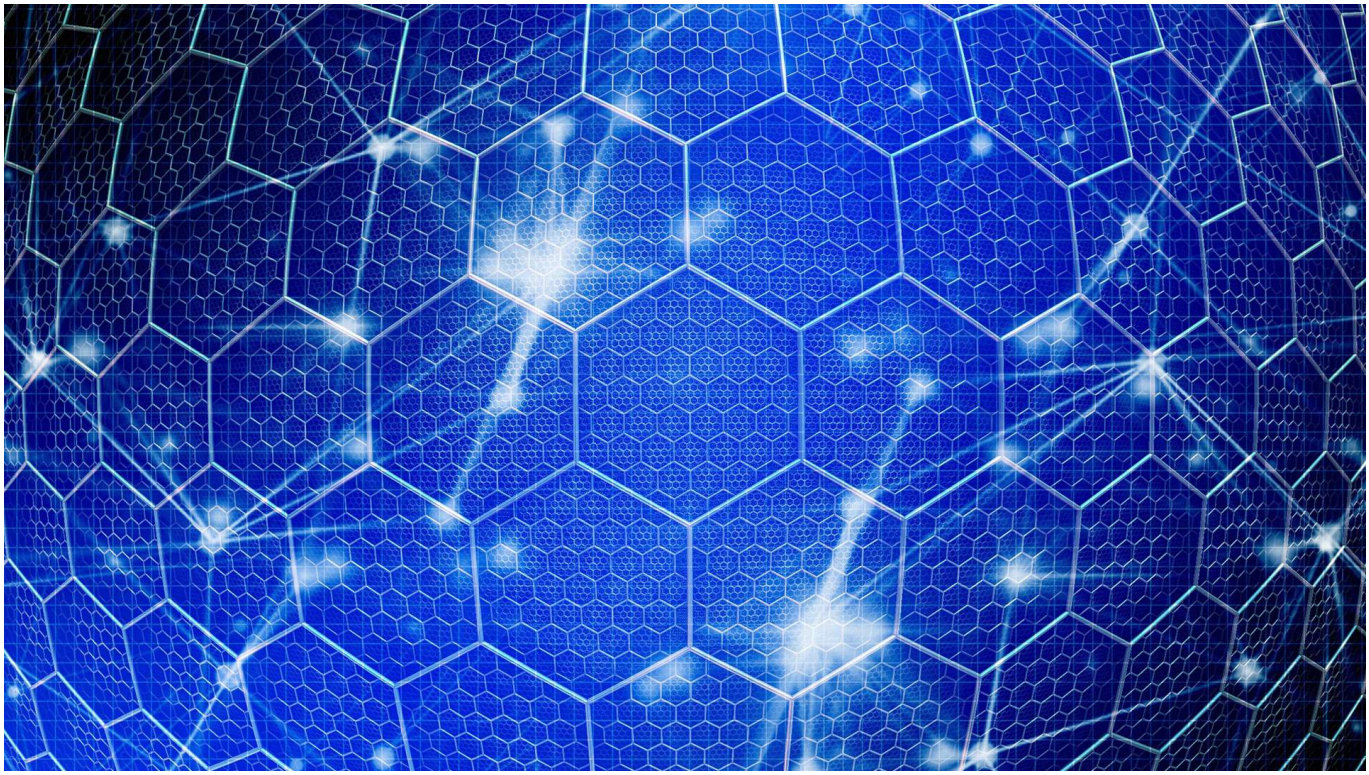

Should System Integrators Start Looking at Blockchain?

BY LUIGI DE BERNARDINI | WED MAR 27 2019

We cannot afford to ignore **what is fast becoming a significant presence even in the industrial world for managing transactions along the supply chain.**

Until a few months ago, blockchain was associated strictly with cryptocurrency transactions—at least in most of our minds. Over the past year, dozens of Fortune 100 companies have started to adopt blockchain technologies, and the term **blockchain has become more common in a variety of markets**. Industry experts predict that blockchain will cause major disruption to a wide range of existing industries, including banking, real estate, supply chain and energy management.

Large businesses such as IBM and Samsung are already working on blockchain-related projects and services, and hundreds of startup businesses are developing their own "killer" apps in a market that is expected to grow to $8 billion by 2022. Some recent news of blockchain technology being adopted in markets that are closer to industry than to finance make it worth at least putting it on the radar for system integrators.

Blockchain technology is a decentralized method for recording transactions. All transactions are recorded in a distributed ledger (known as the blockchain, similar to a transaction database) that is spread across thousands of different computers worldwide. Transactions are recorded in the ledger and grouped together in blocks secured using a form of cryptography called "hashing." Since the ledger is distributed and secured, **it is theoretically impossible to make changes once something is recorded**.

> As with many other technologies, it's not something system integrators can simply choose to ignore.

This makes the technology extremely interesting for solving tracking and tracing problems in any food and beverage or pharmaceutical industry, especially if you are looking at it from a supply chain perspective. If you need to track and trace ingredients from farm to dish in a global environment, blockchain is a perfect fit for managing many different transactions, storing them in different computers and guaranteeing that information cannot be modified.

As recently reported in the bilingual newspaper *24 heures*, Nestlé's Benjamin Duboissaid that the blockchain-based IBM Food Trust initiative (which involves some global retailers such as Walmart and Unilever) will onboard several new suppliers and retailers in the next few months. If this happens, it's clear that **the system integrators providing automation or manufacturing execution system (MES) solutions to the food and beverage industry will need to be prepared to work with blockchain technologies**. In fact, it's not only the data related to ingredients or transport that will be stored, but also processing or product labeling information collected from automation systems. MES, along with programmable logic controllers (PLCs) and supervisory control and data acquisition (SCADA), will become active parts of the chain.

SAP itself, the global enterprise resource planning (ERP) giant, has created a consortium of business partners to

help it craft applications for a cloud-based blockchain platform that can track goods from creation to shipment to manufacturer as part of an automated supply chain system. They provide an abstraction layer blockchain as a service (BaaS) that supports open standards and offers built-in integration with SAP applications. Internet of Things (IoT) companies are starting to experiment with a direct connection between sensors and SAP to monitor the condition of temperature-sensitive packages along the supply chain via a peer-to-peer network that eliminates the need for a central server.

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Just these couple of examples are enough to see that blockchain is a fast-moving technology. Started from completely different use cases, it is rapidly infecting the industrial world. It's not yet a massive presence, but it's a significant one, silently changing the well-known landscape. As with many other technologies, it's not something system integrators can simply choose to ignore.

We will certainly have to manage it when integrating in business management or supply chain management systems. But it's even very likely that **we will be asked to use a blockchain approach when exchanging data between automation or MES systems to coordinate production or operation processes**.