

# Can Blockchain Enhance Food Safety?

## Possible Game-Changer for Food Safety

In our previous piece on the metaverse, we presented convincing evidence (and data) showing how blockchain technology made the stratospheric growth projections likely. But investors would be mistaken to dismiss blockchain as merely a way for gamers to (safely) fight each other and purchase silly hats in an alternate digital world. The technology is such a leap forward in transparent, efficient security and record-keeping that there's no telling what industries won't ultimately be disrupted. Today, we will examine how we believe blockchain technology will enhance safety in the \$8 trillion U.S. retail and food services industry.<sup>1</sup>

Blockchain could enhance safety in the \$8 trillion U.S. retail and food services industry.

In 2020



**60 million Americans  
or 1 in every 5**

Received charitable food assistance, an increase of 50% over the prior year

## COVID Exposed Cracks in the Food Supply Chain

As COVID-19 infections spread rapidly in early 2020, the vast majority of industries were negatively impacted. The food supply chain was among the first, as significant issues with harvesting, storing, transporting, and preparing the nation's food were exposed. And because food is perishable, news reports showing farmers plowing their crops under or dumping milk in fields became commonplace. Demand was still strong, but there was no way to get food to consumers quickly. As a result, food insecurity jumped in the U.S., with over 60 million Americans visiting a food bank during 2020 (up 50% from the prior year).<sup>2</sup>

## Food Safety was Severely Compromised

Consider what happens when people fall ill from a particular food. The first action is informing supply chain partners that (for example) a specific batch of lettuce contains E. coli bacteria, then alerting the public so it can be isolated and removed. Under normal conditions, food from one farm can be distributed to hundreds of locations in just days. Without a robust "track and trace" infrastructure, many additional illnesses and deaths can result.

<sup>1</sup>Statista, U.S. food retail industry - statistics & facts, March 31, 2023

<sup>2</sup>The Guardian, Covid exposed the cracks in the US food system, March 15, 2022

## How Blockchain Technology is Enhancing the Food Supply Chain

In business, information silos always cause problems. With thousands of food growers and distributors using different systems to keep tabs on growing cycles, harvesting schedules, shipping, and delivery, getting accurate, timely data is impossible. This deficiency also fragments the ability of management to take action. Using blockchain technology may improve food supply chains by:

### 1 Streamlining the Decision-Making Process

Using a blockchain “distributed ledger,” all stakeholders have the same data and insight into the workings of their supply chain. This real-time window into operations allows faster and more precise decision-making (saving money and lives).

### 2 Improving Data Reliability

Today, there is more than a little skepticism directed at food labels and food company claims. Is this product organic? Is this fish really farmed in a sustainable manner? Did these garments originate in a factory offering fair wages? Blockchain may eliminate the possibility of “cooking the books” to arrive at the desired outcome.

### 3 Reducing Waste

With the ability to instantly view their supply chain, food industry stakeholders can quickly spot (or anticipate) issues causing waste. Situations such as improper storage, extended time in transit, temperature changes, or potential mishandling can be identified and remediated.

### 4 Identifying Processes Needing Investment

The same real-time transparency enabling stakeholders to correct problems leading to food waste also shines a light on operational issues. Storage configurations can be revamped or added, equipment can be upgraded, and new routes can be researched and implemented – all made possible by blockchain.

### 5 Greater Customer Trust

By reducing the frequency and severity of food recalls, companies can earn increased customer goodwill. With more reliable data on (for example) fair trade, sustainability, species, and country of origin, customers may place greater and greater trust in what they read and hear, allowing for more confident buying decisions.

### Food Companies Already Using Blockchain

Years ago, companies feared providing too much information to the public, but this transparency is increasingly seen as a competitive advantage today. Companies such as Nestle, Tyson Foods, Kraft Heinz, Bumble Bee, and Walmart are already using blockchain technology to:

Improve product traceability (origin data)

Reduce acts of food fraud (ex. selling albacore as bluefin tuna)

Improve data on social responsibility (ex. Rainforest Alliance certification)

Reduce time and improve accuracy of food recalls

In 2020, Walmart was involved in an outbreak of E. coli. It was eventually traced to lettuce products, but not before it spread to 19 states and put 20 people in the hospital. The industry spent millions of dollars notifying the public and removing the tainted greens from circulation. Walmart now requires all leafy greens suppliers to update a blockchain that traces the product's path from farm to fork.



With a blockchain traceability solution, you could scan a product and trace that product back with precision and accuracy to source in seconds—not days or weeks.

**The VP of Food Safety, Walmart**

### Governments are Backing Blockchain for Enhanced Food Safety

Blockchain is increasingly viewed across the globe as a leap forward in food safety. Experts agree this is just the beginning of this movement. Rules passed in 2020 by the U.S. Food and Drug Administration promote traceability in “high-risk” foods. The European Food Safety Authority, China Animal Health and Food Safety Alliance, Dubai Municipality, and Food Standards Australia and New Zealand have all adopted similar initiatives that rely on blockchain technology.

## BLOK: How to Participate in this Rapidly Developing Market?

Explore Amplify Transformational Data Sharing ETF (BLOK), an actively managed ETF comprised of companies involved in blockchain technology. For more information, please visit [bloketf.com](http://bloketf.com).

**Carefully consider the Fund's investment objectives, risks, charges, and expenses before investing. This and other information can be found in Amplify Funds statutory and summary prospectuses, which may be obtained at [AmplifyETFs.com](http://AmplifyETFs.com). Read the prospectus carefully before investing.**

*Investing involves risk, including the possible loss of principal. Shares of any ETF are bought and sold at market price (not NAV), may trade at a discount or premium to NAV and are not individually redeemed from the Fund. Brokerage commissions will reduce returns. The Fund is subject to management risk because it is actively managed. Narrowly focused investments typically exhibit higher volatility. A portfolio concentrated in a single industry, such as companies actively engaged in blockchain technology, makes it vulnerable to factors affecting the companies. The Fund may face more risks than if it were diversified broadly over numerous industries or sectors. Blockchain technology may never develop optimized transactional processes that lead to realized economic returns for any company in which the Fund invests.*

*The Fund will invest at least 80% of the Fund's net assets in equity securities of companies actively involved in the development and utilization of blockchain technologies. Such investments may be subject to the following risks: the technology is new and many of its uses may be untested; theft, loss or destruction; competing platforms and technologies; cybersecurity incidents; developmental risk; lack of liquid markets; possible manipulation of blockchain based assets; lack of regulation; third party product defects or vulnerabilities; reliance on the Internet; and line of business risk. The investable universe may include companies that partner with or invest in other companies that are engaged in transformational data sharing or companies that participate in blockchain industry consortiums. The Fund will invest in the securities of foreign companies. Securities issued by foreign companies present risks beyond those of securities of U.S. issuers.*

*The Fund may have exposure to cryptocurrencies, such as bitcoin, indirectly through investment funds. Investing in cryptocurrency is highly speculative and is only appropriate for investors who understand the associated risks and likelihood of extreme volatility. Investors in cryptocurrency should be prepared to lose their entire investment. The fund does not invest directly in bitcoin. Holding a privately offered investment vehicle in its portfolio may cause the Fund to trade at a premium or discount to NAV. Many significant aspects of the U.S. federal income tax treatment of investments in cryptocurrencies are uncertain and such investments, even indirectly, may produce non-qualifying income for purposes of the favorable U.S. federal income tax treatment generally accorded to regulated investment companies.*

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