

# Blockchain in Agriculture and Food Market - A Global and Regional Analysis: Focus on Applications, Products, and Country-Wise Analysis - Analysis and Forecast, 2021-2026

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#### **Abstracts**

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Market Report Coverage - Blockchain in Agriculture and Food

Market Segmentation

Application - Supply Chain Tracking, Finance Management, Data Management, Land and Property Ownership, and Others

Type - Public Blockchain, Private Blockchain, and Hybrid Blockchain

Stakeholder - Growers, Food Manufacturers and Retailers

Organization - Large Enterprises, Small and Medium Enterprises (SMEs)

Provider - Application and Solution Provider, Middleware Provider, Infrastructure and Protocol Provider

Regional Segmentation

North America - U.S., Canada, Mexico, and Rest-of-North America



South America - Argentina, Brazil, and Rest-of-South America

Europe - Malta, Estonia, Switzerland, and Rest-of-Europe

U.K.

Middle East and Africa - U.A.E., South Africa, Saudi Arabia, and Rest-of-Middle East and Africa

China

Asia-Pacific - Japan, Thailand, Singapore, and Rest-of-Asia-Pacific

#### Market Growth Drivers

Need for Transparency in Supply Chain

Government Initiatives to Promote Blockchain in Agriculture

Stringent Rules and Regulations to Comply With Sustainability Requirements

## Market Challenges

Lack of Awareness and Technical Know-How

Lack of Standardized Data

Issues with Data Management

#### Market Opportunities

Increasing in Funds and Investments in Agri-Blockchain

Complexity in Supply Chains

Development of the Small Farmers' Cooperatives



#### **Key Companies Profiled**

Blockchain Technology Solution Providers: AgriChain Pty Ltd., Ambrosus, arc-net, Bext 360, Coin 22, Filament, FoodCoin Ecosystem, Full Profile Pty Ltd, IBM Corporation, Obook Holdings Inc. (OwlTing), OriginTrail, Project Provenance Ltd., Ripe Technology Inc., Microsoft Corporation, SAP SE, TE-Food International GmbH

Retailers Using Blockchain Technology: Walmart, Alibaba Group, The Kroger Co.

Food Processors Using Blockchain Technology: Nestle S.A., Tyson Foods Inc., Danone

Agricultural OEMs Using Blockchain Technology: Deere & Company, AGCO Corporation, CNH Industrial N.V.

Food Distributors Using Blockchain Technology: Sysco Corporation, McLane Company

Agricultural Commodity Traders Using Blockchain Technology: Louis Dreyfus Company B.V., Cargill Inc., Archer Daniels Midland Company, Bunge Limited

How This Report Can Add Value

This report will help with the following objectives:

Covering the product, application, and regional market estimations for the blockchain in agriculture and food market.

Extensive competitive benchmarking of the top 15 players has been done to offer a holistic view of the global blockchain in agriculture and food market landscape.

Product/Innovation Strategy: The product segment helps the reader in understanding the different types of blockchain technologies in agriculture and foods available for deployment in the agriculture and food industry and their potential globally. Moreover, the study provides the reader a detailed understanding of the different blockchain applications in agriculture and foods by type (public, private, and hybrid/consortiums), by organization (large enterprise, and small and mid-size enterprises), by product



provider (application and solution provider, middleware provider and infrastructure and protocol provider), and by application (supply chain tracking, financial management, and others).

Recent Developments in Blockchain in Agriculture and Food Market

In November 2021, OriginTrail launched Acala by bringing its decentralized knowledge graph to Acala's developer ecosystem.

In May 2021, Provenance announced a new public, open-source, decentralized, permissionless, proof-of-stake blockchain, which is mainly designed and established to support financial service industry needs by delivering a ledger, registry, as well as exchange across multiple financial assets and markets.

In October 2019, IBM had launched a blockchain-based supply chain service that comes with AI and IoT integration.

In May 2019, Taiwan blockchain company OwlTing launched the OBS platform offering commercial solutions with blockchain technology, mainly in biotech, logistics, smart agriculture, automobiles, and food industries.

In August 2018, Ambrosus launched Mainnet to improve supply chain transparency. Ambrosus now offers a blockchain and IoT platform – AMB-NET 1.0 – for quality assurance in food and pharmaceutical supply chains.

#### Key Questions Answered in the Report

What is the estimated global blockchain in agriculture and food size in terms of revenue for the forecast period 2021-2026, and what is the expected compound annual growth rate (CAGR) during the forecast period 2021-2026?

What are the key trends, market drivers, and opportunities in the market pertaining to blockchain in agriculture and food market?

What are the major restraints inhibiting the growth of the global blockchain in agriculture and food market?

What kinds of new strategies are being adopted by the existing market players



to strengthen their market position in the industry?

What is the competitive strength of the key players in the blockchain in agriculture and food market based on an analysis of their recent developments, product offerings, and regional presence?

How is the competitive benchmarking of the key blockchain in agriculture and food companies in the agriculture market based on the analysis of their market coverage and market potential?

How much revenue is each segment expected to record during the forecast period, along with the growth percentage? The segments are as follows:

Product, including providers (application and solution provider, middleware provider and infrastructure and protocol provider).

Application, including by type (public, private, and hybrid/consortiums), by organization (large enterprise, and small and mid-size enterprises), by application (supply chain tracking, financial management and others).

Region, including North America, the U.K., Europe, Asia-Pacific, China, the Middle East and Africa, and South America

What is the type of players and stakeholders operating in the market ecosystem of blockchain in agriculture and food, and what is their significance in the global market?

#### Blockchain in Agriculture and Food

The agriculture and food market required a lot of inconsistent paperwork and dependency on paper-based documentation. Blockchain provides a systematic digital ledger for storing land records and other data, keeping it safe during natural calamities.

Blockchain technology will be a revolutionary change as it offers tamper-proof, precise statistics about the farms, inventory, credit scores, and food tracking.

The blockchain in the agriculture and food market is still in the developing phase. Increased research and development activities are underway to develop blockchain



technology, which is expected to increase the technology adoption by retailers, food processors, and food distributors.

Blockchain in Agriculture and Food Industry Overview

The global blockchain in agriculture and food market was valued at \$139.6 million in 2020, which is expected to grow with a CAGR of 51.0% and reach \$1,488.0 million by 2026. The growth in the global blockchain in agriculture and food market is expected to be driven by the increased need for transparency in the food supply chain and supportive government initiatives.

Impact of COVID-19

The outbreak of the COVID-19 pandemic and related policies imposed by governments of different countries significantly restricted both the business schedules along with the suppliers' & customers' business schedules, mainly in the first fiscal quarter of 2020. Additionally, the downturn in blockchain investments, as well as delays in project developments and postponement and cancellation of major blockchain & cryptocurrency conventions, was caused due to the pandemic. These events mainly aid in the education as well as the marketing of blockchain technology.

Market Segmentation

Blockchain in Agriculture and Food Market by Type

A public blockchain is a type of blockchain that provides open access to the public and that anyone can join without specific permission. This segment dominates compared to a private and hybrid type blockchain system because everyone who enters the network can read, record, and participate in this network that no one controls.

Blockchain in Agriculture and Food Market by Organization

Large enterprises can offer an innovation-based approach to their clients to customize solutions that suit every supply chain's necessity. This allows companies to achieve higher requirements in the market.

Blockchain in Agriculture and Food Market by Stakeholder

The growers are slightly more dominating than food retailers or manufacturers. This is



due to more adoption rates of blockchain technologies by growers such as farmers. The introduction of blockchain into the agricultural supply chain is foreseen as a new way to give farmers an increased stake in the supply chain and more ways to distribute their products across consumers.

Blockchain in Agriculture and Food Market by Provider

The application and solution provider segment is anticipated to dominate the market and grow robustly during the forecast time. The introduction of enhanced technological solutions has undergone significant adoption in the industry, which has boosted the overall market growth.

Blockchain in Agriculture and Food Market by Application

With increasing pilot cases for blockchain in the agricultural supply chain, stakeholders have begun to see high potential for increasing transparency. The arrival of blockchain is also seen as timely because of the rising demand for supply chain transparency and traceability motivated by the increasing number of food outbreaks and food-borne illnesses.

Blockchain in Agriculture and Food Market by Region

North America generated the highest revenue of \$81.2 million in 2020. The U.S. dominated the blockchain innovation landscape in the region, with the maximum number of investments and pilot projects being tested in the country. The region is expected to witness high growth of CAGR 48.5% during the forecast period 2021-2026.

**Key Market Players** 

Key players operating in the global blockchain in agriculture and food market analyzed and profiled in the study involve blockchain technology solution providers, retailers, food processors, agricultural OEMs, food distributors, and agricultural commodity traders using blockchain technology.

Some of the key players operating in the market include AgriChain Pty Ltd., Ambrosus, arc-net, Bext 360, Coin 22, Filament, FoodCoin Ecosystem, Full Profile Pty Ltd, IBM Corporation, Obook Holdings Inc. (OwlTing), OriginTrail, Project Provenance Ltd., Ripe Technology Inc., Microsoft Corporation, SAP SE, TE-Food International GmbH and others.



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