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Blockchain in Food Traceability Market Forecasts to 2032 – Global Analysis By Component (Platform and Services), Provider (Middleware Providers, Infrastructure Providers and Application Providers), Food, Stakeholders, Deployment Mode, End User and By Geography

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Abstracts

According to Stratistics MRC, the Global Blockchain in Food Traceability Market is accounted for $1.75 billion in 2025 and is expected to reach $21.03 billion by 2032 growing at a CAGR of 42.6% during the forecast period. Blockchain in food traceability is the process of recording, confirming, and sharing data along the food supply chain using distributed ledger technology. It makes it possible to trace food goods in real time from the point of origin through the steps of processing, distribution, and sale, guaranteeing record immutability, security, and transparency. Every movement or transaction is time-stamped and connected to the one before it, establishing an unchangeable record of the product's history. This improves food safety, lowers fraud, increases consumer trust, and aids in the prompt detection of contamination sources. Blockchain offers a single, trustworthy source of truth for all parties involved, facilitating effective recalls and adherence to food rules.

Market Dynamics:

Driver:

Rising demand for food safety and transparency

Customers are looking for more guarantees regarding the provenance, quality, and

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preparation of their food. Blockchain ensures accountability throughout the supply chain by enabling immutable data and real-time tracking. During outbreaks of food borne illness, it facilitates the prompt identification of contamination sources. Customers, manufacturers, and merchants all gain trust as a result. Because of this, companies are quickly implementing blockchain to satisfy customer demands and legal requirements.

Restraint:

High implementation and operational costs

It takes a significant investment in software, hardware, and qualified staff to set up blockchain infrastructure. Small and medium-sized businesses frequently find it difficult to pay for these up-front costs. The operational strain is increased by energy use, system upgrades, and ongoing maintenance. Businesses are discouraged from abandoning established processes by these exorbitant expenses. The market grows more slowly and has less scalability as a result.

Opportunity:

Integration with IoT and smart sensors

Transparency and product quality are increased by these technologies, which guarantee precise temperature, humidity, and location monitoring. Sensor data becomes verifiable and impenetrable when paired with blockchain, increasing stakeholder trust. Operational inefficiencies and human error are decreased by automated data entry from IoT devices. This integration reduces recalls and health hazards by enabling speedier identification of contaminated sources. In general, it promotes adherence to food safety laws and increases supply chain responsibility.

Threat:

Lack of regulatory standardization across regions

Adoption rates are slowed by businesses' challenges in conforming to various legal frameworks. When several regions adhere to disparate data formats and compliance standards, interoperability issues might occur. This hinders the transparency of the global supply chain and restricts the traceability of food across borders. Customising blockchain solutions for each country comes at a larger cost to businesses. In general,

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the market for blockchain-based food traceability is less scalable and trustworthy due to the fragmented regulatory environment.

Covid-19 Impact

The COVID-19 pandemic significantly accelerated the adoption of blockchain in the food traceability market. Supply chain disruptions and rising concerns about food safety and transparency prompted stakeholders to seek reliable, real-time tracking solutions. Blockchain provided enhanced visibility, helping mitigate risks of contamination and fraud. Increased consumer demand for traceable and ethically sourced products also fueled investment in blockchain platforms. Despite initial implementation hurdles, the pandemic ultimately highlighted blockchain's value in building resilient and transparent food supply chains.

The middleware providers segment is expected to be the largest during the forecast period

The middleware providers segment is expected to account for the largest market share during the forecast period by enabling seamless integration between blockchain platforms and existing food supply chain systems. These providers offer tools that facilitate data exchange, smart contract deployment, and process automation. Their solutions help reduce interoperability issues across different stakeholders like farmers, processors, and retailers. By ensuring secure and real-time data sharing, middleware enhances transparency and traceability. This, in turn, builds consumer trust and encourages broader adoption of blockchain in food traceability.

The grains & cereals segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the grains & cereals segment is predicted to witness the highest growth rate, due to the transparency across the entire supply chain. It helps track the origin, quality, and movement of grains, reducing fraud and contamination risks. Blockchain enables real-time data sharing among farmers, processors, and retailers, enhancing trust and accountability. Regulatory compliance becomes easier with immutable records of cultivation practices and logistics. This increases consumer confidence in grain-based products, driving market adoption.

Region with largest share:

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During the forecast period, the Asia Pacific region is expected to hold the largest market share due to increasing concerns over food safety and government-led initiatives in countries like China, India, and Japan. Rising consumer awareness, demand for transparency, and expanding food exports drive the market. Start-ups and tech firms are collaborating with agricultural supply chains to improve tracking from farm to fork. Technological advancements and large-scale pilot projects are further accelerating growth, particularly in seafood, dairy, and fresh produce segments, positioning the region as a fast-growing blockchain traceability hub.

Region with highest CAGR:

Over the forecast period, the North America region is anticipated to exhibit the highest CAGR by stringent food safety regulations, established tech infrastructure, and early adoption by major retailers like Walmart and IBM's Food Trust initiative. The U.S. leads the region, focusing on preventing foodborne illnesses and improving recall management. Unlike Asia Pacific, the market here is characterized by mature players, extensive digital integration, and widespread consumer demand for ethically sourced food. High investment in research, scalability efforts, and pilot success in meat and poultry traceability further contribute to the region’s market dominance.

Key players in the market

Some of the key players profiled in the Blockchain in Food Traceability Market include IBM Corporation, Microsoft Corporation, SAP SE, Oracle Corporation, Ambrosus, Provenance Ltd., TE-FOOD International GmbH, Ripe.io, OriginTrail, ZhongAn Technology, VeChain Foundation, Arc-net, Atea ASA, BlockApps Inc., AgriDigital, Chainvine and FoodLogiQ.

Key Developments:

In February 2025, IBM and iFoodDS launched the iFoodDS Trace Exchange with IBM Food Trust, a joint solution designed to help food companies meet the stringent requirements of the U.S. FDA’s FSMA Rule 204(d) on traceability. IBM provides backend data processing and blockchain infrastructure, while iFoodDS offers applications and onboarding support. This partnership enables secure, scalable, and swift traceability, making regulatory compliance more accessible and improving food safety across the supply chain.

In October 2024, Microsoft enhanced Dynamics 365 Business Central with blockchain

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integration, allowing real-time, tamper-proof tracking of food products from origin to consumer. This supports verification of product authenticity and compliance with ethical sourcing standards.

In June 2024, SAP SE partnered with Unilever to pilot the GreenToken by SAP solution, enhancing traceability and transparency in Unilever's global palm oil supply chain. The pilot in Indonesia tracked over 188,000 tons of oil palm fruit, using blockchain tokens to mirror material flow and capture origin attributes. This initiative supports Unilever's goal of a deforestation-free supply chain and demonstrates SAP's commitment to sustainable sourcing.

Components Covered:

- Platform
- Services

Providers Covered:

- Middleware Providers
- Infrastructure Providers
- Application Providers

Foods Covered:

- Dairy Products
- Meat and Seafood
- Fruits & Vegetables
- Beverages
- Grains & Cereals

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- Processed Foods
- Other Foods

Stakeholders Covered:

- Growers and Farmers
- Food Manufacturers
- Logistics and Distribution
- Retailers
- Regulatory Bodies
- Consumers
- Other Stakeholders

Deployment Modes Covered:

- On-Premise
- Cloud-Based

End Users Covered:

- Wholesale
- Hospitality
- Government Agencies
- E-commerce Platforms

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- Other End Users

Regions Covered:

- North America
  - US
  - Canada
  - Mexico
- Europe
  - Germany
  - UK
  - Italy
  - France
  - Spain
  - Rest of Europe
- Asia Pacific
  - Japan
  - China
  - India
  - Australia
  - New Zealand

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South Korea

Rest of Asia Pacific

South America

Argentina

Brazil

Chile

Rest of South America

Middle East & Africa

Saudi Arabia

UAE

Qatar

South Africa

Rest of Middle East & Africa

What our report offers:
- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2024, 2025, 2026, 2028, and 2032
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

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Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

- Company Profiling
  - Comprehensive profiling of additional market players (up to 3)
  - SWOT Analysis of key players (up to 3)
- Regional Segmentation
  - Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)
- Competitive Benchmarking
  - Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

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Note: Tables for North America, Europe, APAC, South America, and Middle East & Africa Regions are also represented in the same manner as above.

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