

Food Safety and Traceability Market Forecasts to 2032 – Global Analysis By Technology (Hardware Solutions and Software Solutions), Application (Meat & Poultry, Dairy Products, Fruits & Vegetables, Grains & Cereals, and Beverages), End User and By Geography

<https://marketpublishers.com/r/FD85C38C6E75EN.html>

Date: September 2025

Pages: 200

Price: US\$ 4,150.00 (Single User License)

ID: FD85C38C6E75EN

Abstracts

According to Statistics MRC, the Global Food Safety and Traceability Market is accounted for \$23.4 billion in 2025 and is expected to reach \$53.3 billion by 2032 growing at a CAGR of 12.5% during the forecast period. The Food Safety and Traceability market involves technologies, solutions, and services that monitor, track, and ensure the quality, safety, and authenticity of food products across the supply chain. It includes IoT sensors, blockchain platforms, analytics software, and testing services. Rising consumer awareness, regulatory mandates, and incidents of food contamination drive market growth. Companies leverage these solutions to reduce risks, ensure compliance, and enhance transparency. The market is critical for sustaining trust, minimizing recalls, and improving operational efficiency while supporting sustainable and accountable food systems globally.

According to the Food and Agriculture Organization (FAO), unsafe food causes 600 million illnesses and 420,000 deaths annually, driving demand for traceability systems.

Market Dynamics:

Driver:

Consumer Demand for Transparency

The increasing consumer demand for transparency in food sourcing and safety is a

significant driver of the food safety and traceability market. Consumers are becoming more conscious of the origins and quality of their food, leading to a preference for products with clear and verifiable sourcing information. This shift is prompting food producers and retailers to adopt traceability systems that provide detailed information about the food's journey from farm to table. As a result, companies are investing in technologies that enable real-time tracking and verification, thereby enhancing consumer trust and satisfaction.

Restraint:

High Implementation Costs

The adoption of advanced food traceability systems involves significant initial investment and ongoing maintenance costs, which can be a barrier for small and medium-sized enterprises (SMEs). These costs encompass the purchase of hardware, software, and training for personnel. Additionally, integrating new technologies with existing systems can be complex and resource-intensive. For many SMEs, these financial and operational challenges may delay or prevent the implementation of comprehensive traceability solutions, hindering market growth in certain segments.

Opportunity:

AI and Machine Learning Integration

The integration of Artificial Intelligence (AI) and Machine Learning (ML) into food traceability systems presents a significant opportunity for market advancement. AI and ML can analyze vast amounts of data to predict potential risks, optimize supply chains, and enhance decision-making processes. These technologies enable real-time monitoring and anomaly detection, improving food safety and reducing waste. As AI and ML technologies become more accessible and affordable, their adoption in food traceability is expected to increase, driving innovation and efficiency in the industry.

Threat:

Regulatory Variations

Divergent food safety regulations across different regions pose a significant challenge to global food traceability. Companies operating internationally must navigate a complex landscape of varying standards and compliance requirements. This regulatory

fragmentation can lead to increased operational costs, delays in product launches, and difficulties in maintaining consistent quality and safety standards across markets. The lack of harmonization in regulations may also complicate traceability efforts, making it harder to ensure transparency and accountability in the global food supply chain.

Covid-19 Impact:

The COVID-19 pandemic has underscored the critical importance of robust food traceability systems. Supply chain disruptions and increased consumer concerns about food safety highlighted vulnerabilities in existing systems. In response, there has been a surge in the adoption of digital traceability solutions, such as blockchain and IoT-based tracking, to ensure transparency and safety. These technologies facilitate real-time monitoring and rapid response to potential issues, thereby enhancing consumer confidence and resilience in the food supply chain.

The software solutions segment is expected to be the largest during the forecast period

The software solutions segment is expected to account for the largest market share during the forecast period. This growth is driven by the increasing need for comprehensive data management, real-time monitoring, and compliance with food safety regulations. Software solutions enable seamless integration of various technologies, such as RFID, IoT, and block chain, providing end-to-end visibility across the supply chain. As food producers and retailers seek to enhance operational efficiency and meet consumer demand for transparency, the adoption of advanced software solutions is expected to rise significantly.

The meat and poultry segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the meat and poultry segment is predicted to witness the highest growth rate. This is attributed to the increasing concerns over foodborne illnesses and the need for stringent quality control in meat processing. Advanced traceability systems are being implemented to monitor hygiene practices, track sourcing, and ensure compliance with safety standards. As consumer awareness regarding food safety rises, the demand for traceability solutions in the meat and poultry sector is expected to accelerate, driving market growth.

Region with largest share:

During the forecast period, the Europe region is expected to hold the largest market share. This dominance is due to stringent food safety regulations, high consumer awareness, and advanced technological infrastructure in European countries. The European Union's comprehensive food safety policies and emphasis on traceability have led to widespread adoption of advanced tracking systems. Additionally, the presence of key market players and ongoing investments in research and development further bolster Europe's position as a leader in the food traceability market.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR. Rapid urbanization, increasing population, and rising consumer awareness about food safety are driving the demand for traceability solutions in countries like China and India. Government initiatives to enhance food safety standards and the adoption of digital technologies are further contributing to market growth. As the region's food industry modernizes and integrates advanced technologies, the food traceability market in Asia Pacific is poised for significant expansion.

Key players in the market

Some of the key players in Food Safety and Traceability Market include IBM, SAP, Oracle, Emerson, Honeywell International Inc., Carrefour Group, C.H. Robinson Worldwide Inc., Bio-Rad Laboratories Inc., OPTEL Group, Cognex Corporation, SGS SA, Zebra Technologies, Bar Code Integrators Inc., Carlisle Technology, Merit-Trax, FoodLogiQ, Safe Traces, Food Forensics, Bext360, and rfxcel.

Key Developments:

In May 2025, SAP reported on Ghitha Holding's adoption of SAP Business AI to modernize its IT landscape, streamline operations, and enhance supply chain visibility, thereby improving traceability and operational efficiency.

In April 2025, C.H. Robinson emphasized the importance of traceability and accountability in healthcare logistics to prevent counterfeit goods and facilitate quick recalls.

In September 2023, IBM collaborated with iFoodDS to launch a solution addressing the FDA's FSMA 204 traceability rule. This integration combines IBM's blockchain and supply chain intelligence with iFoodDS' industry expertise to enhance compliance and

data management.

Technologies Covered:

Hardware Solutions

Software Solutions

Applications Covered:

Meat and Poultry

Dairy Products

Fruits and Vegetables

Grains and Cereals

Beverages

End Users Covered:

Food Manufacturers

Retailers

Food Service Providers

Government Agencies

Regions Covered:

North America

US

Canada

Mexico

Europe

Germany

UK

Italy

France

Spain

Rest of Europe

Asia Pacific

Japan

China

India

Australia

New Zealand

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

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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