

Blockchain Traceability for Circular Supply Chains Market Forecasts to 2034 – Global Analysis By Blockchain Type (Public Blockchain, Private Blockchain, Consortium Blockchain, Hybrid Blockchain, Other Blockchain Types), Traceability Function, Deployment Model, Industry Vertical, End User and By Geography

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Abstracts

According to Statistics MRC, the Global Blockchain Traceability for Circular Supply Chains Market is accounted for \$2.41 billion in 2026 and is expected to reach \$12.03 billion by 2034 growing at a CAGR of 22.2% during the forecast period. Blockchain Traceability for Circular Supply Chains uses distributed ledger technology to track materials, products, and transactions across their entire lifecycle. This ensures transparency, immutability, and real-time data sharing among stakeholders involved in sourcing, manufacturing, recycling, and reuse. Blockchain enables verification of recycled content, ethical sourcing, carbon footprints, and compliance with sustainability standards. By improving trust and accountability, it supports circular economy goals such as waste reduction and resource optimization. Adoption is increasing across sectors including packaging, textiles, electronics, and food, driven by regulatory requirements and demand for transparent, sustainable supply chains.

Market Dynamics:

Driver:

Need for end-to-end transparency

Rising consumer demand for ethical and sustainable products boosts reliance on transparent supply chains. Regulatory frameworks in Europe and North America propel compliance with circular economy goals. Corporate ESG commitments foster investment in blockchain-enabled tracking systems. Expanding awareness of greenwashing risks accelerates preference for verifiable data. Collectively, transparency needs are propelling the market toward long-term growth.

Restraint:

Complexity of integration systems

Legacy IT infrastructure constrains seamless integration with blockchain platforms. High technical expertise requirements hamper implementation across small and mid-sized enterprises. Fragmented supply chain networks hinder interoperability between stakeholders. Cost-intensive integration projects degrade confidence among risk-averse firms. Consequently, system complexity continues to constrain market penetration despite strong demand drivers.

Opportunity:

Traceability services for luxury goods

Rising demand for authenticity verification accelerates uptake in fashion, jewelry, and high-end consumer goods. Counterfeit risks propel investment in blockchain-enabled certificates of origin. Expanding collaborations between luxury brands and technology providers foster commercialization. Consumer preference for transparency in high-value purchases accelerates adoption. Overall, luxury traceability services are propelling new revenue streams and strengthening market competitiveness.

Threat:

Data privacy and security concerns

Risks of unauthorized access constrain willingness to share sensitive supply chain data. Ambiguity around compliance with GDPR and other privacy regulations hampers confidence. Cybersecurity threats degrade credibility of blockchain platforms. Limited awareness of secure data-sharing protocols constrains adoption among conservative industries. Consequently, privacy concerns continue to limit scalability and degrade stakeholder confidence.

Covid-19 Impact:

The Covid-19 pandemic accelerated awareness of supply chain vulnerabilities, fostering demand for blockchain-enabled transparency. Rising disruptions in raw material sourcing boosted reliance on traceability systems. Increased consumer preference for verified sustainable products accelerated adoption in food, healthcare, and packaging. Lockdowns constrained implementation projects, hampering short-term growth. Recovery phases fostered renewed investment in resilient and circular supply chains.

The raw material tracking segment is expected to be the largest during the forecast period

The raw material tracking segment is expected to account for the largest market share during the forecast period as need for end-to-end transparency accelerates demand for blockchain-enabled sourcing validation. Rising consumer preference for ethically sourced materials fosters adoption. Regulatory mandates propel compliance with sustainability standards. Expanding industrial applications in automotive, packaging, and textiles accelerate uptake. Strategic collaborations between suppliers and technology providers foster commercialization.

The sustainability & certification agencies segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the sustainability & certification agencies segment is predicted to witness the highest growth rate due to need for end-to-end transparency accelerating demand for blockchain-enabled verification services. Rising consumer awareness of greenwashing risks fosters reliance on certified data. Expanding partnerships between certification bodies and blockchain providers accelerate credibility. Regulatory frameworks propel adoption of verifiable sustainability claims. Growing demand for third-party validation accelerates uptake across industries.

Region with largest share:

During the forecast period, the Europe region is expected to hold the largest market share owing to need for end-to-end transparency boosting adoption across fashion, automotive, and packaging industries. Strong regulatory frameworks such as the EU Circular Economy Action Plan propel compliance. Established technology providers accelerate commercialization of blockchain traceability solutions. Consumer preference

for sustainable and ethical products fosters consistent demand. Strategic collaborations between luxury brands and blockchain startups propel innovation.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR due to need for end-to-end transparency accelerating adoption across China, India, Japan, and Southeast Asia. Rapid industrialization fosters integration of blockchain traceability in manufacturing and packaging. Government initiatives propel investment in digital supply chain infrastructure. Rising middle-class incomes accelerate demand for sustainable and ethical goods. Expanding e-commerce platforms foster adoption of blockchain-enabled authenticity verification.

Key players in the market

Some of the key players in Blockchain Traceability for Circular Supply Chains Market include IBM Corporation, SAP SE, Oracle Corporation, Microsoft Corporation, Accenture plc, VeChain Foundation, Everledger Ltd., Provenance Ltd., Circularise B.V., Ant Group, Fujitsu Limited, Tata Consultancy Services Limited, Infosys Limited, AWS (Amazon Web Services) and Capgemini SE.

Key Developments:

In February 2024, SAP partnered with CircularTree, a SaaS platform for supply chain compliance, to integrate its blockchain-based traceability solution directly into SAP's Responsible Design and Production application.

In October 2023, IBM acquired Taqtile, Inc., a company specializing in augmented reality (AR) work instruction software, to enhance its asset management and field service solutions. This acquisition supports circular supply chains by enabling better maintenance, repair, and refurbishment processes for industrial assets through detailed digital work instructions.

Blockchain Types Covered:

Public Blockchain

Private Blockchain

Consortium Blockchain

Hybrid Blockchain

Other Blockchain Types

Traceability Functions Covered:

Raw Material Tracking

Product Lifecycle Monitoring

Waste & Recycling Traceability

Carbon & Emissions Tracking

Compliance & Certification Tracking

Other Traceability Functions

Deployment Models Covered:

On-Premise Deployment

Cloud-Based Deployment

Hybrid Deployment

Other Deployment Models

Industry Verticals Covered:

Manufacturing

Food & Beverages

Textiles & Apparel

Consumer Goods

Logistics & Transportation

Other Industry Verticals

End Users Covered:

Enterprises

SMEs

Government & Regulatory Bodies

Sustainability & Certification Agencies

Other End Users

Regions Covered:

North America

United States

Canada

Mexico

Europe

United Kingdom

Germany

France

Italy

Spain

Netherlands

Belgium

Sweden

Switzerland

Poland

Rest of Europe

Asia Pacific

China

Japan

India

South Korea

Australia

Indonesia

Thailand

Malaysia

Singapore

Vietnam

Rest of Asia Pacific

South America

Brazil

Argentina

Colombia

Chile

Peru

Rest of South America

Rest of the World (RoW)

Middle East

Saudi Arabia

United Arab Emirates

Qatar

Israel

Rest of Middle East

Africa

South Africa

Egypt

Morocco

Rest of 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 2023, 2024, 2025, 2026, 2027, 2028, 2030, 2032 and 2034
- 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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