

Smart Waste Management and IoT Waste-Tracking Systems Market Forecasts to 2034 – Global Analysis By Solution Type (Smart Bins, RFID & GPS-enabled Waste Tracking Systems, Cloud-based Waste Management Platforms and Analytics & Reporting Dashboards), Technology, Application, End User and By Geography

<https://marketpublishers.com/r/S97FE5ED80A5EN.html>

Date: June 2026

Pages: 200

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

ID: S97FE5ED80A5EN

Abstracts

According to Statistics MRC, the Global Smart Waste Management and IoT Waste-Tracking Systems Market is accounted for \$4.7 billion in 2026 and is expected to reach \$14.4 billion by 2034 growing at a CAGR of 15.0% during the forecast period. Intelligent waste management systems powered by IoT-based tracking technologies use sensors, connectivity, and analytics to improve waste collection efficiency in urban and industrial areas. These solutions provide real-time updates on bin fill levels, support optimized routing for garbage trucks, and enable predictive upkeep of infrastructure. With connected devices, municipalities can lower expenses, reduce fuel usage, and minimize environmental harm. Analytical data assists in boosting recycling performance and material recovery. Such systems improve transparency and operational control in waste processes, ultimately fostering cleaner environments, efficient service delivery, and sustainable city growth through automated, data-driven decision-making approaches across modern urban cities.

According to UNEP's Global Waste Management Outlook 2024, the world generated 2.1 billion tonnes of municipal solid waste in 2023, and under business-as-usual scenarios this will rise to 3.8 billion tonnes by 2050.

Market Dynamics:

Driver:**Rapid urbanization and population growth**

Rapid urban growth and increasing population density significantly drive the adoption of Smart Waste Management and IoT-based waste tracking systems. The movement of people toward urban centers results in higher waste output, straining conventional waste collection systems. Traditional approaches often fail to manage increasing volumes efficiently. IoT technologies assist in monitoring bin levels, optimizing collection routes, and preventing overflow situations. Municipalities are implementing smart sensors and connected waste bins to enhance operational efficiency. The rising need for effective waste control pushes governments to adopt advanced solutions. Continuous urban expansion makes automated and data-driven waste systems vital for sustainable development.

Restraint:**High initial investment and deployment costs**

The requirement for substantial upfront investment and installation expenses significantly restricts the growth of Smart Waste Management and IoT-based waste tracking systems. Deployment involves purchasing sensors, communication technologies, software systems, and integrating them into existing waste infrastructure. Many local authorities and smaller organizations struggle with limited financial resources, which hinder large-scale implementation. Ongoing maintenance, system upgrades, and operational costs add further financial pressure. The long payback period also discourages quick adoption. Emerging economies face greater difficulties due to restricted budgets and competing development needs.

Opportunity:**Expansion of smart cities and urban infrastructure projects**

Growing smart city initiatives and large-scale urban infrastructure developments offer strong opportunities for IoT-based waste management systems. Governments are actively implementing digital solutions to improve urban services, with waste handling being a key focus area. Smart waste technologies enable real-time monitoring, efficient collection, and better resource use. As urban populations continue to rise, demand for

automated and sustainable waste systems increases. Collaboration between public and private sectors further supports adoption. This environment creates favorable conditions for technology companies to develop scalable and integrated solutions that align with modern urban planning and sustainability objectives across rapidly expanding cities worldwide.

Threat:

High dependency on network connectivity

Heavy reliance on stable internet and communication networks poses a significant risk to IoT-based waste management systems. These solutions depend on continuous data transfer from sensors and connected devices to function effectively. Any interruption in connectivity can cause delays in collection schedules, reduce monitoring accuracy, and disrupt overall operations. Areas with weak or unreliable network infrastructure, especially in rural or developing regions, face greater challenges. Network failures or limited bandwidth further reduce system efficiency and reliability. This dependence on connectivity creates operational vulnerabilities and restricts the scalability and consistent performance of smart waste management technologies in many regions worldwide.

Covid-19 Impact:

The COVID-19 crisis had a major effect on the Smart Waste Management and IoT waste-tracking systems market by increasing demand for safer and more efficient waste handling solutions. The surge in medical and household waste placed additional strain on existing waste infrastructure, emphasizing the need for automation and real-time monitoring. IoT-based systems supported tracking of hazardous waste, optimized collection routes, and minimized human interaction to enhance safety. However, disruptions in supply chains and financial limitations delayed several projects. Despite these challenges, the pandemic sped up digital adoption in waste management, driving governments to implement smart technologies for improved hygiene and crisis response.

The cloud-based waste management platforms segment is expected to be the largest during the forecast period

The cloud-based waste management platforms segment is expected to account for the largest market share during the forecast period because of their flexibility, centralized

data handling, and easy real-time access. These systems collect and integrate information from smart bins, RFID, and GPS-based tracking devices, allowing efficient monitoring of waste operations. They enable advanced data analysis, forecasting, and improved decision-making for municipalities and service providers. Their capability to manage large datasets and support operations across multiple locations makes them the most widely used segment in modern waste management solutions globally.

The AI & machine learning segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the AI & machine learning segment is predicted to witness the highest growth rate because of their expanding use in automation, predictive insights, and intelligent operations. These technologies support accurate waste forecasting, optimized collection routes, and early detection of system irregularities. Integration of AI with IoT devices improves efficiency and lowers operational expenses. Governments and enterprises are rapidly adopting AI-based solutions to support smart city development. Ongoing improvements in machine learning models and data analytics capabilities are driving strong market expansion, positioning this segment as the fastest-growing area in the industry globally adoption.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share, driven by early technological adoption, strong smart city programs, and advanced waste management infrastructure. High public sector investments in digital transformation, strict environmental rules, and extensive use of IoT solutions across cities support market leadership. The presence of major technology companies and continuous innovation further enhances regional dominance. Increasing emphasis on sustainability and efficient resource utilization boosts demand. Moreover, adoption of AI, cloud computing, and sensor-based technologies in urban management strengthens growth. These combined factors position North America as the top regional market worldwide.

Region with highest CAGR:

Over the forecast period, the Asia-Pacific region is anticipated to exhibit the highest CAGR, driven by rapid urban expansion, large-scale smart city developments, and strong government funding in digital infrastructure. Countries like China, India, Japan, and South Korea are increasingly implementing IoT-based waste solutions to manage

growing waste volumes. Rising population density and industrial growth further increase the need for efficient systems. Supportive policies, foreign direct investment, and heightened environmental awareness also contribute to market expansion. The widespread use of affordable IoT devices and cloud technologies improves scalability, making Asia-Pacific the fastest-growing region in this industry globally.

Key players in the market

Some of the key players in Smart Waste Management and IoT Waste-Tracking Systems Market include Veolia, Waste Management Inc., Suez, IOTAS, Zebra Technologies, Cisco Systems, SmartEnds, Republic Services, IBM, Honeywell, Bigbelly, CivicSmart, Enevo, Rubicon, Ecube Labs, Sensoneo, Compology and Urbinat.

Key Developments:

In February 2026, Veolia has secured two 15-year operations and maintenance (O&M) contracts for Mumbai's upcoming Bhandup and Panjrapur Water Treatment Plants (WTPs), strengthening its presence in India's municipal water sector. The contracts mark the largest municipal water sector agreements signed by a French company in India. The combined treatment capacity of the two plants will be 2,910 million litres per day (MLD), equivalent to 2.91 million cubic metres per day.

In August 2025, Zebra Technologies Corporation announced it has entered into a definitive agreement to acquire Elo Touch Solutions, Inc., an innovator of solutions that engage customers, enhance self-service, and accelerate automation across retail, hospitality, quick service restaurants (QSR), healthcare, and industrial markets for \$1.3 billion in cash.

In April 2025, SUEZ and the CNRS have signed a five-year framework agreement to combine their R&D efforts and develop innovative solutions to promote sustainable resource management and new decarbonisation technologies. This framework agreement aims to pool together SUEZ's innovation capabilities and the CNRS' scientific excellence.

Solution Types Covered:

Smart Bins

RFID & GPS-enabled Waste Tracking Systems

Cloud-based Waste Management Platforms

Analytics & Reporting Dashboards

Technologies Covered:

IoT Connectivity

Sensor Technologies

AI & Machine Learning

Blockchain

Applications Covered:

Municipal Solid Waste Management

Industrial & Hazardous Waste Tracking

Healthcare & Biomedical Waste Monitoring

Commercial & Retail Waste Solutions

End Users Covered:

Municipal Authorities

Waste Management Companies

Industrial Enterprises

Healthcare Institutions

Commercial Complexes & Retail Chains

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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