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Urban Mining & Resource Recovery Market Forecasts to 2032 – Global Analysis By Material Type (Precious Metals, Base Metals, Rare Earth Elements, Plastics & Polymers, Ceramics & Glass and Composite & Engineered Materials), Waste Type, Recovery Technology, End User and By Geography

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Abstracts

According to Stratistics MRC, the Global Urban Mining & Resource Recovery Market is accounted for $24.87 billion in 2025 and is expected to reach $62.62 billion by 2032 growing at a CAGR of 14.1% during the forecast period. Urban Mining & Resource Recovery focuses on retrieving precious metals and materials from discarded electronics, obsolete products, and city infrastructure. With the growing need for raw resources and the ecological constraints of conventional mining, urban mining provides an eco-friendly solution that minimizes landfill accumulation and preserves natural reserves. It employs sophisticated recycling processes, automated material separation, and chemical treatments to extract metals such as gold, copper, and rare earths. Policymakers and corporations are increasingly supporting urban mining projects to promote circular economies, reduce environmental footprints, and strengthen resource supply chains. This market is projected to experience significant growth as sustainability and resource efficiency become central priorities.

According to the UN Global E-waste Monitor, electronic waste contains significantly higher concentrations of precious metals than many mined ores. In 2019 alone, the world generated 53.6 million metric tons of e-waste, valued at USD 62.5 billion in recoverable materials.

Market Dynamics:

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Driver:

Rising electronic waste generation

The global surge in electronic waste is significantly propelling the Urban Mining & Resource Recovery sector. Frequent technological upgrades and short lifespans of devices such as laptops, smartphones, and household electronics have led to an accumulation of e-waste. This waste stream offers opportunities to extract precious and base metals, including gold, copper, silver, and rare earth elements. Stakeholders, including industries and policymakers, increasingly view urban mining as a sustainable method to convert waste into valuable resources while mitigating environmental harm. The rising volume of discarded electronics ensures a consistent feedstock for recovery operations, driving market expansion and stimulating investments in advanced recycling facilities worldwide.

Restraint:

High initial investment costs

High startup expenses are a notable restraint for the Urban Mining & Resource Recovery sector. Setting up modern recycling plants, acquiring cutting-edge extraction equipment, and integrating efficient material sorting and processing systems require substantial funding. Small%- %and mid-sized businesses often struggle to finance such infrastructure, reducing their market participation. Additional expenses include regulatory compliance, skilled workforce hiring, and facility upkeep, further escalating financial commitments. These significant upfront costs may discourage investors despite the long-term returns from recovered materials. As a result, high capital requirements remain a key obstacle, slowing the adoption of urban mining practices and hindering the rapid development and expansion of resource recovery initiatives worldwide.

Opportunity:

Growing demand for rare earth elements

Increasing global demand for rare earth elements (REEs) in electronics, renewable energy systems, and cutting-edge technologies offers a significant growth opportunity for the Urban Mining & Resource Recovery sector. Critical metals such as neodymium,

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dysprosium, and lanthanum are essential for electric vehicles, wind turbines, and advanced electronics. Due to limited natural reserves and environmental limitations of traditional mining, urban mining emerges as a sustainable solution for extracting REEs from obsolete electronics, batteries, and industrial byproducts. Companies focusing on urban resource recovery can meet this demand, decrease reliance on imports, and promote circular economy practices, paving the way for sustained market expansion and long-term profitability.

Threat:

Competition from traditional mining

Traditional mining activities present a major threat to the Urban Mining & Resource Recovery sector. Conventional extraction methods often have the advantage of established infrastructure, large-scale operations, and lower production costs, making it harder for urban mining ventures to remain competitive. In areas with plentiful natural resources, raw materials can be more affordable and accessible, reducing the appeal of recovering materials from urban waste. Additionally, volatility in global commodity prices may favor conventional mining over recycling initiatives. These competitive pressures can restrict investments in urban mining technologies and slow market adoption, limiting the growth of urban resource recovery despite its environmental advantages and alignment with sustainability objectives.

Covid-19 Impact:

The COVID-19 outbreak had a notable effect on the Urban Mining & Resource Recovery sector, causing disruptions in supply chains, waste collection, and recycling operations worldwide. Lockdowns and movement restrictions decreased the availability of electronic waste, delaying material recovery initiatives and recycling projects. Workforce shortages and safety measures further hindered operations, while fluctuating global commodity prices impacted profitability. Despite these challenges, the pandemic underscored the importance of sustainability and efficient resource management, prompting renewed focus on resilient urban mining infrastructure. While COVID-19 temporarily slowed market growth, it also emphasized the long-term value of urban resource recovery for supporting circular economies, sustainable sourcing, and environmental conservation.

The precious metals segment is expected to be the largest during the forecast period

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The precious metals segment is expected to account for the largest market share during the forecast period due to their significant economic importance and widespread use in electronics, jewelry, and high-tech applications. Metals such as gold, silver, and platinum are commonly retrieved from obsolete devices, industrial residues, and end-of-life products, making them central to urban mining strategies. The combination of high demand, limited natural availability, and increasing raw material prices encourages investments in advanced recovery technologies targeting precious metals. Organizations focus on extracting these metals to enhance profitability and maintain a reliable supply of essential resources. Consequently, precious metals remain the most dominant segment in global urban resource recovery initiatives.

The electronics & electrical manufacturing segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the electronics & electrical manufacturing segment is predicted to witness the highest growth rate, driven by rising electronic waste and continual technological innovation. Rapid product turnover, frequent upgrades, and increasing consumption of consumer electronics create large quantities of end-of-life devices suitable for material recovery. This segment is rich in valuable resources, including precious metals, rare earth elements, and specialized plastics, which attract significant investment in efficient recycling technologies. The continuous expansion of electronic production and disposal contributes to the segment’s high growth rate. As a result, electronics and electrical manufacturing are emerging as the primary growth engine for urban mining initiatives worldwide, reflecting its strong market potential.

Region with largest share:

During the forecast period, the Asia Pacific region is expected to hold the largest market share, driven by rapid industrial growth, substantial electronic waste generation, and extensive adoption of advanced technologies. Nations such as China, Japan, and South Korea, with high electronic manufacturing and consumption rates, produce significant amounts of end-of-life devices suitable for recovery. Government policies promoting recycling, resource recovery, and circular economy models further accelerate market development. Increasing environmental awareness and sustainability initiatives among businesses and consumers boost investments in efficient recycling infrastructure. The synergy of abundant e-waste, supportive regulations, and technological expertise establishes Asia-Pacific as the leading region for urban mining and resource recovery globally.

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Region with highest CAGR:

Over the forecast period, the Middle East & Africa region is anticipated to exhibit the highest CAGR, fueled by rising industrialization, growing electronic waste, and increasing emphasis on sustainable development. Urban expansion and the growth of electronics manufacturing generate significant quantities of end-of-life devices available for material recovery. Governments are actively promoting recycling initiatives, circular economy practices, and environmental protection through regulations and incentives. Investment in modern recycling technologies and infrastructure is enhancing the recovery of precious metals, rare earths, and other valuable materials. The combination of rapid industrial growth, regulatory support, and sustainability awareness positions the region for substantial expansion, making it the highest growth rate market globally in urban mining.

Key players in the market

Some of the key players in Urban Mining & Resource Recovery Market include Elemental Holding, JX Advanced Metals, Umicore, Johnson Matthey, Materion Corporation, Boliden Group, Sims Limited, AET Environmental, Arch Enterprises, Dowa Eco-System, ECR World, Urban Mining Company (UMC), Attero, Excir and The Royal Mint.

Key Developments:

In May 2025, Johnson Matthey has reached an agreement to sell its Catalyst Technologies business to Honeywell International at an enterprise value of ?1.8 billion. The technologies that JM is selling to Honeywell include the development of hydrogen for industry and transport and sustainable aviation fuels for the airline industry.

In March 2025, Umicore has entered into two separate agreements for the supply of precursor cathode active materials (pCAM) for electric vehicle batteries with CNGR and Eco&Dream Co. (E&D). The pCAM, a critical component of EV batteries, will cater to Umicore's customer contracts in North America and Asia.

In January 2024, Elemental Holding SA, Luxembourg, and Mitsubishi Corp have agreed to form a strategic partnership involving platinum group metals (PGM) recycling. The transaction is subject to customary conditions and is expected to close in early 2024. As part of the strategic partnership, Mitsubishi will provide a trade finance working capital facility that will support the ramp-up of Elemental’s PGM smelter and refinery to full

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production.

Material Types Covered:

- Precious Metals
- Base Metals
- Rare Earth Elements
- Plastics & Polymers
- Ceramics & Glass
- Composite & Engineered Materials

Waste Types Covered:

- Electronic Waste (E-Waste)
- Construction & Demolition Debris
- Industrial Scrap & Process Waste
- End-of-Life Vehicles & Automotive Waste
- Municipal Solid Waste (MSW)
- Urban Landfill Mining

Recovery Technologies Covered:

- Mechanical Separation & Dismantling
- Hydrometallurgical Extraction
- Pyrometallurgical Processing

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- Bioleaching & Biometallurgy
- Sensor-Based Sorting & Imaging
- AI & Robotics-Driven Recovery

End Users Covered:

- Electronics & Electrical Manufacturing
- Automotive & Mobility Systems
- Construction Materials & Aggregates
- Energy Infrastructure & Utilities
- Consumer Goods & Packaging
- Industrial Equipment & Machinery

Regions Covered:

- North America
  - US
  - Canada
  - Mexico
- Europe
  - Germany
  - UK

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- 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

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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

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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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