

Optical Sorter Market Forecasts to 2030 – Global Analysis By Type (Laser-Based Sorters, Near-Infrared Sorters (NIR), Camera-Based Sorters, Hyperspectral Sorters, and Other Types), Platform, Application and By Geography

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Abstracts

According to Statistics MRC, the Global Optical Sorter Market is accounted for \$2.83 billion in 2024 and is expected to reach \$4.93 billion by 2030 growing at a CAGR of 9.7% during the forecast period. An optical sorter is a high-speed automated system that sorts and identifies objects according to physical characteristics like colour, size, form, or material composition using sophisticated sensors and technologies like cameras, lasers, or near-infrared (NIR) sensors. By quickly sorting undesirable or defective materials from good ones, optical sorters improve efficiency, precision, and quality control in a variety of industries, including mining, food processing, and recycling. This method guarantees constant product quality across multiple applications, minimizes waste, and reduces manual work.

According to the Food and Agriculture Organization of the United Nations Report, in 2021, the world cereal production reached around 927 million tons, increasing productivity by almost 5% compared to 2020.

Market Dynamics:

Driver:

Rising demand for food quality and safety

Food processors are implementing cutting-edge sorting technology as a result of

consumers' growing preference for safe, wholesome food items. Optical sorters make it possible to precisely identify and eliminate impurities, foreign materials, and flaws, guaranteeing adherence to strict food safety laws like HACCP and ISO standards. These systems increase productivity, reduce waste, and improve overall product uniformity by automating quality control. The market for optical sorters is rising as a result of the increased demand for dependable sorting solutions brought on by the increased focus on processed and packaged foods worldwide.

Restraint:

Complex maintenance requirements

The extensive use of optical sorters may be impeded by their complicated maintenance needs. These specifications frequently call for specialist personnel and replacement parts, which raises operating expenses and downtime. Furthermore, human mistake may result from intricate maintenance procedures, which could jeopardize the sorter's precision and effectiveness. For companies that depend on these systems, this may lead to decreased overall productivity, higher waste, and lower-quality products.

Opportunity:

Consumer preference for sustainable practices

Consumers' growing demand for sustainable and eco-friendly products as a result of growing environmental consciousness is driving industry to implement advanced sorting technology. In order to minimize waste, maximize resource recovery, and improve recycling efficiency, optical sorters are essential. They enable it feasible to precisely separate items like paper, metals, and plastics, which guarantee greater recycling rates and less of an adverse effect on the environment. By using optical sorters, companies can meet regulatory requirements and consumer values while achieving sustainability goals. This move toward environmentally friendly methods supports the use of optical sorters in a variety of global industries.

Threat:

Limited adoption in developing regions

Small and medium-sized businesses, which predominate in developing regions, are frequently discouraged by high initial investment and maintenance costs. Additionally,

the incentive for automation is diminished by the availability of less expensive human labor and a lack of knowledge about the advantages of optical sorting systems. The deployment and maintenance of such systems are made more difficult by limited access to technological know-how and infrastructure. The integration of sophisticated sorting systems is also delayed by financial limitations and conflicting priorities, such as the development of fundamental industries, which limits the potential market expansion.

Covid-19 Impact

The COVID-19 pandemic had a mixed impact on the optical sorter market. While disruptions in supply chains and reduced industrial activities initially slowed market growth, the increasing emphasis on automation and food safety during the pandemic spurred demand for optical sorters. Industries like food processing and recycling prioritized these technologies to minimize human contact and ensure product quality. However, economic uncertainties and budget constraints delayed investments in new equipment, particularly in small and medium enterprises, creating a short-term challenge for market expansion.

The laser-based sorters segment is expected to be the largest during the forecast period

The laser-based sorters segment is estimated to be the largest, due to their capacity to define materials based on characteristics including density, reflectance, and transparency with unmatched precision. These systems work especially well in industries where exact material separation is essential, like mining, recycling, and food processing. Their use in recycling and trash management is aided by the growing desire for sustainability and resource recovery. The need for laser-based sorting solutions is further increased by developments in laser technology as well as the requirement for efficiency and automation.

The food sorting segment is expected to have the highest CAGR during the forecast period

The food sorting segment is anticipated to witness the highest CAGR during the forecast period, due to the increasing emphasis on food safety and quality, coupled with stringent regulatory standards, is propelling the adoption of optical sorters. These systems effectively detect and remove foreign objects, defects, and discoloured produce, ensuring consistent product quality and minimizing food waste. Additionally, the rising demand for efficient and automated food processing solutions is further

fueling the growth of this segment.

Region with largest share:

Asia Pacific is expected to have the largest market share during the forecast period due to the demand for processed foods is rising as people become more health concerned. To guarantee the safety and quality of food, this is in turn propelling the use of cutting-edge technologies like optical sorters. Food processors are also being compelled to invest in contemporary sorting systems due to strict government laws pertaining to food safety and hygiene standards. Furthermore, the market for optical sorters in this area is expanding at an even faster rate due to the growing emphasis on sustainable practices and minimizing food waste.

Region with highest CAGR:

During the forecast period, the North America region is anticipated to register the highest CAGR, owing to stringent food safety regulations, increasing consumer awareness of food quality, and the rising demand for efficient and automated food processing solutions. Additionally, the region's robust recycling industry, coupled with a focus on sustainable practices, is fueling the adoption of optical sorters for efficient waste management. Furthermore, technological advancements in sensor technology and machine learning are enabling the development of more sophisticated and accurate optical sorting systems, further driving market growth in this region.

Key players in the market

Some of the key players profiled in the Optical Sorter Market include TOMRA Systems ASA, Buhler Group, Satake Corporation, Sesotec GmbH, National Recovery Technologies (NRT), Allgaier Werke GmbH, Pellenc ST, Binder+Co AG, Raytec Vision S.p.A., Steinert GmbH, Newtec A/S, Daewon GSI Co., Ltd., Schouten Sorting Equipment BV, CP Manufacturing, Inc., Meyer Optoelectronic Technology, Inc., and Advanced Sorting Machines (ASM).

Key Developments:

In November 2023, TOMRA announced the launch of INNOSORT FLAKE to enhance the high-throughput distillation of plastic flakes and improve flake sorting performance. Its advanced features allow simultaneous flake categorization by polymer, transparency, and color, achieving better quality even from extremely contaminated inputs.

In May 2023, Buhler expanded its product line with optical sorters powered for nut processing. The SORTEX optical sorter helps enterprises combat aflatoxin, upsurge yields, and offers flexible nut processors. With SORTEX, consumers can expect consistent nuts in shape and size, with no insect pieces or other cosmetic injuries.

Types Covered:

Laser-Based Sorters

Near-Infrared Sorters (NIR)

Camera-Based Sorters

Hyperspectral Sorters

Other Types

Platforms Covered:

Freefall Sorters

Lane Sorters

Channel Sorters

Belt Sorters

Applications Covered:

Recycling

Food Sorting

Mining

Pharmaceutical Sorting

Other Applications

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 2022, 2023, 2024, 2026, and 2030
- 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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