

# **Organ Preservation Solution Market - Global Industry Size, Share, Trends, Opportunity, and Forecast, 2019-2029 Segmented By Organ Type (Heart, Lung, Kidney, Liver, Others), By Application (Static Cold Storage, Hypothermic Machine Perfusion, Normothermic Machine Perfusion, Others), By Region and Competition**

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## **Abstracts**

Global Organ Preservation Solution Market was valued at USD257.35 million in 2023 and is anticipated to project robust growth in the forecast period with a CAGR of 6.62% through 2029. Organ preservation solutions play a crucial role in maintaining the viability of donated organs during the entire process, from procurement to transplantation. With the increasing number of individuals in need of organ transplants, there is a growing demand for these solutions. This demand, coupled with constant technological advancements in the field, has been instrumental in driving the market's growth.

Furthermore, the market's expansion is propelled by the rising prevalence of chronic diseases that often result in organ failure. For instance, the surge in cases of kidney and liver diseases has directly contributed to an increase in the number of transplants, consequently boosting the demand for effective organ preservation solutions.

However, the market also faces certain challenges. One major obstacle is the high cost associated with organ transplantation procedures and the preservation solutions themselves. Additionally, the shortage of organ donors poses a significant hindrance to the market's growth. Despite these challenges, ongoing research and development efforts continue to focus on finding innovative solutions and strategies to overcome these barriers and ensure the availability of viable organs for transplantation.

## Key Market Drivers

### Growing Number of Organ Transplant Procedures

The number of organ transplant procedures has been steadily increasing each year, setting remarkable all-time records. In 2021 alone, a total of 41,354 organ transplants were performed in the United States, representing an impressive increase of 5.9 percent compared to the previous year. This positive trend continued to surge in 2022, with over 42,800 organ transplants successfully carried out, setting yet another annual record.

The significance of organ preservation solutions cannot be overstated, as they play a vital role in maintaining the viability of donated organs from the moment of procurement all the way through transplantation. As the demand for organ transplants continues to rise, driven by the growing number of individuals in need, the demand for these preservation solutions also rises in tandem. This increasing demand, coupled with remarkable technological advancements in the field, has been instrumental in propelling the overall growth of the market.

Moreover, the rising prevalence of chronic diseases leading to organ failure further underscores the crucial need for organ transplants. For example, there has been a surge in cases of kidney and liver diseases, resulting in a corresponding increase in the number of transplants performed. Consequently, this surge in transplants further intensifies the demand for effective organ preservation solutions, which are essential in ensuring the success and viability of these life-saving procedures.

### Rise in Healthcare Expenditure

Healthcare expenditure worldwide has been on an upward trajectory for several years, driven by various factors. One significant factor is the aging population, as the number of elderly individuals requiring healthcare services continues to rise. Additionally, the increase in chronic diseases, such as cardiovascular conditions and diabetes, has contributed to the growing healthcare expenditure.

Moreover, advancements in medical technologies have played a crucial role in driving up healthcare costs. The development of innovative treatments and therapies, including precision medicine and gene therapies, has opened up new possibilities for patients but also comes with a higher price tag.

Furthermore, increased public health spending has contributed to the overall rise in healthcare expenditure. Governments around the world are recognizing the importance of investing in public health infrastructure and preventive measures to curb the spread of diseases and improve the overall well-being of their populations.

As healthcare expenditure continues to rise, the demand for organ transplants has also increased significantly. Organ preservation solutions play a vital role in maintaining the viability of donated organs throughout the entire transplantation process. With the prevalence of organ failures due to chronic diseases on the rise, the need for organ transplants has become more urgent than ever before.

The increase in healthcare expenditure has enabled more patients to afford life-saving organ transplant procedures, thereby further boosting the demand for organ preservation solutions. This, in turn, has led to increased investments in research and development (R&D) of advanced organ preservation technologies. For example, the development of normothermic perfusion techniques, which allow organs to be preserved at body temperature, has revolutionized the field of transplantation. These advancements in organ preservation technologies are made possible by the availability of increased funding for R&D, which further drives the growth of the organ preservation solution market.

In conclusion, the rise in healthcare expenditure worldwide is driven by various factors, including the aging population, the increase in chronic diseases, advancements in medical technologies, and increased public health spending. As healthcare expenditure continues to increase, the demand for organ transplants rises, leading to the growth of the organ preservation solution market. The availability of advanced organ preservation technologies, facilitated by increased investments in R&D, is transforming the field of transplantation and improving patient outcomes.

## Key Market Challenges

### High Cost of Organ Preservation Solutions

Organ preservation solutions play a critical role in ensuring the viability of donated organs throughout the entire process, from procurement to transplantation. As the demand for organ transplants continues to rise, the importance of these solutions becomes increasingly evident. However, the high costs associated with these solutions can pose significant challenges for many healthcare systems and patients, potentially

impeding market growth.

The process of organ transplantation is a complex and costly endeavor that goes beyond the actual surgery itself. It encompasses various aspects, including organ procurement, preservation, and post-operative care. Among these, the organ preservation segment alone can account for a substantial portion of the overall costs involved.

For instance, in the United States, the average cost of preserving a kidney is estimated to be around USD 20,000. When it comes to more intricate organs like the heart and lungs, the costs can escalate even further. Such high expenses can exert considerable pressure on healthcare budgets and may prove to be prohibitive for patients residing in countries where healthcare costs are not fully covered by public health systems or insurance.

Given these challenges, finding innovative approaches to reduce the costs associated with organ preservation solutions is crucial. This would not only enhance accessibility to transplantation for patients in need but also alleviate the burden on healthcare systems worldwide.

## Key Market Trends

### Growing Demand of Biological and Synthetic Solutions

Biological and synthetic preservation solutions play a crucial role in maintaining the viability of donated organs from procurement to transplantation. The science of organ preservation is constantly being updated with new knowledge and ideas, leading to the development of more effective and efficient preservation solutions.

Biological solutions leverage the body's natural processes to preserve organs. One example is the use of blood or its components, such as red blood cells and plasma. These components not only provide essential nutrients and oxygen to the organ but also help to minimize damage during the preservation process by stabilizing the pH levels and preventing the formation of harmful free radicals. Additionally, biological solutions may include the use of cryoprotectants, which are substances that protect the cells and tissues from damage caused by freezing temperatures.

On the other hand, synthetic solutions are specifically designed to mimic the ideal conditions for organ preservation. These solutions often contain a balanced mix of

electrolytes, nutrients, and other compounds that help to maintain organ function and structure. For example, synthetic preservation solutions may include antioxidants to protect against oxidative stress, as well as osmotic agents to maintain proper cellular hydration.

By continuously refining and optimizing both biological and synthetic preservation solutions, researchers and medical professionals aim to improve the success rates of organ transplantation and ultimately save more lives. Through ongoing research and innovation, the field of organ preservation continues to evolve, ensuring that donated organs remain viable and functional for transplantation, giving hope to patients in need of life-saving procedures.

## Segmental Insights

### Organ Type Insights

Based on the category of organ type, the kidney segment emerged as the dominant player in the global market for organ preservation solution in 2023. Kidney diseases are a significant global health concern, affecting a large population worldwide. The number of patients in need of a kidney transplant is steadily increasing, highlighting the urgency to address this growing demand. Notably, kidney transplants account for the highest proportion among all organ transplants conducted on a global scale.

What makes kidneys truly remarkable is their unique characteristic of being suitable for donation from living individuals, without causing significant harm to their overall health. This remarkable feature has led to a rise in the number of living kidney donors, thereby contributing to the surging demand for effective organ preservation solutions to ensure successful transplantation outcomes.

### Application Insights

The static cold storage segment is projected to experience rapid growth during the forecast period. Static cold storage has been a long-standing and reliable method of organ preservation in the medical community. This traditional approach involves carefully cooling the organ to slow down its metabolic processes. By reducing the rate of tissue decay, transplant teams are afforded valuable time to thoroughly prepare and execute the procedure.

In comparison to newer preservation techniques like normothermic perfusion, the static

cold storage method remains a popular choice due to its simplicity and cost-effectiveness. Hospitals and clinics worldwide find it accessible, as it requires less specialized equipment and training. This accessibility ensures that organ preservation can be implemented effectively, benefiting patients in need of life-saving transplants.

## Regional Insights

North America emerged as the dominant player in the Global Organ Preservation Solution Market in 2023, holding the largest market share in terms of value. In recent years, the region has witnessed a significant surge in cases of multi-organ failures, posing a challenge to the healthcare system. Additionally, there has been a noticeable shift in demographics, with a growing geriatric population that requires specialized care and attention. As a result, this has created an unprecedented demand for organ transplants and preservation techniques to meet the healthcare needs of the population.

When it comes to North America, particularly the United States, the healthcare infrastructure stands out as a shining example of excellence. With its well-established medical facilities, advanced technology, and highly skilled healthcare professionals, the region is equipped to handle the intricate complexities of organ transplantation and preservation. This robust healthcare system ensures that patients have access to the necessary resources and expertise, ensuring optimal outcomes for those in need of life-saving procedures.

## Key Market Players

Waters Medical Systems LLC

Xvivo Perfusion AB

TransMedics Inc

Organox Limited

21st Century Medicine

Dr. Franz Koehler Chemie GmbH

Accord Healthcare Inc.

Bridge to Life Ltd

Perfusion Solutions, Inc.

Lifeline Scientific Inc.

#### Report Scope:

In this report, the Global Organ Preservation Solution Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

#### Global Organ Preservation Solution Market, By Product:

- o Heart
- o Lung
- o Kidney
- o Liver
- o Others

#### Global Organ Preservation Solution Market, By Application:

- o Static Cold Storage
- o Hypothermic Machine Perfusion
- o Normothermic Machine Perfusion
- o Others

#### Global Organ Preservation Solution Market, By Region:

o North America

? United States

? Canada

? Mexico

o Europe

? France

? United Kingdom

? Italy

? Germany

? Spain

o Asia Pacific

? China

? India

? Japan

? Australia

? South Korea

o South America

? Brazil

? Argentina

? Colombia



o Middle East & Africa

? South Africa

? Saudi Arabia

? UAE

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Global Organ Preservation Solution Market.

Available Customizations:

Global Organ Preservation Solution Marketreport with the given market data, Tech Sci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

Detailed analysis and profiling of additional market players (up to five).

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