

Surgical Robotics Market Assessment, By Product and Service Type [Services, Robotic Systems, Instruments and Accessories], By Application [Gynaecology, Urology, Neurosurgery, Orthopaedic, General Surgery, Others], By End-user [Hospitals, Ambulatory Surgical Centres], By Region, Opportunities, and Forecast, 2016-2030F

<https://marketpublishers.com/r/SDB19CC40B9AEN.html>

Date: February 2025

Pages: 222

Price: US\$ 4,500.00 (Single User License)

ID: SDB19CC40B9AEN

Abstracts

Global Surgical Robotics Market size was valued at USD 10.21 billion in 2022, expected to reach USD 31.87 billion in 2030 with a CAGR of 15.29% for the forecast period between 2023 and 2030F. The Global Surgical Robotics Market has experienced remarkable growth in recent years, fueled by technological advancements and growing demand for minimally invasive surgical procedures. Surgical robotics involve robotic systems to aid surgeons in performing precise and complex surgeries, resulting in improved patient outcomes and shorter recovery times. Key market drivers include the rising frequency of chronic diseases, the aging population, and the increasing adoption of minimally invasive procedures. As the number of surgical interventions increases, there is a greater need for advanced technologies to enhance surgical precision and efficiency. Additionally, the benefits of minimally invasive surgeries, such as reduced scarring and faster recovery, have led to higher patient preference for these procedures, further propelling the demand for surgical robotics.

Moreover, continuous innovations and new developments in surgical robotics have played a crucial role in market expansion. Companies are investing in research and development to create more advanced robotic systems with improved capabilities, such as enhanced dexterity and real-time imaging. These advancements have led to a broader range of surgical applications and expanded robotic-assisted procedures'

scope. Furthermore, regulatory approvals and certifications for surgical robots have facilitated their integration into everyday clinical practice, making them more accessible globally to hospitals and healthcare institutions. As a result, the Global Surgical Robotics Market continues to evolve, offering promising opportunities for improved surgical techniques, patient care, and healthcare outcomes.

For instance, in June 2023, CMR Surgical (CMR), a prominent global surgical robotics company, unveiled the latest iteration of its surgical robotic system, Versius®, in Belgium. The pioneering technology has been installed at Sint-Franciscus Hospital in Heusden-Zolder, making it the first Belgian hospital to adopt Versius. This advanced robotic system is being employed as part of a multi-specialty initiative to expand the availability of minimally invasive surgery to a broader range of patients. By incorporating Versius into their medical practices, Sint-Franciscus Hospital aims to enhance surgical precision and efficiency, ultimately leading to improved patient outcomes and shorter recovery periods. The introduction of Versius to Belgium marks a significant milestone in surgical robotics and showcases CMR's commitment to advancing healthcare by making cutting-edge technologies more accessible worldwide.

Increasing Technology Advancements in Surgical Robotics

The increasing adoption of advanced robotic technologies in surgical procedures has driven the global surgical robotics market. One key factor driving this growth is the sophistication of surgical robots, which have become more precise, versatile, and user-friendly. Advancements in technology have enabled surgical robots to perform a wide range of procedures with greater accuracy, speed, and efficiency, reducing the risk of complications and improving patient outcomes. Additionally, integrating artificial intelligence, machine learning, and advanced imaging technologies has made surgical robots more intelligent and responsive to the surgeon's commands.

With ongoing research and development in surgical robotics, the market is expected to grow in the coming years, as healthcare providers seek to leverage the benefits of this emerging technology. For instance, Moon Surgical, a pioneering French American company specializing in collaborative robotics, has recently revealed that its Maestro System has received the CE Mark under the Medical Device Regulation (EU) 2017/745 as of 2023. Moon Surgical's Maestro is an innovative surgical robotics system, revolutionizing minimally invasive surgery. With its advanced robotic arms, high-definition imaging, and intuitive controls, Maestro enhances surgeons' capabilities, enabling precise and efficient procedures. The cutting-edge technology aims to improve patient outcomes by reducing post-operative complications, minimizing scarring, and

promoting faster recovery times.

Growing Healthcare Expenditures

The global surgical robotics market is also driven by increasing healthcare expenditures worldwide, particularly in developed economies. As healthcare systems strive to improve patient outcomes and reduce healthcare costs, they use innovative technologies such as surgical robots to achieve these goals. While the initial costs of implementing surgical robotics systems can be significant, they are often offset by the long-term benefits, such as reduced hospital stay durations, shorter recovery times, and decreased risk of complications. This has led to increasing healthcare providers investing in surgical robots, particularly orthopedics, gynecology, and urology. Moreover, governments and private organizations are also providing funding and support for developing new and improved surgical robotics technologies, which is expected to drive growth in the market in the years to come.

Increased Demand for Minimally Invasive Procedures

The global surgical robotics market has witnessed an increased demand for minimally invasive procedures, driving its rapid growth. Minimally invasive surgeries offer numerous advantages, including smaller incisions, reduced scarring, faster recovery times, and lower post-operative complications. These benefits have led to a surge in patient preference for such procedures and increased adoption by healthcare providers. Surgical robotics technology enables minimally invasive surgeries, offering enhanced precision, dexterity, and control during complex procedures. Moreover, the robotics systems provide surgeons with real-time feedback and imaging, improving patient safety and outcomes. As the awareness and acceptance of these technologies continue to grow, the demand for surgical robotics is expected to further escalate in the global healthcare landscape.

For example, in 2022, avateramedical GmbH, a pioneering German medical technology company focusing on robot-assisted, minimally invasive surgery, celebrated a significant milestone by successfully performing the first ten surgeries on human patients using their avatera system. The introduction of the avatera system into real-world medical settings represents a remarkable advancement in the field of surgical robotics and reinforces its potential to revolutionize modern healthcare.

Impact of COVID-19

The COVID-19 pandemic had a significant impact on the global surgical robotics market. In order to prioritize COVID patients and reduce the risk of infection, many hospitals postponed elective surgeries, leading to a decline in demand for surgical robotics systems. Additionally, disruptions in the supply chain and manufacturing processes due to lockdowns and travel restrictions have resulted in delays in the delivery of surgical robotics systems. However, the pandemic has also highlighted the importance of minimally invasive surgeries, which can reduce hospital stays and minimize the risk of infection, leading to increased interest in surgical robotics systems. Furthermore, the pandemic has led to increased investment in telehealth and remote surgery, which could create new opportunities for the surgical robotics market.

Impact of Russia-Ukraine War

The Russia-Ukraine war could hurt the global surgical robotics market. The conflict could disrupt the supply chains of key players in the market, leading to delays in the manufacturing and distribution of surgical robotics systems. Additionally, the economic instability caused by the war could lead to a decrease in healthcare spending, which could further impact the adoption of surgical robotics. Furthermore, geopolitical tensions could create uncertainty in the global market, leading to decreased investment and slower growth. However, the extent of the impact would depend on the duration and severity of the conflict and the specific market dynamics and players involved.

Key Player Landscape and Outlook

The global surgical robotics market is a rapidly growing industry with intense competition among the major players. Intuitive Surgical is the market leader with its da Vinci system, widely used in minimally invasive surgery. Other players are introducing new surgical robots with advanced features and capabilities, such as 3D imaging, haptic feedback, and artificial intelligence. In addition, partnerships, collaborations, and mergers and acquisitions are common strategies among players to expand their product offerings and increase their market share. The market is expected to grow, driven by technological advancements, increasing demand for minimally invasive surgery, and the growing adoption of surgical robots in emerging markets. For example, in 2022, a robotics enterprise based in Shanghai successfully created a four-arm laparoscopic surgical robot to assist doctors in performing intricate surgeries within confined spaces. The technology obtained approval for commercial use from China's drug regulator in January. The robot was recognized for its exceptional capabilities and was honored with the prestigious 'Super AI Leader' award at the 2022 World Artificial Intelligence Conference, which commenced in Shanghai on Thursday. This achievement highlights

the significant advancements in surgical robotics and underscores the robot's potential to revolutionize surgical procedures.

For instance, in June 2022, Intuitive, a leading global technology company specializing in minimally invasive care and a trailblazer in robotic-assisted surgery, declared that the U.S. Food and Drug Administration (FDA) had granted clearance for the integration of mobile cone-beam CT (CBCT) imaging technology with the Ion Endoluminal System utilized in robotic-assisted bronchoscopy. This regulatory approval signifies a major advancement in medical imaging and robotic-assisted procedures.

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*Companies mentioned above DO NOT hold any order as per market share and can be changed as per information available during research work

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