

Robotic Endoscopy Devices - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

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Report description:

The Robotic Endoscopy Devices Market size is estimated at USD 2.91 billion in 2025, and is expected to reach USD 5.32 billion by 2030, at a CAGR of 12.82% during the forecast period (2025-2030).

The COVID-19 pandemic has significantly impacted the robotic endoscopic devices market. The global lockdowns decreased public mobility and significantly impacted the diagnostics and imaging industry. The diagnostic procedures and screening programs, which were non-immediate, were postponed to decrease the burden on healthcare infrastructure. For instance, the article published by UCL in March 2021 mentioned that by January 2021, a backlog of nearly half a million endoscopic procedures, which were essential for diagnosing gastrointestinal cancers and diseases, was built up during the COVID-19 pandemic.

The article also mentioned that the number of endoscopies after the lockdown in the United Kingdom fell by more than 90%. Such a drastic reduction in endoscopic procedures due to the strict lockdown regulations had a notable impact on the growth of the market. However, as the lockdowns were eased in most countries, robotic and conventional endoscopic procedures experienced greater momentum. The market is expected to grow at a significant rate during the forecast period.

The major factors contributing to the market's growth are the rising prevalence of chronic diseases, such as pancreatic cancer, inflammatory bowel disease, and gastroesophageal reflux disease (GERD), among people of all age groups due to unhealthy lifestyles. As per the International Foundation for Gastrointestinal Disorders (IFFGD), published in February 2021, 10%-15% of the global population was affected by irritable bowel syndrome at that time. About 25-45 million people were afflicted with the disease in the United States, necessitating a high requirement for advanced technologies in endoscopy.

According to a report published by the Centers for Disease Control and Prevention (CDC) on World IBD Day (May 19, 2021), about

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7 million around the world suffer from IBD. The report also stated that the rate of prevalence of the disease has significantly increased during the last two decades. Robotic endoscopy for patients with IBD is feasible, safe, and improves clinical and surgical outcomes. Such benefits of robotic endoscopy in diagnosing irritable bowel syndrome and inflammatory bowel syndrome are expected to drive the demand, thereby boosting the growth of the market.

Increasing investments in technological innovations in endoscopy visualization systems by various market players are expected to boost the growth of the market during the forecast period. For instance, in September 2022, Virtuoso Surgical announced USD 20 million for developing endoscopic surgical robots. The surgeries conducted will include bladder cancer, uterine fibroids, enlarged prostate, central airway obstruction removal, and endoscopic neurosurgery, among others.

However, highly expensive surgical endoscopic procedures, troublesome repayment approaches, and stringent regulatory reforms are expected to restrain the growth of the market during the forecast period.

Robotic Endoscopy Devices Market Trends

Laparoscopy is Expected to Hold the Largest Market Share in the Robotic Endoscopy Devices Market

Laparoscopy is a type of surgery in which a small incision is made in the body, such as the abdominal wall, through which a laparoscope and other instruments can be placed to allow structures within the internal body cavity to be seen. Robot-assisted laparoscopic surgery helps surgeons provide improved patient care by converting procedures that would have otherwise been performed by laparotomy into minimally invasive procedures.

Laparoscopic procedures are expected to account for the highest market revenue due to a rise in bowel diseases and an increased preference for and adoption of laparoscopic techniques, owing to the recent advancements in laparoscopy and minimally invasive therapeutic procedures. As per the IDF Diabetes Atlas 10th edition, the number of adults with diabetes in Europe is expected to reach 67 million by 2030 and 69 million by 2045. Laparoscopy plays a vital role in performing surgeries in diabetic patients where minimal invasiveness is crucial. Thus, the increasing burden of diabetes is expected to boost the growth of the market segment during the forecast period.

As per an article published by the World Laparoscopy Hospital in May 2023, the primary advantage of using AI in laparoscopic surgery is the potential for enhanced precision and accuracy. AI systems can be trained on vast amounts of surgical data, learning from the successes and mistakes of thousands of surgeries. As a result, these systems can provide highly precise guidance during surgical procedures, thereby reducing the likelihood of human error. Thus, the benefits associated with robot-assisted laparoscopy are expected to boost the growth of the segment during the forecast period.

Additionally, the increasing launches of various advanced laparoscopy techniques in order to meet the growing demand for effective laparoscopy are expected to fuel the market growth over the forecast period. For instance, in February 2021, Cambridge-based medical device company, CMR Surgical (CMR), launched Versius Surgical Robotic System to perform minimal access surgery (MAS), also known as laparoscopic or keyhole surgeries. Thus, such factors are likely to drive market growth during the forecast period.

North America is Expected to Hold Significant Share in the Market During the Forecast Period

North America is expected to hold a notable market share in the robotic endoscopy devices market during the forecast period. An increasing number of target diseases and a rising population with a higher prevalence of gastrointestinal disorders are expected to drive market growth.

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The availability of advanced robotic endoscopies and their adoption for surgeries across the region are also expected to drive the growth of the market during the forecast period. For instance, as per the data published by the City of Hope Cancer Center in May 2022, the Flex robotic system is a surgical system with a flexible robotic endoscope. This minimally invasive technology allows surgeons to access hard-to-reach areas of the mouth and throat.

The Cancer Treatment Centers of America (CTCA) otolaryngology surgeons who perform surgeries by using the Flex robotic system are highly trained to use this technology to treat patients with head and neck cancers. Such availability of advanced robotic endoscopic devices in North America shows the adoption of advanced technologies. This situation is expected to boost the growth of the market during the forecast period.

Several companies are launching products associated with robotic endoscopy in the United States. In March 2021, Asensus Surgical Inc. announced the FDA clearance of the Senhance Surgical System in the United States. This robotic system is indicated in general surgery, including endoscopy procedures. Thus, the rising prevalence of bowel diseases, the rising geriatric population, and the presence of key market players with continuous product developments are expected to boost the growth of the market in this region during the forecast period.

Robotic Endoscopy Devices Industry Overview

The robotic endoscopy devices market is moderately consolidated. It consists of a few major players. The competitive landscape includes an analysis of a few international and local companies that hold large market shares and are well-known. Some of the companies that currently dominate the market are Intuitive Surgical Inc., Asensus Surgical Inc., Johnson & Johnson, Brainlab AG, and Medrobotics Corporation.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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