

U.S. Surgical Robots Market Size, Share & Trends Analysis Report By Application (Urology, General Surgery, Gynecology), By End Use (Inpatient, Outpatient), And Segment Forecasts, 2025 - 2033

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Abstracts

The U.S. surgical robots market size was estimated at USD 1.88 billion in 2024 and is projected to reach USD 3.70 billion by 2033, growing at a CAGR of 7.64% from 2025 to 2033. Increasing workforce shortages among surgeons, with a rising preference for minimally invasive surgeries (MIS), are collectively accelerating the adoption of robotic-assisted platforms across U.S. hospitals. The growing prevalence of arthritis and related musculoskeletal conditions is a key driver of market growth. According to a CDC article published in March 2024, in the U.S., one in five adults (approximately 54 million people) suffers from arthritis, which remains a leading cause of disability and loss of productivity.

A growing workforce gap is boosting the adoption of robotic surgical systems across the U.S. healthcare landscape. According to an article published by the American College of Surgeons in April 2024, recent data indicate that by late 2022, the country had approximately 155,549 active surgeons, only slightly below the estimated requirement of around 160,000 surgeons for 2024. At the same time, nearly one-quarter of the surgical workforce, 25.6% is 65 years or older, signaling an impending wave of retirements. This imbalance between current capacity and rising demand for surgical care is prompting hospitals to invest in technologies that enhance efficiency, extend surgeon capabilities, and ensure consistent procedural quality. However, robotic platforms are increasingly viewed as essential tools that help alleviate workforce pressure by enhancing precision, reducing fatigue, and enabling surgeons to perform complex procedures with greater consistency, thereby strengthening their role within the U.S. surgical ecosystem.

The growing adoption of minimally invasive surgeries (MIS) in the U.S. is driven by advancements in robotic-assisted technologies and an increasing preference for faster recovery and reduced postoperative complications. According to the article published by Intuitive Surgical, Inc. in April 2025, data from 408 U.S. hospitals were analyzed, including 153 hospitals that implemented robotic-assisted surgery (RAS) for standard general surgical procedures, such as cholecystectomy, hernia repair, and colorectal resection. The findings revealed that hospitals introducing RAS experienced a notable increase in MIS rates from 60.5% to 65.8% compared to a marginal rise from 56.1% to 57.0% in hospitals without robotic integration. The study further highlighted that this growth was consistent across diverse patient demographics and procedure types, suggesting that robotic adoption expanded access to MIS rather than merely replacing traditional laparoscopic methods. This trend highlights the accelerating shift toward minimally invasive techniques in U.S. healthcare, driven by increasing investments in robotic systems and training programs.

Technological advancements drive market growth. For instance, in July 2025, Researchers at Johns Hopkins University developed the SRT-H, an autonomous surgical robot capable of performing complex procedures with 100% accuracy and zero human intervention. Trained using surgical videos and equipped with machine learning algorithms, SRT-H can adapt to real-time surgical scenarios, enhancing its potential for future applications in minimally invasive surgeries.

U.S. Surgical Robots Market Report Segmentation

This report forecasts revenue growth at the country level and analyzes industry trends in each sub-segment from 2021 to 2033. For this study, Grand View Research, Inc. has segmented the U.S. surgical robots market report based on application and end use:

Application Outlook, 2021 - 2033 (USD Million) By Unit Volume (Systems Installed, 000'), By Procedure Volume (Surgeries Performed, 000')

Urology

General Surgery

Gynecology

Orthopedics

Hip

Knee

Spine

Others

Cardiothoracic

Neurosurgery

ENT

Bariatric / Metabolic

Other

End Use Outlook (Revenue USD Million, 2021 - 2033)

Inpatient

Outpatient

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