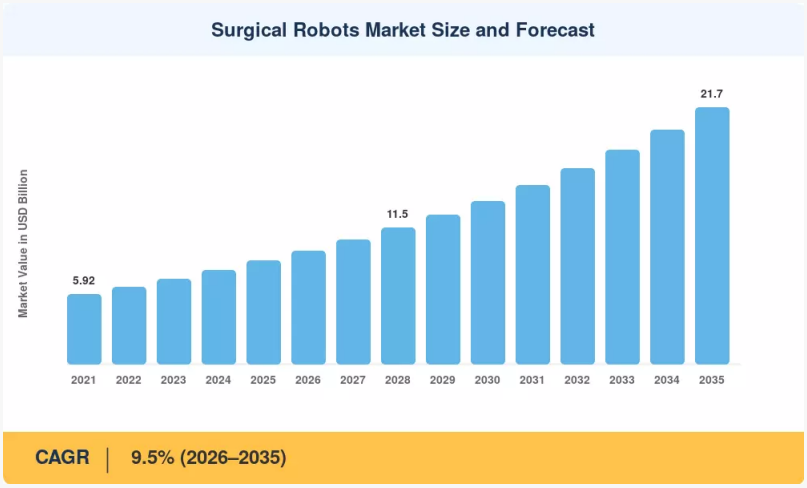
Surgical Robots Market to reach USD 21.70 Billion by 2035 at 9.5% CAGR

Surgical Robots Market to Surge from USD 8.73 Billion in 2025 to USD 21.70 Billion by 2035-By Reimbursement Expansion, Minimally Invasive Technique Adoption



Surgical Robots Market (2026 - 2035)

NY, CA, UNITED STATES, September 17, 2026 /EINPresswire.com/ -- As per Market Research Future, the global Surgical Robots Market size is projected to reach USD 21.70 Billion by 2035 from USD 8.73 Billion in 2025, at a CAGR of 9.5% during the forecast period 2026--2035. The market value is expected to reach USD 9.59 Billion in 2026, the first year of the forecast period.

The 9.5% CAGR---anchored by structural shifts in surgical care delivery---is propelled by three converging forces: expanding reimbursement pathways for robot-assisted procedures in the United States and China, with CMS outpatient payment reforms increasing facility payment for high-volume cases and Chinese NHSA pricing revisions cutting effective payback periods from roughly seven years to under five in tier-1 provincial hospitals; advancements in platform technology, particularly AI-enabled machine vision, navigation, and force feedback that improve surgical precision and reduce complication margins; and the migration of procedures to ambulatory settings, which drives demand for compact, cost-efficient robotic systems that reduce the cost per procedure rather than simply increasing degrees of freedom.

Global medtech companies and health authorities are amplifying this momentum. In 2024, global medtech research and development expenditure on digital surgery surpassed USD 4.1 billion, with approximately one-third of that spending allocated to vision and autonomy technology stacks. Aging cohorts are generating structural demand, with total hip and knee replacement volumes across OECD member states increasing by approximately 4.3% annually since 2021, and Guangdong and Jiangsu provinces jointly approving over 140 robotic system placements in 2024 under revised pricing schedules. These forces are creating the clinical infrastructure and capital-committee demand on which the Surgical Robots Market depends.

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Key Market Trends & Growth Drivers

Rising Demand for Minimally Invasive Robotic Surgery

The market is witnessing an increasing demand for robot-assisted surgical solutions. As aging populations lift elective procedure volumes globally, more hospitals are seeking platforms that reduce length of stay and compress operating time amid surgeon shortages. This trend indicates a shift in hospital capital planning towards throughput assets with measurable financial returns, with robotic systems increasingly evaluated on utilization economics rather than prestige. Intuitive Surgical continues advancing platform capability through its unmatched installed base and clinical data depth.

Advancements in Machine Vision and Force Feedback

Innovations in autonomy and sensing technologies are becoming a hallmark of the industry. Vendors integrated tissue-segmentation, AI-driven safety mapping, and instrument-tracking modules across multiple cleared platforms through 2024--2025, while haptic feedback integration achieved major regulatory and clinical milestones---with peer-reviewed evaluations showing active force feedback can reduce peak tissue-retraction and grasping force by up to 43%. These advancements aim to enhance procedural safety and consistency, potentially leading to better patient outcomes and increased market penetration. Surgical systems accounted for approximately 54.1% of market revenue in 2025, reflecting first-time placements and the eight-year refresh cycle.

Integration of Data Analytics and Service-Based Models

The incorporation of subscription analytics and utilization-indexed revenue models into the industry is gaining traction. Every robotic case generates kinematic, video, and timing data that vendors monetise through benchmarking and predictive maintenance services, with early adopters reporting attach rates above 40% on new placements. Services are the fastest-expanding component at a 10.1% CAGR, as multi-year maintenance and uptime guarantees become contractual defaults. Stryker continues investing in orthopedic navigation ecosystems, while Medtronic leverages broad hospital relationships for cross-selling its modular soft-tissue platform.

Reimbursement Expansion and Elective Volume Pressure

The widening of payment pathways for robot-assisted procedures is a primary driver. The 2024

and 2025 CMS OPPS regulations introduced new outpatient procedure codes covering robot-assisted general surgery, resulting in a 6--11% increase in facility payment for several high-volume cases. The market is projected to expand as hospital capital committees that once treated surgical robots as prestige purchases now evaluate them as throughput assets. According to OECD data, Italy and Japan have population shares over 65 of 24.0% and 29.1% respectively, underscoring the demographic base of long-term demand.

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Market Segment Insights

BY COMPONENT

Surgical Systems: Largest segment with 54.1% share in 2025, driven by first-time placements and the eight-year refresh cycle. Intuitive Surgical continues expanding its multi-port and single-port console ecosystem through sustained platform innovation.

Services: Fastest-growing component at 10.1% CAGR, as health systems increasingly buy availability rather than equipment---contracts now routinely specify guaranteed uptime percentages with financial penalties attached.

Instruments and Accessories: Significant share at 31.4% in 2025, scaling directly with procedure volume and expanding cleared indications.

Training: 6.2% share in 2025, supported by credentialing requirements and simulation mandates for robotic surgery programmes.

BY AREA OF SURGERY

Orthopedic: Largest segment with 34.2% share in 2025, underpinned by knee and hip arthroplasty volumes and measurable implant-alignment precision benefits. Stryker leads in joint replacement robotics through its navigation and arthroplasty platforms.

Neurosurgery: Fastest-growing surgical area at 9.9% CAGR, where sub-millimetre accuracy in electrode and biopsy placement delivers clinical benefit that manual technique cannot match.

General and Laparoscopic: 19.6% share in 2025, representing the broadest cleared indication set and the core of soft-tissue robotic adoption.

Urological: 15.1% share in 2025, with prostatectomy remaining the founding clinical use case for robotic surgery.

Cardiovascular: 8.2% share in 2025 and the largest untapped pool, gated more by trial evidence than by engineering.

BY END USER

Hospitals: Largest segment with 69.1% share in 2025, due to capital access and complex case mix. Medtronic continues strengthening hospital penetration through broad cross-sell leverage.

Ambulatory Surgical Centers: Fastest-growing end user at 10.5% CAGR, driven by payer site-of-service steering and demand for compact, low-footprint systems. Smith+Nephew targets this channel with capital-light handheld orthopedic systems.

Other End Users: Valued at USD 0.83 billion in 2025, including specialty clinics and academic research centres.

BY PRODUCT TYPE

Non-Portable Systems: Largest segment with 39.9% share in 2025, anchored by flagship multi-arm consoles in tertiary centres performing complex, multi-quadrant procedures.

Portable and Cart-Based Systems: Fastest-growing product category at 10.3% CAGR, unlocking theatre-sharing economics and a lower capital threshold for ambulatory buyers. CMR Surgical competes in this tier with a modular portable platform.

Robotic Instruments & Accessories: Positioned as the recurring-revenue backbone, scaling with every procedure performed on installed systems.

Imaging Systems: Significant share, reflecting the integration of imaging, sensing, and navigation into single surgical workflows. Siemens Healthineers differentiates through imaging-integrated endovascular robotics.

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Regional Outlook

North America --- Market Leader in Installed Base

North America leads with 40.1% of global revenue in 2025, contributing USD 3.50 Billion---the largest single regional pool in the Surgical Robots Market. The region's growth is driven by the most mature service contracts and deepest installed base of any region, with the United States

representing 84.2% of regional revenue. U.S. demand is now a replacement story as much as a placement story, with roughly a third of 2025 shipments going to systems older than eight years. The competitive landscape is characterized by entrenched incumbency and widening outpatient payment pathways.

Europe --- Second Largest Market

Europe holds the second-largest share at 27.3% of global revenue in 2025, anchored by Germany, the United Kingdom, and Italy. The region benefits from Germany's DRG supplement reforms that make case-level economics transparent to hospital controllers, and NHS England's elective recovery funding released capital for more than 40 new placements across 2024--2025. EU MDR certification backlogs remain the region's persistent friction point, delaying several challenger launches by three to five quarters. Leading countries include Germany, the UK, and Italy, where major manufacturers such as Brainlab and Siemens Healthineers are heavily invested.

Asia-Pacific --- Fastest-Growing Market Segment

The Asia-Pacific region is the fastest-growing market, advancing at a 10.5% CAGR through 2035. Growth is driven primarily by the expansion of private hospital chains in India---posting an 11.9% CAGR and financing purchases through per-procedure revenue-share agreements---and provincial procurement tenders in China, where domestic manufacturers have converted procurement preference into meaningful share against imported platforms. Japan contributes the highest over-65 share among major economies, sustaining replacement-weighted demand. The competitive landscape is evolving with domestic champions such as MicroPort MedBot leading Chinese tenders.

Middle East & Africa and South America --- Emerging Potential

The Middle East & Africa region is valued at USD 0.30 Billion, driven by Saudi Arabia's Health Sector Transformation Programme capital and Gulf medical tourism hubs. South America advances at a 9.4% CAGR, carried by Brazil's private hospital networks, with leasing and refurbished-unit channels growing faster than outright purchase amid currency volatility.

Competitive Landscape and Recent Developments

The Surgical Robots Market is characterized by high concentration that is gradually eroding, driven by reimbursement expansion and foundational patent expiries worldwide. The top five suppliers hold roughly 72--78% of global revenue, down from above 85% five years earlier as challengers entered on price, footprint, and specialty focus.

KEY COMPANIES AND RECENT MILESTONES

Intuitive Surgical (US) (March 2024): Received clearance for its next-generation multi-port platform featuring force feedback, marking the first major console refresh in over a decade and resetting the technical baseline for competitors. Holds an estimated 48--54% revenue share with an unmatched installed base and instrument ecosystem.

CMS (US) (November 2024): Finalised OPPS rules adding outpatient payment pathways for additional robot-assisted general surgery codes, improving ambulatory facility economics across the United States.

China NHSA (September 2024): Revised provincial pricing schedules for robot-assisted procedures, cutting patient out-of-pocket exposure and accelerating tender activity in Guangdong and Jiangsu.

Johnson & Johnson MedTech (US) (January 2025): Initiated clinical trials for its general surgery platform, targeting submission on a timeline that would place commercial entry late in the decade.

Other Key Players: Stryker (US), Medtronic (IE/US), Zimmer Biomet (US), Smith+Nephew (GB), Globus Medical (US), Siemens Healthineers (DE), CMR Surgical (GB), MicroPort MedBot (CN), Asensus Surgical (US), Brainlab (DE).

Future Outlook: 2026--2035

The Surgical Robots Market is projected to reach USD 21.70 billion by 2035, growing at a CAGR of 9.5%, driven by reimbursement expansion, aging-population elective volumes, and AI-enabled platform capabilities.

New opportunities lie in:

- Expansion into ambulatory settings with compact, cost-efficient platforms

- Development of emerging-economy access programmes with refurbished systems and training academies

- Investment in data monetisation, outcome analytics, and supervised autonomy features

By 2035, the Surgical Robots Market is expected to achieve substantial growth and innovation, with platforms that reduce the cost per procedure---rather than those that simply increase degrees of freedom---rewarded with the strongest growth.

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Market Research Future
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