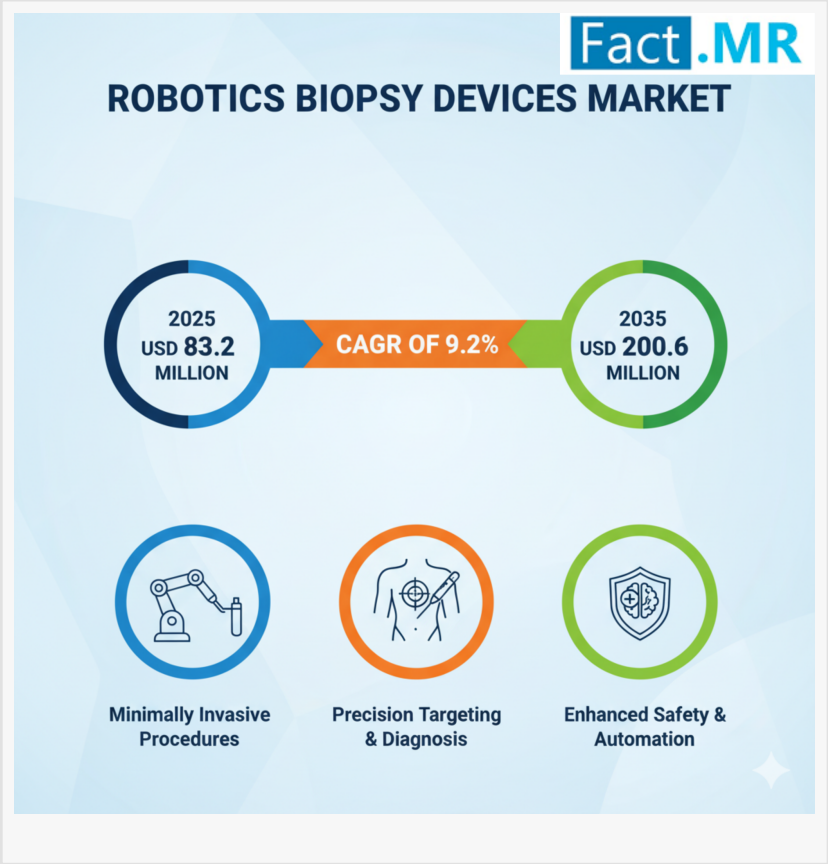
Robotic Biopsy Devices Market is Projected to Reach USD 200.6 Million by 2035 | Fact.MR Report

The Core Needle Biopsy Robots Segment Is Projected To Grow At A CAGR Of 9.4%, Whereas Another Segment Fine Needle Aspiration Robots Is Likely To Grow At 9.0%



ROCKVILLE, MD, UNITED STATES, September 23, 2025 / EINPresswire.com/ -- The global Robotics Biopsy Devices Market is on a strong upward trajectory, with its valuation expected to rise from USD 83.2 million in 2025 to USD 200.6 million by 2035. This growth corresponds to a compound annual growth rate (CAGR) of 9.2% over the forecast period from 2025 to 2035. The surge is driven by the increasing global incidence of cancer, the need for precise and minimally invasive diagnostic procedures, and advancements in medical robotics. As healthcare systems prioritize early detection and personalized medicine, robotic biopsy devices are becoming essential tools for accurate tissue sampling, reducing patient discomfort and improving diagnostic yields through integration with real-time imaging technologies.

Robotics Biopsy Devices Market Segmentation and Trends:

The robotic biopsy devices market is segmented by product type, application, guidance modality, automation level, technology type, end user, and region, offering a detailed perspective on its dynamics. Product types include core needle biopsy robots (CAGR 9.4%), fine needle aspiration (FNA) robots (CAGR 9.0%), and vacuum-assisted biopsy robots, which lead with a 45% market share in 2025 due to their efficiency in tissue extraction. Applications encompass breast biopsy, prostate biopsy (dominant segment amid rising prostate cancer cases), lung biopsy, liver biopsy,

and other organ biopsies like kidney and thyroid. Guidance modalities are imaging-guided (ultrasound, CT, MRI; leading growth for enhanced accuracy) and manual-assisted robotic. Automation levels cover fully automated and semi-automated systems, while technology types include needle-based and arm-based robotic systems. End users comprise hospitals & clinics, diagnostic centers, and research & academic institutes. Regionally, North America dominates, while East Asia emerges as a high-growth area.

Trends highlight the integration of AI and machine learning for improved tissue targeting, the rise of fully automated systems for procedural efficiency, and a focus on minimally invasive techniques to minimize complications. Sustainability is also gaining traction, with manufacturers exploring eco-friendly materials and energy-efficient designs.

Full Market Report Available for Delivery. For Purchase or Customization, Please Request Here: https://www.factmr.com/connectus/sample?flag=S&rep_id=11027

Driving Factors Behind Market Growth:

The robotic biopsy devices market is propelled by several key factors. The escalating global cancer burden necessitates advanced diagnostic tools for early and accurate detection, with robotic systems offering superior precision over traditional methods. Integration with real-time imaging modalities like MRI and CT enhances procedural accuracy, reducing risks and improving patient outcomes. Hospital investments in medical robotics, supported by favorable reimbursement models, are accelerating adoption. The shift towards personalized medicine demands high-quality tissue samples for molecular analysis, further boosting demand. Additionally, technological advancements in automation and AI are streamlining workflows, making procedures faster and more reliable, while government initiatives in healthcare modernization drive market expansion in emerging regions.

Recent Developments and Key Players:

The robotic biopsy devices market is competitive, with key players focusing on innovation, partnerships, and regulatory approvals to strengthen their positions. Recent developments underscore the industry's progress. In September 2025, Crouse Health introduced the ION Robotic System for minimally invasive lung biopsies, enhancing precision in pulmonary cancer diagnosis. In May 2025, Loma Linda University Murrieta launched the ION Navigational Robotic Bronchoscopy platform, combining robotics, fiber-optic vision, and advanced imaging for accessing hard-to-reach lung regions.

Key players include Intuitive Surgical, Medtronic, MicroPort, XACT Robotics, Noah Medical, Siemens Healthineers, CMR Surgical, Artemis (InnoMedicus), EndoQuest Robotics, Asensus Surgical, Brainlab, and Cook Medical. Competitor analysis reveals a emphasis on technological integration and clinical efficacy. Companies are investing in R&D for AI-enhanced targeting and forming collaborations with hospitals for real-world testing. Established firms like Intuitive

Surgical and Medtronic leverage their robotic expertise, while innovators like XACT Robotics focus on needle-based precision. Strategic acquisitions and partnerships are common to expand portfolios and geographic reach.

For more on their methodology and market coverage, visit: https://www.factmr.com/about-company

Regional Insights and Opportunities:

North America holds the largest share of the robotic biopsy devices market, driven by high cancer prevalence, advanced healthcare infrastructure, and strong adoption of robotics in the United States (CAGR 8.4%). Western Europe follows, with Germany (CAGR 7.6%) emphasizing precision healthcare and favorable reimbursements. East Asia is the fastest-growing region, fueled by increasing cancer awareness and government support for medical technology; Japan leads with a CAGR of 8.7%. Emerging markets in Latin America and the Middle East & Africa offer substantial opportunities through healthcare modernization and rising diagnostic needs. Partnerships with local providers and investments in training programs are key to market penetration in these regions.

North America leads in adoption due to its high cancer prevalence, advanced robotic technologies, and strong healthcare infrastructure. The region continues to push innovation and clinical integration, supported by favorable regulatory policies and significant R&D investments from medtech companies.

In Western Europe, adoption is progressing steadily, driven by precision-focused healthcare systems, supportive reimbursement frameworks, and strong engineering expertise. The sustainability and innovation of minimally invasive diagnostics further encourage the use of robotic biopsy machines in leading hospitals and specialty clinics across the region.

Challenges and Future Outlook:

The robotic biopsy devices market faces challenges, including high initial costs for systems and training, which can limit adoption in resource-constrained settings. Regulatory hurdles for new technologies and the need for skilled operators also pose obstacles. Reimbursement inconsistencies across regions may slow growth. However, the market's future is promising, with opportunities in underpenetrated areas and advancements in AI for automated diagnostics. As cancer rates rise and minimally invasive procedures become standard, the robotic biopsy devices market is well-positioned for sustained expansion, improving global healthcare outcomes through 2035.

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biopsy forceps in China tend to reach US$ 62 million by 2027.

Bone Biopsy Systems Market was valued at $276.2M in 2025. According to a Fact.MR study, it is projected to grow at a 6.3% CAGR reaching $507.1M by 2035.

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