

Robotics in Orthopaedics

1135

(80%





How is Robotics Redefining the Orthopaedics Sector?

The use of robotics in orthopaedics is revolutionising joint replacement & reconstruction, offering enhanced precision with improved patient outcomes.





Challenges with Traditional Orthopaedic Treatment

- Longer Recovery & Rehabilitation Time
- Increased Soft Tissue Damage
- Limited Precision in Bone Cutting & Alignment
- Difficulties in Revision Surgeries, Obesity, and Deformities
- Surgeon Fatigue & Ergonomic Strain





Robotic-assisted Orthopaedic Surgery is on the Rise

- Driven by demand for minimally invasive and precise joint surgeries.
- As robotic systems like Mako (Stryker) and ROSA (Zimmer Biomet) dominate total knee and hip arthroplasty.
- Due to advances in shoulder and elbow arthroplasty.
- Facilitating enhanced preoperative planning and intraoperative guidance through Al-driven robotics.





Regional Growth Trends

- The U.S. leads in robotic-assisted surgeries, followed by Germany, UK, France, Italy, and Spain in Europe.
- Japan, South Korea, and Australia are rapidly increasing their robotic surgery investments.





Identifying Unmet Needs & Exploring Whitespaces

- Robotic surgery is limited to high-end hospitals, leaving mid-tier facilities untapped.
- Current systems prioritise standardised procedures, but the future lies in patient-specific implants & Al-driven personalisation.
- Shoulder and elbow robotics remain underdeveloped, with the market focused on knee & hip replacements—offering major growth potential.
- High CAPEX opens opportunities for leasing models and cost-efficient alternatives.





Global Leaders in Robotic Orthopaedics





SmithNephew





Swipe



Emerging Startups in Orthopaedic Surgery

Technology Advancement High

Low









Early Stage

(Seed, Pre-seed, Angel funding)

Mid Stage

(Series A, Series B)

High Stage

(Beyond Series B)





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