



SUPPLYCOPIA:

Maximizing the Effectiveness of Robotic-Assisted Surgery (RAS): A Data-Driven Strategy Powered by SupplyCopia



Executive Summary

Robotic-Assisted Surgery (RAS) has emerged as a transformational technology in modern healthcare. Health systems increasingly view RAS platforms as essential tools to improve surgical precision, reduce recovery times, and enhance patient satisfaction. However, the high upfront and operational costs of robotic systems demand a rigorous, evidence-based approach to ensure clinical and financial viability. This white paper outlines how SupplyCopia enables health systems to manage and optimize their RAS programs. It presents two key business cases: 1) systems planning to invest in RAS; and 2) systems that have already adopted RAS and seek to measure and improve ROI, utilization, and outcomes.

Robotic-Assisted Surgery in Today's Healthcare Landscape

As of 2025, over 7,000 robotic surgical systems are in use worldwide, with Intuitive Surgical leading the market via its da Vinci system, and Medtronic's HUGO system expected to increase competition. RAS adoption has grown especially in urology, gynecology, and general surgery, with most procedures still skewed toward low-complexity, lower-reimbursement cases. While the clinical benefits are widely recognized, financial and operational challenges—such as surgeon training, capital expenditure, and inconsistent utilization—continue to pose barriers.

Business Case #1

Planning for a Robotic-Assisted Surgery Program

Health systems considering a RAS investment must evaluate multiple dimensions beyond acquisition cost.

Key decision points include:

- **Capital vs. lease pricing**
(e.g., \$1.5M–\$2.5M upfront or \$15K–\$25K/month lease)
- **Consumables and disposables**
(~\$1,000–\$3,000 per case)
- **Maintenance and service contracts**
(~\$100K–\$200K/year)
- **Surgeon onboarding and training**
(~3–6 months ramp-up time)
- **Reimbursement modeling by procedure type**
- **Credentialing and OR scheduling impacts**

SupplyCopia's AI agent, Ask the BEE, helps by:

- **Projecting total cost of ownership (TCO) over 5–10 years**
- **Creating what-if scenarios:** buy vs. lease, low- vs. high-complexity cases
- **Identifying break-even procedure volume and reimbursement thresholds**
- **Benchmarking financial metrics** from similar-sized health systems



Business Case #2

Planning for a Robotic-Assisted Surgery Program

Health systems that have already deployed RAS platforms must shift focus from acquisition to optimization.

Many systems experience challenges such as:

- **Underutilization**
(<50% utilization per OR per week)
- **Procedure creep toward low-margin surgeries**
- **Unclear clinical value vs. traditional surgery**
- **Insufficient financial and quality tracking**

SupplyCopia enables ongoing program oversight with:



- **Monthly RAS scorecards** showing cost, outcomes, and reimbursement trends
 - **Real-time dashboards** to track surgeon utilization and OR throughput
 - **AI-powered identification of anomalies** (e.g., cost spikes, schedule gaps)
 - **Peer benchmarking** across specialties and robotic platforms
- Integration of quality metrics** such as complication rates, LOS, and readmission

RAS Data Strategy Framework Powered by Ask the BEE

Ask the BEE, SupplyCopia's AI agent built on ChatGPT infrastructure, empowers clinical, financial, and operational stakeholders to:

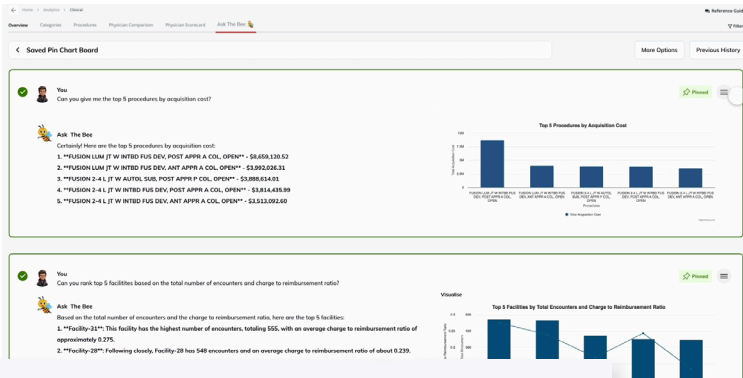
- **Ask natural language questions** (e.g., "What is our average cost per robotic cholecystectomy?")
- **Receive AI-generated visualizations, what-if scenarios, and real-time alerts**
- **Generate evidence-based recommendations** for investment expansion or contraction
- **Simulate procedural shifts from manual to robotic and analyze ROI impact**

By synthesizing ERP, EMR, OR logs, reimbursement data, and clinical outcomes, Ask the BEE creates a unified 360° view of the RAS program.

Strategic & Financial Implications for Health Systems

RAS programs impact surgical service line growth, physician recruitment, and market competitiveness. However, without robust analytics and governance, they can become cost centers. SupplyCopia helps health systems:

- **Align RAS use with value-based care priorities**
- **Reduce per-case supply variability**
- **Standardize vendor contracts and maintenance costs**
- **Inform board-level capital planning and justification**
- **Build continuous improvement models for procedural mix and staffing**



You
Can you give me the top 5 procedures by acquisition cost?

Ask The Bee

Certainly! Here are the top 5 procedures by acquisition cost:

1. ****FUSION LUM JT W INTBD FUS DEV, POST APPR A COL, OPEN** - \$8,659,120.52**
2. ****FUSION LUM JT W INTBD FUS DEV, ANT APPR A COL, OPEN** - \$3,992,026.31**
3. ****FUSION 2-4 L JT W AUTOL SUB, POST APPR P COL, OPEN** - \$3,888,614.01**
4. ****FUSION 2-4 L JT W INTBD FUS DEV, POST APPR A COL, OPEN** - \$3,814,435.99**
5. ****FUSION 2-4 L JT W INTBD FUS DEV, ANT APPR A COL, OPEN** - \$3,513,092.60**

👍 🗉 📊 Visualise 🔍 Analysis



Conclusion

Robotic-assisted surgery offers enormous promise—but also significant complexity. For both prospective and current RAS-enabled organizations, the key to success lies in comprehensive planning, continuous data-driven evaluation, and integrated technology support. SupplyCopia's AI-powered platform delivers precisely that: a scalable solution for real-time insights, cost transparency, and operational excellence.

Health systems ready to modernize or expand their RAS programs should partner with SupplyCopia to realize the full clinical and financial value of surgical robotics.

SUPPLYCOPIA:

At SupplyCopia, we're transforming the healthcare supply chain for providers and suppliers. Our mission is to enable impactful, strategic changes through innovative technology, reducing costs for providers and creating new revenue opportunities for suppliers. Our hybrid control tower combines your data with our advanced software and the intelligent agent Ask the BEE, built on ChatGPT-4.0 infrastructure. This AI-first, cloud-based solution addresses key challenges like interoperability, data privacy, and security, while boosting healthcare efficiency and accessibility.