Stellarix

eBook

# How Industry Leaders are Building Collaborative Innovation Models to Scale Surgical Robotics



www.stellarix.com

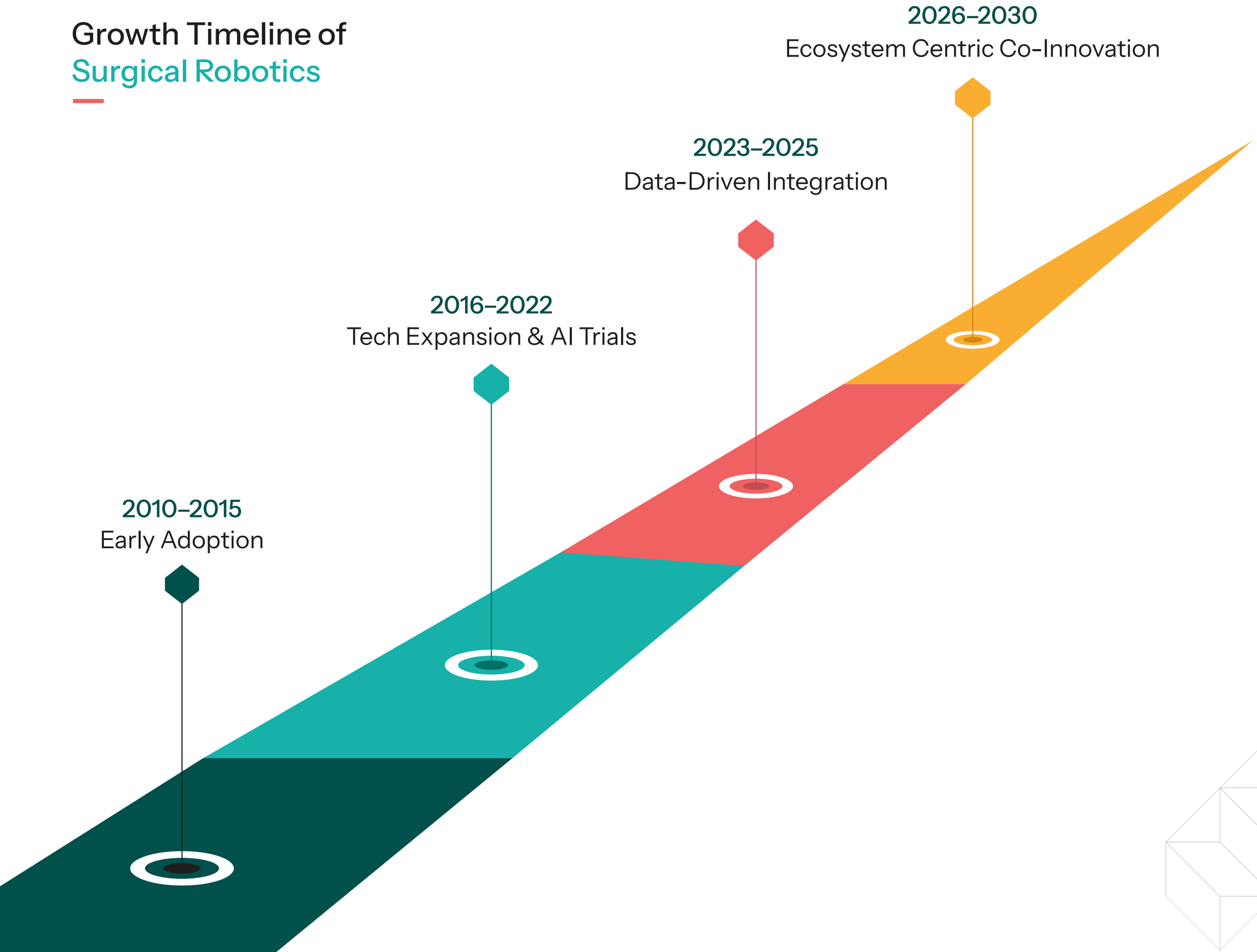
# The New Era of Surgical Robotics

Surgical robotics is rapidly evolving from hardware-centric systems to fully integrated platforms combining real-time data, AI-driven insights, and remote capabilities. To keep up, companies are shifting away from isolated R&D to collaborative innovation models.

> The next decade of surgical robotics will be driven not by competition, but by co-creation.
>
> *-Industry Executive, Global MedTech Firm*

Co-innovation allows organizations to de-risk innovation, access new capabilities faster, and build scalable solutions by working with specialized partners in AI, sensors, vision, and disposables.

## Growth Timeline of Surgical Robotics



## What is the COTS Model & Why is it gaining traction?

Commercial Off-The-Shelf (COTS) is the new product development approach which refers to the use of ready-made hardware or software components that are commercially available (not custom-built) and can be integrated into robotic surgical systems.

We observe that surgical robotics industry is now exploring COTS (Commercial Off-The-Shelf) model, although it hasn't yet been adopted at scale in the same way it has in other industries (e.g., telecom)

Growth of this model will lead emergence of third-party ecosystem, driven by smaller companies and startups - leading to more collaborations

### Early signs and possibility of COTS

- Modularization of Hardware and Software
- Emergence of on-demand AI as a Service (AIaaS):
- Growth of third party ecosystem (smaller OEMS & startups)

### What Could Make COTS More Viable by 2030–2035?

- Regulatory sandboxes for modular devices and AI.
- Standardized interfaces/APIs for surgical systems.
- Growth of AI marketplaces and third-party surgical apps.
- Rise of “Surgical OS” platforms (like operating systems for surgery) where hardware becomes commoditized.

## Why Strategic Partnerships Fail (and Succeed)?

Despite best intentions, nearly 60% of partnerships fail to deliver ROI. Why?

### 3 Common Pitfalls

- Misaligned Incentives
- Unclear IP & Outcome Ownership
- Lack of Integration Planning

## 3 Pillars of Successful Co-Innovation

- Joint Roadmap & Milestones
- Defined Exit/Scaling Plan
- Cross-functional Co-Development Teams

### Failed Partnerships

- Tech-first, strategy-last
- Short-term funding only
- No R&D collaboration

### Successful Partnerships

- Joint GTM planning upfront
- Milestone-based commitments
- Shared innovation labs

## Client Success

### Co-Innovation in Action: Real-World Models

- **Partners:**
  A mid-sized robotic OEM and a DeepTech AI startup specializing in surgical data analytics.
- **Outcome:**
  The collaboration enabled the integration of real-time AI-driven decision support into the robotic system, helping surgeons make more accurate intraoperative decisions.
- **Structure:**
  The partnership began with a 6-month pilot program and progressed into a co-development agreement. IP generated was jointly owned, with equity-based incentives to align both parties.

### Smart Disposable Tools

- **Partners:**
  A global surgical robotics OEM and a niche instrument design specialist.
- **Outcome:**
  Co-development of sterile, single-use surgical instruments embedded with micro-tracking technology, improving patient safety and post-operative analytics.

- **Structure:**
  The specialist licensed its core IP while both companies collaborated on product design and manufacturing. A co-branded model helped position the tools as industry-first in surgical precision and compliance.

## Partnership Models You Should Explore

There's no one-size-fits-all approach. Consider your goals: speed, control, IP ownership, or scaling support.

### 4 Models of Surgical Robotics Partnerships

- **Licensing + Integration** — Rapid go-to-market
- **JV-based Innovation Labs** — Deep tech co-development
- **Pilot-First, Equity-Later** — Low-risk startup entry
- **White-label Technology** — Expand features without building in-house

### Is Your Partner Innovation-Ready?

- Shared strategic vision
- Technical compatibility
- Legal clarity on IP & data
- Culture of openness & iteration

## How Stellarix Helps Surgical Robotics Firms Co-Innovate?

At Stellarix, we specialize in helping surgical robotics companies scout, evaluate, and co-create with high-potential technology partners across software, hardware, and consumables.

From identifying niche innovators to facilitating pilot programs and IP discussions, we become an extension of your R&D and partnership teams.

**Discovery** → **Scouting** → **Evaluation** → **Co-Development Roadmap**

## Our Co-Innovation Support Includes:

- Strategic Partner Scouting
- Tech Feasibility & IP Landscape Analysis
- Innovation Roadmapping
- Co-Development Advisory

# Ready to explore your next innovation partnership?

## Our MedTech Leaders



### Arpit Sharma

*Business Leader – Medical Devices & Diagnostics*

**Arpit Sharma** brings over 16 years of experience across academia, market research, and strategic advisory within the medical devices and diagnostics sector. He has partnered closely with leaders in Strategy, Marketing, R&D, and Innovation across global MedTech companies and high-growth startups, advising them on business growth strategies, market entry planning, innovation roadmaps, and new technology development.

Over the course of his career, Arpit has authored and delivered more than 400 high-impact reports and executive presentations. As a thought leader, he has written extensively on emerging trends, innovation pathways, and future scenarios shaping the medical device industry.



### Sandhya Saraswat

*Manager – Medical Devices & Diagnostics*

**Sandhya Saraswat** is a skilled advisor with over 11 years of experience in the Life Sciences and MedTech industries. She brings deep expertise across medical devices, diagnostics, biotechnology, and digital health, with a strong focus on emerging technologies such as surgical robotics, AI/ML, and smart wearables.

Her core capabilities include technology consulting, IP analytics, competitive intelligence, startup scouting, and portfolio optimization. Sandhya has supported global clients in shaping strategic technology roadmaps, identifying innovation white spaces, & assessing opportunities across high-impact healthcare domains.

Stellarix

# About Stellarix

**Stellarix** is an innovation and strategy consulting company focused on techno-commercial consulting services across industries and hierarchies. Stellarix offers consulting services to make businesses future-ready and improve goals, strategies with innovative solutions. With a strong technology background and business acumen, we caters to clients' needs through research-backed insights and profound experience.

## Connect with us on

## Check for more detail