



Healthcare Innovation: How Medtech is Using AI to Unlock Transformational Growth

By Rob Bell, Thiemo Werner, and Camille Duprez

Key Takeaways

- AI only drives value when it's aligned with clear business priorities and scaled with focus.
- Solutions succeed when they're designed around real patient and clinician needs, not just tech capabilities.
- Integrated data and strong governance are essential to scaling AI across medtech organizations.

Al is reshaping **medtech**, improving patient outcomes and streamlining operations through advances in diagnostics, surgical robots, remote monitoring, and predictive analytics. Yet many companies struggle to turn AI's promise into impact.

Some organizations lack clarity on where AI can create the most value, leading to fragmented efforts and limited results. Others focus too much on technology rather than the need to enhance patient experience, health outcomes, clinician workflows, and reduce the total cost of care. Even

when priorities are clear, barriers like data silos, regulatory complexity, and operational constraints slow progress.

With the AI medical device market projected to grow from \$3 billion in 2023 to \$35 billion in 2031, and more than half of clinicians expecting it to shape most decision-making within the next decade, medtech has only begun to tap into what's possible. AI offers a powerful set of levers to reduce costs, optimize decisions across care pathways, and expand the strategic role of digital tools in **business transformation**.

This article examines how leading companies are using AI to drive growth and improve care delivery. It outlines AI strategies for medtech that help companies focus their portfolios, attune their products and services to clinician and patient needs, and create the foundation to scale.

Prioritize High-Value Use Cases That Drive Growth

AI creates the most value when it is applied with a clear purpose. Yet many leaders struggle to define the right scope and measure its impact. Without clear prioritization, dozens – sometimes hundreds – of disconnected use cases dilute results. Leaders should focus on three priorities:

- **Optimize operations** by using AI to reduce costs and boost efficiency, automating workflows across supply chains, manufacturing, and other functions.

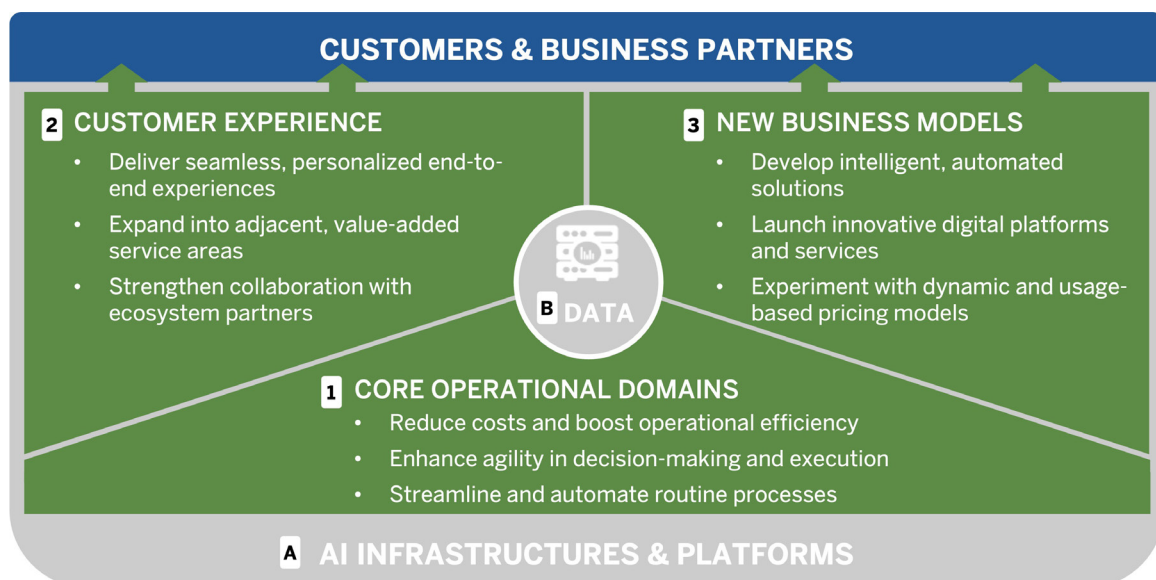
- **Enhance customer experiences** through automation and partnerships, streamlining interactions, personalizing care, and improving service delivery.
- **Develop new business models** that drive **disruptive innovation** and transform AI capabilities into revenue-generating assets.

GE Healthcare, for instance, is using AI to automate diagnostic imaging workflows, helping providers access, analyze, and share patient data more efficiently. Zimmer Biomet uses AI to help patients access and understand their health data before surgery, enhancing their overall experience. Siemens Healthineers is using AI to simulate different clinical environments, accelerating device development and pointing toward **new business models** based on smarter, faster innovation.

Innosight worked with a **medical device maker** that had multiple AI initiatives in different parts

Figure 1: AI as a Driver of Business Value

AI creates value by improving operations, enhancing customer experiences, and enabling new business models, all supported by AI infrastructure, platforms, and data.



of its business, anchored by strong clinical video data. But, without clear priorities, efforts remained disconnected from its commercial strategy.

The company restructured its approach, creating a dedicated unit to align AI investments with company goals. It evaluated each initiative, shutting down projects that lacked a clear path to scale and doubling down on those that supported long-term strategy. It began building shared AI infrastructure, so models and data could be used across products rather than remaining siloed.

With a clearer structure in place, the company concentrated its AI investments. It focused on integrating real-time AI detection into its core devices. It also sought to expand access to its AI-powered diagnostics tools beyond top-tier hospitals, making advanced screening technologies available to a broader range of patients and health care providers.

At the same time, the company accelerated its shift toward a service-driven growth model by acquiring companies with complementary AI and cloud capabilities, laying the foundation to deliver AI-driven clinical intelligence at greater scale.

Build Trust by Focusing on Patient and Clinician Needs

AI creates lasting value when designed around patients and clinician needs. Yet many organizations prioritize technical capabilities over practical applications, leading to disconnected use cases with little impact. Even cost-cutting efforts can backfire when AI-driven interactions fail to meet the needs of patients and providers.

Effective AI solutions start with what patients and physicians seek to achieve. A **jobs-to-be-done** approach ensures AI is designed around real health and clinical priorities rather than technological possibilities. For example, Forward, a venture-

backed startup, raised hundreds of millions to launch an AI-powered self-service kiosk for medical testing, but patients found the system confusing and unreliable, leading to the company's collapse in 2024.

The device maker we advised faced similar challenges. Early AI-powered diagnostic tools disrupted workflows and struggled to earn physician trust in high-stakes decisions. The company refined its efforts in three ways:

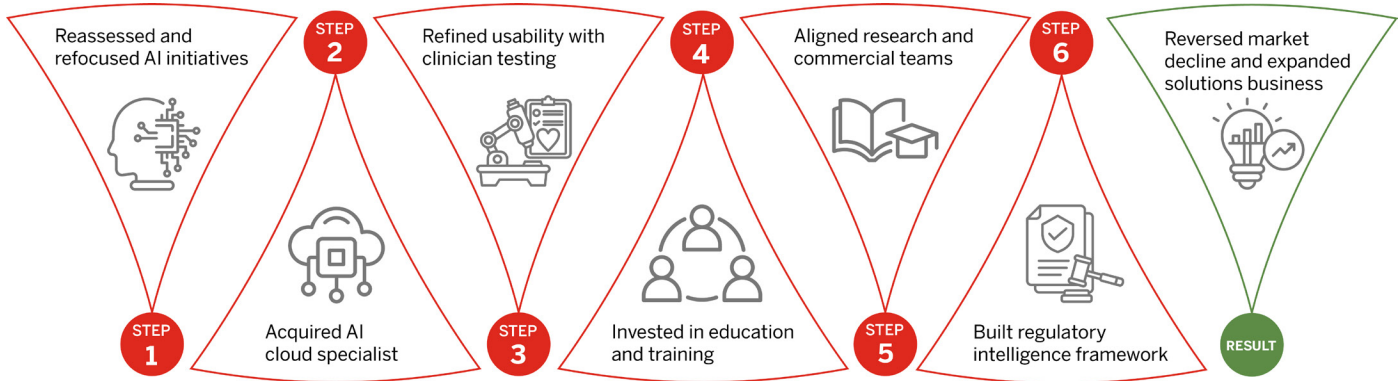
- **Enhancing real-time diagnostics.** It developed a system for improving detection, reducing missed diagnoses and making AI a reliable tool for clinicians.
- **Deploying cloud-based platforms for broader access.** As it expanded access beyond top-tier medical centers, it integrated AI tools into cloud-based platforms to ease wider adoption.
- **Ensuring seamless workflow integration.** The company positioned its AI system as a “second set of eyes,” reinforcing the clinician's role and fitting into existing procedures without slowing them down.

To accelerate adoption, the company tested solutions across hospital systems, clinics, and research centers, refining usability, accuracy, and workflow impact. It also invested in education and training, providing hands-on onboarding to help physicians integrate AI-assisted diagnostics into clinical practice with confidence. By focusing on real-world usability, it made its AI solutions an essential part of clinical workflows.

“I believe we are still at the very beginning of AI in medtech,” an executive from the company said. “In the future it will not just be about detection, but it will offer real-time decision-making support on how to guide clinical interventions during procedures.”

Figure 2: A Device Maker's AI Moves

The company took deliberate and informed steps to refocus its AI strategy, align internal capabilities, and accelerate market impact.



Create the Data and Governance Foundation to Scale

AI creates value only when data can be easily shared and integrated. In medtech, two challenges stand out: fragmented internal data systems, with limited coordination across functions and business units; and restricted access to external data from hospitals, clinics, and patients.

Even well-aligned initiatives stall without strong data strategies and a foundation for transformational change, limiting the ability to scale AI in healthcare settings. Success depends on addressing both challenges: building coherent internal data strategies and navigating the technical and regulatory complexities of sharing information across the broader care ecosystem.

The device maker we worked with encountered these obstacles as it expanded AI more across its business. To truly scale, it needed stronger collaboration across R&D, regulatory, and commercial teams, as well as clearer data-sharing frameworks and a governance model that ensured AI was both effective and compliant.

To ensure strategic alignment, the company embedded its AI initiatives within a unified roadmap that linked innovation priorities to broader business and clinical goals. It also formalized data-sharing protocols so business units could apply AI insights more efficiently across products and regions. With these foundations in place, it could more effectively expand the deployment of AI-driven diagnostics.

As AI adoption grew, regulatory demands also became more complex. Medtech companies must continuously monitor strict and evolving privacy laws, safety standards, and data governance rules. The device maker addressed this by building a regulatory intelligence framework to track shifting global standards, embedding compliance teams into AI development efforts, and adopting an agile test-and-learn approach to refine models in response to changing requirements.

By taking a structured approach to adoption and development, the company not only laid the foundation for scaling AI across its portfolio, but it also reversed market share declines for its medical devices and fueled double-digit revenue growth in its solutions division.

AI can transform medtech by improving care, streamlining operations, and driving new business models. But success demands a clear strategy and thoughtful execution. Medtech leaders face fundamental questions: where will AI create the

most value, which areas to prioritize, how to align with clinician and patient needs, and how to integrate it effectively across an organization. A structured approach ensures AI adoption delivers measurable impact, improving outcomes for patients and providers alike.

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