ptc®

OPERATIONAL EFFICIENCY FOR MEDTECH SERVICE

INTRODUCTION

MedTech organizations face mounting pressure to deliver faster, smarter, and more cost-effective service, without compromising patient care or regulatory compliance. This shift is changing the role of service in MedTech. Instead of simply reacting to problems, service teams now have the opportunity to drive operational excellence and deliver greater value to both patients and providers.

This e-book explores how leading MedTech companies are transforming service operations through digital innovation. From remote monitoring and predictive analytics to AI-powered technician enablement and inventory optimization, you'll discover the technologies and strategies that are reshaping the future of field service.

> “Service was always there, but they never realized that if you commercialize it and market it appropriately, and you do it really really well, everybody wins. The customer wins. The company wins.”

Medtronic

- Jason Davis

Technical Service Director, Global Service and Repair, Technical Enablement COE, Medtronic

BUILDING A STRONG SERVICE FOUNDATION

A strong Service Lifecycle Management (SLM) foundation is essential for MedTech organizations seeking to reduce costs and improve operational efficiency. SLM encompasses the core processes that govern how service is delivered, tracked, and improved—from scheduling and dispatch to documentation and compliance.

A well-implemented SLM system streamlines workflows, eliminates manual errors, and ensures that every service event is captured and analyzed. This foundational layer enables organizations to:

- **Reduce operational costs** by optimizing technician schedules, minimizing repeat visits, and ensuring the right parts and skills are available for each job.
- **Improve device uptime** through standardized maintenance protocols and faster resolution of issues.
- **Enhance regulatory compliance** by automating documentation and reporting, reducing the risk of penalties.
- **Boost customer satisfaction** with more reliable, consistent service delivery.

Organizations that master these foundational elements often see immediate gains in efficiency and cost savings. By focusing on SLM as the backbone of service operations, MedTech leaders create a scalable platform for future innovation and long-term success.

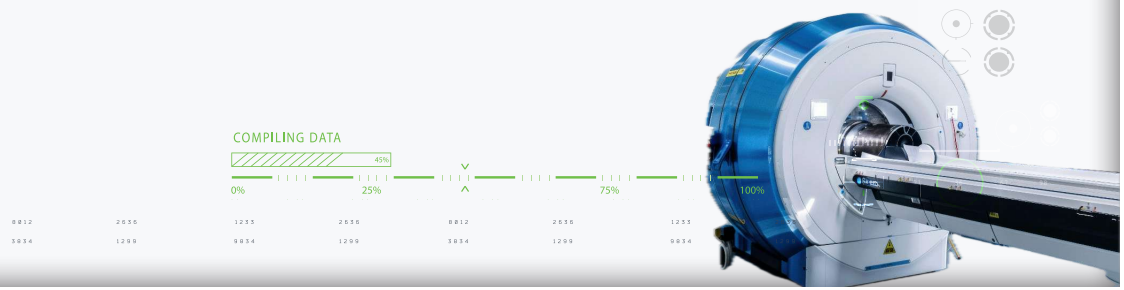
UNIFIED ASSET DATA

Operational excellence in MedTech service starts with accurate, unified asset data. When records are fragmented or outdated, it's difficult to optimize service delivery, comply with regulations, or enable advanced capabilities like predictive analytics.

Organizations that invest in consolidating and validating their asset data see immediate benefits:

- **Streamlined operations:** Technicians access reliable device histories and configurations, reducing prep time and repeat visits.
- **Regulatory confidence:** Targeted responses to recalls and audits become possible.
- **Foundation for innovation:** High-quality data enables remote monitoring, predictive maintenance, and AI-driven insights.

As one MedTech leader shared, "We know exactly where that part is in our install base. We don't have to send a recall notice to all of our customers… we can be targeted about those notices so we can be more efficient." Unified asset data is the essential starting point for every step forward in service transformation.



REMOTE MONITORING & CONNECTED SERVICE

MedTech leaders are disrupting competition through connected service models that leverage real-time device monitoring, predictive analytics, and AI. These enable manufacturers to remotely monitor equipment health and automate service requests and customer complaints in conjunction with market surveillance. They even allow diagnostics to be performed before a technician arrives on site. This proactive approach is replacing traditional reactive service, helping organizations **cut down on unnecessary service visits, boost first-time fix rates, and avoid penalties tied to service-level agreements (SLAs).**

THE RISE OF CONNECTED MEDTECH

Modern medical devices are now intelligent endpoints in a broader digital ecosystem. Sensors embedded in equipment continuously stream data back to service teams, enabling early detection of anomalies, faster response times, and less expensive on-site visits.

With integrated Internet of Things (IoT) and Service Lifecycle Management (SLM) systems, connected devices stream real-time performance data that can automatically trigger diagnostics and service requests. AI algorithms analyze this data to spot anomalies, automate complaint intake, and even initiate diagnostics—often before anyone notices an issue.

This seamless integration eliminates manual processes, speeds up response times, and ensures technicians arrive fully prepared with the right tools, parts, and information.

CASE STUDY

Elekta

Companies like Elekta have resolved up to **20% of service issues remotely using PTC solutions**, highlighting the real-world impact of connected service models.

Read the Case Study

When an MRI machine experiences a performance dip, AI detects the anomaly and initiates a remote diagnostic session. A service request is automatically created in ServiceMax, complete with the required technician skillset and parts list, saving hours of manual coordination and avoiding unnecessary truck rolls.

ENABLING PREDICTIVE SERVICE THROUGH CONNECTIVITY

Beyond the benefits of real-time visibility, connected MedTech devices introduce the ability to anticipate potential problems. By continuously streaming performance data, connected equipment becomes a source of insight.

This data fuels predictive models that learn from historical patterns, usage trends, and environmental conditions to anticipate failures before they occur. This helps service teams prioritize interventions, allocate resources more efficiently, and prevent costly downtime.

For MedTech organizations, the result is fewer surprises and more control. Instead of reacting to breakdowns, teams can proactively schedule service based on risk signals, ensuring that critical devices remain operational when patients need them most.

A connected infusion pump begins to show signs of wear based on vibration and usage data. The predictive model flags it for service before it fails, allowing the team to intervene during a scheduled maintenance window, avoiding disruption to care and preserving SLA performance.

BUSINESS IMPACT OF CONNECTED SERVICE

MedTech organizations are seeing tangible improvements in service performance, cost efficiency, and customer satisfaction. Innovations like remote diagnostics and predictive alerts are reducing the need for emergency dispatches, while automated service workflows are streamlining operations and helping ensure compliance with SLAs.

These improvements translate directly to the bottom line:

- **Lower service costs** thanks to fewer truck rolls and resolving issues more efficiently.
- **Improved device uptime**, minimizing disruptions to patient care.
- **Fewer SLA penalties** through better planning and quicker response times.
- **Enhanced post-market surveillance**, with automated reporting of adverse events.
- **Higher customer satisfaction** driven by proactive and reliable service delivery.

CASE STUDY

B. Braun gained visibility and traceability across 1.5 million installed products, enabling faster service resolution and more efficient operations.

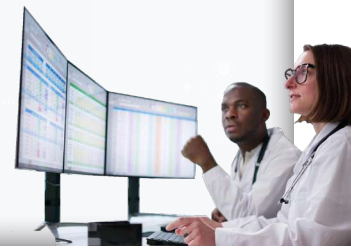
Read the Case Study

FIELD SERVICE OPTIMIZATION

Despite service's critical role and potential revenue driver in MedTech, many organizations are still limited by outdated, manual processes to manage field service operations. Traditional scheduling is reactive, diagnostics are often delayed, and technicians frequently arrive on-site without the necessary context or parts. All too often, the result is missed SLAs, repeat visits, rising service costs, and most importantly, disruptions to patient care.

These inefficiencies are intensified by a shrinking labor pool. As experienced technicians retire, newer hires often lack the deep product expertise needed to quickly resolve complex issues. Without access to the right tools and data, even the most skilled teams struggle to consistently deliver high-quality service.

The result? Longer resolution times, higher operational costs, and frustrated customers and patients.



EMPOWERING TECHNICIANS WITH SMART TOOLS

Skilled technicians can't deliver efficient service without the right tools and information, which means empowering technicians with intelligent, connected tools is essential to keep up.

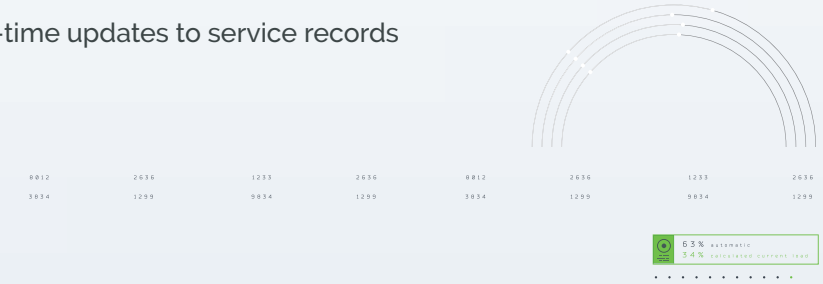
Modern SLM with AI capabilities are transforming how technicians work. Instead of relying on paper manuals or fragmented systems, technicians can access real-time service histories, diagnostics, and repair instructions directly through AI-driven mobile tools. By harnessing AI-powered guidance, they can quickly understand the issue, identify the required parts, and execute the fix with confidence.

A technician preparing for a service call uses the ServiceMax AI Assistant to retrieve a summary of the last service event, recommended actions, and part compatibility—all in seconds. This reduces prep time and increases the likelihood of a first-time fix.

These capabilities go beyond boosting technician productivity, they elevate the entire service experience. Customers and patients benefit from faster resolution, fewer repeat visits, and more consistent outcomes. For MedTech organizations, that translates into lower service costs, stronger SLAs, and higher overall satisfaction.

What a Digitally Enabled Technician Looks Like

- Mobile access to service history and manuals
- AI-powered diagnostics and recommendations
- Smart scheduling and routing
- AR support and remote collaboration
- Real-time updates to service records



BUSINESS IMPACT OF FIELD SERVICE TRANSFORMATION

Predictive scheduling, smart routing, and real-time access to service data reduce repeat visits and ensure that technicians arrive prepared to resolve issues on the first try.

These improvements translate directly into financial impact:

- **Lower cost per service event** through reduced truck rolls and faster resolution.
- **Improved SLA performance**, minimizing penalties and boosting reliability.
- **Higher service revenue** through better contract fulfillment and customer retention.

SPARE PARTS & LOGISTICS OPTIMIZATION

When parts aren't available, service teams scramble, resorting to emergency shipments, rescheduled visits, and extended equipment outages. These disruptions not only erode margins but also jeopardize patient care and SLA performance.

To avoid these risks, some companies overcompensate, stockpiling inventory "just in case." But this approach creates its own problems: capital tied up in unused parts, increased storage costs, and frequent scrapping of outdated components.

What Happens When the Right Part Isn't Available?

- Delayed repairs
- Repeat technician visits
- SLA penalties
- Emergency shipping costs
- Equipment downtime
- Missed or interrupted treatments

PREDICTIVE LOGISTICS AND INVENTORY OPTIMIZATION

The key to efficient service logistics is knowing which parts will be needed, when, and where. AI-powered predictive analytics analyze historical service data, usage patterns, and device performance to forecast demand with greater accuracy, ensuring the right parts are available at the right time, without overstocking.

This data-driven approach to inventory planning helps reduce capital waste, minimize scrapped inventory, and improve service responsiveness. Instead of guessing, service teams can plan with confidence, balancing depot stock, shortening replenishment cycles, and aligning inventory with actual field needs. This helps protect margins in an increasingly volatile global environment.

CASE STUDY

GE HealthCare

GE Healthcare reported **$10 Million in growth** by improving parts availability and delivery.

Read the Case Study

With smarter forecasting and dynamic stock balancing, service teams can ensure parts are available when and where they're needed, without overstocking or relying on costly emergency shipments.

These improvements translate into real business outcomes:

- **Lower capital** tied up in inventory
- **Reduced scrapping** of outdated parts
- **Faster service resolution** and fewer repeat visits
- **Improved SLA performance** and customer satisfaction

GLOBAL SUPPLY CHAIN RESILIENCE

According to Deloitte, 37% of life sciences executives identified building resilient and adaptable supply chains as a top priority for 2025.

Tariffs, geopolitical instability, and fragmented sourcing practices are driving up costs and complicating logistics. For service leaders, these challenges translate into longer lead times, unpredictable inventory availability, and increased pressure to meet SLAs despite external disruptions.

To stay competitive, MedTech organizations must build supply chains that are not only efficient—but resilient. That means having the ability to adapt quickly, rebalance inventory, and respond to shifting demand without compromising service quality.

Solutions like Servigistics, powered by AI, model depot networks, forecast demand, and optimize stock placement dynamically. AI enables real-time adjustments to inventory and routing in response to global disruptions, helping MedTech organizations stay agile.

In a world where uncertainty is the norm, resilient logistics are a strategic advantage. And when paired with predictive planning and connected service, they form the backbone of a truly optimized service operation.

CONCLUSION

Today's leading MedTech service is connected, intelligent, and proactive. As devices become smarter and service expectations rise, operational efficiency is becoming increasingly important, not just for performance, but for controlling costs. This transformation demands more than just new tools; it requires a shift in mindset, where service is viewed not as a cost center, but as a catalyst for reducing spend, improving outcomes, and driving long-term value.

Technologies like SLM, IoT, and AI are reshaping service delivery, from remote diagnostics and technician enablement to inventory optimization and regulatory reporting. These innovations are helping MedTech organizations reduce downtime, improve SLA performance, and deliver more consistent, patient-centered care.

But technology alone isn't enough. Success depends on aligning people, processes, and platforms to create a service ecosystem that's agile, data-driven, and resilient. Whether you're just beginning your transformation or scaling an existing strategy, the path forward is clear: invest in connectivity, empower your teams, and let data guide your decisions.

READY TO TAKE THE NEXT STEP?

If you're exploring digital transformation in service and want practical guidance on evaluating solutions, check out the Tech-Clarity Buyer's Guide for Digital Transformation in MedTech. It's packed with expert insights to help you make informed decisions and drive measurable impact across your service operations.

Read the Buyer's Guide

Explore PTC's Service Offerings

PTC'S SERVICE OFFERINGS:

At PTC, we're proud to partner with MedTech leaders who are not just adapting to change but driving it. Together, we can build a future where operational excellence fuels innovation, resilience, and better outcomes for patients around the world.

ServiceMax

Manage end-to-end service processes to assure compliance and meet SLA & contract needs.

Servigistics

Control inventory to ensure optimal supply, delivery, and costs.

Arbortext

Create, manage, and deliver content with a single flow of data.

PTC Warranty

Maintain a view of product and service knowledge with best-in-class warranty management software.

Vuforia

Use advanced AR content development solutions to address workforce challenges and meet business goals.

Talk to a MedTech Expert

Operational Efficiency For Medtech Service.