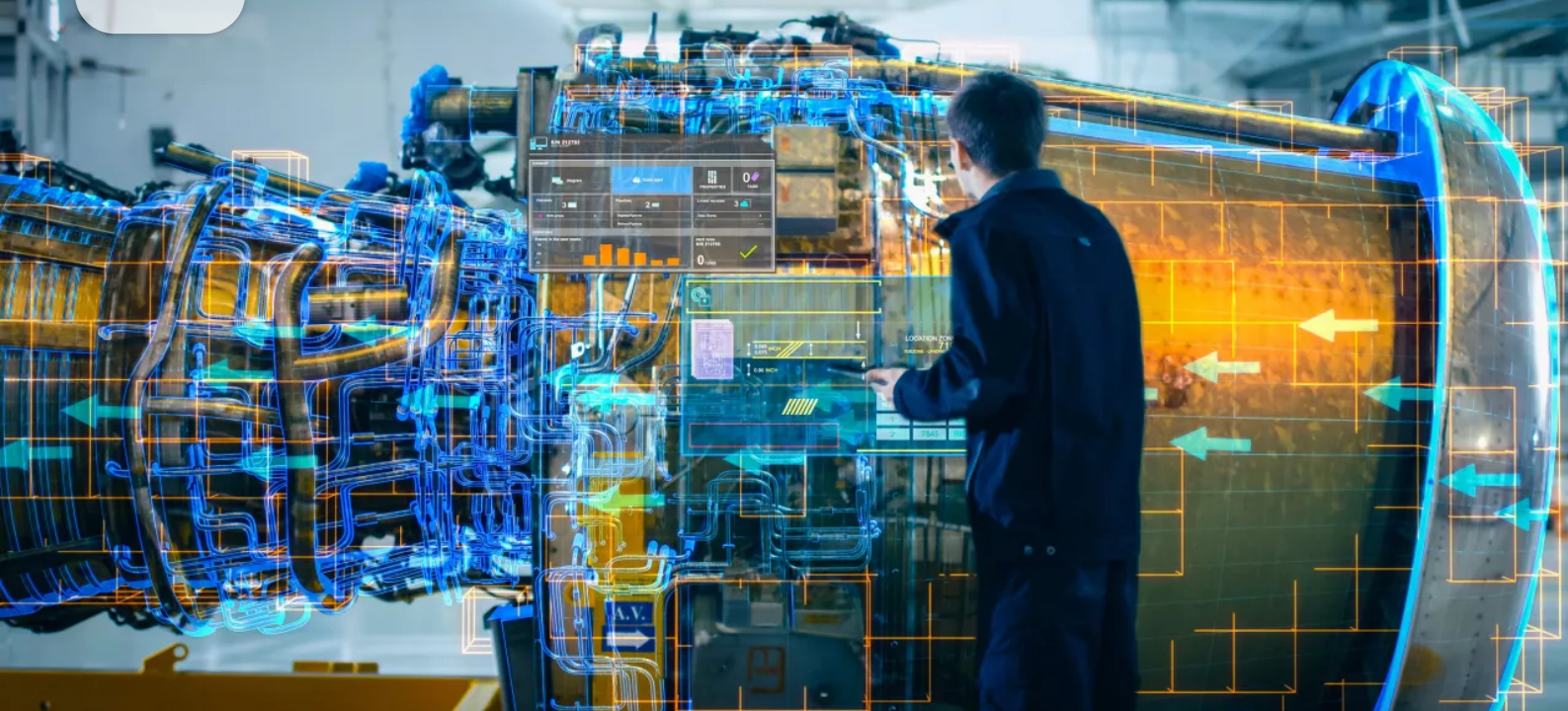




## OPERATIONS

# AI-First Field Service Operations

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The use of AI in field service operations can help solve many of its pressing challenges. The most obvious is that the technicians who repair and maintain complex equipment from HVAC to heart monitors are aging. As they retire, essential know-how will walk out the door.

But organizations that use AI only to solve this knowledge problem will have missed the point. AI agents will transform field service end-to-end. This will require reimagining sales, operations, and customer relationships simultaneously, with alignment driven through the organization's “messy middle”—the layers between the C-suite and frontline technicians.

AI in field service is much more than a tech upgrade; it is an organizational transformation, with 70% of the value unlocked through change management, not code. CEOs who grasp this now can deliver productivity gains of 20% to 30% and open new revenue streams, such as outcomes-as-a-service. Profit per technician can be increased by up to 80%, according to BCG calculations.

# The Pain Points in Field Service

Technical talent is a key issue that many CEOs mention to us. In HVAC, 50% of technicians in the US are over 55, according to industry data. In health care equipment, 7,300 new technicians are needed a year, many to replace retirees, yet specialized training programs produce just 400 graduates annually.

However, the pain points are broader than this:

- Sales reps leave value on the table with static, standardized pricing models.
- Operations managers lack visibility on their teams and are not capitalizing on data from connected assets.
- Field technicians' time is wasted by inefficient routing, unavailable parts, and insufficient troubleshooting support.
- Customer relationship teams know clients are unhappy with reactive service and limited transparency into service progress.

These issues share a common cause: decisions are fragmented across functions, data is underused, and processes lack continuous optimization. This is why AI deployment should trigger a full reinvention of the operating model.

# How AI Agents Are Transforming Field Service: Three Connected

# Developments

Three connected developments enable the reinvention:

- Advances in AI, especially AI agents, now enable flexible systems that plan, observe, and act with autonomy. For instance, an AI agent can predict parts usage and automatically restock.
- Connected equipment is becoming the new standard, providing abundant data.
- Improved hardware is becoming available for technicians (such as augmented reality glasses).

This hardware development is the least appreciated—and often the most impactful.

For example, BCG helped a field service operator in the transport industry improve the productivity of its maintenance staff. One part of this effort was the introduction of extended reality devices, which allow technicians to access on-the-go equipment expertise and guided workflows while keeping their hands free to work. Institutional technical knowledge is maintained and more easily shared, accelerating the training of junior mechanics. For managers, the additional data gathered provides real-time insights and operational control. All this was enabled by in-depth change management to ensure staff embraced new ways of working.

The result was a 40% reduction in rework and 25% faster maintenance execution.

Quantified benefits like these are typical. But deployments usually show very valuable, less quantifiable benefits, including:

- In sales, AI agents can monitor customers and deliver proactive targeting with tailored talk tracks and next best actions.
- Operations management benefits from smart dispatch and scheduling. They can also benefit from AI-powered next best actions.
- In the technician workforce, institutional knowledge can be captured, maintained, and shared. It can be delivered digitally on demand in the field or used to train a new generation of technicians.

More broadly, the upgraded digital nervous system of the AI-first field service organization facilitates faster development and derisking of new business models, such as outcomes-as-a-service, where customers pay for uptime.

# Becoming an AI-First Field Service Operation

To successfully deploy AI and AI agents in field service and drive outcomes at scale, organizations need to move away from a project-by-project approach and adopt a portfolio and transformational mindset.

This is why the 70% of effort spent on organization and change management is vital. The messy middle—the management layer between C-suite strategy and frontline execution—is where many AI transformations succeed or fail. Spending time here is essential for management activation, ensuring enthusiasm spreads to frontline managers. Engagement with service teams is also vital. Co-designing workflows with technicians ensures tools can be embedded and deliver value. Training and upskilling are also important parts of the process. Taken together, these create an AI-ready mindset that ensures new tools and workflows get their maximum opportunity to deliver value. To get started:

**Execute a rapid diagnostic and planning exercise.** Rapidly identify the worst pain points. This, along with ROI estimates, can serve as the starting point for a strategy roadmap. Start pilot projects to clarify the specific issues around using AI in field service.

**Move to proof-of-concept.** Reimagine the future of field service by considering product strategy and scope. Use this to turn the initial roadmap into a strategy that can drive business cases and, in turn, projects. Gather data on the field service pilots and adjust where needed.

**Build and iterate.** With these foundations, the way is now clear for a full workflow redesign using AI. Iteration will drive continuous improvement, which builds a structural edge for first-movers. Build out core capabilities, including user testing, data and tech enablers, and agile ways of working.

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The fundamentals of field service are not disappearing; service delivery requires a technician with the right skills, tools, and parts arriving at the right place. When every dispatch decision, service interaction, and contract is continuously optimized, productivity and customer value compound quickly. Those who move quickly to build an AI-first field service operation will reset customer expectations; late starters will be forced to follow competitors moving at an ever-faster pace.

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