FIELD SERVICE NEXT INSIGHTS

Artificial Intelligence in Field Service: North America

How Field Service Organizations are Implementing, Utilizing, and Planning for AI in the Coming Years



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Foreword from the Producer

Greetings from all of us at Field Service Next! I'm pleased to share this unique report about artificial intelligence adoption in North American field service organizations.

This report, conducted by Field Service Next Insights, provides a critical look into how leading service organizations are implementing AI technologies and planning for their future transformation. Based on a survey of 100 field service leaders across telecommunications, manufacturing, healthcare, and other sectors, these findings reveal both the significant progress being made and the challenges that remain in AI deployment across our industry.

I hope you'll find the report both informative and actionable as you continue to drive transformation in your organizations—and be sure to register for Field Service Next West 2026 in April!



Jonathan Massoud
Head of Content & Growth
Field Service Next

Register for Field Service Next 2026 Today!

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Executive Summary

North American field service organizations are strategically increasing their adoption of artificial intelligence. In their investments, they are targeting operational efficiency and improved customer outcomes through both pilot programs and multi-area deployments.

While AI has driven advances in diagnostics, predictive maintenance, and remote service calls, organizations face notable challenges. Issues surrounding workforce adaptation, change management, and data quality are still hindering their efforts.

In this report, field service leaders look ahead, explaining how AI-driven growth will transform scheduling, customer interaction, and autonomous service delivery. In field service, AI is now positioned as the critical engine of competitiveness.

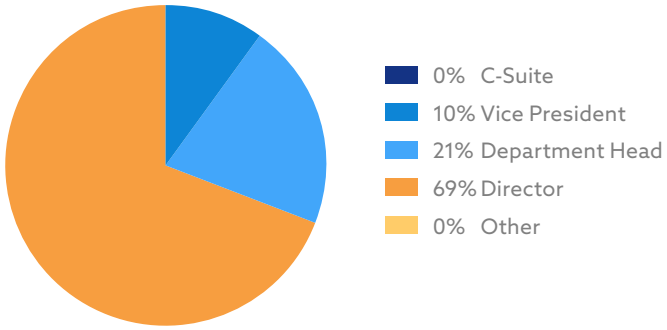


About the Respondents

Field Service Insights surveyed 100 field service leaders to generate the results featured in this report.

Most respondents are directors (69%) or department heads (21%) in service operations, management, or delivery.

What is your seniority?



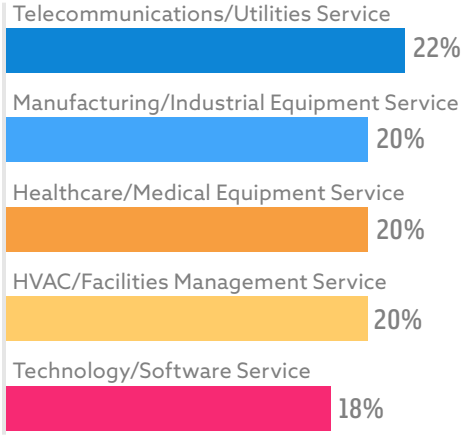
What is your role?

34% Service Operations

33% Service Management

33% Service Delivery

What type of field service company do you represent?



What is your company's annual revenue?

- 27% $100 million to $500 million
- 10% $500 million to $1 billion
- 45% $1 billion to $10 billion
- 18% More than $10 billion

The top company type is telecommunications/utilities and the largest revenue segment among respondents' companies is $1 billion to $10 billion in annual revenue.

Key Insights

82%
say AI encompasses 10–25% of their technology stacks.

39%
have limited AI deployment to specific use cases.

29%
have fully deployed AI across multiple service areas.

53%
say their AI predictive maintenance capabilities are "very effective"

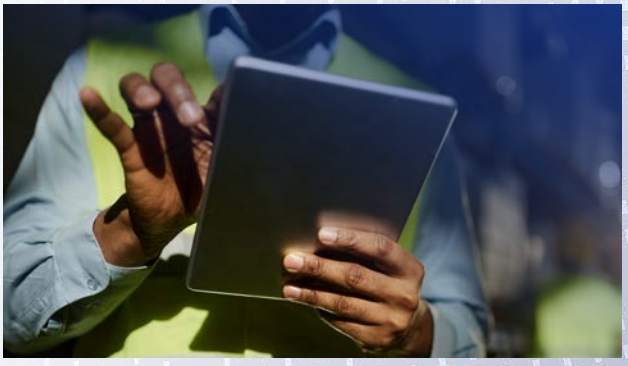
75%
are only "somewhat confident" about workforce AI readiness.

Top AI investment priorities:

- Customer communication and self-service (48%)
- Automated parts and inventory management (41%)
- Workforce skill development (40%)

Top barriers to AI adoption:

- Cybersecurity and data privacy concerns (45%)
- Technician resistance to change (41%)
- Data quality or availability issues (41%)



Your AI strategy is missing its *co-pilot*

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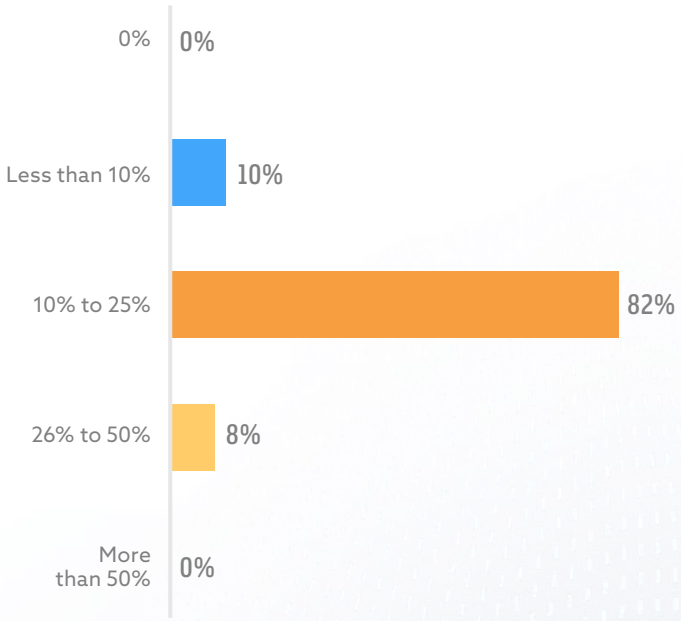
AI Adoption in North American Field Service Organizations

> "I don't know how to manage magic, but luckily for me, AI isn't magic; it's math. The math it uses is complex, but I still don't need to know calculus, statistics, or linear algebra to be able to use it."
>
> — Field Service Practitioner, Field Service East 2025



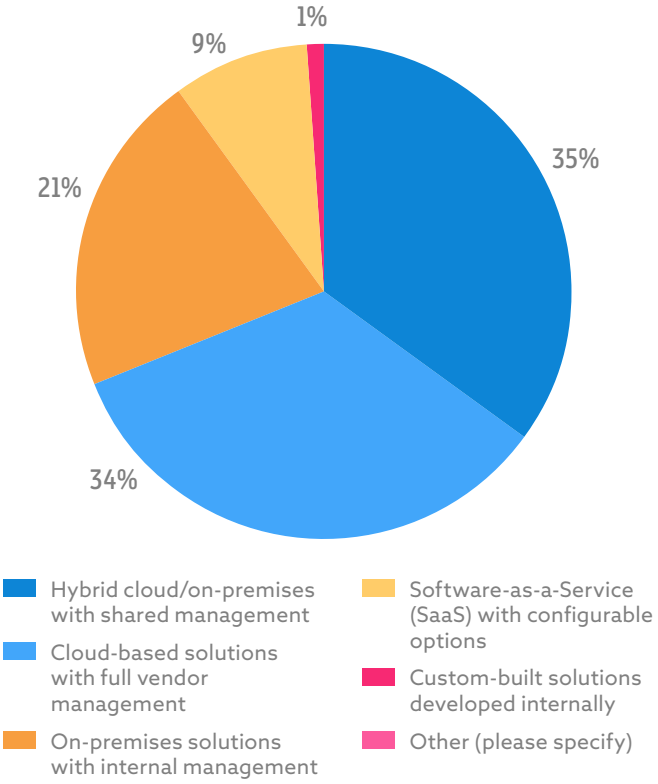
The landscape of artificial intelligence adoption in field service is revealing a measured yet strategic approach across North American organizations.

What percentage of your field service technology budget do you expect to allocate to AI-related initiatives in the next 12 months?

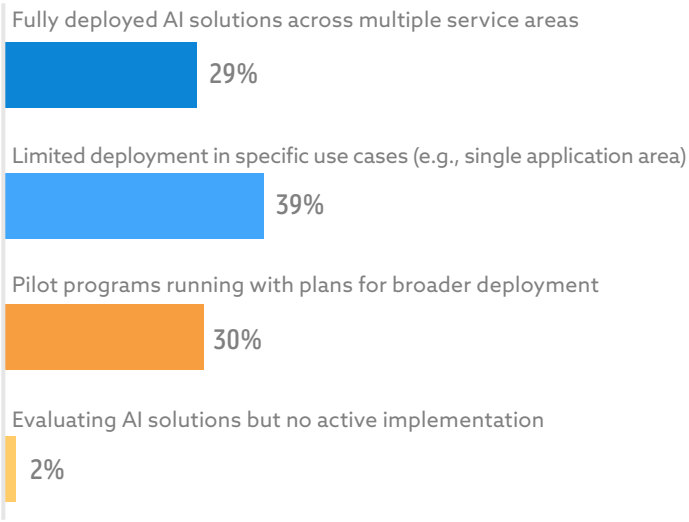


The results of the study show that AI represents a meaningful but moderate portion of technology investments, with 82% of organizations dedicating between 10% and 25% of their technology stack to AI solutions.

What type of AI solution deployment model do you prefer for field service applications?



What is the current status of AI implementation in your field service operations?



When it comes to the respondents' AI deployment preference for field service applications, most organizations prefer some type of cloud-based solution.

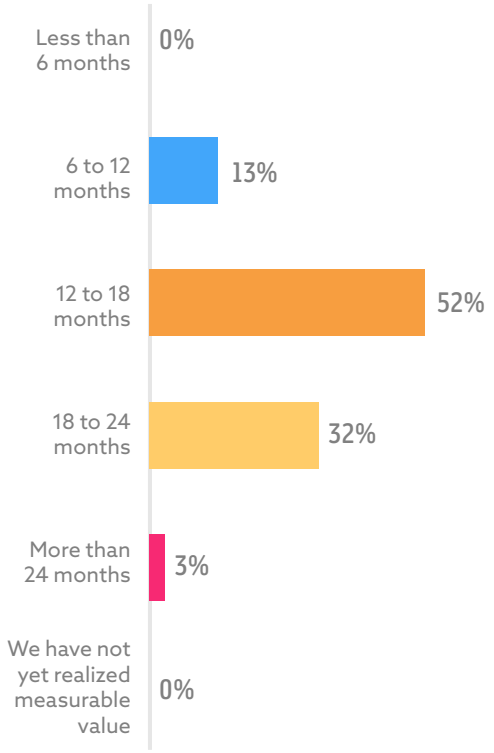
Specifically, 35% favor a hybrid deployment of cloud-based and on-premises systems with shared management responsibilities between themselves and their cloud vendors. A similar portion of the respondents (34%) prefer fully cloud-based solutions with complete vendor management.

Meanwhile, 21% prefer entirely on-premises solutions with internal management.

Field service organizations have made significant progress in their AI deployments, including 29% that have achieved full deployment across multiple service areas. Another 39% have achieved limited deployment in specific use cases or a single application area.

Only 30% are still running pilot programs, and a mere 2% are still evaluating AI solutions. Although most organizations are taking a cautious, targeted approach to AI implementation, they are progressing toward fully deployed systems across multiple service areas.

Since you have full or limited AI deployment in field service operations, how long did it take your organization to realize measurable value from your AI implementations?



Perhaps most telling is the timeline for value realization among organizations with active AI deployments.

Among those that have moved beyond pilot phases, the majority required substantial time investments to see measurable returns. Fifty-two percent needed 12-18 months to realize value, while another 32% required 18-24 months.

This extended timeline suggests that successful AI implementation in field service requires sustained commitment and patience. Organizations can realize immediate gains from AI deployments, but they must prepare for longer-term investment cycles to achieve full deployment.

Practitioner Perspectives: Ground AI Projects in Business Goals

In conversations with practitioners, Field Service Insights found that some companies are moving from pilot programs to production in "a matter of days" rather than years. This is mostly due to the sophistication of AI products. Tools that previously required extensive trial periods can now be adopted and deployed quickly.

However, practitioners recommend starting small with one feature at a time rather than deploying comprehensive AI solutions immediately.

One practitioner discussed a comprehensive AI product their organization deployed that included several different features. Unfortunately, employees found it overwhelming, and it remained unused.

Leaders suggest grounding AI adoption in clear business goals like safety, efficiency, and profitability rather than implementing AI everywhere at once.

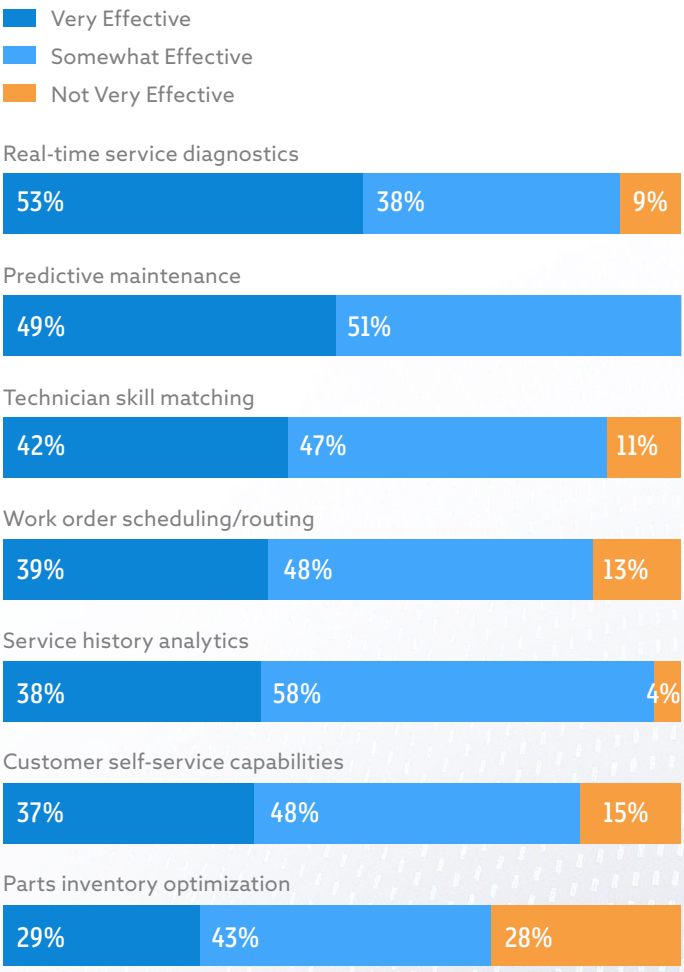
AI-Enabled Capabilities and Their Effectiveness Among Field Service Teams

> "If you want to manage AI systems successfully, think about them like they're college interns. The best way to manage them is to watch them like a hawk and give them very good instructions."
>
> — Field Service Practitioner, Field Service East 2025



Field service organizations are experiencing results from their AI implementations. However, effective capabilities are more likely in some categories when compared to others.

How would you rate the effectiveness of your current AI-enabled capabilities in the following areas?



In each case, roughly half of the respondents report that their real-time diagnostics (53%) and predictive maintenance (49%) capabilities are very effective. Most also say their technician skill matching capabilities are either very effective (42%) or somewhat effective (47%).

These areas represent the most mature applications of AI in field service today, where organizations have successfully aligned technology with clear operational needs.

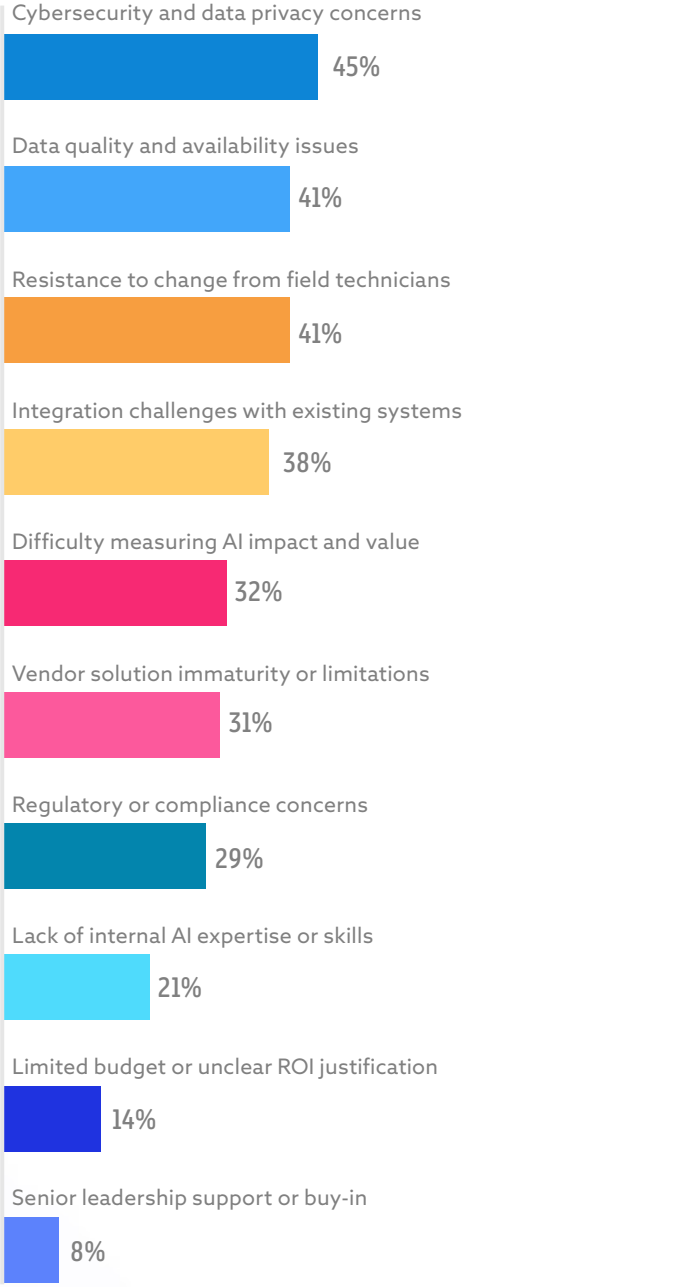
However, 28% say their parts inventory optimization capabilities are not very effective, and most believe their customer service, service history analytics, and worker order scheduling and routing capabilities could be more effective.

While AI shows promise across multiple use cases, the maturity and effectiveness of implementations vary significantly. This likely reflects differences in data infrastructure, integration complexity, and organizational readiness rather than limitations of the technology itself.

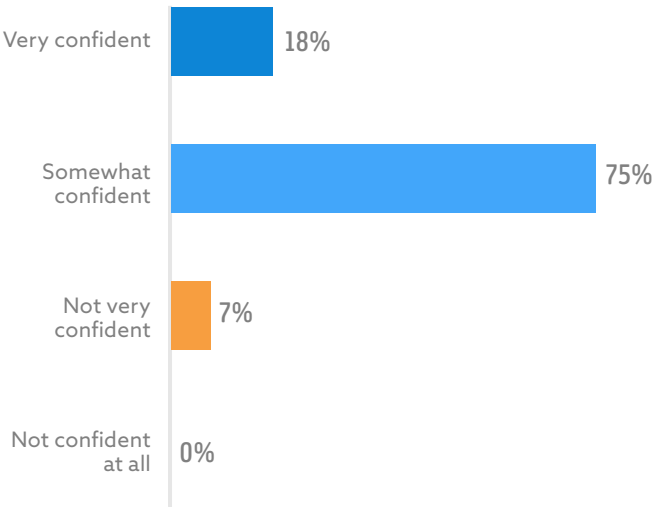
Field service organizations also face barriers in implementing AI effectively. These barriers can impact AI readiness and time-to-value, even if they don't necessarily correlate with the lagging performance of capabilities that have already been deployed.

Cybersecurity and data privacy are at the top of the respondents' top three barriers, at 45%. Data quality issues and technician resistance to change, both reported as top barriers by 41% of organizations, are also causing issues for AI implementation.

What are the most significant barriers to AI implementation in your field service operations?



How confident are you that your field service workforce will successfully adapt to increased AI integration over the next 2–3 years?



These findings suggest why 75% of respondents are only somewhat confident about their workforce's ability to adapt to increased AI integration over the next 2-3 years.

This hesitation suggests organizations recognize the magnitude of change management required for successful AI deployment. Organizations must balance the promise of AI efficiency gains with the practical realities of human adaptation and acceptance. They must also consider their existing infrastructure and data management capabilities.

Practitioner Perspectives: Managing Workforce Adoption

Change management and workforce adoption are perhaps the most common topics practitioners discuss when asked about AI implementation challenges.

Field Service Next Insights' conversations with field service leaders, as well as statements made by thought leaders at Field Service Next events, suggest that the primary drivers of workforce hesitancy are straightforward. As one field service leader put it, "fear of change and the fear that AI is going to take my job" are top of mind among the workforce.

Practitioners suggest that change management requires visible executive sponsorship. Leaders must also identify all stakeholders impacted by AI, including customers, and develop specific adoption strategies like gamification, contribution leaderboards, and linking tool usage to performance metrics.

Importantly, training programs must explain the "why" behind implementations and demonstrate how AI makes jobs easier rather than replacing workers.

Future AI Investments and Transformation Initiatives in Field Service

> "It may produce results, but AI won't work as effectively as it could if it's only used in isolated parts of a business. To create real value for customers, integrate AI throughout your entire network of systems, suppliers, and processes.
>
> — Field Service Practitioner, Field Service East 2025



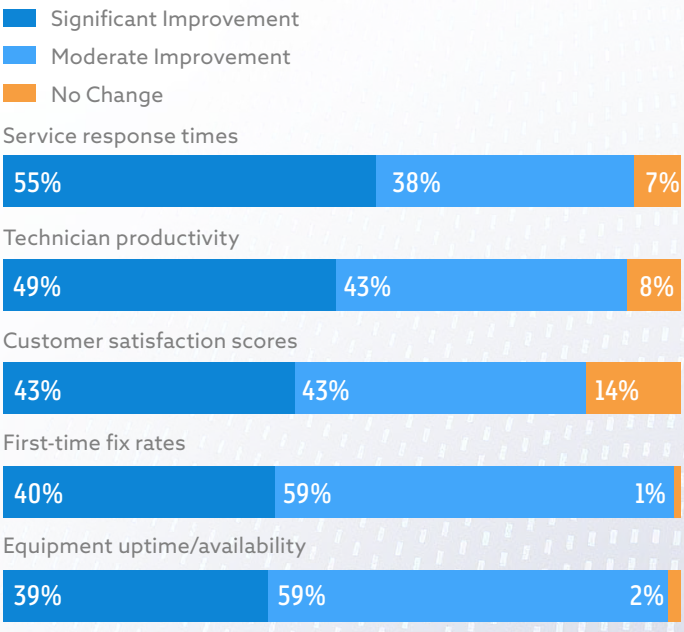
Despite the many barriers organizations face to AI implementation, few doubt that the technology will be transformative.

AI Will Improve Response Times and Technician Productivity

Most respondents (55%) anticipate a significant improvement in service response times. The impact extends beyond just speed, with nearly half (49%) anticipating significant improvements to technician productivity.

This suggests that organizations view AI not just as a tool for efficiency but as a fundamental driver of workforce effectiveness.

What impact do you expect AI to have on the following field service key performance indicators over the next 18 months?



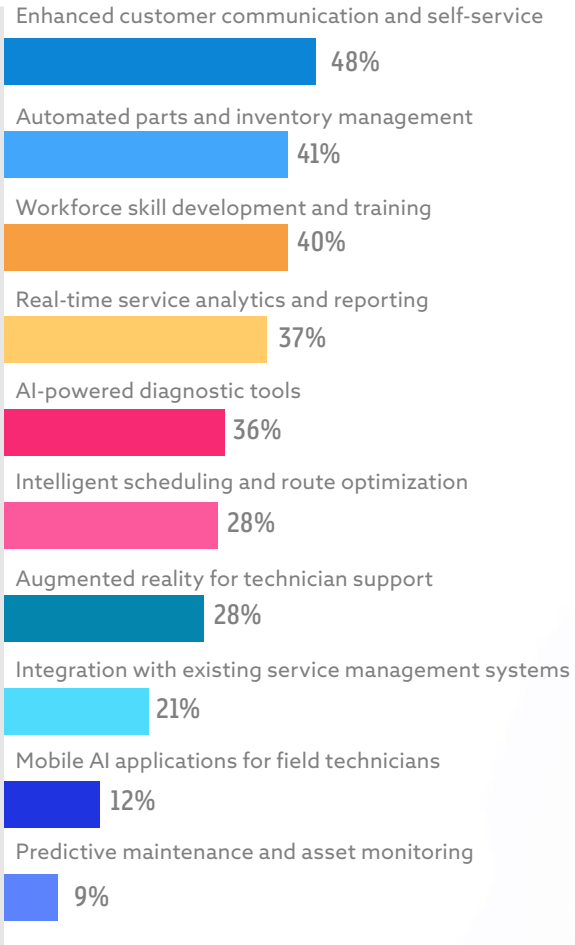
Nonetheless, in each case, 59% of the respondents only expect to see moderate improvements to first-time fix rates and equipment uptime. Further improvement in these areas may require more investment, as well as more sophisticated applications of AI.

Customer Self-Service, Inventory Automation, and Workforce Development Will Lead AI Investments

The respondents' top three investment priorities are enhanced customer communication and self-service capabilities (48%), automated parts and inventory management (41%), and workforce skill development and training (40%).

These priorities demonstrate that field service leaders are thinking holistically about customer experience and operational efficiency. As we will learn, field service organizations are now implementing AI solutions with clear business objectives and measurable outcomes in mind.

What are your organization's top investment priorities for AI in field service over the next 12 months?



Practitioner Perspectives: The Future of AI in Field Service

Practitioners told Field Service Insights that the future of AI in field service will be the standardization of autonomous service delivery and predictive capabilities.

Like autonomous vehicles, AI-enabled service journeys will use knowledge-driven guidance and decision making to actively complete tasks. For example, systems can use predictive intelligence to select and source parts and identify skill requirements.

Furthermore, organizations will integrate AI across entire service ecosystems rather than focusing on isolated applications.

One advanced capability that a practitioner recognized was visual recognition. Systems powered by this capability will be able to identify equipment, diagnose problems, and provide troubleshooting guidance with minimal upkeep and training.

Top AI Applications in Field Service in the Next 2–3 Years

> AI sophistication is advancing quickly in field service, which suggests it will be more deeply-integrated in two-to-three years compared to today.

Field Service Insights asked the respondents to describe the most promising AI application or use case they foresee in that timeframe. An analysis of the responses revealed three common application categories among many.

Predictive Maintenance and Asset Health Monitoring

Multiple respondents independently referenced forecasting failures, anomaly detection, and monitoring as the most transformative AI lever. They believe these capabilities will significantly reduce downtime, improve first-time fix rates, and move from reactive to proactive service.

Several respondents say systems will anticipate failures and prescribe fixes in real time.

"AI will excel at monitoring equipment in various industries to enable quicker identification of problems and faster fixes," says one respondent.

When site visits are necessary, these capabilities will empower technicians to enact fixes faster and more effectively.

"In sectors such as telecom, AI can diagnose signal and network troubles and allow technicians to undertake physical repairs," says another respondent.

Similarly, respondents believe AI will be able to "analyze insights from finished jobs" and "provide post-service clarity through customized, post-service validation reports." On a higher level, these capabilities will even "reveal industry-specific usage patterns," as one respondent puts it. This will enable teams to customize or enhance preventive maintenance programs.

Intelligent Scheduling, Dispatch, and Route Optimization

Automated scheduling and dispatch, as well as route optimization, are also areas where many respondents foresee AI having an impact. They believe the technology will transform how field service organizations orchestrate people and work across diverse geographic challenges.

"Scheduling done by AI can automatically plan technician routes and prioritize emergency cases," says one respondent, while another notes that AI will excel at "matching technicians with the right work orders instantly."

The technology will also address complex operational challenges unique to North America's more populated regions. One leader believes AI "will intelligently and efficiently batch service requests in dense urban areas," explains one leader.

Meanwhile, others highlighted AI's ability to rework scheduling and dispatch based on environmental inputs, which are a significant concern in industries like telecommunications. Specifically, one respondent believes "AI will be of greatest value in balancing technician schedules as a reaction to weather conditions."

Beyond efficiency gains, respondents see safety benefits through "geospatial data to keep workers safer by adjusting schedules." The consensus is that AI-driven scheduling represents a practical solution for reducing travel time, cutting fuel costs, and improving workforce safety across North America's diverse service territories.

Customer Experience Automation and Insight

Multiple respondents say AI-powered customer engagement will reshape how field service organizations interact with clients. They believe these capabilities will automate frontline interactions while delivering personalized experiences that strengthen customer relationships.

"Chatbots and virtual assistants are going to be crucial," says one respondent, while another notes that "the greatest opportunity is to enable self-service with AI chatbots."

Chatbots and virtual assistants are already widely used. These systems are reducing the burden on field staff by "rephrasing troubleshooting manuals" to help customers resolve minor issues independently.

They also have the potential to improve the customer experience by notifying customers "about problems even before they become aware of it."

However, virtual assistants are expected to be more transformative when they are upgraded with agentic capabilities. Agentic AI systems can make decisions and take actions within systems rather than simply generate responses to queries.

The technology will also analyze customer sentiment and leverage CRM data to personalize interactions. This will "enable service providers to deliver improvements rather than fixes," ultimately strengthening customer loyalty through transparent, proactive service delivery.

Other AI Applications in Field Service

Artificial intelligence is one of the most adaptive technologies ever created, and it will only become more sophisticated. As one speaker at Field Service East described, "Right now, we're working with the worst AI models ever created, because these are the first AI models ever created."

Respondents to the study anticipate advancements in several areas of field service over the next three years thanks to AI. Based on conversations with the respondents, here are the areas most likely to be impacted:

- **Supply chain and parts logistics** ("predicting shortages," "inventory optimization.")
- **Workforce enablement** ("guided repairs," "paperwork automation.")
- **Safety, risk, and compliance** ("forecasting worker fatigue," "weather-driven safety scheduling.")
- **Contracts, insurance, and administrative** ("contract management and renewals," "insurance claims automation.")
- **Data integration and interoperability** ("unifying field service management systems," "inter-company data integration.")



Case Study: Honeywell Accelerates Remote Service Productivity

At Field Service East 2025, multinational conglomerate Honeywell revealed how its AI project addresses multiple aspects of its field service operations.

The Challenge: Reactive Field Service Operations

In a presentation called "The AI Revolution in Field Service: From Hype to Hyper-Efficiency," Yasir Sheikh, Global Head of Applications & Connected Services at Honeywell, explained that the company needed to transform its reactive field service operations into proactive methods of service delivery.

Inefficiencies like excessive on-site visits, manual processes, wasted technician travel time, and suboptimal resource allocation were resulting in high costs.

The Solution: A Multipronged AI Ecosystem

To transform its operations, Honeywell deployed a comprehensive AI ecosystem across multiple aspects of its field service business. However, the company focused on practical applications rather than experimental technology.

Some of the applications included:

- AI-generated recruitment materials and intelligent scheduling
- Natural language insights for root cause analysis in the field
- AI-powered self-service tools for customer diagnostics
- GitHub integration, turning commentary into functional insights

Because the company chose to focus on specific improvements, it deployed these capabilities faster than expected.

The Results: Savings, Efficiency, and Growth

Honeywell achieved significant measurable improvements across multiple key performance indicators:

- 30% of field calls are now handled remotely
- $11 million in annual productivity gains
- 13% reduction in journey time for engineers
- 150 tons of CO2 emissions saved
- $1 billion in growth over two years

The implementation demonstrated that AI deployment costs were relatively low compared to traditional technology projects, with the primary expense being change management rather than technology licensing.

Conclusion: Balancing AI Innovation Against AI Readiness

Field service organizations in North America are steadily embracing AI, but they are moving forward with careful planning and measured progress. The study suggests that achieving real results from AI takes time and effort, and leaders are learning that patience and long-term commitment are needed to unlock its full benefits.

AI has improved areas like diagnostics and maintenance, but some challenges remain, especially with inventory management and workforce adaptation. Organizations face hurdles such as cybersecurity concerns and resistance from technicians, and many leaders recognize the need for better data and change management.

Looking forward, companies expect that AI will bring major changes in predictive maintenance, intelligent scheduling, and customer service automation. The technology is evolving quickly, and field service leaders see its future potential as nearly limitless.

Key Suggestions

- **Establish realistic timelines for AI value realization to ensure a sustained commitment:** Plan for the long-term when investing in AI, as meaningful returns require patience and sustained effort.
- **Prioritize comprehensive change management programs:** Proactively address technician resistance and support workforce adaptation to increase AI adoption success.
- **Implement robust cybersecurity and data governance frameworks before deploying AI solutions:** Build secure, high-quality data infrastructures to ensure effective and trustworthy AI operations.
- **Use hybrid deployment to balance internal control with vendor expertise:** Select hybrid or managed AI solutions based on your organization's resources and management capabilities.

About the Author

FIELD SERVICE NEXT INSIGHTS

Field Service Next Insights, the industry research and digital publishing arm of the Field Service Next conference series, delivers cutting-edge data and analysis on trends, challenges, and opportunities in the field service and customer support sectors. Through comprehensive research reports, webinars, and thought leadership initiatives, we empower senior-level field service leaders to make informed strategic decisions and stay ahead in the rapidly evolving service landscape.

Our deep industry intelligence not only informs field service leaders but also connects innovative solution providers with key decision-makers, fostering a dynamic ecosystem that drives the future of service excellence in the field service space.

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