




9 Practical Applications **to Boost Field Service** **Efficiency with Generative** **AI and Visual Assistance**

Generative AI and Visual Assistance: A Dynamic Duo

Multimodal Generative AI, combined with a Visual Assistance platform, empowers field service technicians and remote experts with powerful tools that help structure and transform visual data. Together, they offer three solutions to elevate operational excellence in field service organizations.

These solutions are reshaping the field service industry, as more organizations invest in a promising future. Gartner notes that key focuses for Generative AI initiatives include enhancing customer experiences and retention (**38%**), driving revenue growth (**26%**), optimizing costs (**17%**), and ensuring business continuity (**7%**). Let's delve into real-world applications to achieve these goals in your organization.



38%
use Generative AI for customer experiences and retention.

The field service industry faces pressure to boost efficiency, cut costs, and enhance customer experiences. To address this, organizations are harnessing the potential of Generative AI and Visual Assistance, transforming field service operations.



AI Recognition

01

Offers precision equipment and parts identification through custom-trained AI. Technicians can diagnose and troubleshoot problems faster and accurately identify and order replacement parts to reduce downtime.

AI Recommendation

02

Technicians receive actionable solutions, leveraging the technical knowledge in your database to generate recommendations for problem-solving. It can be enriched by incorporating new data to expand the knowledge base and provide real-time support.

AI Reporting

03

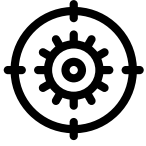
Streamlines reporting by automatically summarizing service engagements. This reduces the administrative burden on field technicians, aids in quality control and auditing, and contributes to training and knowledge retention.

01.

In tech support, tailored AI models and advanced Computer Vision swiftly identify equipment and parts, expediting problem diagnosis and resolution, reducing component wastage. This enhances customer satisfaction and operational efficiency.



AI Recognition: Equipment Precision and Parts Identification



1. Problem Diagnosis and Troubleshooting

Field service professionals often grapple with diagnosing complex machinery issues, which can be time-consuming and costly. Multimodal Generative AI can assist by seamlessly integrating and processing information from multiple sources including text, images, audio and video.

How does it work?



Traditionally, it would take a technician painstaking hours or even days of meticulous inspection to diagnose an issue with a piece of malfunctioning machinery. However, with **AI Recognition**, the technician uses their mobile device to capture images or videos of the machinery, which is submitted with a description of the problem.

The AI model can help analyze the inputs and suggest next steps. If needed, remote experts can connect to help pinpoint the problem. The outcome? Problem diagnosis is expedited, downtime is significantly reduced, and customer satisfaction increases.





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54% of executives say AI solutions have made their businesses more productive.

— PwC



2. Inventory Management

Accurate spare parts inventory is crucial. However, traditional methods often lead to costly errors like overstocking or understocking. AI Recognition helps optimize inventory, reduces wastage, and ensures technicians have the right components when needed.

How does it work?

In the field, the technician relies on the **AI system** for quick part identification. The system scans and syncs with real-time inventory. As parts are used, it updates inventory instantly. While it doesn't

predict part lifecycles, its **AI computer vision** helps the technician identify replacement parts quickly and accurately, streamlining the ordering process and enhancing workflow.



02.

Time is crucial in the field, and technical challenges standing in the way of business continuity are plenty. AI Recommendation accelerates operations by leveraging your organization's technical knowledge. It merges insights from AI Recognition and

AI Reporting to provide a holistic solution. This not only aids real-time technical issues but also helps technicians predict emerging problems, enhancing field service effectiveness.



AI Recommendation: Expertise at Technician Fingertips



3. Knowledge Base Expansion

Maintaining tech knowledge databases is laborious and error-prone. AI Recommendation scans manuals, logs, and more, providing technicians with an up-to-date repository of knowledge.



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Applying generative AI to customer care functions could increase productivity at a value ranging from 30 to 45 percent of current function costs.

— McKinsey

How does it work?



A technician in the field simply inputs the identifying information of the malfunctioning equipment, and within seconds, the **AI system** extracts relevant data from an extensive repository of technical information and organizes it into a user-friendly format consisting of troubleshooting procedures and instructions.

This streamlined access significantly reduces errors, minimizes downtime, and enhances overall service quality.



4. Efficient Communication

AI Recommendation ensures precise communication among technicians, managers, and clients. It translates technical jargon for non-technical stakeholders.



How does it work?

When a field technician needs to convey complex technical information to a client who lacks a technical background, **AI-powered communication tools** can generate clear, concise explanations, complete with visual aids, making it easier for the client to understand the situation.

This not only enhances customer relations but also expedites decision-making processes.



5. Customized Training

AI analyzes technicians' performance and identifies knowledge gaps, recommending tailored training with resources like simulations, video tutorials, and real-time mentoring.



How does it work?

A technician facing challenges in equipment maintenance might receive interactive simulations and video tutorials, while a more experienced colleague might be guided towards advanced troubleshooting techniques.

This personalized approach accelerates skill development, enhances service quality, and improves overall operational efficiency, benefiting both the organization and its customers, and leading to a more skilled workforce.



6. Real-time Support

Visual Assistance provides proactive, real-time support. Field technicians can access assistance via AR or mobile devices for swift issue resolution.

How does it work?

A technician working on an intricate piece of machinery in a remote location can be suddenly confronted with an unexpected issue. With a **Visual Assistance Platform**, the technician can connect to a remote expert who can see exactly

what the technician sees and guide them through the troubleshooting process (enhanced with AR and AI) in real time. This not only resolves the issue swiftly but also prevents costly mistakes.



03.

Documentation is an essential aspect of field service, but it can be time-consuming and prone to errors when done manually. AI Reporting alleviates this manual burden by automating the report generation process.



AI Reporting: Instant Service Report Generation



7. Enhanced Reporting

AI Reporting generates detailed, comprehensive service reports based on visual data, voice recordings, and textual notes. This improves documentation quality for better decision-making.

How does it work?



Upon completion of a maintenance task, the **AI Reporting system** compiles all the collected data into a comprehensive service report. The entire process is automated, making the technician's work smoother and minimizing manual operations.

The benefits are significant. Time-consuming paperwork is eliminated, and the quality of documentation is greatly improved. Maintenance reports are now detailed, standardized, and instantly accessible to supervisors and engineers.





8. Quality Control and Auditing

AI Reporting enables rigorous quality control and auditing processes by analyzing service reports. It identifies trends, areas for improvement, and potential training needs, enhancing service quality and customer satisfaction.

How does it work?



Upon collecting and analyzing all service reports, the **AI system** might recognize a recurring problem with a specific machine component or identify technicians who consistently excel in resolving certain issues.

The data-driven insights provided by **AI Reporting** are invaluable for quality control and auditing teams. They use these insights to assess service quality rigorously and efficiently. AI also helps in the digital process automation as part of the step-by-step workflows to improve safety and compliance.



9. Training and Knowledge Retention

AI Reporting aids training and knowledge retention. Technicians review past service engagements for insights and continuous skill improvement. Organizations use AI-generated reports to pinpoint best practices, fostering a culture of service excellence.

How does it work?



New technicians can review past service engagements, gaining insights into best practices and effective troubleshooting methods. Furthermore, the organization's training team can use **AI-generated reports** to identify successful strategies and share them across the workforce through training sessions and knowledge-sharing initiatives.

This real-world application of **AI Reporting** not only streamlines training but also ensures that valuable institutional knowledge is retained and disseminated effectively.



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Current generative AI and other technologies have the potential to automate work activities that absorb 60 to 70 percent of employees' time today.

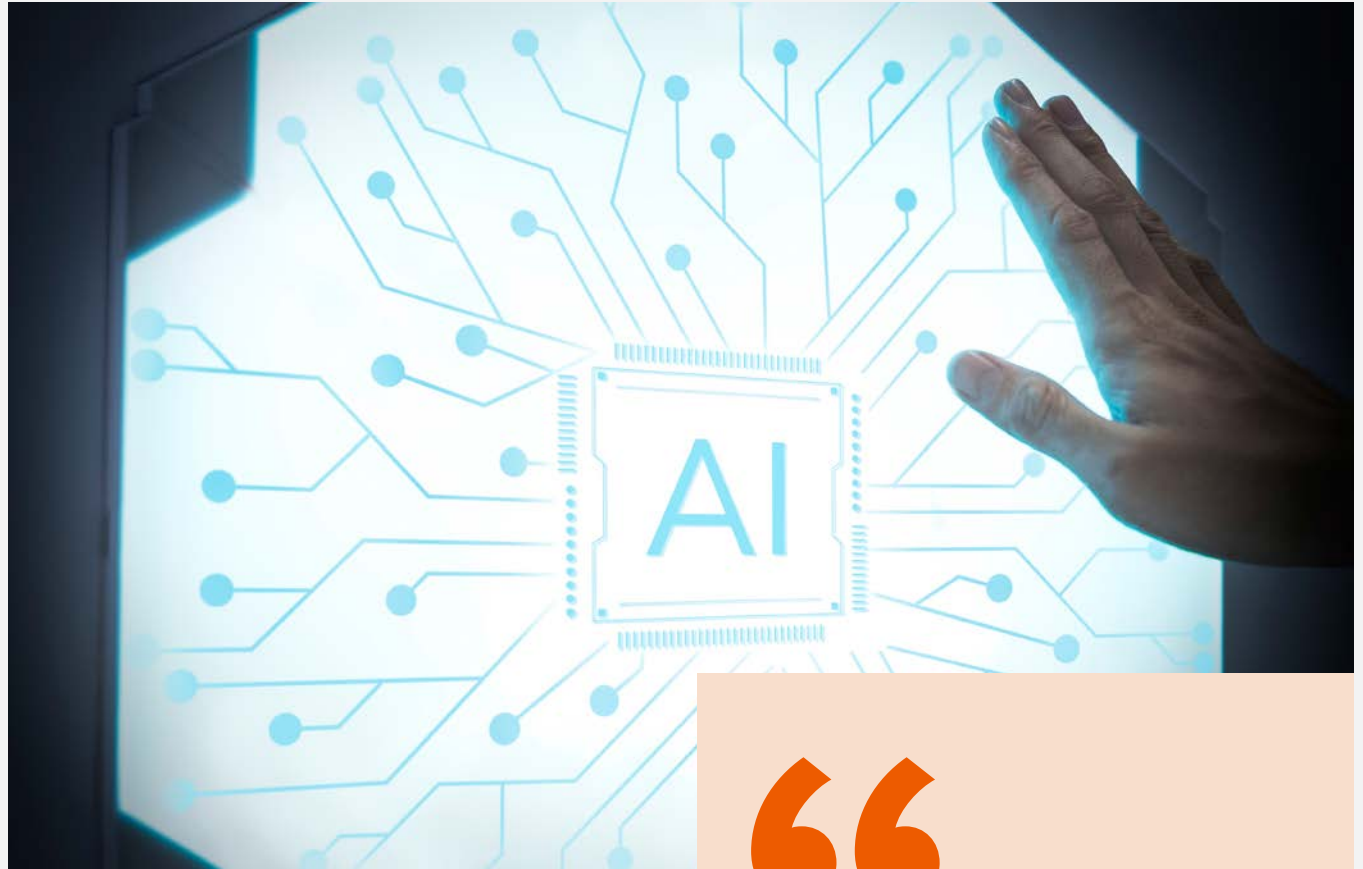
— McKinsey



Embracing the Future with Generative AI and Visual Assistance

The field service industry is experiencing a transformative wave of change propelled by the integration of Multimodal Generative AI and Visual Assistance technologies. These innovations are not about replacing on-site work but rather taking it to a new level. By bringing visual data to the forefront, these technologies streamline service processes and enable faster issue resolution while facilitating the seamless transmission of data to backend office systems.

While AI transforms various aspects of business and service delivery, it's noteworthy that its impact on global jobs is expected to be neutral through 2026, according to Gartner's predictions. Instead of eliminating jobs, AI is projected to create over half a billion net new human jobs by 2033, spanning roles related to AI development, maintenance, oversight, and utilization, emphasizing the need for skilled



technicians, data scientists, and AI specialists to ensure the seamless integration of AI into field service operations.

As organizations harness the power of this advanced technology, they set the stage for a future where AI-driven enhancements complement and elevate the human touch in service delivery.

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