



ARTIFICIAL INTELLIGENCE, MACHINE LEARNING, & THE FUTURE OF FIELD SERVICE

A SERVICEMAX POINT OF VIEW

AI & ML Defined

Artificial Intelligence (AI) is generally defined as the application of advanced analysis and logic-based techniques to interpret events, support and automate decisions, and take actions. These techniques include Machine Learning (ML), which relies on sets of rules or algorithms to continuously learn from data. We increasingly encounter AI and ML as consumers, whether by interacting with virtual assistants, scrolling social media feeds, or streaming video content. But AI's potential for business is wide-ranging—especially for field service.

Why AI & ML for Field Service

As a long-time leader in Field Service Management, ServiceMax sees a broad range of use cases where AI can improve service outcomes. These include:

- Assisted Technician Selection and Dispatch - based on business rules (e.g. education, training, level of competence, site access, work order type, asset type, location, time available) AI can scan open work orders and recommend the best technician to send, improving productivity while reducing overtime.
- Schedule Optimization - using business priorities and constraints, AI can develop optimal schedules for workers and automatically reschedule as priorities change, boosting workforce utilization. AI can also dynamically prioritize work based on the status of the service level agreement or the criticality of the work.
- Unplanned Maintenance Triage and Parts Identification - leveraging a company's service data—work orders, asset information, resolution data—AI can recommend and rank the most cost-effective actions to resolve an issue, including suggested parts and knowledge content, reducing truck rolls and improving first-time fix rate.
- Planned Maintenance Rebalancing - utilizing an asset's performance history, AI could evaluate and make recommendations on changes in Planned Maintenance cycles, periods, or schedules, reducing the number of required touches of the equipment while still maintaining equipment uptime.
- IoT Predictive Maintenance ("AIoT") - a major obstacle to IoT adoption is the volume of sensor data that must be analyzed to derive actionable insights. AI can be utilized to ingest this data, identify patterns of equipment failure, and trigger proactive asset repairs, avoiding costly replacements and improving uptime.
- Parts Planning and Inventory Management - by analyzing multiple streams of service and parts data, AI can also support the complex task of forecasting demand and optimizing stock levels to ensure SLA compliance while managing inventory costs.
- AR Visual Support - AI/ML can assist a remote expert who is providing guidance by visually recognizing a specific asset or type of work, or by being trained to identify a correct service procedure and subsequently used to validate work—increasing productivity and uptime.



Why Asset-Centric Industries Need AI/ML

ServiceMax believes that the potential of AI/ML is especially significant for the “asset-centric” industries that we serve. This is due to the complexity of the equipment and their associated service processes; the large quantity of asset- and service-related data; the criticality and highly regulated nature of the assets; and the challenge of decision-making for dispatchers and field technicians in an environment where asset uptime and customer satisfaction have become increasingly important. By “infusing” AI and ML across the service delivery chain, organizations can automate, assist, and accelerate decisions and actions to drive better service outcomes.

Indeed, ServiceMax expects that multiple applications of AI/ML will benefit our target industries. In medical device manufacturing, for example, AI can analyze IoT data and make predictive recommendations and decisions on optimization of parts & inventory and preventive maintenance. It can also augment Regulatory Compliance Management by predictive detection of potential Corrective Action & Preventive Action (CAPA) events, thereby lowering risks for patients and customers as well as reducing overall cost.

Another example is energy. The rapid growth of more distributed energy assets—such as wind, solar, storage, and EV infrastructure—creates service challenges that can be addressed by AI-enabled IoT, remote triage, and AR. AI-enabled schedule optimization is helping utilities manage increasingly difficult workloads from routine inspections to storm outage response. AI can even help guide territory planning for power plants and oilfield wells that are resizing staff.

How ServiceMax Can Help

ServiceMax believes that AI and ML will play an important role in the future success of field service providers. However, at this early stage of technology development it is critical that companies have a clear strategy beyond experimenting with pilots. For companies interested in leveraging AI for service execution, ServiceMax recommends a targeted approach that:

Focuses on use cases with quantifiable value, minimizing risk

Utilizes “embedded AI,” eliminating the need to invest in an AI platform or expertise

Has the flexibility to add new use cases, ensuring relevance amid business changes

ServiceMax also believes that the application of AI and ML is dependent upon clean, usable, accurate asset data. A holistic view of the history and performance of the asset provides the critical information that AI requires to automate and support better decisions, better service outcomes, and the broader digital transformation of a business. It all begins with deep knowledge of the asset. Thus ServiceMax’s historical focus on and industry leadership in asset-centric service positions us well for the utilization of AI and ML—which we support through a targeted partnership approach.

ServiceMax’s products, ServiceMax Core and ServiceMax Asset 360 for Salesforce Field Service, leverage our core capabilities in asset-centric service and provide a strong foundation for infusing AI-enabled functionality. [The majority of] our AI partners can integrate with either product to address (for example) remote triage, IoT, and AR use cases. And our

Asset 360 for Salesforce Field Service offering utilizes AI for schedule optimization and leverages Einstein to build recommendations—exactly the “embedded” approach to AI that we recommend for field service organizations. We will continue to cultivate AI/ML partners with the goal of determining the right application for our customer’s case, while ensuring seamless integration with the ServiceMax solution.

“Targeted, purpose-built solutions such as remote triage offer field service teams an easy and risk-free entry into the world of AI technology.”
*Amit Jain,
SVP of Product, ServiceMax*

The use of AI and ML in field service is becoming a major source of competitive advantage. The imperative for asset-centric organizations is to move beyond “science experiments” to an AI strategy that targets high-value use cases, uses embedded AI, and has the flexibility to

take on new use cases. Enabling these organizations to fully capture the benefits of AI in our ServiceMax solutions is an innovation priority and central to our mission of helping customers keep the world running.

“In 2022, only 30% of field service providers will be ready to deploy AI-based decision support in their field service management platforms for competitive advantage, despite robust capabilities being available by then.”
*Jim Robinson and Naved Rashid,
Critical Capabilities for Field Service Management,
Gartner, 2 September 2020*

About ServiceMax

ServiceMax’s mission is to help customers keep the world running with asset-centric field service management software. As the recognized leader in this space, ServiceMax’s mobile apps and cloud-based software provide a complete view of assets to field service teams. By optimizing field service operations, customers across all industries can better manage the complexities of service, support faster growth and run more profitable, outcome-centric businesses. For more information, visit www.servicemax.com.

