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Technician

Augmented Reality-Based Remote Assistance:
Addressing Conflicting Service KPIs for Service Enterprises

The equipment that spans many industries—namely oil and gas, manufacturing, medical equipment, and transportation—is becoming increasingly complex, requiring multiple skill sets to operate, maintain, and repair related assets. Meanwhile, the expert community within associated organizations is shrinking due to the mass retirement of aging workers (baby boomers). Consequently, younger professionals are now rising to fill these new needs, although they don't yet have mastery of the needed skills and experience.

Typically, complex issues demand higher expertise levels in order to solve problems accurately, efficiently, and quickly. The unavailability of expert field workers translates into field errors, longer mean-time-to-resolve (MTTR) averages, and multiple truck rolls/dispatches that not only impact customer satisfaction negatively but also increase service costs, eroding service margins.

For example, in the utilities industry, a repeat dispatch or truck roll typically costs between $150 and $1,000[1]. Here are multiple factors that escalate this cost:

Field Worker Wages and Travel Time
These factors comprise the bulk of the cost, and the final total can increase depending on work duration and worker grade. Additionally, if field workers are sparsely distributed, reaching sites takes longer, resulting in unproductive work hours.

Travel Cost
Occasionally, experts must fly to faraway customer sites to diagnose and fix issues. This travel adds significant cost, eroding service margins.

Opportunity Cost
When assets go down for longer periods, revenue is impacted. In certain industries, downtime can result in decreased customer satisfaction, risking future business.

Industry averages for repeat dispatches vary. According to a survey, the industry average for repeat dispatches is around 25%, while the bottom 30% of companies reach 37% in repeat dispatches.[2]

These additional dispatches are a significant waste of an enterprise's time and resources, leading to increased service costs. Ultimately, wait times for customers to get their intended service increase and customer satisfaction decreases.

One of the major reasons identified across enterprises for repeat dispatches and field inefficiencies is the unavailability of expertise or knowledge when it is needed. In addition, 90% of enterprises reported that real-time communication between field teams is critical or important for the field worker to perform their job effectively.[3]

To improve repeat dispatch rates and field inefficiencies, service organizations need to find solutions that will enhance access to expertise and communication to solve problems accurately and efficiently.

The Solution:
Augmented Reality-Based Remote Assistance

Augmented reality enhances the end user's visual perception of a real-world object or scene by rendering digital information on top of the object. Augmented reality provides real-time solutions for remote assistance by breaking communication barriers and empowering users to collaborate in the field.

Via a video call between a field worker and an expert, the expert can assess challenges facing field workers in real-time. By leveraging AR over the video call, the expert can then deliver instructions in the form of annotations, which are rendered over the shared context. The field worker then views these instructions in his context and acts accordingly. Finally, the field worker's action is supervised by the expert, eliminating potential gaps in execution and ensuring the work is performed accurately.

AR-based remote assistance mirrors over-the-shoulder guidance by providing access to expertise and making expert guidance more efficient via real-time communication.

It helps organizations achieve:

- Higher first-time-fix rates and fewer repeat dispatches.
- Reduced expert travel and MTTR.
- Efficient service operations.
- Improved service margins.
- Enhanced on-the-job-learning for junior field workers.
- Faster issue resolutions.
- Scaled availability of a smaller expert community across the field force.
- Higher customer satisfaction.

For a field service organization, it is imperative to boost service revenue, cut costs, and improve productivity and customer satisfaction. Ultimately, these service KPIs can be positively impacted by empowering field teams with access to expertise through AR-enabled remote assistance.

Finally, by leveraging AR-based remote assistance, enterprises can make their business more resilient by addressing:

- Travel restrictions.
- Depleting expert counts.
- Skill gaps in the workforce.
- Safety and compliance.
- Millennial workforce expectations.

About the author

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