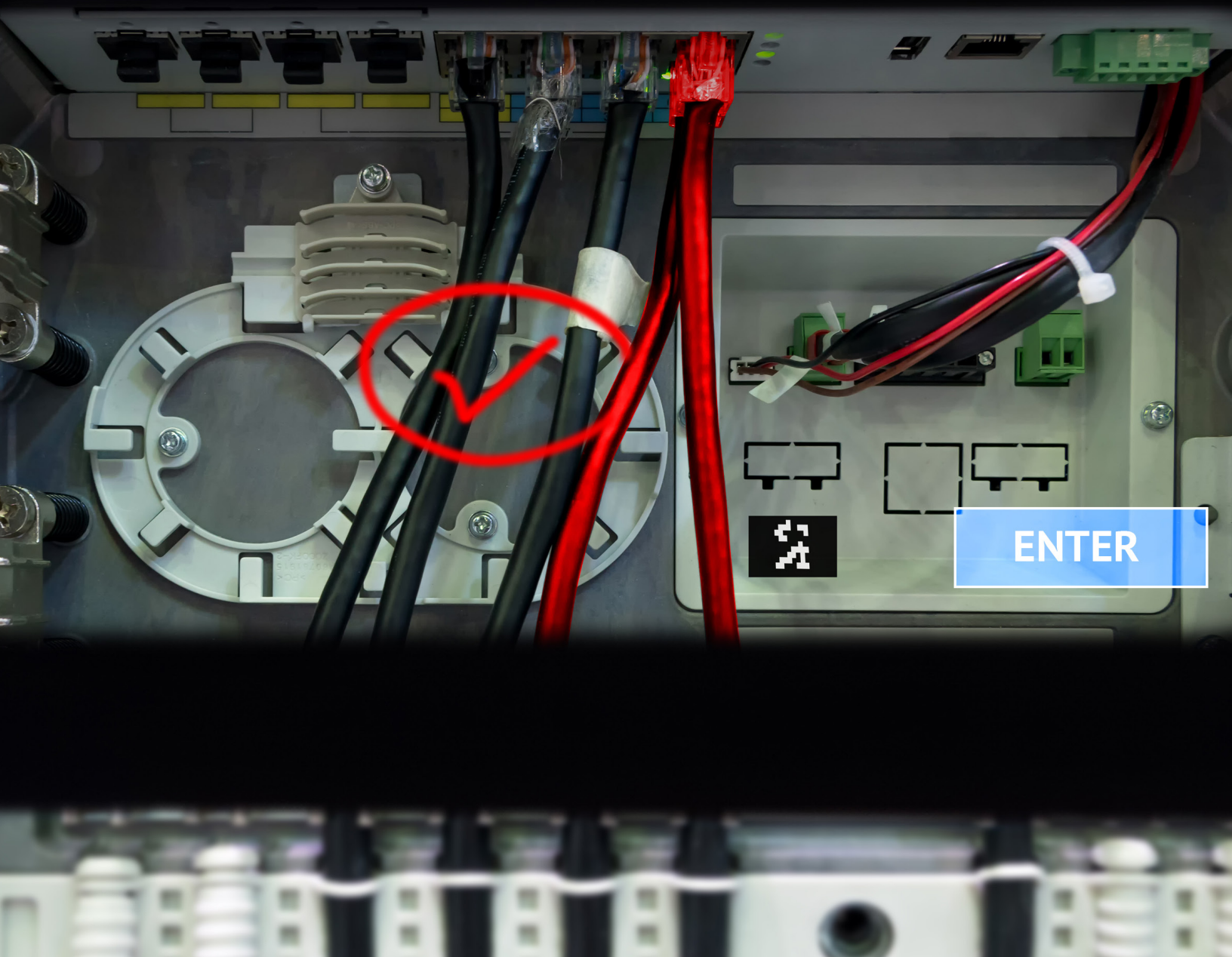




Empowering Field Service Organizations with Real-time Solutions via Augmented Reality



Every day across the field service industry thousands of field service technicians carry out operations such as repairs, maintenance, installations and configurations at customer sites.

After gaining an understanding of the issue the customer is facing, the service tech works to resolve the issue, yet after completing the job, most of the information related to the operation isn't entered into a field service enterprise's system by the technician. Even if a data record is created, it's usually only limited high-level details are included.

The enterprise is consequently unaware of a number of important details:

- The quality of interaction with the customer
- The condition of the asset being serviced
- How the service operation was performed
- Whether the best practices were followed
- How much time it took to service the asset
- Any potential future problems with the asset

Service enterprises track their field techs' performance through service KPIs, based on aggregate service outcomes. These would include first-time fix rates, service margins, asset downtime, and customer satisfaction rates. Over the last decade sophisticated field service management (FSM) solutions have arrived to provide organizations with effective ways to track such KPIs. FSM technologies have transformed scheduling, work orders, and dispatches, and enables field workers to have near-real-time incident information access through laptops, tablets and other mobile devices.

However, providing field service techs with access to contextual knowledge about how to efficiently resolve an issue remains a challenge. This results in wrong diagnoses, lower first-time-fix rates, and customer dissatisfaction.



Additionally, it does not enforce recording each key situational data point specific to the service right at the time of operation. This results in manual and summary updates of service operation information to the enterprise system. For example, if the enterprise does not know or have proof if the worker has performed the prerequisites before a part replacement is being done, it can be detrimental to the parts life. In another scenario if the worker has missed the post verification, it may lead to a problem and a repeat visit. As a result, the enterprise is deprived of critical operational information that is key in making KPI improvements.

The top concerns of a service organization are service efficiency, productivity, and improving customer satisfaction. Currently, FSM solutions don't provide a means for improving service efficiency or worker productivity; nor do they provide a mechanism for capturing field information efficiently.

Given the above challenges, to improve service outcomes' consistency, it is essential for enterprises to provide field techs with information about the assets they work on and how to service those assets in the most-efficient manner.



How augmented reality is benefiting field service enterprises and technicians

Augmented reality (AR) is an experiential technology where interactive digital content is rendered contextually over the physical object in the user's field of view. The AR experience leverages computer vision technology to recognize the physical object/scene to identify the visual context. Based on the visual context, AR content is displayed right on top of the physical object.

The use of AR tools is becoming more pervasive and improving productivity and efficiency across industries, from manufacturing and automotive to education and healthcare.

Augmented reality is transforming the way field service work is being performed. It delivers information that's relevant to field operation tasks in real time, in a step-by-step manner, and, through smart glasses, within the user's field of vision. This enables field techs to work more efficiently in a process known as knowledge-in-action, which can also be customized for the nature of the job being performed. AR not only bridges a field tech's knowledge gap, but also ensures an enterprise's collected data grows along with their field tech's expertise.

During AR-driven procedures, technicians can collect data such as asset barcodes, physical damage, and health-related data as part of the AR steps while also being instructed to follow safety and compliance standards. This ensures that data collection and process compliance occur at the time of a service operation, not as manual post-service data updates.

With digital integration software as part of this process, the collected data can be made available to the larger enterprise system. Based on the benefits AR provides, field-service procedures are transformed into digitalized workflows giving technicians a resource to guide them about how to perform operations uniformly and record the key field information at the same time. Enterprise can also track average procedure execution time, compliance breaches and can analyze potential causes of repeat dispatch by looking into collected field data.

In case of service issues, collected visual data can be examined to understand what went wrong and corrective measures can be applied. With AR procedures in place, consistent and improved service outcomes can be achieved, such as quicker first-time fix rates and greater overall efficiencies.

Additionally, through machine learning over the collected visual data, potential part failure can be predicted which can be proactively addressed and improve customer satisfaction.

The benefits of AR can further trickle down to other vital areas. For example, in scenarios where the operation is complex and all troubleshooting options should get exhausted before a part's replacement, real-time guidance can help workers operate most efficiently to save the part replacements, leading to inventory optimization and logistics gains as longer-term outcomes.

Furthermore, AR's benefits aren't limited to field service organizations alone. Images of faulty parts recorded during the AR procedure can play a crucial role in helping customers identify potential defects in their tech components through machine learning and analytics. They can then make improvements to component design and, ultimately, create better products.

While AR adoption is being used with field service, it's poised to have a profound impact on the way businesses work, with the potential to unlock improvements across an enterprise's operations.

In case of service issues, collected visual data can be examined to understand what went wrong and what corrective measures can be applied.

With AR procedures in place, consistent and improved service outcomes can be achieved, such as quicker first-time fix rates and greater overall efficiencies



About the author

Amit Thapak

Amit is the Product Director for Wipro's Interactive Experience (iX) practice. He has over 18 years of rich & diverse experience into solution consulting in digital & emerging technologies space for technology-enabled business transformation focused to enhance enterprise business value. He is responsible for a product planning and execution including product vision, strategies, roadmaps and design specifications as per market needs.

FOR MORE INFORMATION:

 askIX.experts@wipro.com

 wipro.com/innovation/ix

About Wipro

Wipro Limited (NYSE: WIT, BSE: 507685, NSE: WIPRO) is a leading global information technology, consulting and business process services company. We harness the power of cognitive computing, hyper-automation, robotics, cloud, analytics and emerging technologies to help our clients adapt to the digital world and make them successful. A company recognized globally for its comprehensive portfolio of services, strong commitment to sustainability and good corporate citizenship, we have over 180,000 dedicated employees serving clients across six continents. Together, we discover ideas and connect the dots to build a better and a bold new future.

