

CAREAR RECEIVES THE 2023 ENABLING TECHNOLOGY LEADERSHIP AWARD

*Identified as best in class in the North American AR
field service industry*



Best Practices Criteria for World-Class Performance

Frost & Sullivan applies a rigorous analytical process to evaluate multiple nominees for each award category before determining the final award recipient. The process involves a detailed evaluation of best practices criteria across two dimensions for each nominated company. CareAR excels in many of the criteria in the AR in the field service space.

AWARD CRITERIA	
<i>Technology Leverage</i>	<i>Customer Impact</i>
Commitment to Innovation	Price/Performance Value
Commitment to Creativity	Customer Purchase Experience
Stage Gate Efficiency	Customer Ownership Experience
Commercialization Success	Customer Service Experience
Application Diversity	Brand Equity

Challenges in Field and Technical Support

Enabling technologies, such as artificial intelligence (AI), machine learning (ML), natural language understanding (NLU), augmented reality (AR), and virtual reality (VR), have entered all aspects of customer contact. These technologies assist in meeting the challenge of improving the customer experience (CX) and employee experience (EX) while reducing costs.

“CareAR is the first to offer (as a service) a packaged AR self-guide that includes a product tour, troubleshooting guide, and maintenance procedures to create custom content for a business’s field service.”

**- Nancy Jamison,
Senior Industry Director, Information and
Communications Technologies,
Frost & Sullivan**

Technical support, which often requires field support, is an evolving customer contact area. Field support or field service is vital for businesses that sell and support an endless array of equipment. When something breaks or stops working, first consumers or business owners try to self-serve by using the Internet to troubleshoot; after failing, they call the contact center for technical support or schedule a service. However, a support agent cannot always diagnose and fix an issue without seeing it. This creates a break/fix

mentality whereby an agent punts and dispatches a field support person to visit the customer site, increasing time and cost. There is also a gap in understanding the overall impact that this may have on CX as the field dispatch, while part of the workflow, can be siloed from the analytics used in the contact center in understanding customer sentiment.

Many additional challenges have impacted field support in recent years. The demand for home goods

soared during the pandemic when consumers were in lockdown, with do-it-yourselfers trying to install and maintain equipment and a reticence to let service techs into their homes. In addition, the field is suffering from a skill gap, as seasoned technicians reach retirement age, and fewer techs of the younger generation replace them, leaving not just a shortage of workers but more pressure on replacements with less technical expertise.

Customer Purchase Experience

CareAR, a Xerox company, has stepped into the void to provide elegant, easy-to-use solutions to improve field service, contact center technical support, and IT service management (ITSM) for both employees (agents, IT, and field support) and customers. CareAR’s core is AR for remote assistance and self-service problem-solving/learning. It creates contextually personalized, visually engaging, and empathetic CX while solving the customer’s issue with the first engagement. The solution applies computer vision, AI state detection, and document management to guide techs and customers with an immersive, graphically

guided experience, and business analytics capture the entire process.

Figure 1: Service Experience Management



In addition to core technical and field components, CareAR innovates with what the company calls service experience management (SXM). SXM (Figure 1) improves CX and EX in a field service environment and provides a layer that sits on top of service life cycle management (SLM) solutions, such as ServiceNow and Salesforce. It incorporates AI-enhanced capabilities into tools that customers and technical support agents can easily use. ServiceNow validated the SXM model as an equity investor in CareAR for advancements that complement its SLM solution.

Source: CareAR

Frost & Sullivan believes that the CareAR SXM framework capitalizes on the movement of digitally transforming businesses and catering to consumers who prefer to self-serve before contacting live assistance. It ties the physical to the digital, transforms CX and EX in a service environment, and provides a clear picture for further improvement. With the addition of analytics, field service impact on CX embeds in the customer journey, and businesses can see improvements in contact center agents and field service technicians.

CareAR is the first to offer (as a service) a packaged AR self-guide that includes a product tour, troubleshooting guide, and maintenance procedures to create custom content for a business’s field service.

Customer Ownership Experience

CareAR Assist is a remote service solution that offers live visual guidance to solve a technical problem. It is cloud-based and available on a mobile app, desktop, smart glasses, or even with drones. It uses AR 3D spatial mapping, allows multiple simultaneous users, and is available in several languages, including US

English, French, German, Italian, Portuguese, Spanish, Japanese, Indonesian, Malay, and Simplified Chinese (Mandarin).

A user with a device or system issue can download the CareAR Assist mobile app, which provides an immersive experience by personalizing assistance based on the individual's situation. The user needs to aim the mobile camera at the device or the area with an issue. Computer vision auto-adjusts guidance based on the customer's motion by anchoring remote expert graphical annotation in their visual space. The solution is designed not only for ease of use but also for comfort level for all users. Many people do not want to download an app; CareAR offers options for native downloading or accessing tools through a browser. Similarly, it uses a rear-facing camera; neither agent nor the customer needs to be on video if they do not want to be.

CareAR Instruct is a self-solve solution that engages users with interactive 3D digital twin models or by using augmented reality. With augmented reality, the user points their Smartphone or Tablet at the device, receiving step-by-step graphical guidance. Graphical HotSpots focus user attention on specific areas of a device. Anchored annotations and video overlaid on the actual device within their handheld field of view visually engage users. Additional 2D, video and other content can be accessed to supplement guidance with natural language search revealing the most impactful content that is contextual for each user.

CareAR solution customers benefit from the ongoing improvement of the product suite, not only from research and development (R&D) done by the CareAR team but also because CareAR can draw from broader assets of CareAR's parent company, Xerox, such as Xerox PARC, a Xerox R&D company. CareAR's ability to utilize the R&D talent bench and resulting technologies give it a competitive advantage over smaller, less-funded AR/VR companies in remote service areas. CareAR has been the beneficiary of several technologies integrated into the platform. The platform's AI computer vision state detection capabilities and natural language search are from Xerox PARC. Interactive digital twin modeling resources are the result of a recent MagicLens acquisition.

Commitment to Innovation

CareAR's commitment to innovation is fueled by incorporating new technology from Xerox PARC to supplement internal development and using Xerox field technicians and customers for product usage and ongoing feedback. The customers and technicians, supported by a globally distributed contact center that provides product input, comprise one of the largest AR deployments in the world, with more than 8,000

Figure 2: AI State Detection labeling



contact center agents and field technicians using the product. These contact center agents and field technicians use CareAR's service tools integrated with the ServiceNow platform providing a rich source of customer and employee experience feedback for the company.

There are numerous examples of innovation brought to bear on the CareAR solution. CareAR's patent-pending state detection uses computer vision to capture objects and label various states to instruct a user on part replacement. It verifies if the user has appropriately completed an action, such as replacing a printer cartridge or removing and inserting a sim card. AI State Detection Labeling (Figure 2), CareAR tools streamline the historically laborious process of training AI computer vision by combining data set creation, labeling and training into simple steps to rapidly create accurate ML models.

Patented natural language search is another differentiator. It supplements AR and 3D visual guidance with keywords and semantics not just to look up a topic but to better understand the meaning behind the search to offer the most pertinent information. Some vendors present guidance to the user that floats above the product or device, like a text box, rather than anchoring on the area having the issue. CareAR uses spatial mapping so a caller can pan the phone around to map the product and get guidance targeted directly at the appropriate area even if the user moves their smartphone or tablet. Anchoring real-time annotations to the video make the customer service event more experiential and memorable, and embedding intelligence directly into the experience makes it more engaging and easier to use.

Application Diversity

SXM encompasses the management of CX and EX, but it is not just for one area of field support. It is applicable in multiple environments of contact centers and field support, ranging from product support for consumer devices to high-tech technical support contact centers for technicians or end users.

SXM is used for peer-to-peer collaboration so that field technicians can support one another. The concept is like the early contact center paradigm of calling a friend, where the agent would keep notes on a monitor with people to call if they got stuck on an issue. With CareAR, techs can collaborate with remote experts with each side capable of drawing annotations for solutions to problems. Field technicians can also take advantage of a CareAR self-solve experience to train and prepare for an onsite visit or follow step-by-step augmented reality guidance contextually tailored for their current situation.

Price/Performance Value

A significant field service cost is unnecessary truck rolls that, depending on the business, can cost \$200 to \$1400 each. It includes first-time dispatch and additional trips if the tech needs to replace a part and either does not have it or has the wrong one. With CareAR, if a tech support guided call with a customer result in an on-site tech requirement, the system can record the interaction, identify the proper part and relieve the tech from guessing or getting the wrong one. Using CareAR, Xerox's support team has seen 8% more of its calls resolved remotely, with 21,000 fewer site visits, a 30% reduction in handle time, and improved device uptime, with less than 60 minutes of training. Results are similarly powerful for technicians as they can be more dispersed geographically, and case resolution is quicker, with higher first-time fix rates, more accurate parts delivery, and improved device availability.

With CareAR, the price-performance value goes beyond cost savings with fewer truck rolls and repeat

contact center calls. There is inherent value in increased brand loyalty and heightened customer satisfaction score (CSAT) when customers can use the technology to empower themselves and have a shared experience with the contact center agent that assists them. In a recent Xerox customer survey, 94% gave a 4- or 5-star rating to CareAR support experiences. The uniqueness of using AR in a service environment often leads to customers sharing the incident with others, raising the potential for others to purchase goods from companies using it.

Frost & Sullivan believes CareAR's success factor is its focus on tying empathy into the interaction, as it improves EX and CX and can turn a tense and frustrating experience of technology not working into a positively memorable one. Customers are empowered to self-help, even if they deem themselves nontechnical, new hires actively learn as they go, and the most tenured technicians and contact center agents can see things in new ways and upskill capabilities.

Customer Service Experience

Frost & Sullivan thinks CareAR's onboarding and ongoing training are vital to its SXM framework, as AR is relatively new to the contact center and represents a culture change. Seasoned agents are relatively secure about talking a customer through a technical issue and may be reluctant about new technology. Once introduced to CareAR, such agents are surprised that AR tools make them better at their jobs and enhance learning with easy visualization of issues at hand. CareAR tools become a critical instrument for improving agent engagement and EX, which improves CX and brand perception.

CareAR assigns customer support managers to each account for continuous improvement with ongoing strategy sessions, follow-up on technical questions and support tickets, and identifying new opportunities. There are 2 levels of service, with enterprise-class customers having access to additional tools, such as quarterly instructor-led training, a designated technical support engineer, integration enablement, and an AR-readiness assessment report.

Conclusion

CareAR's holistic vision for field service using an SXM framework is revolutionary and will be a boon to field service and contact center employees alike. Using maturing technologies, such as AR, CareAR engages the customer in new ways, increasing CSAT, engagement, and brand loyalty. With its strong overall performance, CareAR earns Frost & Sullivan's 2023 North American Enabling Technology Leadership Award in the AR in the field service industry.

What You Need to Know about the Enabling Technology Leadership Recognition

Frost & Sullivan's Enabling Technology Leadership Award recognizes the company that applies its technology in new ways to improve existing products and services and elevate the customer experience.

Best Practices Award Analysis

For the Enabling Technology Leadership Award, Frost & Sullivan analysts independently evaluated the criteria listed below.

Technology Leverage

Commitment to Innovation: Continuous emerging technology adoption and creation enables new product development and enhances product performance

Commitment to Creativity: Company leverages technology advancements to push the limits of form and function in the pursuit of white space innovation

Stage Gate Efficiency: Technology adoption enhances the stage gate process for launching new products and solutions

Commercialization Success: Company displays a proven track record of taking new technologies to market with a high success rate

Application Diversity: Company develops and/or integrates technology that serves multiple applications and multiple environments

Customer Impact

Price/Performance Value: Products or services provide the best value for the price compared to similar market offerings

Customer Purchase Experience: Quality of the purchase experience assures customers that they are buying the optimal solution for addressing their unique needs and constraints

Customer Ownership Experience: Customers proudly own the company's product or service and have a positive experience throughout the life of the product or service

Customer Service Experience: Customer service is accessible, fast, stress-free, and high quality

Brand Equity: Customers perceive the brand positively and exhibit high brand loyalty

About Frost & Sullivan

Frost & Sullivan is the Growth Pipeline Company™. We power our clients to a future shaped by growth. Our Growth Pipeline as a Service™ provides the CEO and the CEO's growth team with a continuous and rigorous platform of growth opportunities, ensuring long-term success. To achieve positive outcomes, our team leverages over 60 years of experience, coaching organizations of all types and sizes across 6 continents with our proven best practices. To power your Growth Pipeline future, visit Frost & Sullivan at <http://www.frost.com>.

The Growth Pipeline Engine™

Frost & Sullivan’s proprietary model to systematically create ongoing growth opportunities and strategies for our clients is fuelled by the Innovation Generator™.

[Learn more.](#)

Key Impacts:

- **Growth Pipeline:** Continuous Flow of Growth Opportunities
- **Growth Strategies:** Proven Best Practices
- **Innovation Culture:** Optimized Customer Experience
- **ROI & Margin:** Implementation Excellence
- **Transformational Growth:** Industry Leadership



The Innovation Generator™

Our 6 analytical perspectives are crucial in capturing the broadest range of innovative growth opportunities, most of which occur at the points of these perspectives.

Analytical Perspectives:

- **Mega Trend (MT)**
- **Business Model (BM)**
- **Technology (TE)**
- **Industries (IN)**
- **Customer (CU)**
- **Geographies (GE)**

