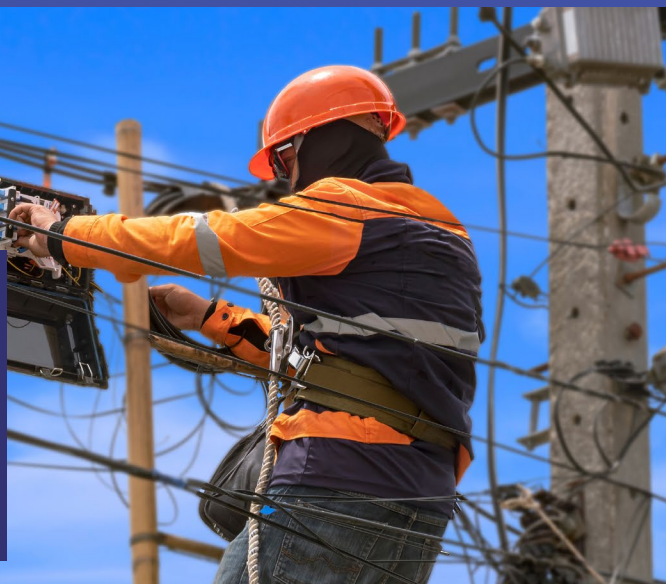
CAREAR™
A Xerox Company



SOLUTION BRIEF

# CareAR for the Energy Utilities Industry

## Energy Industry Challenges

Energy utilities are spending more and more money on operations and maintenance (O&M) as they deal with increasing weather disruptions. Complexity as more renewable energy sources are tied to the grid, and the surging need to train replacements for what the U.S. Department of Energy (DOE) estimates will be a utility workforce where 25% are likely to retire soon presents challenges.

Cost effectively training field technicians is critical. The North American Electric Reliability Corporation's (NERC) PER-005 standard requires training to ensure system operators have the skills to maintain power systems, with steep fines for noncompliance.

Top 5 challenges facing energy and utilities[1]

| | |
|---|---|
| response time | 42% |
| weather events | 35% |
| field safety | 33% |
| new technology | 32% |
| outage dispatch | 31% |

## CareAR for Energy

CareAR is an augmented reality (AR) visual support platform that enables energy utilities to support field technicians and customers more cost-effectively with visual remote assistance and immersive step-by-step self-guidance and training. With CareAR® Assist, remote experts working with field technicians using standard smartphones, tablets, and drones direct action in real-time with augmented reality graphical guidance anchored in place within their device's field of view.

CareAR® Instruct visual self-guidance journeys enhance guidance training with augmented reality and digital twin immersive engagement. Digital workflows replace static paper-based direction with dynamic procedural guidance for field inspection, equipment installation, and customer premise self-direction.

CareAR® Experience Builder makes it easy for energy providers to create and update CareAR Instruct visual self-learning with drag & drop ease. Procedures stay current with no code step guidance authoring that updates QR codes in the field with a single click.

## Use Cases

### Remote Expert Assessment and Direction

Expert guidance for in-the-moment diagnosis and direction

### Inspection Guidance

Ensure inspection integrity with visual self-guidance and on-demand remote expert augmented reality direction

### Lock Out / Tag Out

Precise visual lock out/tag out guidance with augmented reality or digital twin contextual awareness to optimize

## Benefits

### Time to Repair

Remote experts instantly assess weather-related issues and guide immediate action and safety direction

### Cost Containment

Reduce travel and downtime costs with augmented reality remote assistance and self-solve, self-learning guidance

### Optimize Safety

Ensure rigorous energy procedures are followed with visual self-learning and real-time remote assistance

### Upskill Technicians

Digitally capture proven step-by-step best practices that are easily shared with less experienced technicians

# Energy Provider Use Cases

### Unplanned Outages
Immediate remote expert assistance without travel delay

### Safety & Maintenance
CareAR's drag and drop Experience Builder makes it easy to update training and instantly distribute via QR code

### Customer Experience
CareAR engages energy customers with personalized augmented reality graphical guidance

### Equipment Inspection
CareAR Instruct empowers inspectors at every experience level with visual guidance to help stay current and compliant with regulatory detail

### Sustainability
CareAR Assist will increase remote solve rates. reduce truck rolls

### Employee Experience
CareAR immersively engages employees with visual guidance that overcomes language challenges

## CareAR® Instruct

### Detect
3D computer vision object detection focuses attention

### Guide
Step-by-Step AR self guidance enhances comprehension

### Verify
State Detection auto adjusts steps based on motion

## CareAR® Assist

### See
View the service situation remotely from any location

### Solve
Visually guide and collaborate for effective problem resolution

### Save
Capture and share content in systems and with teams

# Technical Requirements

| | |
|---|---|
| mobile | iOS 12 or newer (includes ARKit)<br>Android 10.0 or newer (includes ARCore) |
| desktop | Windows and Mac |
| smart glasses & drones | Android 10 or later (includes RealWear, Lenovo ThinkReality) and DJI drone |
| browser network | Google Chrome, Apple Safari, Internet connectivity required |

"Technologies like augmented reality (AR) and collaborative tools are going to fundamentally change the future of who, how, and where energy field work will be done."

Deloitte.

# Features

- **User Experience**
  Rich set of graphical guidance tools engages users within standard Android, and iOS Smartphones, tablets, glasses and drone
- **Create and Capture Content**
  Save images and video recordings from live service sessions and store in the cloud for collaboration and training
- **Self-author Instruct Guidance**
  Drag & Drop visual Experience Builder makes it easy to create and update visual step guided experiences with augmented reality of digital twin visualizations
- **Secure Cloud Solution**
  SOC 2 compliance, end-to-end encryption, role-based management, geofencing, and data sovereignty deliver secure cloud confidence

**Source:**
1. https://www.zebra.com/content/dam/zebra_new_ia/en-us/solutions-verticals/vertical-solutions/utilities/vision-study/energy-utilities-vision-study-future-field-operations-en-us.pdf

## Start Visually Resolving Issues Remotely With Enterprise Augmented Reality

Schedule a demo at: CareAR.com/demo

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