

CASE STUDY

OEM DEALER-LEVEL FLEET DIAGNOSTIC PLATFORM KEEPS ENERGY UTILITY COMPANY FLEET READY FOR THE STORM

CUSTOMER

AE Tools & Computers
customer, a large
Midwest energy utility
company

CHALLENGE

AE Tools & Computers discovered that their customer, a large, midwestern energy utility company had a pain point in fleet diagnostics, particularly with software management and support. With fleet maintenance locations in over eight states supporting 6,000 vehicles and equipment, the utility lacked a standardized diagnostic platform and required a full-time person to maintain their software and hardware.

SOLUTION

AE Tools solved the customer's pain point by with their Managed Services model that delivers end-to-end diagnostic solutions integrating OEM dealer-level tools, always-up-to-date software, and expert, USA-based technical support. Standardized OEM software was installed aboard Durabook S14I Rugged Laptops based on their fleet requirements and the computers were installed across all locations in the eight states. AE Tools monitors and maintains updates and renewals of the customer's software programs.



INTRODUCTION

When the lights go out so do the electric energy utility trucks. When the trucks are part of the fleet of a large electric energy utility company in the Midwestern United States, where the weather is often severe, they must be ready to go at all times. To ensure the fleet is not only ready but operating at top efficiency the energy utility company has stringent KPI's in place. Supporting fleet vehicle maintenance with OEM dealer-level, standardized diagnostics can help energy utility fleets meet KPI's and weather the storm.



S14I Laptop

THE CHALLENGE

In mid-2023 AE Tools & Computers met with a large Midwest energy utility company to discuss their pain points with fleet diagnostics. The utility company has a fleet of over 6,000 vehicles and equipment to service to prevent break-downs, reduce downtime, optimize fuel consumption, and to extend the vehicles' lifespan.

The type of vehicles in the energy utility's fleet varies widely, including everything from the pickup truck driven by field worker that come to read the meters on a house to small all-terrain vehicles to trenchers and drilling rigs, to large over-the-road, line-hauling, line-stringing equipment that has a multitude of uses.

"We have a very rigid process where, before we sell a customer anything, we go on site to determine the needs of their fleet," said Phil Hutchens, Chief Revenue Officer and head of sales for AE Tools. "We make recommendations to the

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customer and then make a proposal. When it's mutually agreed upon, we deploy it. This process helps us make sure the customer has everything they need by the time they get our product in house, so it's ready to use and there's nothing missing.”

One of the pain points AE Tools identified was that the fleet maintenance locations in over eight states didn't have a common diagnostic platform. They had a variety of laptops from different manufacturers and an assortment of software being managed by individuals spread across a large geographic area. A deeper challenge for the computers is that many OEM software programs interfere with each other when installed on the same laptop, preventing them from running simultaneously, thus requiring multiple laptops for the work and slowing down the diagnostics process.

Diagnostics monitor and assess the health and performance of fleet vehicles. It involves identifying potential issues early on, monitoring vehicle performance in real-time, and improving overall fleet management efficiency. Diagnostic tools read trouble codes from the vehicle's on-board diagnostic system, which indicate specific problems. As an example, diagnostics on light duty trucks take care of things from helping clear trouble codes to programming of modules to emissions regeneration to ADAS calibrations to key programming.

Another pain point in the utility's diagnostic system was the use of commoditized laptop computers in potentially hazardous working environments. In a shop with a concrete floor a laptop might not survive being dropped. Or the work might be conducted outside in extreme weather conditions. With power lines everywhere from the northern part of the country almost down to the Mexican border, a laptop could be exposed to extreme hot or cold, there may be snow, sleet, or rain, dirt or sand may be carried by the wind and, again, the potential for a fall from height is always there.

SOLUTION

AE Tools solved the customer's pain points by standardizing their diagnostic tool fleet with software based on their fleet requirements installed on ruggedized Durabook laptops at all locations across those eight states. AE Tools' Managed Services model delivers end-to-end diagnostic solutions integrating OEM dealer-level tools, always-up-to-date software, and expert, USA-based technical support.

“We supplied a common platform with a multi-partition design that allows them to reduce the number of laptops they had from as many as five down to one,” said Phil Hutchens. “Many OEM software programs interfere with each other when installed on the same laptop, preventing them from running simultaneously. Our solution is to use multiple parti-

tions on a single hard drive, each with Windows 10 IoT Enterprise, to keep different OEM software isolated and operational from one device. This partitioning allows our systems to be fully scalable, accommodating new OEM tools by adding more partitions as needed. And if you exceed the capacity of the included one terabyte hard drive, switching between partitioned hard drives is straightforward for Durabook users. Multi-partitioning in the Durabook S14I Rugged Laptop is a very important feature.”

In addition to handling multi-partitioning, requirements for the laptops included adequate hard drive, storage, and memory, meeting the MIL-SPEC threshold for the ruggedization of the laptop and processor, as well as dual battery. And then some of the mobile trucks needed to have sunlight readable displays for outside work in bright light. Powered by the Intel® Core™ Ultra processor, the Durabook S14I Rugged Laptop met or exceeded all requirements.

The S14I has an IP53 rating for dust and water resistance, MIL-STD 810H certification, and four-foot drop protection, making it the toughest device in its category and setting a new standard for semi-rugged laptops. Equipped with Durabook's proprietary DynaVue® technology and high-definition multi-touch screen, the S14I offers the highest contrast ratio to minimize internal reflections, ensuring clear visibility from



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multiple angles, even in bright sunlight or low light conditions. The S14I Rugged Laptop is engineered to combine military-grade durability, field-work functionality, computing performance, and long battery life for non-stop use.

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Having the consistency of the Durabook S14I installed in all locations has streamlined the diagnostics process. Every facility has the exact same piece of equipment built to the same standard, so there's no question that when technicians move from shop to shop or to mobile trucks, they have the same piece of equipment that they had elsewhere. Standardization is very important. And a single point of contact when needing repair or replacement streamlines things for the energy utility.

AE Tools also maintains the customer's software subscriptions through its Kansas, US-based support team. The support team can remote into the customer's Durabook laptops every day to make sure all the software is up to date, and there are no system issues that are going to deter them from performing diagnostics on their vehicles. Software can be updated weekly, monthly or over longer intervals.

AE Tools gathers data on the usage of each piece of software, how often it's used, the length of time it's used, and can measure that weekly, quarterly, monthly, to let the customer know how efficiently the use is. Tracking also allows AE Tools to provide the customer visibility into what software might be expiring and when it will be expiring, to give them an idea from a budgetary and timing perspective when those renewals will hit, which is beneficial for any public utility managing to their budget.

This support helps keep technicians able to continuously do diagnostics on their fleet and always maintain fleet readiness. So, if or when the lights go out, all their equipment is available to them.

In the event of a natural disaster using the Durabook laptop with the optional LTE card service allows technicians to be rapidly deployed and still have Internet service to fix vehicles in the field during deployment. In hurricanes, floods, tornadoes, and other natural disasters utility companies often must deal with communications challenges to keeping the equipment running and getting the infrastructure rebuilt in a timely manner and getting everybody their power back.

Equipping the Durabook S14I with an LTE cellular service card enables technicians to stay connected wherever they are—without relying on the company's internal network. This enhances both security and privacy by isolating the device from sensitive corpo-

rate infrastructure. For utility companies, which are particularly cautious about external connections to their networks, this is a crucial advantage. The LTE connection ensures that data transfers—such as files exchanged with vehicle manufacturers—remain separate from internal systems, minimizing the risk of introducing unrecognized or potentially harmful content. At the same time, the S14I remains fully functional, allowing technicians to maintain operational efficiency and keep the fleet running smoothly. During emergency situations, AE Tools is there to help the energy utility customer with any deployment they have and make sure their equipment is always maintained.

THE RESULT

The AE Tools Managed Services solution using the Durabook S14I Rugged Laptop with OEM-dealer level software helps keep the customer's fleet maintenance departments repairing the vehicles and keeping them on the road so when the lights are out, there is no downtime to get those turned back on.

Hutchens reports that, "We were on a call with them and asked them to explain the benefit that AE Tools brought, and they came right out and said, 'before partnering with AE Tools, we had to dedicate a full-time employee to handle what AE Tools now manages for us.'" That translates to significant savings—not just in personnel—but in operational efficiency. By offloading routine software and hardware maintenance to AE Tools, powered by Durabook devices, utility companies can redirect their focus to core services. After all, maintaining diagnostic tools doesn't generate wattage—or revenue. But keeping the power on does.