

Midwestern Utility Takes Data Collection from Manual to Automatic

Publicly owned electric, gas and water utility taps FreeWave Technologies for new connectivity and edge data collection solution; achieves immediate, significant results

Digital transformation is coming to the utility industry by necessity and customer demand. The most pressing need? Real-time automated data collection and exchange. Additionally, as the cost of assets continues to take up a significant portion of a utility's annual budget, so too has the urgency to move to a proactive, targeted approach to operation and maintenance. For one publicly owned utility in the Midwest rising energy prices during a three-week cold snap in 2021 used one year's worth of budget for part of their operations alone. Upgrading legacy infrastructure quickly and cost effectively escalated to an urgent priority.

The legacy PLCs on its water wells and other infrastructure were near end of life and a new connectivity and data collection solution was required for upgraded PLCs. The utility's existing data collection protocol was limited to over the air updates every 15 minutes, and they experienced data loss when connectivity was lost. In addition, field generators required manual data collection every few days and if the river in the area flooded, utility personnel couldn't access those generators for refueling and general maintenance. The time for evolving their entire network and data management process had come.

Three key goals for this transformation included:

- Increase the reliability and speed of data collection and IoT tools
- Keep legacy SCADA and PLC over-the-air poll/response system operational during edge hardware upgrade transition
- Add automatic data collection and data monitoring capability to auxiliary generator equipment

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As a long-time FreeWave customer, the utility has relied on its SCADA communications system for decades of reliable operation. However, new data and reporting requirements necessitated a more robust solution, which they found in FreeWave's ZumLink™, Edge and Fusion Bridge solutions.

New Solutions Provides Data Insights

After an extensive bench test, the utility chose a variety of FreeWave solutions to augment its existing systems. Seen in Figure 1 – the new configuration is already providing them with insights and efficiencies.

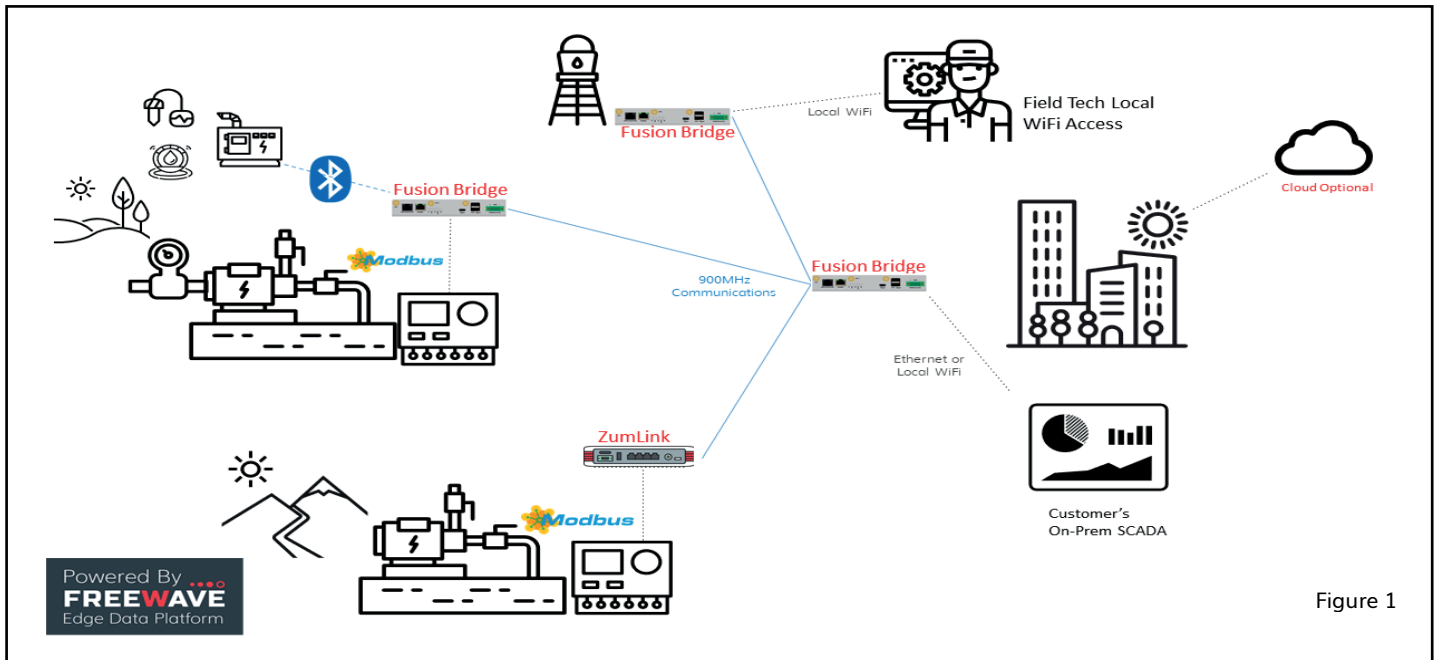


Figure 1

What They Wanted	How We Helped
Keep legacy SCADA polling in place during transition	FreeWave Z9 radio connectivity
Collect data faster in a more reliable way from new PLCs	FreeWave Edge data software using Modbus, running on same hardware as the Z9 radio network
Move to automatic data collection on auxiliary equipment (such as generators, motors, fuel tanks, and more)	FreeWave Fusion Bridge Bluetooth with FreeWave Edge and additional auxiliary equipment sensors

According to the utility’s lead automation engineer, “The new FreeWave data collection solution is a real ‘gem’ and definitely feels like we’ve stepped into the future of last-mile OT communications.”

Immediate Benefits, Results Driving Change

While their system-wide upgrade will take time to complete, the utility is already seeing immediate

operational benefits from the phases already implemented.

- Data reporting is faster, more reliable, and easier to take action – going from 15 minutes to a second
- Considerable cost savings and productivity gains
 - Manual equipment checks have been eliminated replaced by automated status updates
 - Data is always accessible even when the physical sites are not and is backed up immediately to their SCADA system
 - A single platform for hardware, software and connectivity provides flexibility and lowers the cost of deployments and maintenance lowers the cost of hardware deployments and maintenance

Looking for a partner to help your utility equipment work smarter and deliver immediate, measurable savings? Contact your local FreeWave sales representative or visit www.freewave.com to get started.