

Case study

Evergy accelerates grid modernization with Ericsson private LTE

Infrastructure-first private LTE strategy reduces cost and accelerates automation

ERICSSON   evergy

evergy

Executive summary

Evergy is a major electric utility serving 1.7 million customers across Kansas and Missouri. To reduce carrier costs and enable grid automation, the company partnered with Ericsson to build a mission critical private Long-Term Evolution (LTE) network. Rather than adding devices incrementally, Evergy chose an infrastructure-first approach that built complete coverage upfront to enable rapid scaling.

The network spans 94 sites using dual spectrum bands with a 4G core architecture that is 5G-capable. Currently, it supports more than 3,000 connected devices across 81 percent of the service territory, eliminating recurring per-device carrier fees. Early use cases include predictive maintenance sensors and security systems where mobile camera systems have drastically lowered construction site theft.

Case Study:
Evergy

Industry:
Utilities



At-a-glance

Goal:

- Migrate multiple purpose-built unlicensed networks to an Ericsson private, secure, mission critical LTE platform to lower costs, enhance control, and enable grid automation.

Approach:

- Build wide-area coverage first, then scale devices on a consolidated private network platform
- Use 900 MHz and 2.5 GHz spectrum across 94 co-located sites (48 sites for 2.5 GHz), leveraging existing towers
- Operate with Ericsson 24/7 managed services for monitoring, optimization, and proactive network maintenance

- Apply private connectivity for predictive grid maintenance, security, and distribution automation while maintaining data sovereignty
- Eliminate per-device carrier fees and unify disparate networks
- Position Evergy for a seamless expansion on the established dual-mode core with a planned remote software upgrade to 5G

Results:

- About two months to first live Evergy site and roughly 12 months to full large core deployment
- 94 sites total: Band 106 (900 MHz) and Band 41 (2.5 GHz) in co-located configuration

- 81 percent territory coverage
- 3,000+ devices connected across prioritized use cases with scope for growth into future use cases such as meter deployments, push to talk and mobility options
- Per-device carrier fees eliminated, with savings that grow as adoption expands
- Utility-controlled data flows, stronger security posture, and improved outage resilience
- Flexible platform enabling utility-specific security enhancements on demand
- Software-upgradable platform to enable 5G capability without hardware replacement



Escalating costs and automation demands strain traditional networks

Evergy faced a familiar utility dilemma: rising operational costs colliding with growing demands for grid modernization. The company was juggling multiple third-party carrier networks, each charging per-device fees that made large-scale automation economically unfeasible. Every sensor, controller, or monitoring device added to the grid meant another monthly fee, creating a financial barrier to the very automation that could improve service and reduce long-term costs.

The existing reactive maintenance model was particularly expensive. When customers reported outages on traditional networks, Evergy would dispatch trucks at a cost of hundreds of dollars per incident with less than precise fault information. Crews would arrive without knowing the specific cause, sometimes requiring multiple visits to diagnose and repair issues. With thousands of these emergency responses annually, the costs compounded while preventive maintenance opportunities were missed.

Beyond cost pressures, the utility lacked control over its operational data. Critical grid information flowed through carrier networks with limited visibility into routing, security, or performance indicators.

Evergy needed a fundamental shift toward predictive operations, where real-time data across the grid enables proactive equipment replacement before failures occur. This vision required massive connectivity expansion into hundreds of thousands of devices over the next decade.

Comprehensive private network enables rapid automation scaling

Rather than accept the constraints from carrier-dependent communications, Evergy partnered with Ericsson to build a private LTE network that would give the utility complete control over its grid communications and evolution. The strategic decision was bold: instead of piloting with a few devices, they would build comprehensive coverage first and then rapidly scale device deployment. A pilot wasn't really necessary, Evergy was already managing multiple radio networks and had begun grid automation using access to carrier LTE networks.

This infrastructure-first approach positioned Evergy to deploy automation at low marginal cost. Once the network was live, every additional sensor or controller could connect without recurring carrier fees, fundamentally changing the economics of grid modernization.

The technical foundation leveraged dual spectrum bands across 94 sites, combining long-range 900 MHz coverage with high-capacity 2.5 GHz connectivity on 48 sites. Ericsson's managed services handled 24/7 network operations, allowing Evergy's teams to focus on deployment and applications rather than network management. With 90 percent of required tower sites already in place, the build moved exceptionally fast. "Ericsson enabled us to focus entirely on rapid deployment while they handled network operations," Johnson notes. "That partnership approach was critical to achieving our aggressive timeline."

The first site went live in May 2022, just two months after contract signing. The speed was critical to maintaining stakeholder confidence and seeing immediate cost savings.

"We built comprehensive coverage first so our operations teams could deploy devices immediately without waiting for infrastructure."

This approach accelerated our entire automation timeline."

Randy Dickey,
Senior Director, IT Infrastructure and
Operations at Evergy



Industry-leading adoption drives immediate and future value

Evergy's infrastructure-first strategy has delivered results which are accelerated compared to typical utility private network deployments. The company now operates more than 3,000 connected devices across sensors, distribution automation equipment, and security systems giving Evergy wide area coverage to meet the utility's needs.

3,000+
devices connected on private
LTE platform

The immediate financial improvement comes from eliminated carrier fees and operational efficiencies. Security has improved through complete data ownership and isolation from public networks. Early predictive maintenance applications are showing promise for preventing outages before they affect customers.

5G evolution and expanded applications drive continued innovation

The private LTE network positions Evergy for the next generation of grid technologies by providing affordability, security, reliability, and resiliency. The network will scale to address 5G and future applications under evaluation including next-generation advanced metering infrastructure (AMI) and Mission Critical Push-To-Talk (MCPTT) services that could replace expensive Land Mobile Radio (LMR) systems currently used for field crew emergency communications.

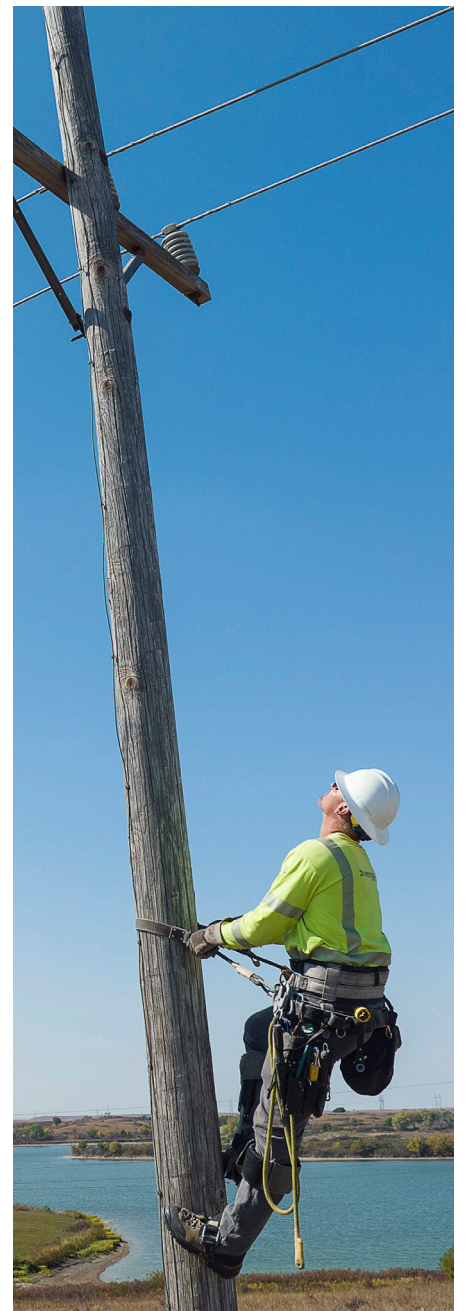
The upgradability to 5G enables ultra-low latency applications and massive device connectivity as smart grid requirements

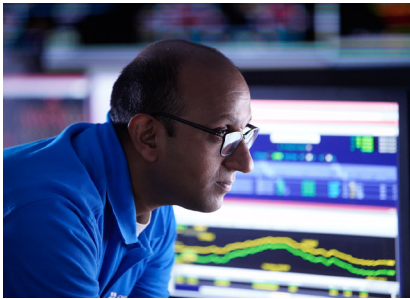
The network has enabled capabilities that were previously infeasible. Security cameras can now monitor construction sites, virtually eliminating equipment theft that previously cost hundreds of thousands annually. When potential intruders are addressed directly through the camera system, they typically flee immediately. The private network provides higher reliability and lower-latency connectivity while avoiding prohibitive monthly carrier fees.

Most importantly, the success has generated internal momentum that continues driving adoption. As teams see the capabilities and cost savings, they identify new applications for the network. This organic growth validates the comprehensive infrastructure approach and ensures continued return on investment.

evolve. This would also enable Evergy to deploy higher capacity and real-time use cases like drone-based transmission line inspection.

Regional partnerships with smaller utilities are also under consideration, potentially creating shared-cost models that expand private networking access across the industry. By demonstrating that comprehensive private networks can deliver rapid adoption and measurable results, Evergy has established a blueprint for utility wireless grid modernization





Technical specifications for coverage, spectrum, backhaul, core, and security

- **Coverage:** 81 percent of service territory via 94 private LTE sites with co-located Band 106 and Band 41
- **Spectrum:** Band 106 (900 MHz) for wide-area reach and penetration; Band 41 (2.5 GHz) for capacity at high-demand locations (48 sites)
- **Capacity and performance:** Onboarded 2,000+ devices today, with carrier-grade speeds where required and sub-100 ms latency for priority control traffic
- **Backhaul:** MINI-LINK microwave with redundant paths, hardened for regional weather conditions
- **Core:** Dual-mode architecture that supports 4G today with a software path to 5G, policy control, and advanced security
- **Management:** Ericsson Network Manager with 24/7 monitoring, analytics, and proactive optimization
- **Security:** End-to-end encryption, strict access control, network isolation, and complete data ownership
- **Power and resilience:** Intelligent power management and extended backup support during outages
- **Device ecosystem:** Sensors, distribution automation controllers, cameras, routers, and emerging applications



About Evergy

Evergy, Inc. (ticker EVRG on NASDAQ) serves roughly 1.7 million customers across Kansas and Missouri. The company focuses on reliable, affordable, and sustainable electricity and continues to advance grid modernization that benefits customers and communities. Evergy's generation portfolio includes an estimated 50 percent carbon-free sources, balancing reliability and environmental performance. Headquartered in Kansas City, Evergy invests in technologies such as private networking to enhance safety, resilience, and customer experience.

About Ericsson and private LTE expertise for critical infrastructure

Ericsson enables communications service providers and enterprises to capture the full value of connectivity. The company's portfolio spans the following business areas: Networks, Cloud Software and Services, Enterprise Wireless Solutions, Global Communications Platform, and Technologies and New Businesses. It is designed to help our customers go digital, increase efficiency and find new revenue streams. Ericsson's innovation investments have delivered the benefits of mobility and mobile broadband to billions of people globally. Ericsson stock is listed on Nasdaq Stockholm and on Nasdaq New York.

See www.ericsson.com/utilities for more information.



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www.ericsson.com

SE-126 25 Stockholm, Sweden
Telephone +46 10 719 00 00