

SUCCESS STORY

Telecommunications (161G)



(Left to right) Tim Godfrey, Cole Crews, and Brian Hartman standing in front of Ameren’s private LTE Core.

## EPRI Research Helps Ameren with Private LTE Field Area Network

Ameren used results from the EPRI Field Area Network (FAN) Demo, the Assessment of Licensed Spectrum, the Telecom Initiative and Project Set 161G to plan, develop, and deploy a private LTE network pilot. The pilot outcomes would shape final plan/build/run plans. EPRI research identifies the importance of the FAN as a multi-services network instead of unsustainable single-purpose networks. The results provided insights into the use cases for field area networks, requirements, architecture options, technology choices, and options for acquiring spectrum. Ameren examined available FAN technologies, and after careful evaluation, selected private LTE as their optimal choice.

The private LTE FAN will provide Ameren with a wireless network supporting multiple applications like distribution automation, SCADA, DER integration (required communications for smart inverters), and AMI Backhaul. It will provide the bandwidth and scalable capacity to support increases in the number of communicating devices on the FAN. Leveraging equipment used by commercial cellular carriers provides benefits in cost and improved availability of devices. Compared to subscribing to commercial cellular carriers, a private LTE network offers benefits in terms of operational cost reduction, better control of performance, availability, reliability, and cyber security.

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**“EPRI’s in-depth research helped us not only to make a decision to pursue private LTE, but during our pilot provided above and beyond support for doing unbiased bandwidth and latency testing that was critical for us to understand.”**

*C. Cole Crews, Career Engineer, NEO Strategy and Planning, Ameren Services.*

Modems and towers in Peoria, IL.

EPRI participated with Ameren in the initial network deployment validation. The FAN testing platform developed in the Telecom Initiative and Project Set 161G was used to test and validate the LTE FAN performance at one of the first pilot sites. The testing platform provided data that verified performance and enabled Ameren to identify and correct configuration issues.

Ameren’s Private LTE FAN is an example of the application of EPRI results in the design, development, and deployment of a multi-services FAN that will serve critical grid applications and provide a scalable network that will carry Ameren to the future Integrated Grid.

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