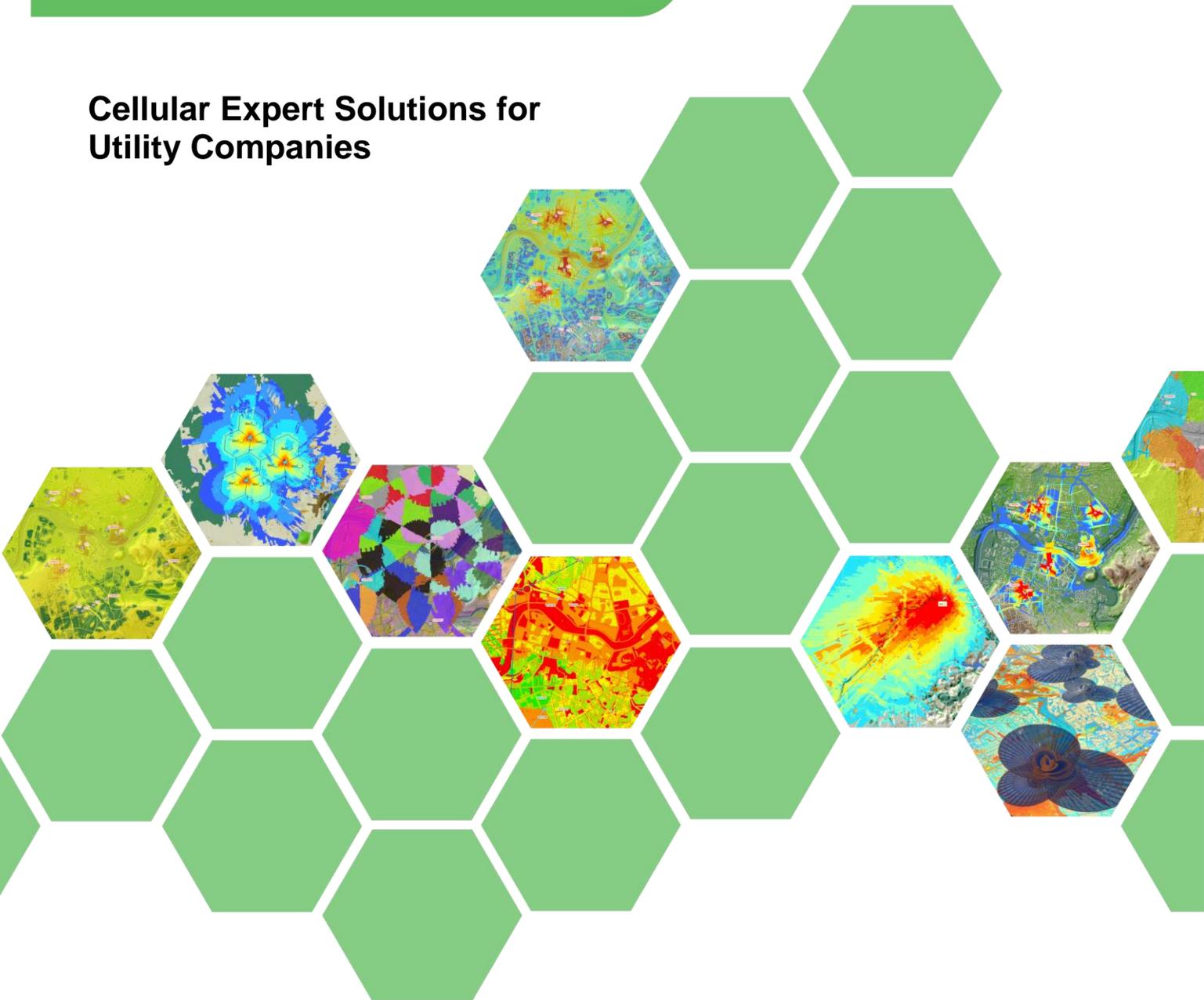# CASE STUDY

Cellular Expert Solutions for Utility Companies

Cellular Expert helps EQT plan its wireless communication network

About the company

US-based EQT is one of the largest natural gas producers in the country with emphasis on production, gathering, processing and distribution in the Appalachian Basin. EQT is a technology-driven leader in air and horizontal drilling, employing 1,800 people in Pennsylvania, Kentucky, West Virginia and Virginia.

Project scope:

EQT acquired Cellular Expert software in 2008 as a planning and analysis tool for its wireless communication network. To manage wellhead volumes and performance, EQT had built a radio network, including the required tower infrastructure, throughout its operating area. This enabled operations personnel to see volumes throughout each day. As the organization continued to drill new wells, it was necessary to determine if the site would communicate via the existing infrastructure, and if not, where additional infrastructure needed to be built to permit communications. To make this determination, EQT needed a tool that would predict signal strength as well as provide a line of site analysis. In addition, it was a requirement that the tool worked on the existing GIS platform. Cellular Expert met these requirements. In addition, Cellular Expert provided the ability to customize the prediction models, provided other unique functionality such as radio links so the user can actually view the communications paths in GIS, and permitted all data to be stored on central server, which allowed multi-user editing and versioning.

Cellular Expert worked closely with EQT to customize the application to meet its requirements. Examples include:

- ✓ **Support of feet as a unit of measure** - This permits geographical datasets (terrain and building rasters) and network data (site altitudes, antenna tower heights and link length measurements) to be expressed in feet vs. metric units.

- ✓ **Import Well Locations Tool** – Performs locations import procedure from Excel formatted data files. Initial list with proposed new well coordinates is provided in excel file and these coordinates are imported in to Cellular Expert database. This permits "mass" uploads of data vs. entering each new site individually.

✓ **Site Coverage Prediction Tool** – Used to generate a report of field strength and best server coverage from selected Master and Repeater sites and to create the well locations table with field strength and best server data for creating radio links between well locations and best servers.

✓ **Auto Create Radio Links Tool** – Tool used to auto create radio links based upon a specific data element. The radios have a data field called "Sync-To-Serial Number" and are unique. The tool creates the radio links automatically based upon this data field. (A master has a unique serial number, and all the repeaters and remote radios will have the master serial number in their "Sync-To-Serial Number" data field.) The tool will create the links automatically between these radio devices.

Today, EQT is successfully using Cellular Expert to aid in the design/expansion of its radio system as well as to evaluate the impact of new equipment, such as radios and antennas.

Business value:

Cellular Expert is a valuable planning and analysis tool for EQT. It permits the Measurement Communications department to determine the best communications path for a new site as well as the best location for a new tower through modeling vs. field trial and error. When a new tower is proposed, it also allows EQT to determine if there are any sites that are currently using an alternative communications method that can be converted to radio. Based on the number of new sites and potential conversions, EQT can evaluate the return and decide whether it is economical to proceed.

Find more case studies on http://www.cellular-expert.com/casestudies