

# CASE STUDY **TCEC**



TCEC wanted to improve a time-consuming, legacy field-staking workflow, which made it difficult to provide new members with updates about construction.

User Tri-County Electric Cooperative

> **Location** Central Texas

Industry Electric Co-Op

#### Partner(s) Futura Systems

#### Challenge

Expanding rapidly, TCEC wanted to improve construction visibility for new members by consolidating to an enterprise GIS with real-time field staking

#### Solution

Futura Enterprise GIS with FieldPro, Eos Arrow Gold GNSS Receivers

#### Legacy Technology

Paper, Legacy GPS and GIS

#### Results

The migration to an enterprise Futura GIS with high-accuracy location from Eos Arrow Gold GNSS receivers yielded tens of thousands of dollars saved each month from improvements to field staking, outage management and underground locate workflows

## ARROW GOLD FOR FIELD STAKING: TCEC IMPROVES CUSTOMER SERVICE WITH REAL-TIME ARCGIS ACCESS VIA FUTURA GIS

Real-time access to enterprise ArcGIS data via a Futura GIS Interface and the FieldPro mobile app helped TCEC achieve 4-hour as-builting. They used Arrow Gold for field staking GNSS locations to retain high accuracy. The new workflow yielded tens of thousands of dollars saved thanks to benefits felt in multiple workflows.

## THE CHALLENGE: EXPLOSIVE GROWTH, BUT PAPER ORIENTED

With a 4% annual growth rate based on new meters installed and serviced, construction at Tri-County Electric Cooperative (TCEC) has been booming. The north-central Texas co-op is adding approximately 4,000 new members per year. "Commercial growth moved into the area, which led to residential growth," TCEC CTO Nichole Eshbaugh said.

In order to improve its competitive edge, TCEC revisited its already excellent customer service. One of the areas that could be improved was a time-consuming field-staking workflow, which made it difficult to provide new members with updates about construction. The legacy workflow relied on hand-drawn stakeout maps and standalone GPS points that were manually integrated into a legacy asset management system. It used to take 10 months before as-builts were posted into the GIS.

"It was a bulky, manual analog process to integrate the GPS shots into the mapping system along with paper drawings, and then send it to the mapping department," Enterprise Manager Glenn Williams said.

It was also hard to answer customer inquiries. "It was very hard to tell the member where we were with that job," Eshbaugh said. "You just hoped the right person was around."

## THE PARTNER

Futura Systems, Inc., is a leading provider of enterprise GIS and asset management for utilities. Their popular desktop and mobile solutions include tools for mapping, asset management, work order management, outage management, and the FieldPro iOS app for real-time staking. FieldPro supports integration with external Bluetooth<sup>®</sup> GPS receivers, including the Arrow Series<sup>™</sup> from Futura partner Eos Positioning Systems<sup>®</sup> (Eos).







Shown here is Futura's FieldPro iOS app as it consumes data from many sources in real time: Live GIS data from TCEC's enterprise Esri-Futura GIS; and live RTK GNSS data for high-accuracy location from an Eos Arrow RTK GNSS receiver.

## THE SOLUTION

First and foremost, TCEC wanted to replace its siloed legacy workflow, including the paper data collection, standalone GPS shots, and disjointed systems for asset management, customer information (CIS), outage management (OMS) and billing.

"We didn't want to have siloed information anymore, and we didn't want to have to chase vendors about integrations," TCEC Field Services Director Kevin Mooney said. "More than anything, we leaned toward being an enterprise shop."

They selected Futura Systems' enterprise GIS for several reasons. First, Futura provided user-friendly asset and outage management interfaces for their underlying Esri ArcGIS geodatabase. It also integrated out-of-the-box with their existing billing system (ATS) and call center system (Centurion IBM). Finally, the FieldPro iOS app supported high-accuracy, real-time staking updates.

TCEC explored multiple external GPS receivers to pair with FieldPro and to eliminate the manual entry of GPS coordinates. Location accuracy was especially important for capturing underground as-builts.

"Overhead assets are easy to see, but for underground you need higher accuracy," Mooney said. "In some of our heavily populated areas, up to 75% of our assets can be underground."

After researching FieldPro-supported high-accuracy GPS receivers and consulting internal staff familiar with the GPS technology, TCEC chose the Eos Arrow Gold RTK GNSS.

"It really came down to the positive customer support we received from Eos," Mooney said.

## THE RESULTS

After just three months, the migration to Futura was complete. TCEC also deployed FieldPro and Arrow receivers to 11 trucks with iPads. Today, nearly all of TCEC's 172 employees access asset information in real-time from the enterprise system.

"We started with a little reluctance, not sure what the future would bring, but everything being combined has been a huge success," Williams said. "Our stakers, operations groups – everyone is using the Futura system."

The time needed to post as-builts from the field to the GIS went from 10 months to less than four hours, in most cases.

"Now we can instantaneously retrieve projects and answer customer questions," Williams said. "The convenience is huge."

"We did our due diligence in researching the Eos Arrow GNSS receivers. What it came down to was their ease of use with Futura's FieldPro mobile app and their dedicated customer support."

Nichole Eshbaugh, CTO, Tri-County Electric Cooperative





"We do about 25% to 35% fewer truck rollouts for our locates now. At \$10 a ticket and 13,000 tickets per month, that's a lot of savings."

Glenn Williams, Enterprise Manager, TCEC

#### **ADDITIONAL RESULTS**

Outage management and underground-locate workflows have also benefited from the implementation of the new system. The co-op estimates it is saving about \$32,500 per month, thanks to fewer physical digs and truck rollouts required for underground locates for 811. This year, TCEC's locate bill dropped "big time", and so did liabilities.

"We do about 25% to 35% fewer truck rollouts," Williams said. "At \$10 a ticket and 13,000 tickets per month, that's a lot of savings."

TCEC will pass on those savings to members, who have also benefited from faster power-outage response and communication.

Customers can report outages using TCEC's website and mobile app, or they can call in and talk to technicians who update internal web maps on Futura Catalyst. Dispatchers and line workers can also access live outage data in the field at any time of day, even at 2 a.m. while fixing lines, via the Futura interface.

In early 2019, TCEC put the enterprise OMS to the test when a powerful wind storm left a large swath of customers out of power.

"We got it under control, and the staff rolled through with no problems," Eshbaugh said. "Our outages are managed with a lot fewer people and a lot less chaos."

Last year, the average interruption index for members involved in an outage was 66.5 minutes. TCEC expects this number to improve. They also plan on tracking, communicating, and passing on any additional savings and service improvements to customers.

"In the end, knowing where our assets are improves the service we provide to our members," Williams said. "We keep the lights on better."



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## About Eos Positioning Systems®

Eos Positioning Systems® designs and manufactures the world's leading high-accuracy GNSS receivers for mobile data collection. In 2014, a technical team with more than two decades of GNSS experience founded Eos near Montreal. The team is credited with creating the world's first submeter Bluetooth GPS receiver (2001) and also the world's first RTK GNSS receiver for any device (e.g., iOS, Android). Today, the Eos Arrow Series™ GNSS receivers provide submeter and centimeter accuracy directly into any mobile app, including popular data-collection software such as Esri's Collector for ArcGIS®.

## About the Arrow Series<sup>™</sup>

The Eos Arrow Series<sup>™</sup> of GNSS receivers offer a unique balance of accuracy, affordability, flexibility, and simplicity not seen elsewhere on the market. Arrow receivers are flexible (any device, any app) and future-proof (support all new GNSS frequencies and all four global GNSS constellations). They are known for their superior tracking capability and accuracy under dense canopy, thanks to both patented technologies and the ability to maintain lock with free SBAS signals like WAAS, EGNOS, MSAS and GAGAN. In addition, the Arrow Gold RTK receiver can be turned into a base station when private RTK networks are not available or too onerous.

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