HEXAGON

Case study

Optimizing electric utility network data integration

ATCO Electric | *Canada*

ATCO Electric delivers electricity to nearly 229,000 homes, farms and businesses across 242 communities in north and east-central Alberta, Canada. Its service area covers almost two-thirds of the province of Alberta, with approximately 88,000 kilometers of transmission and distribution lines.

To process work orders and service requests across this large territory, ATCO relied on two disparate systems with two decades' worth of data. Work order, service request and asset information was stored in the IBM Maximo enterprise asset management (EAM) system, while asset location data was housed in HxGN NetWorks. To improve operations and enhance customer service, ATCO decided to integrate the two systems and implemented Hexagon's commercial off-the-shelf integration framework that bidirectionally communicates through Oracle Integration Cloud middleware.

Integrating disparate data sources

Working in two systems caused delays because users had to pull data from different locations to access the information necessary for technicians in the field to begin working on requests for service, maintenance activities or capital jobs. Also, data had to be entered

into both systems, by separate working groups, creating inaccuracies and data quality issues.

To improve efficiencies, ATCO implemented its Electric Work Asset Management Program (WAM-E) to automate and integrate work and asset management processes. The first stage of the project involved integrating the Hexagon GIS and Maximo which laid the foundation to streamline work order processes. The integration allows for the synchronization of data back and forth between the two systems so when a work order is issued, it contains both asset information and geospatial data. Also, records can be entered in the GIS before projects begin, and the location data is then synched in Maximo. The result is a more complete picture of what is happening for the users in the office as well as technicians in the field.

"We've completed stage one of the project and improved our processes and how we initiate, plan, schedule and execute work, and also how we onboard and maintain our assets," said James Wadman, work and asset management program manager at ATCO Electric. "One of the WAM-E goals is that we know where all the work is located so that we can plan and schedule work and make packages of work orders that are in the same locations, making things more efficient, with better insights, and we can make better asset decisions based on location. Before Hexagon assisted us with this integration, we didn't have a matching set of location records between our asset system and our GIS system."

Improving data accuracy

ATCO completed an enormous amount of data cleansing and harmonization in stage one of WAM-E, resulting in accuracy improvement. Improved data accuracy enables better maintenance plans, resulting in improved asset management to the life of ATCO's assets for its customers. It also helps the utility justify capital requests because it can better report analytics and improve its asset management program for capital replacement.

"This was 20 years of utilizing both systems and separating the data between both systems," said Wadman. "From our perspective it was a huge achievement – just the effort to match the locations of all our power pole locations was extreme – but the outcome now is fantastic, and it will only get better. We know that 20 years from now the data won't diverge and will still be accurate because of the work we did with Hexagon and other partners."

From our perspective it was a huge achievement – just the effort to match the locations of all our power pole locations was extreme – but the outcome now is fantastic, and it will only get better. "

James Wadman
Work and asset management program manager
ATCO Electric

Visualizing the system in action

Determining the best route for high-load moves, where tall loads need to be transported between multiple points with minimal impact on ATCO's power lines used to be a tedious task utilizing paper maps. The company now uses HxGN NetWorks to map the routes for those corridors. As the load moves from one point to the next, they can automatically identify all the crossings, create a work order with all the locations that a technician needs to check and possibly lift those lines or remove a line while the load passes through. Then they can package the work order into the service regions for the different linemen to do the work.

"It provides a single initiate point, brings it into Maximo and the work can be planned by the planners and then sent out as packages," said Wadman. "That's a great example of how we're leveraging the tools across the systems."