

Case Study: IoT

Knoxville Utilities Board uses SmartWorks Compass to help identify installed meters that are not part of the AMI network.



KUB provides electric, natural gas, water, and wastewater services to more than 473,000 customers in Knoxville and parts of seven surrounding counties

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Knoxville Utilities Board (KUB) is a multi-commodity utility that services over 450,000 customers in and around Knoxville, TN.

In 2018, KUB discussed with SmartWorks a challenge they were facing.

Most of KUB's customers have, or are in the process of getting, smart-meters installed as part of Automated Metering Infrastructure (AMI) deployment, however they have a small number of very large C&I customers that account for the majority of KUB's revenue (<1% of customers, >60% of revenue).

These sites have Schneider ION 8000 series meters installed that are not part of the AMI network and instead require desktop based software (MV-90) to access and retrieve data. KUB's existing process was manual, slow, error-prone and required staff with very specialized knowledge. KUB wanted to know if SmartWorks Compass could automate the collection, storage, and analysis of data from these meters.

SmartWorks and KUB initiated a pilot project to access the feasibility and determined that the Schneider ION meters support the Modbus protocol. SmartWorks developed a Modbus library that supports retrieving consumption, operational and instrumentation data from the meter. The library was integrated into our Rules Engine, allowing the data collection process to be fully automated. KUB ran parallel testing, comparing data retrieved by Compass with data from MV-90. Following a successful parallel test phase, they are now importing reads directly from all Schneider ION meters in the field into Compass.

With that, KUB and SmartWorks began a second collaborative automation project for their Mercury Mini-AT Gas Correctors, which are used to normalize gas volume information. During the pilot phase SmartWorks determined that the Mercury devices only support the proprietary Mercury Serial Data protocol, but we were still able to build data collection components into our Rules Engine. KUB have configured a number of these gas correctors in Compass and data is being imported and validated.

In addition to the instrumentation values, Compass is also automatically importing alarm information from the gas corrector devices. SmartWorks has also built custom billing export reports in Compass that translate the gas corrector data into a cumulative interval format required by the billing system.

The SmartWorks IoT Future

Having proven SmartWorks Compass as a platform that enables utility IoT, we intend to significantly expand the number of protocols and devices we support.

We are looking for utility partners to help us identify exciting new IoT applications that drive value for utilities.

If your utility has any meters, sensors, or other devices that communicate using the internet rather than your AMI network, you can use SmartWorks Compass to collect and analyze the data they produce, and to better integrate that data into your enterprise.



Meet Your Auxiliary Teammates

Here to help you navigate change and unleash the power of your smart infrastructure.

SmartWorks offers a complete range of professional services to help guide you through your transformation.

Professional Services

Our team is comprised of industry experts who are passionate about their work, and have an extensive background in a wide variety of applications to help you get the most out of your Smart Grid investment.

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How is your utility planning for the future? Work with our amazing team to plan out, execute and provide best-in-class utilities technology management solutions.



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Our team of highly skilled experts are here to discuss potential pitfalls and share best practices to ensure a smooth transfer from project deployment to business operations.



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SmartWorks empowers utilities to
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