



Transforming distribution and retail services with a fully integrated IT/OT solution

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Case study

CK Energy



THE CLIENT

CK Energy is an association of the Cengiz and Kolin groups, the leading electric power utility companies in Turkey. It is one of the largest electric utility in Turkey, distributing 38 billion kWh annually through its operations in three regions that encompass 8 cities and over 7.6 million customers.

The challenge

Transforming distribution and retail services with a fully integrated IT/OT solution

Several independent electric utility companies were formed following the privatization of Turkey's generation and distribution sectors in 2013. One of those new companies, CK Energy, was determined to transform electric power distribution and retail services in its markets. The privatization had provided a clean slate, and CK set its sights on creating a more efficient, more effective system based on the latest and most innovative technology and supported by a first-of-its-kind, fully integrated IT/OT operating structure.

CK's managers immediately launched a far-reaching effort to completely transform the way they did business. With more than 10 million customers served by its four retail companies and four distribution system operators, their grand goal was to unify all business processes and technical solutions, and enable CK to become more competitive in the very near future.

The solution

"Quickly after the privatization occurred and our organization was formed, we began to review all 140 of our business processes in retail and distribution operations," recalls Serhan Ozhan, Program Director – EBS Project. "We spent nearly two years in the planning and procurement process. That included a debate about whether it would be better to have several smaller systems to manage operations or create a single, large-scale integrated system. Based on the findings of our investigation, we chose the single-system approach."

The procurement process included exploration and proof of concept demonstrations of key technologies needed to successfully merge information technology (IT) and operations technology (OT). CK did an extensive evaluation of the technical solutions available.

Based on Hitachi Energy's unique, demonstrated ability to integrate the IT/OT infrastructure for all elements of CK's transformation efforts, they selected several of Hitachi Energy's products to create a fully-integrated solution, including:

- Network Manager Advanced Distribution Management System (ADMS), including Outage Lifecycle Management and SCADA
- Service Suite mobile workforce management
- Substation automation with relays, remote terminal units and other communication infrastructure devices

Results

Enhanced outage restoration capabilities

From CK's perspective, one of the most important outcomes of the transformation was the ability to better manage outages. Hitachi Energy's Outage Lifecycle Management solution automated CK's end-to-end outage management processes, from the control center to field crews and equipment. That enabled CK to more quickly locate, isolate and restore outages – a benefit they are already seeing.

“By the time we receive a call about an outage, the Hitachi Energy SCADA data has already alerted us to the outage and about the transformer involved,” says Ozhan. “The field crew is immediately notified, advised of the location and nature of the trouble, and can quickly move to the site and begin repairs.”

Crews now provide real time status information while on the job using Hitachi Energy's Service Suite mobile workforce management solution. When the crew gets a trouble notification, they acknowledge it using their tablet computer. When they arrive on site, they tap a button to update the control center operators and call center operators that work is underway and provide an estimated time to restoration. As the trouble is cleared, they again notify the operation and call centers via the tablet. The benefits both to the organization and end customers are enormous and are setting a new standard in utility operations.

Better future capital investments

The major technical elements of the transformation process are in place. Ozhan says the next two years will be devoted to optimizing the new systems and implementing some of the more-detailed enhancements. Still, he says they are already seeing a great return on their transformation investment in the form of shortened restoration times. In the longer term, they are looking forward to taking advantage of the ability to better

manage the company's capital investments.

“There was limited investment in the distribution companies prior to privatization,” Ozhan says. “With the network data we are now collecting, we will be able to make much better capital spending decisions that are focused on replacing the most troublesome elements of our network.”

With Hitachi Energy's solution being one of the first times outage management, workforce management, and SCADA systems have been implemented in a solution as integrated as this, Ozhan had this to say: “Integrating IT and OT is something almost all distribution companies are trying to do, but with Hitachi Energy's help, we are achieving that goal and are now able to manage our diverse operations from a central location.”

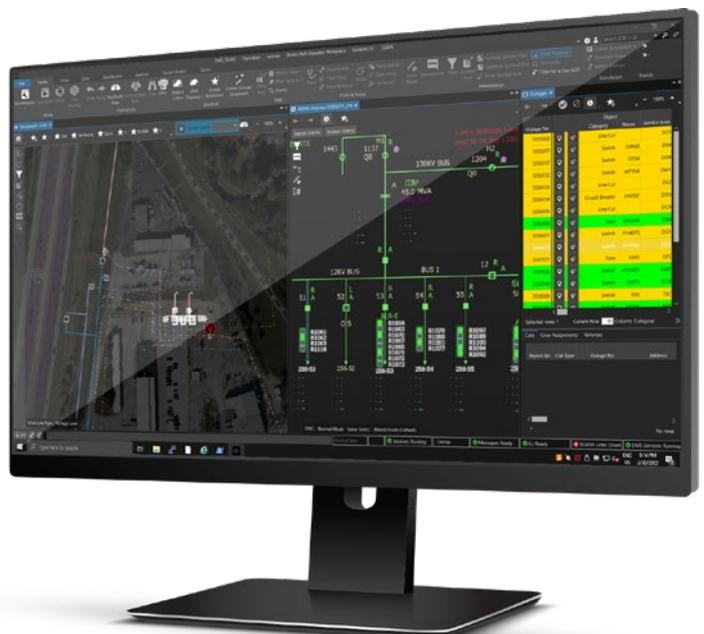
Supporting a successful transformation

With the major deployment milestones already complete, CK managers have expressed a high level of satisfaction with the project. At the operations level, system operators have quickly embraced the new system capabilities. The availability of outage data and automated outage management is making it possible for them to more quickly resolve issues.

Satisfaction is also high among CK leadership. Most importantly, the Hitachi Energy solutions helped CK achieve its transformation objectives.

“It was clear early on that Hitachi Energy's capabilities fit well with our main goal to create a seamlessly integrated IT/OT structure,” says Ozhan. “They understood our approach and what we wanted to achieve, and were able to demonstrate real world solutions that have enabled us to achieve our goals. Hitachi Energy partnered with us to create a truly transformational solution.”

Network Manager ADMS outage management



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