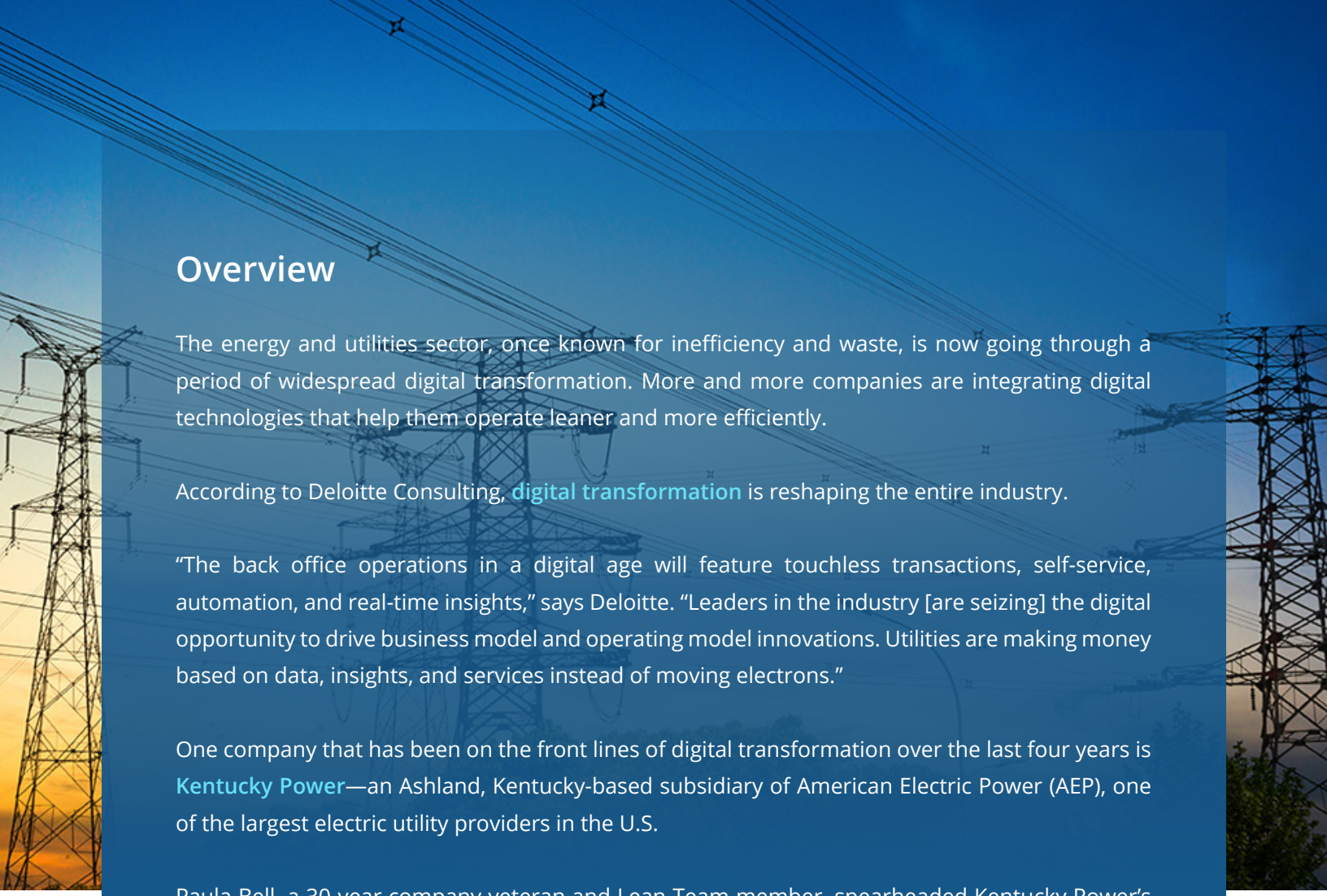
Kentucky Power

Electric Utility Provider Builds Custom Apps to Improve Workflows

AppSheet

KENTUCKY POWER
An AEP Company



Overview

The energy and utilities sector, once known for inefficiency and waste, is now going through a period of widespread digital transformation. More and more companies are integrating digital technologies that help them operate leaner and more efficiently.

According to Deloitte Consulting, **digital transformation** is reshaping the entire industry.

"The back office operations in a digital age will feature touchless transactions, self-service, automation, and real-time insights," says Deloitte. "Leaders in the industry [are seizing] the digital opportunity to drive business model and operating model innovations. Utilities are making money based on data, insights, and services instead of moving electrons."

One company that has been on the front lines of digital transformation over the last four years is **Kentucky Power**—an Ashland, Kentucky-based subsidiary of American Electric Power (AEP), one of the largest electric utility providers in the U.S.

Paula Bell, a 30-year company veteran and Lean Team member, spearheaded Kentucky Power's push toward digital transformation.

Using AppSheet's no-code platform, Bell has successfully created and deployed 10 apps to track electrical poles and faulty transformers, manage circuit inspections, communicate with contractors and streamline incident reporting. Since using these apps, Kentucky Power has experienced some major improvements in the way it tracks equipment and repairs, and manages information.

According to Bell, AppSheet also has produced a change in mindset at Kentucky Power.

"Now, when we run into a problem we think is there an app for that?" says Bell. "I love AppSheet and have recommended it to others."

Kentucky Power's experience is a powerful story of digital transformation, and very impressive when considering that Bell does not come from a technical background. If Bell can transform her company's operations, you can too.

Challenge: Modernizing Field Operations

Back in 2015, Kentucky Power put together a "Lean Team" to identify ways to improve productivity and eliminate wasteful processes. One of the team's main goals was to modernize its core field operations.

Right off the bat, the team determined that paper was holding the company back and needed to be abandoned. Just about every internal process and workflow was tracked via documents, which was a time-consuming approach that was prone to errors.

So, Kentucky Power made a decision to start migrating away from paper. First, the company started by digitizing its work orders.

At first, Bell says, Kentucky Power started using Smartsheet—a SaaS communication and collaboration app—to manage work orders. Smartsheet, it should be noted, is currently being used by all AEP operating companies.

While Smartsheet was flexible and customizable enough to meet a large portion of its needs, it was apparent that ancillary support was required to meet Kentucky Power's objectives.

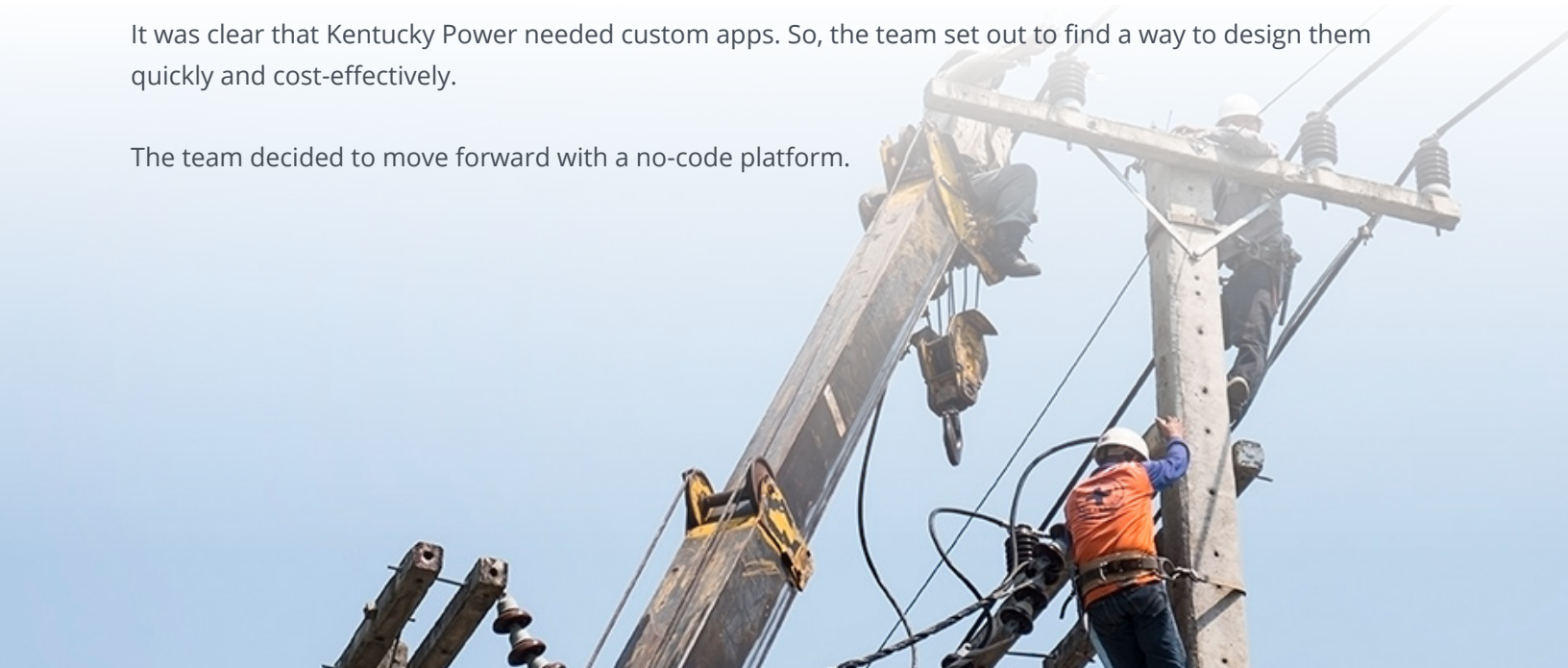
"Smartsheet allowed us to add new forms," says Bell. "The forms didn't allow us to update existing ones. So we went paperless with our work orders, but we still had a lot of paper forms floating around because crew members had to collect information off the devices, like serial numbers. They were using old forms, which were copied over and over to the point where you couldn't read them anymore, and manually entering data into them."

What's more, at the time, Smartsheet didn't support barcodes, which was a top need for Kentucky Power. The company wanted to scan barcodes when collecting transformer serial numbers.

Kentucky Power required a solution that it could use to collect and manage data from the field, and interface directly with Smartsheet.

It was clear that Kentucky Power needed custom apps. So, the team set out to find a way to design them quickly and cost-effectively.

The team decided to move forward with a no-code platform.



Finding the Right Vendor

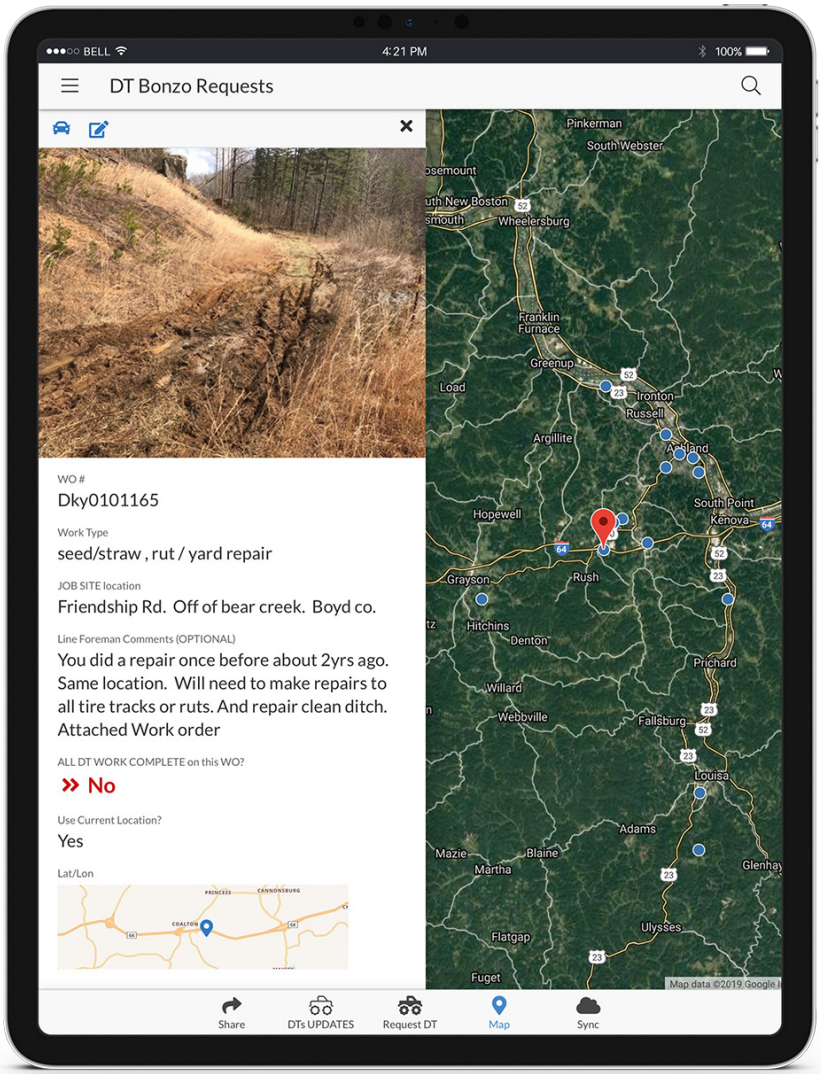
Here are the top four important things that the team was looking for in a vendor:

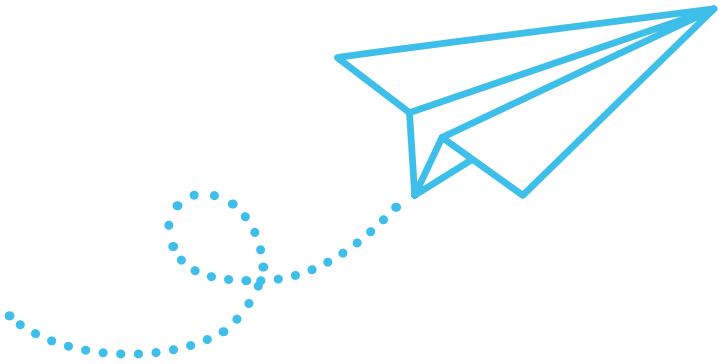
- It was important to find a platform that had a built-in scanner and photo feature so that crew members could avoid having to manually input data while conducting field inspections.

- The platform had to make it possible for Kentucky Power to update and edit forms, not just add new ones. It was therefore important for the platform to be fully customizable.

- The team had to gain IT security approval and run the new platform through a comprehensive risk assessment review. So, with this in mind, the team wanted to find a platform that had robust security measures out of the box.

- The platform had to be easy to use and require little to no training. Bell, who is the main app creator at Kentucky Power, had no coding experience outside of building hyperlinks and macros in Excel—and no time or desire to learn. Experts say it normally takes about three months to learn how to code before you can start real-life projects. In reality, this is probably a low estimate. Bell needed to move quickly.





Solution: AppSheet

Bell discovered AppSheet in Smartsheet's apps and integration section, and immediately was impressed by how easily the two programs could work together.

Bell started using AppSheet's free version, and had a good experience using the platform. So, she decided to take the project to the next level by building a proof of concept and seeking company approval.

One of the biggest hurdles that Bell had to overcome was security clearance. So, Bell placed a call to an IT contact in Columbus, Ohio, who put her in touch with the company's risk management division.

Bell was eventually able to receive security clearance after sharing AppSheet's comprehensive security documentation with her risk assessment team and going through a phone-screening interview.

Here's what Bell's timeline looked like:

- In April 2017, Bell started tuning into AppSheet's educational webinars, growing her knowledge and brainstorming ideas.
- By October, Bell was in advanced discussions with AppSheet and had developed a proof of concept.
- By September 2018, the company signed up with AppSheet to support 100 users.
- In October 2018, Bell received final security clearance to use AppSheet.

The Apps

Once AppSheet was approved, Bell was able to immediately roll up her sleeves and start designing apps—a process she describes as simple and fun.

Bell was also very motivated to get started as a citizen developer. "I knew that these apps were going to improve the way our field users went about their business," she says. "That provided additional encouragement to get the apps built."

Now, instead of manually writing information down onto paper, certain processes have been completely digitized using AppSheet. Information gets entered into an app and goes directly into Smartsheet.

Bell also has found it useful to incorporate some of AppSheet's advanced expressions, including:

- Slices to create different views.
- Format rules to add icons, and customize mappings and text displays.
- Workflows to send notifications, reports and emails.
- Show_if expressions to limit what a user sees when uploading photos to reduce screen clutter.

Right now, the company is using about 10 apps.

Here are a few of their most important ones:

Trouble Transformer Tracker: Linemen use this app to track transformers that are taken in and returned when a failed or damaged transformer is replaced.

This tracker makes use of AppSheet's barcode scanner feature. Once a lineman scans a barcode, the information is automatically transmitted to the Stores and Graphics team via Smartsheet reports.

> ***Benefits:*** *Reduces errors when inputting serial numbers; saves time; reduces additional truck rollouts, saving money; and makes it easier to track transformers.*

Pole Tracker: Kentucky Power is one of seven operating companies within AEP. With about 167,000 customers, it is the smallest of the AEP companies. Kentucky Power's network includes more than 10,000 miles of power lines, the majority of which is found atop more than 210,000 poles in mountainous terrain.

Before AppSheet, Kentucky Power linemen were using paper-based tickets to notify stores, the supply and storeroom group, about pole charge outs and returns. Now, workers can use the pole tracker app in conjunction with Smartsheet's reporting feature to notify stores when poles are taken, and notify technicians when a work order is needed.

> ***Benefits:*** *Makes it easier for technicians to access information on the go; makes pole inventory more accurate; and prevents stores from having to manually collect pole tickets from its mailbox.*

Circuit Inspection Tracker: Circuit defects need to be identified and corrected in a timely manner. Manual, freeform defect reporting slowed this process down, making it difficult for technicians and crew members to communicate problems efficiently.

This app eliminates the freeform entries, by utilizing drop-down menus. The app also collects GPS information for circuit defects and allows users to mark up pictures as needed to communicate issues.

Benefits: *Improves efficiency when collecting data; streamlines repair management.*

More Apps: Kentucky Power also is using two more apps, which, although they are used less often, still provide a significant amount of value.

They include:

- **Dozer Requester:** To notify contractors about work requests instead of cold calling them.
- **Incident Reporter:** To reduce phone calls for management and improve communication when an incident occurs like an accident or injury.

Bell offered some additional commentary on the incident reporter app.

> "Necessity is the mother of invention," she says. "My husband also works at the power company and we were on vacation. He had just closed his computer and we were going to go somewhere when a call came through that someone cut their finger. Safety is a top priority in our company and so whenever an issue arises, that's when phone calls start."
>
> Bell decided to improve this necessary but time-consuming process by making an app.
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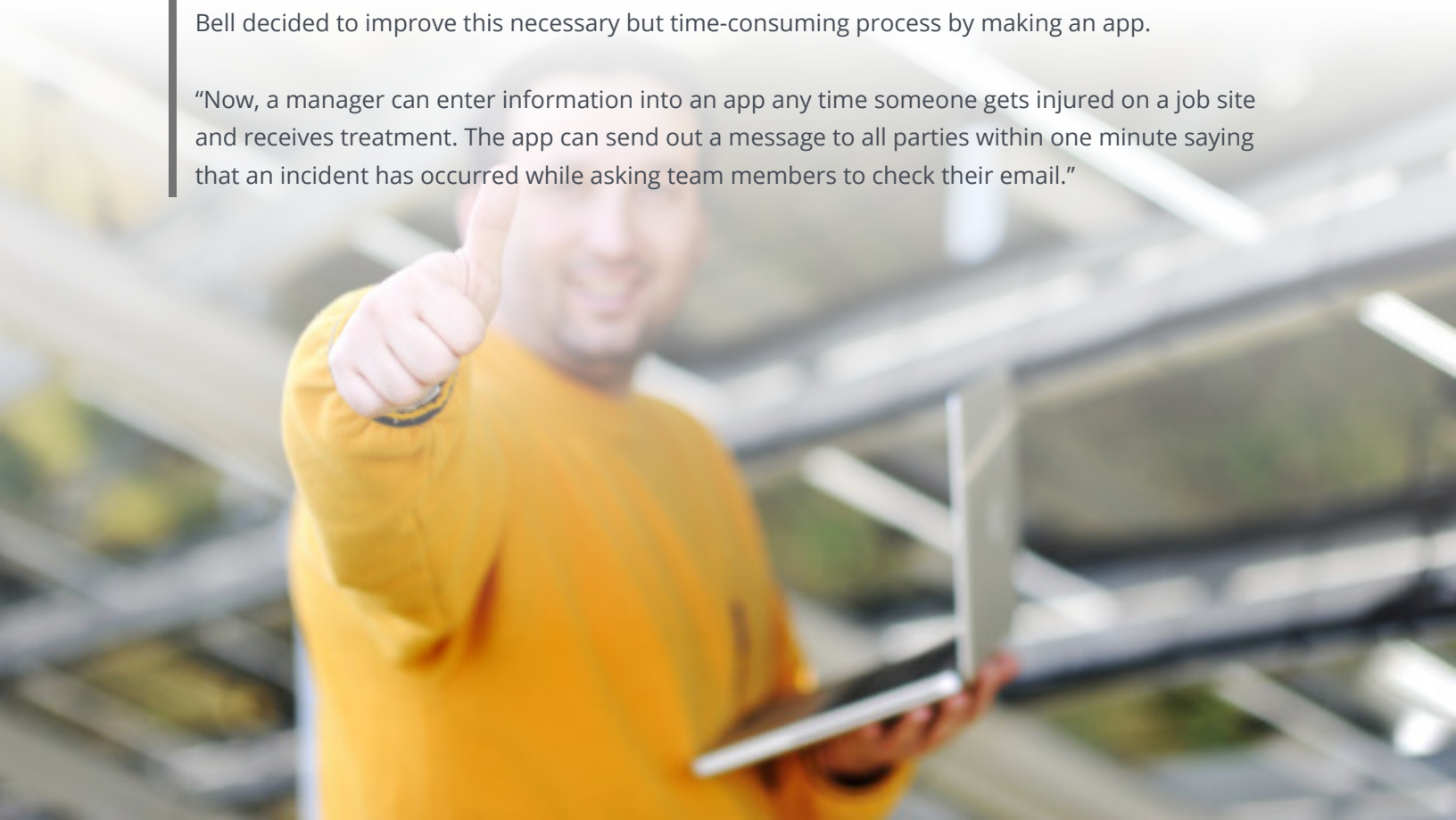
> "Now, a manager can enter information into an app any time someone gets injured on a job site and receives treatment. The app can send out a message to all parties within one minute saying that an incident has occurred while asking team members to check their email."



Slaying 'The Beast'

We were curious to learn about the team's data management strategy using AppSheet.

Bell spoke of "The Beast"—an ancient spreadsheet that the company had been using to track circuit defects.

> "Everyone knew about The Beast," says Bell. "Honestly it was a good tool, but it was just so labor-intensive to keep it updated. There were also risks with sharing it and having people mess it up."

Oftentimes, she says, repairs would be completed but not entered into the spreadsheet. As a result, the spreadsheet was rife with errors. The team needed to get away from using this ineffective system.

So, they decided to copy the data into Smartsheet, and created a unique Smartsheet entry for each district. However, there were many entries—so many, that one district couldn't fit onto a single sheet. Bell had to break down the data into odd and even years to make it fit.

Bell started playing around with AppSheet's mapping feature, and figured out a better way to handle repairs. Now, the team has a single map view for open work orders along with different symbols to signify various tasks. As a result, service orders can be completed much faster and with fewer errors.

Results

It's apparent that AppSheet has had a big effect on Kentucky Power. For example, AppSheet has completely changed the way the company solves problems. The incident tracker is a great example of this.

"Now, when we run into a problem we think is there an app for that?" says Bell. "I love AppSheet and have recommended it to others."

Here are some additional benefits that the company has experienced using AppSheet:

- **Reduced Errors**: Scanning serial numbers has decreased errors, saving time for office personnel to make entries and field personnel to retrieve items.
- **Less Paper**: Replacing paper processes with electronic tools has resulted in improved efficiency and a safer work environment. For example, pole tickets now go straight from the app into the office. Workers no longer have to walk out into the yard to retrieve paper tickets from the mailbox, eliminating the potential to slip or fall.
- **Happier Workers**: Kentucky Power workers have embraced the apps with minimal pushback.

“As a pilot, we started with the Transformer Tracker in our Ashland shop with three or four foremen, who have to collect information about transformers,” Bell says. “After about a week of use, a foreman from another shop called me, and said ‘Hey Paula, can I have that thing that Rick uses to get serial numbers? When someone asks to start using a new tool based on another user sharing it, to me, that’s success!”

One reason why workers love using these apps is that they require minimal training and instead are very easy to adopt and start using.

“Our managers have asked me when we’re going to get our users together for a training session,” Bell says. “Training is operations and maintenance (O&M), though, and we don’t want to spend O&M money. I always say we don’t have to train them! Can you check the weather on your phone? Can you check sports scores on your phone? Who trains you to do that? You just do it. That’s the thing about these apps. If we haven’t built it to where I can have you running with it in five minutes or less, we’ve done a bad job with it.”

Parting Advice

Bell offered some parting words of wisdom for AppSheet users.

First, she says, try a bit of reverse engineering. Observe a few of AppSheet’s sample apps, take them apart and see how they work to get a better sense of how to build one.

Next, she says, experiment with the expressions assistant, which is very helpful. There’s no need to reinvent the wheel when using AppSheet.

Perhaps the most important advice is to think of the people who will be using your apps.

“Consider the end user,” Bell says. “Make sure it’s easy to understand and works well on a mobile device. Building an app on a large monitor at your desk can be a different experience when you’re trying to view it on a smartphone in the sunlight.”

Finally, Bell says, try not to have too much fun.

“Building and refining your apps can be addictive,” Bell says.

Kentucky Power

Kentucky Power, based in Ashland, Kentucky, is an operating company in the American Electric Power system, one of the largest electric utilities in the U.S. AEP, headquartered in Columbus, Ohio, delivers electricity and custom energy solutions to nearly 5.4 million regulated customers in 11 states. AEP ranks among the nation's largest generators of electricity, owning nearly 32,000 megawatts of generating capacity in the U.S. AEP also owns the nation's largest electricity transmission system, a nearly 39,000-mile network that includes more 765 kilovolt extra-high voltage transmission lines than all other U.S. transmission systems combined.

AEP's transmission system directly or indirectly serves about 10 percent of the electricity demand in the Eastern Interconnection, the interconnected transmission system that covers 38 eastern and central U.S. states and eastern Canada, and approximately 11 percent of the electricity demand in ERCOT, the transmission system that covers much of Texas. For more information, visit aep.com or kentuckypower.com.

AppSheet

AppSheet is an intelligent, no-code app development platform. It empowers business users to create and deploy powerful applications that are tightly connected to existing business data. The platform's unique machine learning and intelligent functionality simplifies the app creation process and enriches the app user experience. While enabling rapid innovation and citizen development, the platform also ensures that these applications meet IT's governance, security, and management requirements. Thousands of enterprises across the globe use the AppSheet platform to address departmental, line of business, or company-wide initiatives. AppSheet is recognized as a leader in mobile low-code development platforms for business developers by Forrester Research and has more than 700 positive reviews on Capterra and G2 crowd.