



HOW POWERNET LIMITED REPLACED 25 YEARS OF LEGACY DRAWING SYSTEMS WITH MODERN SOLUTIONS

Learn how PowerNet replaced decades of manual administrative processes with an automated system that restored control over thousands of designs for the company's technical drawings and improved project delivery timelines.

PowerNet is the fourth largest electricity network management company in New Zealand, operating four distinct regional networks across the southern portion of the country. Founded to serve diverse communities from rural areas to urban centers, the organization manages infrastructure that supplies electricity to approximately 75,000 to 80,000 customers, with over 300 staff spread throughout the region.

The scale of PowerNet's operations is substantial. The company maintains 74 substations, 160,000 poles, 14,500 kilometers of lines and cables and 16,500 transformers across its service territories.

99%

BUCKET DATA QUALITY RATING

3.4K

FILES REDUCED TO 515

THE CHALLENGE

PowerNet's drawing document management relied on a Microsoft Access database built 25 years earlier by an independent consultant. While the system included built-in functionality for capturing and recording copies of files sent to consultants via project transmittals, it had become increasingly inadequate for the organization's needs. The database created named directories, added files and generated output transmittals for distribution, but the system held current files, PDF copies and archived versions, all stored in different folders across network drives.

The operational challenges were significant. PowerNet's draughting team utilized a very heavy manual and administrative process that required selecting files, adding metadata, creating PDF copies, transferring files to directories, emailing documents, processing returned files and updating the database with new entries.

Multiple copies of the same drawing files sat scattered throughout the organization as various consultants worked on different jobs. When files were returned, multiple people had edited the same document, creating confusion about which version was current and which edits should be prioritized.

These inefficiencies cascaded throughout the organization. As a result, PowerNet faced issues such as:

- Time delays when getting information out to teams because keeping the drawings database up to date became increasingly difficult.
- Staff lacked confidence in whether they were working with the most current versions.
- Files that were frequently delayed or not returned at all.
- Multiple copies and versions of the same file proliferated across the system.
- Significant lag between when a change was made and when the field asset information was updated and returned to the system.

"We had multiple copies of the same file sitting all over the place by various consultants doing different jobs. And then of course we had the issue of when they came back, multiple people had edited the same file."

– Reece Mulligan, Draughting Officer at PowerNet

The team also recognized an emerging need that their existing system could not address. All of these issues impacted project delivery and the ability to get work completed on schedule.

In 2020, PowerNet decided that it needed to make drawings available to staff working in the field through a web-enabled mobile solution. The legacy system simply could not support this capability.

THE SOLUTION

In August 2020, market research helped to identify what products were available, in use, and had strong industry adoption.

PowerNet's evaluation criteria were firm and specific. The organization required:

- Very clear version control
- The ability for multiple users to work simultaneously within the system
- Capability to engage outside contractors and have them interact directly with the platform
- Local backup capabilities
- Data ownership

Support and system coherence became deciding factors. After the evaluation phase, PowerNet selected Accruent RedEye, a cloud-native, comprehensive engineering document management solution (EDMS), for its integrated approach, whereas the alternative systems seemed more modular with components that could be bolted on. Pricing clarity and licensing costs were also important considerations during the initial rollout phase.

PowerNet partnered with Accruent to prepare data prior to upload and transfer into RedEye, thereby gaining deeper system knowledge. This included the folding in of historical versions, setting metadata fields and the cleanup of existing data. The team created new drawing borders with appropriate metadata fields for data extraction, including Network owner and PowerNet Site code information. Continuing drawing and data improvements have remained part of the ongoing process.

"The RedEye support team were always available for assistance and guidance, especially with setup changes and configuration."

– Reece Mulligan, Draughting Officer at PowerNet



THE RESULTS

PowerNet now uses the full functionality of RedEye across its asset management operations. The organization creates new drawings using template files and implements workflow controls that move documents through concept, detailed design, drafting check, review, approval, construction hold, as-built, archiving and superseded stages. Internal reviews and approvals are completed using these workflows.

The system has transformed how PowerNet manages external collaboration. The organization uses child artifact creation for design changes, primarily submitted by external consultants. Project groups assigned by project managers provide access control to selected files, with user invites and role assignments managed through the platform.

External providers use RedEye's redline email upload capabilities to notify the team of any changes. Placeholder creation for sheet numbering using common drawing numbers has streamlined the drawing organization process. Metadata extraction from the title block automatically updates data fields, provided the title block has been refreshed with the new version, which is now a requirement of any drawing update.

REDEYE ADOPTION

Adoption has been strong across the organization. PowerNet has approximately 240 registered users, with around 75 active daily users. External consultants also interact with the system, particularly those working in the field on changes that need to be submitted for updating on current files. Users span multiple departments and roles, including draughting, project management, engineering, technical services and distribution leadership.

The implementation success was supported by a comprehensive adoption strategy. PowerNet determined the potential different levels of usage and tailored training packages to suit each group, running several small group sessions with hands-on training for each. The organization created its own Help sheets with screenshots to guide users and support them after training was complete. The CAD team remained available to conduct one-on-one sessions with people attempting tasks and experiencing difficulty. The RedEye support team provided ongoing assistance and guidance, especially with setup changes and configuration, including workflows and notifications.

"Some of the sites have anything from 20 to 400 drawings, depending on the size of the site. So, if they're just going to a small location and they're wanting the 20 drawings, instead of churning through 18,000, scanning the QR code would give them a smaller selection to scroll through."

– Reece Mulligan, Draughting Officer at PowerNet

INTERNAL FEEDBACK

Feedback from the organization has been positive. Many frequent users can see the benefits of RedEye. The product has resolved a number of issues PowerNet had with its previous drawing management system and represents a vast improvement.

"RedEye is certainly working for us and it certainly solved a number of the problems that we had."

– Reece Mulligan, Draughting Officer at PowerNet

Several other electricity distribution businesses in New Zealand have already moved to RedEye through the Power Working Group, and others are considering the move. PowerNet has conducted multiple share screen presentations with peers to demonstrate the product's capabilities.

The partnership with Accruent was instrumental throughout the process. The Accruent team remains responsive to requests for help and assistance regarding product improvements and changes.

"The individuals from RedEye have been very, very good to deal with. They're very responsive, and quite transparent."

– Dave Tose, Major Projects Manager at PowerNet

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