

BANVERKET'S TRACK RECORD

A managed environment built on Bentley technology helps Sweden's rail agency move fast and cut costs

To help maintain and upgrade more than 14,000 kilometres of track, Swedish rail authority Banverket applied Bentley solutions to build a managed environment for engineering and administrative content.

The payoff: Projects move more quickly and efficiently, saving time and expense. For still greater returns, the agency plans to widen the managed environment that connects Banverket team members and outside partners.

Collaborating with consultants, contractors, and suppliers has become critical for Banverket in recent years. As deregulation continues, the private sector plays a growing part in Sweden's rail system.

A longtime user of the MicroStation® platform and discipline-specific applications such as Bentley® InRail®, Banverket studied several competing products before choosing the Bentley® ProjectWise® content management solution for a 2000 rollout. Now, Banverket's managed environment holds more than 1 million documents.

Sharing data seamlessly

Besides its seamless integration with MicroStation, ProjectWise provided "the tools we need to share our engineering information in a secure, efficient way between departments within Banverket and with outside consultants and contractors," said Bjorn Paulsson, head of the Track and Civil Engineering department.

Bo Karlsson, who managed ProjectWise purchasing and implementation, offered one example among many:

"The technical department at headquarters owns the drawings and instructions for how to manufacture things such as switches," he said. "Before ProjectWise, the engineers often had their work interrupted by phone calls from vendors or manufacturers asking for a certain drawing."

The engineer would search file cabinets to get the appropriate microfilm aperture card, view the drawing, print it, and send off the print by postal mail.

"Now, that department has digitized all their drawings in PDF format, and opened the library so that certain vendors can access it by ProjectWise, find the drawing and print it on their own," Karlsson said.

That's a significant savings to Banverket. Karlsson estimates that before ProjectWise, the technical department spent 10 percent of its time simply filling requests for drawings—time now put to more productive uses.

Speeding workflow

More and more Banverket projects use ProjectWise to speed projects from design to construction, Karlsson said.



PROFILE

Organization

Banverket

Vertical Market

Civil

Location

Borlänge, Sweden

Project Objectives

- Maintain and upgrade more than 14,000 kilometres of railway track, while maximizing cost effectiveness
- Collaborate efficiently with consultants, contractors, and suppliers
- Create a managed environment for engineering and administrative data

Fast Facts

- Built on Bentley solutions, Banverket's managed environment holds more than 1 million documents—CAD files, project plans, policy documents, and much more.
- Banverket's focus on IT tools for efficiency helped it become one of the most cost-effective rail authorities in Western Europe for maintenance and upgrades.

Bentley Products Used

- MicroStation®
- Bentley® ProjectWise®
- Bentley® InRoads®
- Bentley® InRail®



For engineering design, Banverket often turns to outside consultants—sometimes cities apart.

Prior to ProjectWise, geographic distance slowed workflow. Consultants plotted their designs and mailed them to Banverket; corrections and comments came back by return mail. The back-and-forth process could consume weeks.

Now, consultants have access to ProjectWise. When a drawing is ready, the designer notifies Banverket; when the comments are complete, Banverket files them in ProjectWise and notifies the designer.

"Instead of taking two weeks, we're down to two or three days for checking and approving designs," Karlsson said.

"The next step may be to have contractors access construction drawings directly through ProjectWise," he said. "That could be very crucial if there's a quick change—the contractor can get instant access to the changed drawing."

A single spot for all project data

Banverket's managed environment provides a single virtual repository for project data crucial to a wide range of team members—saving Banverket the time and cost of distributing documents, Karlsson said.

"Architects, civil engineers, electrical engineers, signal and geotechnical engineers—you probably have five or six disciplines and several organizations represented in a team of up to 100 people. Now, you have only one source for information. It's all in one folder."

The managed environment handles files in AutoCAD's DWG format as easily as those in its native DGN format, as well as PDF versions of CAD files, but the system manages much more than drawings and CAD data. Team members have easy access to project plans, meeting minutes, mailing lists, relevant government regulations, policy documents, quality assurance process documents, and more.

"You can access these wherever you are" via the Internet, Karlsson said. "You don't have to carry a briefcase with tons of papers." Access control at login maintains security, giving appropriate permissions to each user.

Moving ahead with the managed environment

Banverket is currently evaluating how to take advantage of another productivity benefit from its managed environment—digital signatures, which verify the content's author and seal all changes.

"It's obvious that if you don't have to print out the drawings and get signatures on them—if you can do that digitally—that would be a big time-saver too," Karlsson said.

And besides broadening Banverket's managed environment to include more consultants and contractors, Karlsson hopes to give every PC in the agency access to ProjectWise. More than a third of Banverket's PCs now have ProjectWise clients installed.

"My vision is that it should be as common as the [Microsoft] Office package," he said. "Everyone needs a digital document management system."

That sort of thinking is typical of Banverket, which has invested heavily in information technology since 1988—the year Banverket spun off from Sweden's SJ rail authority. Banverket manages rail infrastructure, while SJ now oversees rolling stock.

Today, Banverket prides itself on being one of the most cost-effective rail authorities in Western Europe for maintenance and upgrades, thanks in large part to its focus on IT tools for efficiency.

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