

AutoCAD P&ID

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– David Callegari
Chief Draftsman
Tenix Alliance

Increased design efficiency.

AutoCAD® P&ID software eliminates time-consuming, repetitive manual processes and improves accuracy.



Project Summary

Tenix Alliance designs, builds, operates and manages water and wastewater treatment plants for corporate and government customers.

Before August 2007, the company's engineers and drafters had to create Process and Instrumentation Diagrams (P&IDs) by hand. The manual process meant it would take a long time to produce P&IDs and substantial effort was required to help ensure that the documents were accurate. These diagrams are a fundamental process design output document for treatment plant design and form the basis for procurement of major equipment, valving, pipe-work and instrumentation.

In its aim to offer better service to its internal and external customers through more accurate and timely P&ID development, Tenix Alliance's engineering team searched for a better solution.

The company then started using AutoCAD® P&ID software, an automated tool for creating, modifying and managing piping and instrumentation diagrams. Working with AutoCAD P&ID allowed Tenix Alliance to:

- Halve the time taken to produce piping and instrumentation diagrams
- Minimize overall design delivery time
- Improve the accuracy of component lists
- Gain new functionality in a familiar interface

The Challenge

Tenix Alliance is one of Australia and New Zealand's leading providers of design, construction, maintenance, operation and asset management services to the water, electricity and gas industries. Since the early 1990s, Tenix Alliance and its predecessor company have designed, built and operated sewage and water treatment plants for customers around Australia and New Zealand.

Process and Instrumentation Diagrams are critical documents that help define a treatment plant process. They are the first design deliverable to be produced and are referred to throughout the plant design, construction, commissioning and operation.

"The P&ID is the first thing any designer goes to, so they need to be a completely accurate record of every piece of equipment, valve, pump, motor, instrument and tank on site," says David Callegari, Chief Draftsman at Tenix Alliance.

Until mid-2007, Tenix Alliance had been using AutoCAD® software to do design of treatment plants. Process and instrumentation diagrams were created manually.

"When the drawings were finished, the engineers would manually count out the number of components and place that data into a spreadsheet, which was time consuming and tedious," says Callegari.

Drafters found the familiar interface easy to learn and customize.

The Solution

In August 2007, Tenix Alliance evaluated a range of P&ID applications. The team selected AutoCAD P&ID, an application built on the AutoCAD platform which leverages standard AutoCAD software features that all drafters are familiar with. Made specifically for P&ID drafters and designers, AutoCAD P&ID streamlines common tasks to boost productivity and makes component and line information available to drafters as they work.

“Our technology partner KarelCAD recommended AutoCAD P&ID, so we downloaded a trial version and used it on one of our tenders to see how it worked,” says Callegari. “It was easy to install and helped us deliver required documentation in less than half the time it would take to do it manually. By October 2007, we had AutoCAD P&ID fully licensed and were using it on all new projects.”

“As we were creating the drawings, we could generate reports directly into Microsoft Office Excel spreadsheets, and the engineers could verify the component lists,” says Callegari. “They could make changes or annotations to the spreadsheets and we could import those changes back into the diagrams automatically.”

Tenix Alliance’s drafters found the familiar interface easy to learn and customise.

“We already use AutoCAD, so it wasn’t a difficult learning curve to use the P&ID product as well,” says Callegari.

Whenever you implement a new software program, you want to be fully assured things will run smoothly, so Autodesk and KarelCAD were ready to provide support as needed while Tenix Alliance was implementing and learning to use AutoCAD P&ID.

“We do our best to help clients keep their project running while we address any implementation issues,” says Shane Morris, National Technical Manager at KarelCAD. “We have dedicated staff to support AutoCAD P&ID to ensure we do the best job for the customer.”

The Result

By automating many manual and repetitive tasks, Tenix Alliance reduced the time taken to create process and instrumentation diagrams significantly.

“When we did it the old way, creating the process and instrumentation diagrams for a large water treatment plant took about six months,” says Callegari. “A similar-sized plant using AutoCAD P&ID only took three months.”

“The major time saving came from the drafters – they found it much easier to revise and update drawings. If the engineers told us we needed a bigger pump or a different kind of valve, we could just substitute items. It became a simple search and replace.”

AutoCAD P&ID’s reporting capabilities significantly reduced the amount of time Tenix Alliance’s engineers spent working on each project.

“Instead of manually counting the number of pumps or valves in the diagram, the engineers could just run a report and have all the information they needed at their fingertips,” says Callegari. “That cut the total engineering time from two months to about two weeks.”

“The reports and the ability to automatically import changes give the engineers a much better chance of picking up any errors. They are more confident and don’t have to constantly double-check everything. It also helps with ensuring that procurement is 100 percent accurate.”

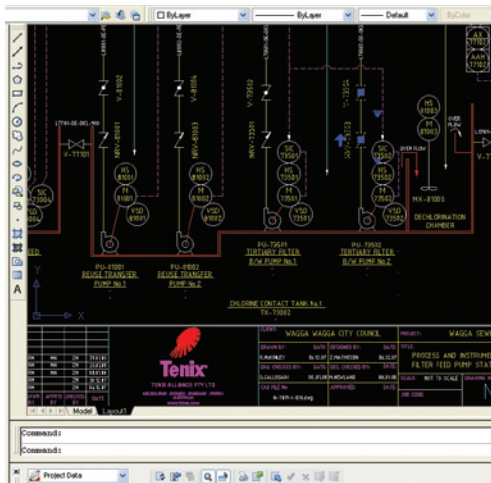
After construction, AutoCAD P&ID reports can be easily imported into SCADA systems—another considerable time saving.

“All these direct and indirect time savings enable us to deliver projects faster and more accurately,” says Callegari. “We have quickly become very big fans of AutoCAD P&ID,” Callegari says.

Learn More

To learn more about AutoCAD P&ID, visit www.autodesk.com/autocadpid

To learn more about Autodesk Plant Solutions, visit www.autodesk.com/plant



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