

COMPANY

Areen Design

LOCATION

Global

SOFTWARE

Autodesk AutoCAD

Saving thousands of man hours with design automation



By implementing a uniquely tailored CAD system, Areen Design is saving huge amounts of time and expenditure on its largest project to date – the design of a major new international airport.

With more than 25 years of experience, Areen are specialists in designing prestigious interiors across a wide variety of sectors throughout the world, including aviation, cultural, hospitality, residential, healthcare, education, and commercial design.

Areen use AutoCAD for their design work, plus various document management systems to keep track of drawings and workflow. Soon after winning a prominent new contract - the design of King Abdulaziz International Airport (KAIA) in Saudi Arabia – they realised it would take the organisation of their workflow to a new level of intricacy. With 1000 or more drawings required for each zone of the airport structure, a highly complex drawing numbering system would be necessary.

Rob Ball, Areen’s CAD Systems Manager, explains: “The contents of the drawing number, title and revisions had to match on various documents and all information had to be coordinated with an index sheet. The work was then checked by document control before being transmitted to the architect, Atkins.”

Rob and his team found they were spending many long hours manually checking and coordinating deliverables, which of course meant high costs too. “Inevitably,” says Rob, “human error crept in. When you’ve checked 50 drawings and you have another 150 to do, it’s easy to miss the odd anomaly, particularly with the frequent interruptions of normal office life. Plus, because different people do things in subtly different ways, we didn’t always have consistency across all drawings. Understandably, work containing even one mistake would be rejected, and then we would have to spend even more time correcting errors, re-checking and re-submitting work.”

The tedium of checking work on such an enormous scale was frustrating to designers. “Although our team accepted that checking was necessary and part of the job,” says Rob, “it wasn’t a time- or cost-effective employment of people with creative expertise who are paid to do design work.”

To complicate matters further, Areen has two clients to serve on this project, each with differing sets of revision codes. The construction company requires PDF files only, while the client's representative requires both PDFs and bound DWGs. These were submitted via Atkins' document control system. Producing them manually was extremely time-consuming and fraught with human error.

Struggling with these various issues and under tremendous pressure to deliver against project timeframes, Areen realised they needed a more sophisticated system. To tackle this problem, they set up an internal CAD group which came up with the idea of a central database solution to control and coordinate all the drawing information.

Areen then met with Cadline - their preferred CAD reseller, with whom they have worked for the last 15 years - and together they documented in minute detail exactly what was needed from the central database solution. Armed with knowledge of Areen's complex requirements, Cadline then built a bespoke version of AutoCAD specifically for the airport assignment and also provided database creation and development. The resulting product is the Drawing Register Application (DRA).

"The DRA allows us to make massive time savings," enthuses Rob, "which in turn help us to achieve client deadlines. The automation process means we can more accurately predict when checks will be finished. 1000 or more drawings can be checked overnight on the DRA, saving at least 20 days of work. Literally thousands of work hours will be saved over the term of this project."

For one major submittal, the DRA ran solidly from Friday evening through to Tuesday afternoon over a Bank Holiday weekend, saving Areen 283 work hours. "We simply could not have kept to the deadline on this submittal without the DRA," says Rob. "The web-based interface allowed us to access the system remotely from home to check on progress over the weekend."

Security of information has been strengthened too as staff are now required to log into the system and individual access rights can be set.

Rob says the attributes of the new software which impress him most are the automation, – "...this is exactly what we wanted to achieve..." – the astonishing time-saving benefit,

and the consistency of information. "The quality assurance checking is a very nice bonus too," he adds. Submitted work is now free of errors and the software has a built-in error log which flags up any problems.

Rob says Areen have a very good partnership with Cadline and praises them for being efficient, approachable, and friendly, and for good attention to detail. "Cadline understand our business needs," he says. "Before they began working on the solution, they made sure they were familiar with the precise nature of our problem. They've created a bespoke system which meets our requirements exactly."

Rob feels the Cadline team went "above and beyond the call of duty" when, just after implementation, they loaded a large amount of data onto the system from Areen's Excel spreadsheets: "They pre-loaded around 5000 drawings, which was a fantastic help to us."

"Our new system is very intuitive and was simple to learn," continues Rob. "We can get assistance, if necessary, as Cadline are providing ongoing support."

Areen plan to work with Cadline to adapt the software so it can be rolled out for use in other large commercial projects such as hospital and hotel design. "The system will be invaluable on such projects," says Rob, "due to the amount of repetitive work involved and the challenge of producing masses of drawings to a tight time scale."

"I anticipate Areen being able to respond more efficiently to large submittals due to the time saved," continues Rob. "We should be able to budget more effectively and even to price more effectively. We may even be able to win more business as a result."