

Case Study

Quadra Solutions Ltd

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ACWA Services Ltd is a process, mechanical, electrical, instrumentation, control and automation (MEICA) engineering company providing a design and build service for air, water and wastewater treatment systems. It is a private British company and is a subsidiary of Consolidated Contractors International (UK) Ltd. ACWA operates throughout the whole of the UK, the Middle East and other overseas countries.

ACWA is leading the way in innovative and cost effective solutions to combat the issue of air filtration, water and waste water treatment and management. Established in 1986 in Bradford, West Yorkshire, moving to their current premises in Skipton, North Yorkshire in 1993, the company has grown with the surge in the need for machinery and plant equipment which deals with these sensitive issues. As the demand for their services has increased, ACWA have had to evolve and adapt with every stage of the development of this critical market.

The most recent change that has been implemented is moving into 3D design with Inventor. Through testing and bench marking of several products on the 3D and Process Pipework market, Inventor was chosen as the product with the correct balance between detailing and ability to route and list pipework. It also has the easiest level of user input and interaction with the Autodesk family of products.



“Inventor provided us with the flexibility and versatility to model individual components within a plant design and have all these parts working together in one streamlined process.”

Andrew Fishwick, Mechanical Engineer.



Autodesk is not new to ACWA or Andrew. ACWA have been using AutoCAD for over 17 years and found it an easy and straightforward piece of software. The new direction for the design team was into 3D which allowed them to not only design and implement individual components into a design and see how they work, but enabled them to compile accurate bills of materials which eliminates any costs involved in over-ordering materials on large Pipework schemes.

Andrew continues; “The main advantage I have experienced so far with Inventor is that it can accurately list routed materials. Our main issue before were errors in material listings, and changes from suppliers and customers accumulating onto many drawings. Inventor streamlines this process and allows us to get on with the

real job in hand - designing.”

The other benefits ACWA finds is that Inventor simplifies the process of changing elements in a design in that any changes made to the 3D model are automatically updated in the 2D drawing. This ensures that design modification times are reduced and repetitious changes are automated and in turn the associated costs with a lengthy design process are minimised.

Inventor has completely changed the balance of where we spend our time designing. Previously most manpower was spent routing pipework and making sure valve trains were correctly positioned. Inventor routes pipework automatically so we can now spend far more time on the design process. The time we save on the pipework is to us where the real business benefit comes from, simply because it allows us to focus on the important elements of the design – process, layout, ergonomics and safety issues of plant design for access and maintenance.

Andrew Fishwick, Mechanical Engineer

When choosing which 3D software to upgrade to, Andrew admits this was a lengthy process and involved a high level of technical evaluation including looking at all of the competing packages in the 3D market. Inventor was the right fit for



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ACWA as it supports and streamlines their daily processes. Inventor enabled the design team to be able to use legacy data from AutoCAD and bring that into the 3D environment which meant that nothing was lost in the transition. The business is a solid Autodesk software user having employed AutoCAD for 17 years so Inventor was a familiar environment in which to work.



“The one element of Inventor we were new to is the Vault. We found that it worked intuitively, all the work in the folders just dropped into Vault and check in and check out seems to run by itself. Vault to me works automatically, it’s nice and secure, and it has worked seamlessly for us.”

In late 2007, Quadra approached Andrew and organised a demonstration of Inventor. The Quadra technicians demonstrated exactly how Inventor could be used in their business by modelling a legacy design up into 3D.

“We have known Quadra for some time now and when they came in and demonstrated the capabilities of Inventor with one of our own designs we were confident it was the right choice. Quadra is a local company and whenever I deal with them they are always very friendly and they really know what they are talking about.”

As with any investment, ACWA was keen to see the returns as soon as possible and to maximise the effect this kind of investment would have on their business.

“We had the training at Quadra which was really good and it was very straightforward. Once we had completed the basic training, we went on to book a bespoke course and that was spot on, covered exactly what we needed to know. We are just in the process of putting together some more dates for training more personnel with Quadra.”



Andrew Fishwick, Mechanical Engineer

In order to reduce design downtime and to streamline the transition from AutoCAD, ACWA also employ the technical support from Quadra. Andrew and the team feel secure in the knowledge that in this very early stage of the adoption of the new software that if there are any problems whatsoever, they can pick up the phone and get through to a qualified technician who will be able to help. The technical support at Quadra also acts as a learning aid in that if the issue that arises has come about from human error, the technical team will demonstrate

how to avoid this issue arising again.

“The technical support we get from Quadra has always been excellent and very quick to respond. The way they correct any errors is very effective and as we are still quite new to the software and are still in the process of learning, the tech support team are helping us to develop how we operate the system specifically to what we need.”

Andrew Fishwick, Mechanical Engineer

In the near future, Andrew and the team are embarking on a steep learning curve which will see their design productivity soar. Once up to speed with the help of training and with the support of the technical team at Quadra, ACWA are confident that they can surpass any design expectations. ACWA are now in the process of doubling their seats of Inventor and are eagerly anticipating faster turnaround times, fewer design iterations and the innovative development of their services.

“In the future I look forward to working closely with ACWA and helping them to achieve what I know they are capable of with this software. The advances they have made so far are outstanding and I think with their progressive and forward thinking attitude they will do very well with Inventor.”

Ben McGovern, Autodesk Product Specialist, Quadra Solutions



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