

Case Study

Briggs of Burton delivers prestige brewery on time with CADWorx® plant design automation software.

A reputation spanning 260 years

The Briggs Group is involved in Brewing & Distilling, Food, Pharmaceutical, and Health & Beauty, providing process engineering solutions for a number of the World's leading companies. Briggs enjoys an outstanding reputation, with an engineering heritage that goes back over 260 years. The company is based in Burton-on-Trent (UK), and has a second site in Holmes Chapel and wholly owned subsidiaries in Rochester, NY (USA) and Bangalore (India). It has over 200 employees in total and a reputation for innovation, flexibility and engineering excellence.

Switching to COADE

Briggs decision to change its design software was market driven; the company wanted software that could deliver additional functionality, handle increased sophistication and improve efficiency. Briggs now offers clients "intelligent solutions" and associated 3D models by using COADE's Plant Design Solutions, CADWorx Plant Professional® and CADWorx P&ID Professional®. Briggs Engineering Director Keith Poynton says, "We can better fulfil our client needs, as CADWorx® has an open architecture that is very easy to customise. Every client typically has a unique set of specifications, CAD standards and P&ID symbols. Client requirements are now quickly incorporated into the CADWorx library, delivering bespoke components using the specification editor supplied with CADWorx Plant Professional®."

Briggs uses its own infrastructure, modified to meet client requirements. A partnership is developed that is mutually beneficial. This approach is a key part of Briggs "A Frame"® Process Engineering toolbox - a suite of flexible tools and methodologies that have been key to Briggs securing several major projects and a reputation as being at the leading edge of the Process Engineering marketplace.

Improvement of deliverables

In adapting to CADWorx®, the creation of new symbols and AutoCAD® functions required little additional training and what ongoing training is required is done in-house. There is no major difference between the new CADWorx® interface and AutoCAD®, except significant productivity gains.

Briggs CAD Engineering Manager, Clive Green. "Where do benefits come from? Take a Briggs butterfly valve symbol as an example. A client valve can be completely different. We take the valve created with CADWorx® and re-draw the client symbol. It then looks exactly as the client requires, but our symbols carry attributes which link to the Briggs database. As we insert them into our existing infrastructure, it delivers significant benefits without "re-inventing the wheel" on each project. The client gets what they require and we have the essential data that we need, in a database format that is common across our client base."

Projects and challenges

One of the most challenging projects to date was a major project for a brewer in North America, to demanding timescales and incorporating some of the most modern technology and manufacturing methodologies in the world. The client cannot be named, but the project incorporated two new brew lines, fermentation and aging equipment, a new rail spur and several new structures to house controls and related processes. The new "A Frame"® approach brought major benefits in terms of time, cost and quality.

A team of 22 people was split into smaller units, responsible for Mechanical, Process and Electrical installation. A major engineering company held the role of Principal Contractor and Briggs acted as Process Design Consultant. Clive Green was part of the team and recalls: "The final design was good and required little modification - though the inevitable iteration was made easier by CADWorx®. A central model (master) was kept up to date during the project and this was supplied to the client at handover. The plant photographs verify how closely Briggs achieved construction compared to the original model. When we show new starters to the business, they are astonished by how much the model resembles reality."

CADWorx® has recently been used as part of Briggs "A Frame"® approach on a number of other major projects, including a pilot plant for TMO Renewables of Surrey UK. TMO went from shareholder approval of the project to first batch in approximately fourteen months.

Model to Reality



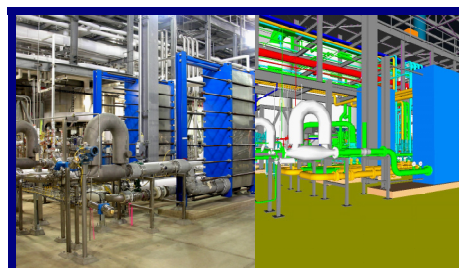
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"We took the software to the nth degree and customised it to deliver everything we wanted."

This included land search, UK planning approval, construction of the facility and the design and construction of a leading edge process scheme - with many new and novel elements.

Another *current* example with a longer timetable is the construction of a large and highly prestigious new Scottish distillery. This is for a blue-chip client who has very clear strategic vision, a "World Class" reputation and who demands the absolute best management practice.

Nothing to benchmark against

When Briggs first contemplated CADWorx® it wanted to make sure it selected the most appropriate Plant Design solution. Clive Green again "Fern not only provides what we felt was the best software, but was also able to offer it with a high level of professionalism and at a competitive price. The North American brewery was the first project completely based on 3D models. Incredibly, no change of procedures was necessary, as P&ID centralises the control of all the engineering data. In terms of comparison, there was nothing to benchmark against from our previous experience - because it was really new ground." This is the advantage of the intelligent model system that COADE® delivers. It updates automatically and without issue, changes are easier to implement than traditional modifications to AutoCAD® sketch models. Clive added, "to a man, none of our engineers would return to a 2D environment, although initially they resisted the change to the CADWorx® system."

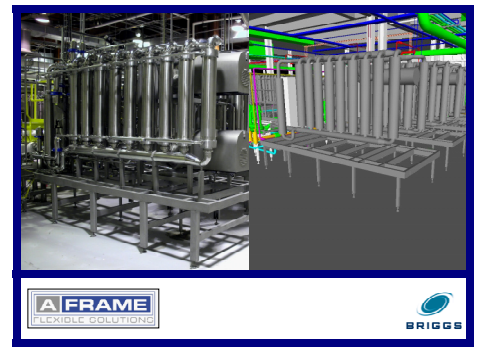
Benefits from CADWorx flexibility

Clive Green comments "we tailored CADWorx Plant Professional® to record isometric regeneration - recording data and revision of isometric outputs. Effectively we achieved revision control of all isometric outputs.

From the database, we could obtain reports of where and when isometrics are generated, when they were sent for fabrication and so on. Control was achieved principally by creating a field in the CADWorx® database. When construction issues occurred on site, we located the isometric information, quickly. We even supplied duplicate copies of up to date drawings when requested. This was an absolute dream."

"Design review played an essential part in the project's success; including Engineering Review meetings where Briggs design team, client operations and engineering staff all reviewed the project on a daily basis. The design was effectively done in the office *before* hitting site. Our historical engineering model relied far more on creating "as built" to reflect changes during construction. With CADWorx® there is more emphasis on getting the design right *before* construction - and we take the opportunity to collapse many other timescales. For example the client's maintenance team can walk the job before it gets built. Their early input makes for a much improved design. The changes that were noted in each meeting were then put into practise. It was a very intense but productive process. Every aspect of the design was recorded, shared with the client and some of these concepts are now incorporated into future projects.

"CADWorx® is now an integral element of our "A Frame"® approach. We enable engineers and perhaps more importantly many other interested parties, to see exactly what they will get, long before they get it. There is a major impact on timescales and the quality of our design."



"Standardisation improves the workflow. The right software, training and working on the project as a team, led to the successful completion of this project."



Fern is a leader in CAD/CAE solutions for the Power, Process and Petrochemical industries. It offers its customers progressive business solutions through powerful technology products and services. Fern distributes COADE® engineering software, including CAESAR II®, the world's foremost pipe stress analysis software, throughout the UK, Ireland, Scandinavia and Western Europe.

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