

Buro Happold Commits to Better, Faster Design with AutoCAD MEP

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Jon Hardy, Engineering Systems Development Manager.

Project summary

“Our approach is to influence the form, fabric and functionality of the development at an early stage in the design process,” states the global structural and building services consultancy Buro Happold.

The company has developed a reputation for pushing the boundaries – as well as identifying major industry shifts in thinking. For example, it is committed to design building services that reduce energy consumption and working closely with other disciplines to ensure these are an integral part of the design. This goes hand in hand with its desire to deliver best value for its clients.

This attitude is mirrored in its choice of software. Always ready to try new ways of design and experienced at spotting important trends, it first moved from AutoCAD to AutoCAD MEP two years ago in order to explore the benefits.

Buro Happold recently invested further in AutoCAD MEP and now has 22 seats. “There will always be building services projects designed in 2D,” says Jon Hardy, engineering systems development manager, “but AutoCAD MEP enables us to work in both 2D and 3D to improve the quality and efficiency of service.”

Buro Happold is currently working on a long-term (private finance initiative) PFI schools project where the majority of the drawings have been produced in AutoCAD MEP and has begun to extend its use throughout the entire organisation. “The project co-ordination is significantly improved and design times reduced,” he says.

A choice of three

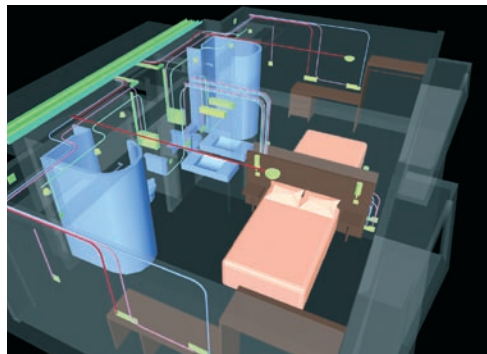
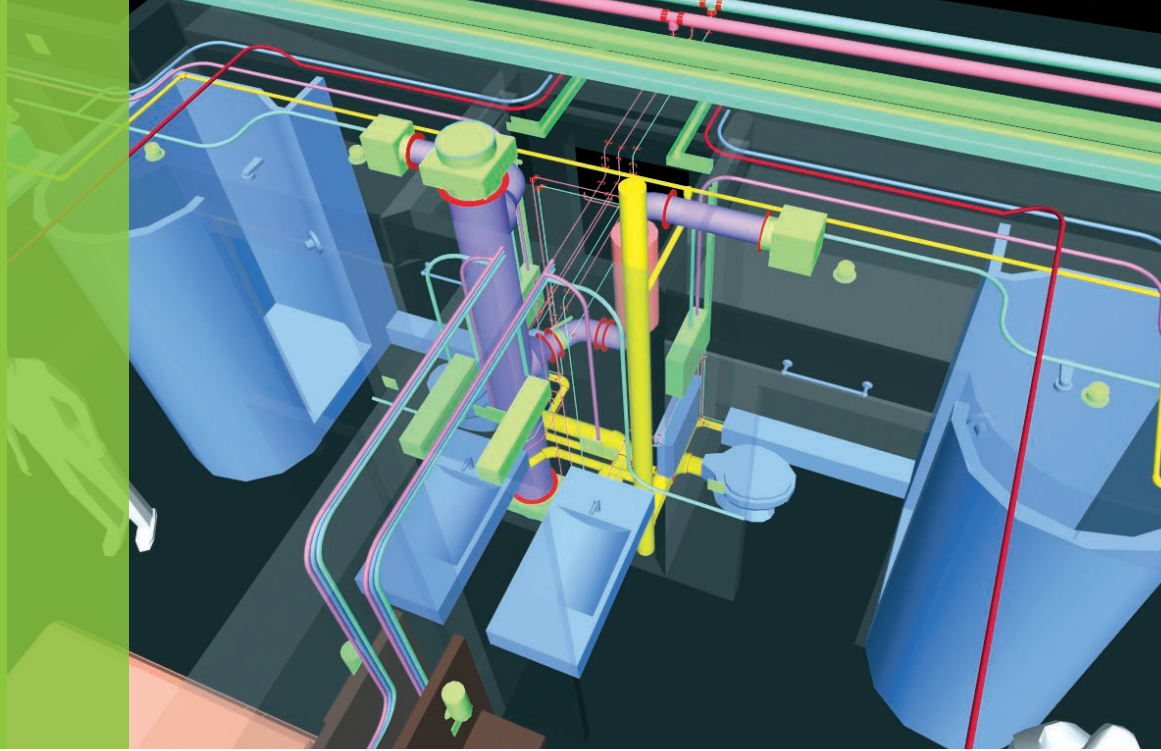
Eager to be one of the first companies to try a new software product tailored especially for building services engineers, Buro Happold bought an initial 5 seats of AutoCAD MEP and the Leeds office started testing it within months of it coming onto the market.

As Hardy explains, at the time, they looked at three different systems: CAD-Duct, BS Link and AutoCAD MEP.

“But, as an organisation, we had used Autodesk products successfully for many years,” confirms Hardy. “It seemed the next logical step to try AutoCAD MEP to test the scale of benefits.”

The Leeds office was involved in a number of PFI schools projects and were looking to switch its complete service technician’s department to AutoCAD MEP to enable faster, more accurate analysis and design resulting in higher quality design outputs and better building performance. Their structural department had successfully moved to a complete 3D model environment and as most of their work was multi-disciplinary it made clash detection easier and the final product for them is much improved.

Hardy reports that the software proved especially valuable for project co-ordination. This significantly improved and design times reduced.



Although progress in Leeds was good, because of pressure of work it was a while before use of the software was extended to other teams. "However, we recently attended a seminar at Autodesk's headquarters in Farnborough, Hampshire to learn more about the latest release of the product and could see that it had matured even further.

"We made the decision to commit to AutoCAD MEP and work with Autodesk reseller CADline to implement more seats." One of the many factors in the decision was that this meant we would link the latest version of AutoCAD MEP with CADline's own engineering analysis application – a tool for calculating and analysing heating losses and gains by room, by zone or for the whole building.

The Bath office is now working on a PFI schools project and getting so comfortable with the software that it is moving to designing the entire building services in AutoCAD MEP. "There have been great gains in both co-ordination and productivity," says Hardy.

"And importantly, the client likes it as the building model enables them to see exactly what is going on and the status of the project. This is really one of the biggest gains and the ultimate aim is that we win a lot more projects on the back of what we have done here."

Now Hardy has the task of implementing AutoCAD MEP across Buro Happold's other regional offices. He recognises the need to have a small group of engineers who "champion" the software, leading the way to show and inspire the rest as to what can be done.

He is realistic enough to identify that some people are quite nervous about using something new. "Some engineers here have been using AutoCAD for ten to 15 years so change can appear a major step for them. But with the support of one of the partners who would like to see the whole building services side of the practice using this software within 12 months, and the help of Autodesk and CADline to overcome any hurdles, the future for AutoCAD MEP is good.

"With AutoCAD MEP you exchange arcs and circles for objects that are 'intelligent' – that is they know what they are and how to connect together to create systems. It actually enables you to assemble systems in drawings exactly as they would be installed during construction.

"However, because the solution is AutoCAD-based, it does enable users to progress at their own pace and for us to implement new design tools to our own timescales. Besides, building services engineers will always need to do some of their work in 2D so it's good to be able to design in either," he says.

But despite this, he believes that AutoCAD MEP and, eventually, designing in 3D is the way forward. "Just take trying to fit intricate designs into a small space. We worked on a project in London that had very complex plant over three floors – AutoCAD MEP gave us great spatial awareness and its clash detection ensured we were alerted of any potential problems.

"Also, its ability to identify clashes between the structural and service models early and resolve them at the design stage rather than on-site will prove to help save further time and costs."

"Of course, as an increasing number of engineers use AutoCAD MEP, they will enjoy further efficiencies ranging from 2D drafting productivity, integrating with analysis applications to identifying on-site construction issues via a fully-co-ordinated services model," says Andy Glyde of CADline. "And, as a relatively early adopter of AutoCAD MEP, this will give them a real competitive edge."

Hardy agrees: "And the crunch point is that our clients have responded positively to our improved design capability."

For more information

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