

WEIR PUMPS

CASE STUDY

Weir Pumps is projecting a 50 per cent reduction in drawing time and expects to halve the time to market for new products, following the implementation of SolidWorks at their Manchester and Cathcart sites.

They are currently using 12 seats of SolidWorks and due to the success and speed of the implementation, they are now looking to standardise on a SolidWorks solution. Weir is so impressed by the immediate gains, that they are looking to accelerate the installation of the next 12 licenses.

'It is already clear that the system will allow us to bring new products to market much more quickly and help us identify and rectify potential design problems before we get to the manufacturing stage,' said Weir's engineering director Nick Muntz.

A strategic business review, proved that the adoption of a 3D CAD system would yield the benefits of significant cost reduction, by employing optimisation techniques, whilst enhancing customer value through reducing lead times.

Additional projected benefits include a 40 per cent cut in engineering contract time, and the ability to integrate design and manufacturing processes. Visualisation of pumpsets is already beneficial to design and manufacture, and will also assist with client installations and maintenance regimes.

We now produce a 3D model, refine it to get the best use of materials using rapid finite element analysis (FEA) techniques, and verify the suitability of the hydraulic flow at rated and off duty flow conditions, using our computational fluid dynamics (CFD) package,' Muntz said. 'The model is then passed to the foundry methods engineers, to verify the suitability of the cast form and to ensure optimum cooling with minimum potential shrinkage. The methods engineer can then also add chills and the runner and riser systems.

Any modification is incorporated into the model and then passed back to engineering for confirmation that the change has not affected the required integrity of the finished pumpset.'

As part of Weir Group, Weir Pumps is one of the world's top six pump manufacturers and have been in the business for 130 years. Weir Group supplies a range of industries including oil, water supply, water treatment, drainage, subsea and offshore sectors.

Weir did consider other options but NT CADCAM was able to provide a total solution with Piping [now known as SolidWorks routing], FEA applications, Design Data Management, and a training and consultancy program, which promised a fast installation. 'A rapid implementation was needed to minimise disruption to the heavy engineering workload and ensure that we could obtain the benefits as soon as possible,' Muntz said. 'The key to the success was bringing on board a supplier with the drive and commitment to meet our needs.'

NT CADCAM was the original SolidWorks VAR and is now the largest in the UK with well over 3,500 seats installed at over 1,200 customer sites. With its head office in Buckinghamshire, and regional satellite offices throughout the UK and Ireland, NT CADCAM is ideally positioned to provide the highest levels of support, training, and consultancy, combined with local account management.

NT CADCAM prides itself on its ability to provide complete end-to-end design and engineering solutions. The company covers most disciplines of mechanical engineering and manufacturing, and this breadth of products combined with the depth of engineering knowledge and experience means that when you choose NT CADCAM you won't have to look elsewhere for analysis, machining, or product data management tools.