

Still moving the earth, despite a recession

About Thwaites

You have to be single minded when faced with a huge drop in demand. By early 2009 this was the challenge facing the whole of the UK construction equipment industry and Thwaites was no exception. Over six decades the company had built a reputation for the strength, reliability, safety and ergonomic design of its dumpers. The UK had always been the biggest market, and when the domestic construction industry had come to a comparative standstill Thwaites knew it had to be even more efficient to secure its future. NX and TEAM Engineering are providing the technology and the expertise to help Thwaites do just this.

Engineering manager David Reed does not underestimate the problems but he remains calm and clear. "This is a difficult time but we have our own manufacturing facility, including sheet metal design. We have invested in the company and because we specialise in one product we are always looking to innovate and protect our core business."

Challenge

"With the gradual disappearance of UK component suppliers we've had to buy from abroad which is now proving to be more expensive with the current exchange rate" reports David. "At the same time other OEMs are selling off stock machines to raise funds which puts downward pressure on sales prices. So we are paying more for components while customers pay less for the machine, which results in profits being squeezed from both sides hence the need for us to be even more efficient."



Advanced assembly design tools are used to quickly display and manipulate fully-designed models

Solution

The company had already made huge leaps in efficiency when it moved from 2D drafting to 3D design in 2000. "It began with a project to redesign our complete product range. We then started to understand the potential for cutting development time, typically 12 months, and began investigating CAD systems," explains David.

"We have very large assemblies and needed something to manage them effectively. We looked at both high and low end solutions. One important requirement was for CAD to integrate with our existing CAM systems such as laser cutting steel sheets and we found that Unigraphics was easy for our existing design engineers to pick up. This led to a completely different way of designing, starting with the complete model rather than individual parts. We were conscious of how easy it was to design and as a result made many enhancements to the product, one example being the driver's environment."

Thwaites later migrated to NX but linking to its manufacturing applications proved somewhat problematic. "A smooth transition between design and the robot world of manufacturing is essential to us and we were getting frustrated. Our existing support contract was expensive. We could not get hold of people when we needed help and did not feel we were getting value for money."

Products

NX

Services

*Training
Support*

Business initiatives

Product development

Industry

Earth moving vehicles

Contact

www.thwaitesdumpers.co.uk

Location

*Leamington Spa,
Warwickshire*

"I am very impressed with Team Engineering and the support we have received so far. It's all down to the people and I am confident about our continuing relationship and our progress with NX"

*David Reed,
Engineering Manager,
Thwaites Ltd.*

Results

That is why Thwaites turned to TEAM Engineering. "I was wary because a good relationship is all about people," says David. "However we talked about what TEAM Engineering could do for us and how they would do it and they came up with a new package which was cheaper than our old support contract."

By 2003 Thwaites had transformed production; slashing development time by 50%, saving about two months and £6-8000 in staff costs on a normal project. Until then, the company's seven-stage development process had included a complete trial build process as step number five.

"We were able to cut out that stage altogether" comments David. "We design, build, test, refine and create tooling with the 3D model and then only need to make a small batch trial for the physical testing process."

"I did not feel that we were getting value for money previously. Team Engineering was prepared to offer us a new package that cost us less and this was very welcome. Not only do we have a better rate we have a better service and are able to get more out of NX"

*David Reed,
Engineering Manager,
Thwaites Ltd.*

Thwaites also found that product design accuracy started to improve because the team could visualise the whole machine and complete clash condition of multi part assemblies. "We can also strain gauge our major components complete Finite Element Analysis (FEA) and if we have real-life test failures go back to the FEA data to resolve the issues without necessarily repeating the physical tests. Previously we built several prototypes of new models prior to the final production specification being completed. With NX we get a lot closer to production specification with almost a perfect fit first time, with savings made in development time and project material costs."

One of the most significant advantages to Thwaites is that NX integrates well with our Radan sheet metal and robot weld programming CAM software, which the company uses to laser cut metal and fabricate steel assemblies. "NX enables us

to achieve much greater accuracy in our sheet metal processes because we can bring the solid model through into other software packages".

With TEAM Engineering's consultancy and implementation assistance Thwaites has recently migrated to NX. "Our training session was excellent, very detailed and useful, particularly for the engineers who do jig design. Our problem is always managing the critical links with other application software such as Radan and that is working out fine. Team Engineering definitely knew what they were talking about."

Keys to success

"I did not feel that we were getting value for money previously. Team Engineering was prepared to offer us a new package that cost us less and this was very welcome. Not only do we have a better rate we have a better service and are able to get more out of NX," David concludes.



An efficient design process is key to Thwaites' continued growth



Thwaites use human modelling in NX to validate their designs

About TEAM Engineering

AT TEAM Engineering, we take pride in our approach to customer Service and Support. As a group of experienced engineers, exclusively focused on Siemens software, we really are committed to supporting you in the best way we know – as a TEAM. Our Customers really do come first.

Founded in 1997, TEAM Engineering are now the longest established reseller for Siemens PLM Software in the UK. With offices in England and Scotland, we are geographically well placed to support our growing and diverse customer base. Our training and support centre is hosted at our southern office; from here we can manage and track your support calls. All our customers have secure online access to view their call status and access our knowledge base.