

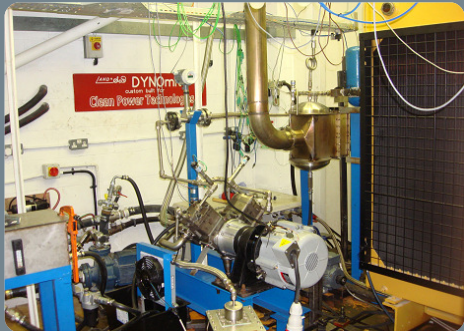
Get ready for 21st century steam power

About Clean Power Technology

Volatile petrol prices complicate long term planning and whatever the cost, environmental regulations have to be met. Remaining competitive is a constant pressure and Clean Power Technologies Limited has come up with a neat solution: optimise fuel consumption whilst minimising pollution. To ensure that it travels smoothly from innovative idea to customer delivery Clean Power uses NX and Teamcenter from Siemens PLM Software, supplied by TEAM Engineering.

The company is developing a method to harness the wasted heat energy from the hot exhaust (which can account for up to 36% of the calorific value of a truck's fuel) and use it to produce free electricity from superheated steam. The first product to market will be an exhaust derived power source and retrofit for refrigeration unit truck trailers.

This hybrid fuel technology will also be used to provide a way to capture the wasted energy from the combustion of methane, a major greenhouse gas found on landfill sites, and use it to generate electricity that can be fed into the national grid.



CPT test their designs using several on-site test cells containing working diesel engines

Challenge

Director, Mike Burns, notes the company's biggest challenge: "We are planning to launch our first product in May 2010 with full production beginning in January 2011. During this time we need to make the transition from small research organisation to international manufacturing company. Keeping careful control of drawings and analysis is part of that process. A one month delay due to lost data could cost us hundreds of thousands of pounds."

Solution

Mike's introduction to TEAM Engineering came when he was experimenting with vehicles in his own garage. "They came along and we spent two days using NX to model and analyse some concept designs. I really appreciated their efforts and when it came to choosing a design system for Clean Power, they were right in the frame. We looked at a range of solutions, including some cheaper, low-level applications but in the end we decided to create the complete production environment that we knew we would ultimately need. We chose NX because of its strong analysis module and the way it joins up design and production through its machining and drafting package."

Clean Power Technologies first bought NX several years ago. "We soon had a variety of drawings, using our own numbers," continues Burns. "It got a bit confusing and we knew we had to control revisions more effectively. Teamcenter was clearly the answer because it manages both data and processes." TEAM Engineering worked closely with Clean Power in order to organise engineering data, install a dedicated server and train users. "They really supported us and every time I am on the phone to them they are very responsive. If they do not know the answer immediately they always get back to me."

Products

NX

Teamcenter

Services

*Training
Support*

Business initiatives

Product development

Industry

Hybrid fuel technology

Contact

www.cleanpowertech.co.uk

Location

Newhaven, West Sussex

"NX and Teamcenter have given us change control, traceability and the flexibility to make quick amendments. TEAM Engineering have supported us throughout"

*Mike Burns, Director
Clean Power Technology*

Results

Being a small company the four engineers had previously kept files on their own computers. Now all drawings and documents related to a model are stored in one place and checked out as required. When files go back in they are identified as a different revision level and at engineering sign-off the model is frozen for release to suppliers. The ability to change a model can be limited to certain users yet access can be given to those on the shop floor.

Mike Burns describes the manual change control system used previously. "An engineer who made an amendment had to fill out a form and everyone else would import this into their drawings. It was not reliable and if we were still operating like that we would need one more person, an extra 25% capacity, just to manage change control and drawing releases."

Burns notes that from a production engineering point of view it is crucial to know exactly what has been released to a supplier and what changes have subsequently been made. "We may release data for prototype tooling one month and data for manufacturing tooling several months later with the second phase being 100 times more expensive than the first. We cannot afford to make any mistakes."

“Teamcenter reduces problems with revision control whilst allowing for a greater degree of file sharing within the engineering department and the company as a whole”

*Gareth Storoszko,
Senior design engineer*

As the engineering team did not have a relational database before, they had problems with revision control of components and adequate storage of data. Senior Design Engineer Gareth Storoszko reports "This was not a big issue when we had a small number of components, but as our business grew we began to lose track of components and current revisions as well as relationships between components, drawings and assemblies. This cost us a lot of time finding files and rectifying file relationship problems. These issues have been eliminated since our switch to Teamcenter because each component has a unique identifier to which all data is linked, so it is much quicker and easier to locate data referring to that part.

Teamcenter also allows for cross referencing of data without the need to copy and paste files. This reduces problems with revision control whilst allowing for a greater degree of file sharing within the engineering department and the company as a whole".

Mike estimates that everyone is experiencing 10% less waiting time because of the option to load a model in light version for a quick look. "This also supports collaboration as it is much easier for us to view and discuss a design."

With NX and Teamcenter on one server, the licensing and upgrade administration is easier and Clean Power's IT specialist Steve Wilson says that this has freed up 10% of his time. In addition he has saved time on the back up process which is now automatic.

Keys to success

"What will be extremely powerful further down the line will be the ability to reduce weight and cost to a minimum," remarks Mike Burns. "During the design phase we do not know exactly how a particular supplier will make something and when we actually release a drawing the supplier might be able to suggest a way to save money. If so, we want to be in a position where it is easy to make a change to the design and re-release the drawing."



To reach a global market, CPT also have offices in North America



CPT model their equipment in NX to guarantee a fit to the vehicle

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 center 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 our call status and access our knowledge base.