

# Making the Right Noises with CATIA V5

CLF Technologies Limited (CLF) develops exhaust systems for various prestigious Automotive manufacturers. The company recognised the limitations of its previous CAD system, and took a strategic decision to implement V5 PLM solutions to support its aggressive plan for future growth.

**B**ased in Tibshelf, Derbyshire, CLF specialises in the design, development and manufacture of complete exhaust systems including Manifolds, Catalyst Assemblies, Mufflers & Tail Trims for a wide range of applications, including petrol and diesel engines.

With sales of €14 million per year, the company has grown significantly over recent years, and is located in a modern purpose-built 4,000m

A hydroformed manifold.



factory. Its facilities include a Production Manufacturing area, Tool Room and Production Development Centre.

### HIGH PROFILE CUSTOMERS

CLF has been particularly successful in developing solutions for high performance cars. For example, it has a relationship with Aston Martin, to design and manufacture exhaust systems for the DB9 and V8 Vantage. It supplies BMW, with a factory fit tuning kit option for the John Cooper Works Mini Cooper S, Ford with the complete Mondeo ST 220 system, as well as Bentley, Lotus and Jaguar.

Long term business relationships are also established with Prodrive and with Arvin Meritor. In addition to serving the Automotive OEMs, CLF also addresses the sports accessory market and motorsport and offers a range of specialist applications including military, off-highway,

### HYDRO FORMING EXPERTISE

CLF has developed its own Hydro Forming centre. Using the principle of high water pressure to form and manipulate the tube, hydro forming can be used for a wide range of products, and not just for exhaust components or for the automotive industry.

Although hydro forming has been in existence for many years, the usually high investment required means that it has only been feasible for high volume manufacturers to use the technology.

Through this investment, CLF can now offer hydro forming to low volume vehicle manufacturers for both exhaust components and other tubular section parts as well as other industries that use tubular section in their design.

### CATIA V5 IS STRATEGIC

During 2002 CLF decided that its existing CAD system had too many limitations, and would not enable to support the companies growth plans future growth. The need for PLM was identified and various options considered.

Says CLF Engineering Manager, Tim Weeds, "To be honest, if we had made a tactical decision it would have been to simply use the same system as one of our major customers at that time. However, we sensed that the whole Automotive was likely to move to CATIA V5, and we wanted to use the future industry standard PLM system. So we selected CATIA V5, and our decision has certainly been vindicated as it has become the common solution for OEMs."

### MULTIPLE USES

Continues Tim, "Today, CATIA V5 is used in several main areas. The first is to generate customer proposals and develop the early conceptual models which help to win new business. We often visit a potential customer and show him our proposal running CATIA V5 on a laptop. We find this to be a very effective approach, particularly as we can make changes there and then to exactly match the customer's requirements.

Next CATIA V5 is used to produce all the detailed models and drawings that are required. These include homologation drawings and everything

that is required to manufacture the system. Existing customers now have so much confidence in our proposals that they often sign-off for prototype exhausts based on CATIA V5 models and associated documentation. Also, when changes are requested, we can respond more quickly than with previous systems."

The jigs and fixtures that are necessary to assemble and manufacture the exhaust systems are also designed with CATIA V5. These ensure that the exhausts are manufactured to specified tolerances. In fact, CATIA V5 is also used to optimise the number of exhausts that can be transported in standard pallets or stillages.

### APPLIED'S PLATINUM SERVICE

CLF purchased CATIA V5 from IBM/DS Business Partner Applied which has recently relocated to Castle Donington. Mike Flower, Joint Managing Director of CLF is very positive about Applied, he says, "They seem to solve all our problems, so issues just don't get escalated to me. If you ask me the question, do they delight us, then I would have to say the answer is yes. Their service is in stark contrast to other software vendors we work with".

Tim Weeds agrees, "He have good experiences working with Applied, from their early training courses, also their 'mentoring' days when they come on-site and help us. They have also

saved us a lot of time and effort by identifying any problems we have with CAD files coming from our customers. They pinpoint the problems very quickly, and advise us what to recommend to clients in terms of settings and parameters.

### THE ROAD AHEAD

As for the future, CLF plan to exploit more of the functionality of CATIA V5, by for example, using Knowledgeware for Cost Management. Since designs tend to evolve during a project it is important to be able to identify immediately the impact in cost and also to play 'what-if' scenarios. Also, CLF have already purchased ENOVIA SmarTeam and this will be implemented as the standard PDM system and be interfaced to the company's new MRP software.]

For more information:  
[www.clftechnologies.com](http://www.clftechnologies.com)

Assembly fixture for high performance exhaust system.

