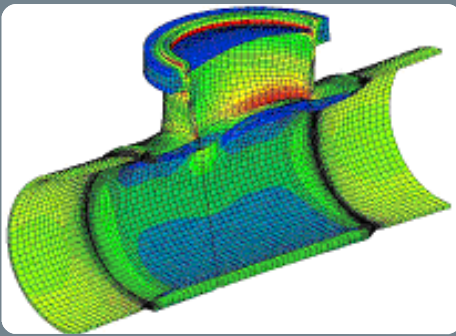


Ensuring survival of the fittest

About TRaC

Shock, vibration, weather, water and fatigue can all interfere with function. The ability of a product to withstand the environment in which it has to operate, be stored or transported is crucial to its commercial success. From domestic washing machine components to national gas grid equipment, computer simulation and physical testing play a key role in the design and manufacture process and TRaC is a leader in this field. TRaC's engineers are highly sophisticated FEA users, software developers and trainers. These advanced analysts look to TEAM Engineering to provide FEA solutions and support.



TRaC chose a complete simulation package from TEAM and Siemens PLM software

TRaC is unique in the UK, providing environmental testing and FEA expertise under one roof at its large, state of the art centre in Warwick. "Simulation sits cheek by jowl with physical validation" explains Peter Moir, Technical Director. "Analysis engineers have first hand involvement with the testing of structures they have simulated. They can, for example, analyse the model of a piece of equipment destined for an aircraft galley then physically simulate the stress of repeated use in flight conditions, so validating computer predictions. By highlighting potential problems at an early stage, we can help our customers avoid costly errors."

Challenge

TRaC provides comprehensive, independent and confidential services to customers in aerospace and defence, civil engineering and consumer markets. The company's core expertise lies in evaluating the behaviour and performance of products after exposure to challenges such as vibration, temperature, humidity, dust, applied force, pressure and gravity. To complement this, the in-house finite element analysis group have high expertise in dynamic, vibration and fatigue analysis, simulating environmental conditions in order to ascertain a product's reliability.

"For many years we were using a version of Nastran supplied by MSC, whose authors were involved in the original development of the public code," comments Peter Moir, Technical Director. "However we found that this was not keeping pace with the demands of industry. We recognised that we needed a better version of Nastran and a more suitable supplier so we put together the case for change."

Products

NX Nastran

Femap

Services

*Training
Support*

Business initiatives

Product testing and validation

Industry

Engineering consultancy

Contact

www.tracglobal.com

Location

Warwick, Warwickshire

Femap enables us to bring in data from various systems, NX Nastran gives us range and capability, whilst TEAM Engineering provides outstanding support

*Peter Moir,
Technical Director,
TRaC Ltd.*

Solution

After assessing what was available in the marketplace TRaC selected NX Nastran with Femap® FEA pre- and post-processor from Siemens PLM Software supplied by TEAM Engineering. Peter explains the choice of supplier: "TEAM has a bias towards engineering and this underpins the service given. Other suppliers come from a software point of view. A computer programmer may know which buttons to push but rarely understands how engineers will use an application. We thought engineering understanding was best provided by TEAM."

Results

According to Peter Moir it is difficult to give cost / benefit figures that are truly meaningful. "Because of NX Nastran's capability and Femap's ease of use we know we are more efficient; but to try to accurately quantify that is difficult at best. Humans are not like machine tools which can be measured and compared. What we have now is the subtlety that permits a sophisticated user

"NX Nastran is widely used and recognised. Likewise, Femap has considerable standing. This means that people understand and respect the results we produce with these tools"

*Peter Moir,
Technical Director,
TRaC Ltd.*

to move at great speed. In addition, Femap gives us a link between NX Nastran and various other applications such as Abaqus, a heavyweight tool which we use for certain types of FEA. This means we can quickly pass problems around between specialist solvers to achieve the most cost effective solutions."

considerable standing. This means that people understand and respect the results we produce with these tools. This is vital to our customers, especially as they often have to present evaluation data to their own customers."

Peter notes that one way in which TRaC adds value is by creating 'what if' scenarios and analysing product models in order to reduce the time and cost of development. "NX Nastran is widely used and recognised. Likewise, Femap has

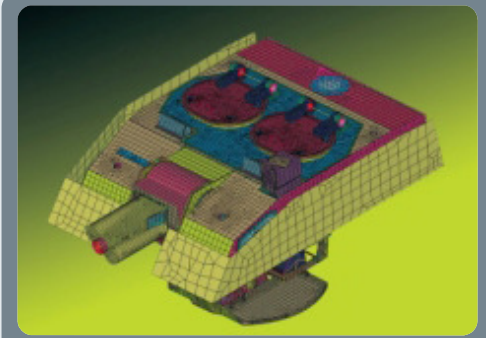
Describing the technical combination of Femap and NX Nastran, he comments: "It's a formidable solution. In addition, we get prompt and reliable hotline support from professional engineers."

Keys to success

For Peter Moir the success of the solution cannot be attributed to any one element. "I see it as a three-legged stool with each leg being equally critical: the power of NX Nastran, the communication abilities of Femap and the concept of engineers talking to engineers."



TEAM's CAE expertise was key in TRaC's selection of products



TRaC test products using FEA for a wide range of industries

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.