

# fixer

For engineering model exchange professionals



#### European Roundup

TranscendData news from across the continent.

#### A quick fix for fast food

How CADfix is helping improve the quality of microwave ready meals.



#### Don Hemmelgarn

TranscendData's CEO chews the fat with MCAD group editor Martyn Day.



## CADfix 5.0 – Faster and more flexible than ever

Latest CADfix introduces 50 percent performance improvements and enhanced support for assemblies.

TranscendData has announced the launch of CADfix 5.0, the latest version of its industry leading CAD data interoperability tool. Version 5.0 delivers improvements in all aspects of the product with new and improved import and export interfaces, greatly enhanced processing times, support for a wider range of ancillary CAD data and assemblies and user configurable automatic model processing.

Version 5.0 introduces a number of new features and enhancements including up to 50 percent improvement in general processing times. The compatibility of CADfix with one of the world's leading high-end CAD systems is strengthened still further with updated CATIA import and export functionality.

CADfix now provides full support for STEP assemblies, which can be imported from CAD models and either processed as an assembly, or the components can be exploded and replicated as defined by the assembly structure. The new CADfix Assembly Manager tool allows the user to interrogate and manage their definitions, selecting individual components for display and processing, and editing the assembly definition as required.

#### Defeaturing

A major requirement of many downstream analysis users of CAD data is the ability to defeature and simplify a model into a form more suited to their application. Typically this means the removal of unwanted holes, small features and fillets. CADfix already offers an array of tools to facilitate this, and ongoing developments in this area have led to the release of some powerful new features. The CADfix user now has the ability to automatically detect and remove both through holes and blind holes, and to automatically detect and join edges and faces based upon criteria such as tangency of adjacent faces. These functions will help users realise further savings in downstream meshing applications where the CAD-analysis link often breaks down with overwhelming model rework requirements.

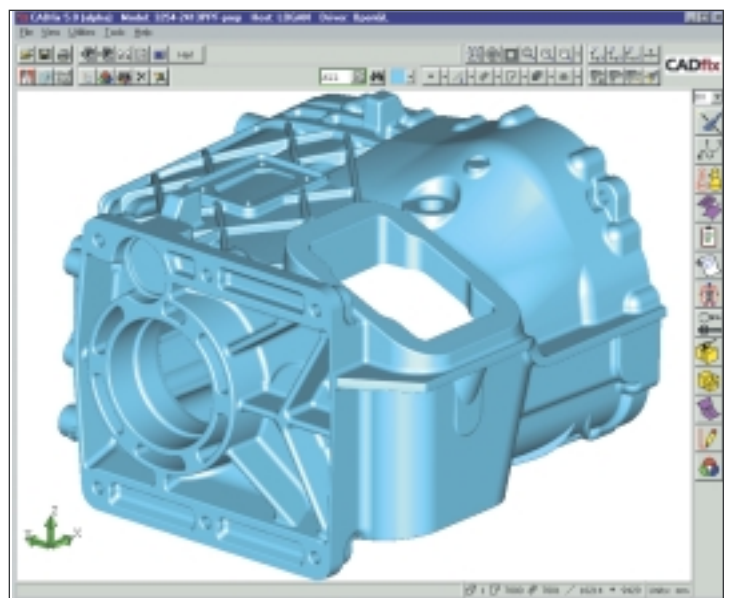
Furthermore there is also a new 'binary' option for the current STL export. Tests demonstrate a major impact on downstream applications with vast improvements in file sizes. Greater control of the STL faceting provides smoother and more refined triangulation to suit some of the

many different applications of the faceted representation.

Support for VDA-FS, the dominant neutral data exchange format in the German automotive industry, has improved with dramatic cuts in export times and file sizes. Interfaces to and from STEP, ACIS and Parasolid have all been enhanced, including links to Parasolid 12.1 and to ACIS 6.3. A new native geometry export to the FEMGV Finite Element meshing system is also available.

CADfix is constantly under development, both at the request of the growing number of users who have welcomed the availability of a universal interoperability solution, and in response to developments in the industry.

To find out how CADfix can help solve your data interoperability problems, email [TranscendData today. euinfo@transcendata](mailto:euinfo@transcendata)



CADfix 5.0 screenshot, model courtesy of Petroni SpA.

## European Round-up

TranscenData's European operations have grown significantly over the last few months with the company continuing to build up its presence, particularly in Germany, France, Italy and Scandinavia.

 Werner Hochreiter has recently joined TranscenData's German operation as Sales Manager. Initially, his principal responsibility will be to continue to build on the success of CADfix in the region, with installations at major concerns, such as EADS, Thyssen, Siemens, Loewe Opta and others. He will also be managing the introduction of the company's portfolio of interoperability solutions to the German market. Hochreiter has more than 25 years experience in the German CAD/CAM/CAE and PDM markets, having worked with most of the major players during his career. His recruitment underscores the company's decision to launch an extensive PR campaign throughout the region, building awareness of both the company and its products and supporting its ongoing sales drive. In November 2001, the company presented CADfix and introduced its other interoperability solutions at Euromold in Frankfurt/Main.

 TranscenData's Italian partner, Engin Soft Trading (EST), with its head office in Trento, and branch offices throughout Italy, has created a number of significant new opportunities for the company. In January EST presented at Italy's TCN, a consortium assigned specifically to discuss new and innovative developments in CAE. EST spoke primarily on the developing world of CAE and the importance of sound interoperability products and services in ensuring that data may be moved from one application to another with minimum reworking. More recently, the company has just expanded its business with a new branch opening in Florence, making a fresh base in middle Italy.

 Trade shows have been a key focus for our Swedish partners Protech, based in Stockholm but with associate offices in Finland and Denmark. The company has had an extremely busy few months promoting TranscenData's product range throughout the country at a number of shows in Stockholm, Sweden and Denmark. Evald Ottosson, Managing Director of Protech comments on TranscenData's presence in the Swedish Market: "The Scandinavian market has a reputation for accepting only the highest quality in CAD products. TranscenData has proven that its product quality is good and they're being very well received throughout the Scandinavian market place. We believe that TranscenData's products are being taken on board as a mark of a company wanting to deliver high quality in manufacturing and design."

 Our French partner, Ingetech, based near Paris, has also had a successful few months. Recently it signed up PSA Peugeot Citroën who selected CADfix to provide its data interoperability solutions. In addition Ingetech has had two major contract wins with CADfix in the railway industry with Bombardier Transport and Alstom Transport. Both are major players in rail equipment and complete rail transport systems. Ingetech and TranscenData are sharing a stand at the MICAD 2002 show in Paris from the 26th to the 28th March, and will be presenting TranscenData will be showing its full range of interoperability solutions.

# A quick fix for fast food

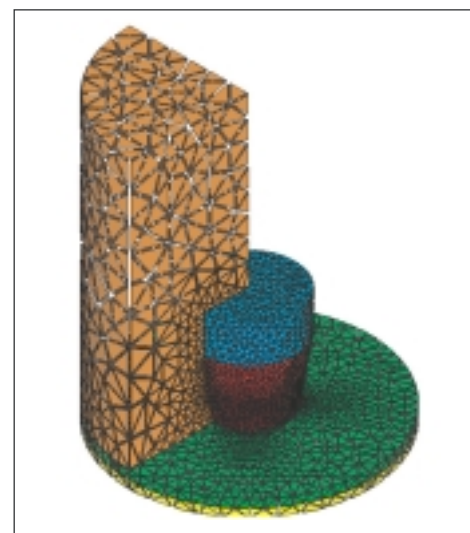
Ready meals are becoming increasingly popular. Spending the time preparing a gourmet dish is not what most people have in mind after a hard day's work. The problem is that after a five minute burst in the microwave, very rarely does your meal come out piping hot and looking like the luxurious product that was advertised. A typical scenario is a rather unappetising dish which is either burnt or cold. However there is good news.

Companies hoping to make their millions on ready meals must perfect a meal that not only looks good on shelf but also tastes great when reheated. To get this winning combination for improved quality companies often require specialised technical help.

### ProEng Solutions

ProEng Solutions, based in Northamptonshire specialises in product and process engineering projects for the food industry. Using its experimental facilities and simulation capabilities ProEng provides its clients with fully proven solutions to food product and process engineering problems. One of its areas of expertise is in the field of microwavable products.

ProEng Solutions often undertakes work for companies developing microwavable ready meal and snack products and who need to ensure that their product will re-heat optimally without burning or leaving cold spots. The problem they face is using packaging which has consumer appeal while at the same time ensuring that the product reheats effectively and delivers on visual appeal, taste and texture.



Mesh for microwave simulation generated in CADfix CAE

### Microwave simulation

ProEng uses its experimental facilities to measure temperatures around the product during and after heating using infrared thermal imaging as well as conventional thermocouples. This visually demonstrates what is happening to the food inside the microwave as it is being heated.

In parallel with the experimental evaluation, ProEng uses CADfix CAE to generate geometric models of the product inside a range of microwave ovens. This process involves the writing of macros to generate the oven geometries and the product geometry. These macros enable a wide range of alternative product shapes and configurations to be generated and placed at various positions inside the ovens.

Next CADfix CAE is used to generate electromagnetic and thermal simulations using software currently being developed in a joint collaboration between ProEng Solutions and a modelling group at a French University.

The results of the simulations are analysed and data is visualised using the post-processing capabilities available in CADfix. This allows ProEng to prepare movies of coupled power and temperature profiles for use in presentations to client companies.

The combination of experimental and simulation data allows ProEng develop and propose solutions to client companies about how to improve the reheat performance of their products. The proposed solutions often involve one or more of the following routes: new packaging designs, the use of foil shielding, re-configuration of product layout and manipulation of the product recipe to change the microwave penetration properties of the product. ProEng solutions also uses its simulation capabilities to alter the microwave properties of foods to design solutions which gives differential heating and producing crisping of such products as pizza bases and spring rolls.

Dr Chouikhi explains: "We're currently looking at a ready-meal concept which includes sauce and rice on one side and spring rolls on the other. The requirement is to re-heat these two sides simultaneously and to end up with suitably heated sauce and rice and hot and crisp spring rolls. We are currently exploring a number of packaging and material options using simulations and



The ultimate goal is restaurant quality food straight from the microwave

experiments in an attempt to develop a suitable and commercially viable solution which will allow the meal combination to be microwaved all at once. This will save time and make the product more convenient for the consumer."

Through the work that ProEng carries out, companies gain a much greater understanding of how to develop tastier, healthier and more efficient microwave meals. CADfix's use throughout this process is vital in providing an important technical analysis on this entire development process.

To find out how CADfix can help solve your data interoperability problems, email [TranscenData@euinfo@transcendata](mailto:TranscenData@euinfo@transcendata) today.

## Picture perfect with DEXcenter solutions

The Eastman Kodak Company and the Xerox Corporation have both selected TranscenData to provide product data interoperability solutions and engineering supply chain integration based on DEXcenter. DEXcenter will ease file transfer issues and encourage the sharing and exchange of product information within each organisation.

One of DEXcenter's key features is that it operates as a web-based solution able to automate, centralise and manage the exchange of engineering product data throughout the supply chain, regardless of that data's type, source, or destination.

David Sherburne, Unit Director, Mechanical and Systems Engineering, Eastman Kodak Company comments: "At Kodak, we are always working to improve our engineering processes; the TranscenData DEXcenter will help us streamline our processes for translating CAD files from one system to another. It automates the procedure for moving files internally and externally so that necessary design detail can be accessed by

all organisations involved, thereby improving our time to market."

Xerox has also felt the benefit of TranscenData's DEXcenter with total time to market savings estimated to be in the order of \$8 million to \$10 million (£7.1 million).

"Yearly resource savings of \$1.8 million (£1.275 million) alone are the direct result of our transition to DEXcenter's more effective and automated electronic data exchange process," explained Bud Krayer, CAD/CAM Project Manager in Xerox Research & Technology, Corporate Engineering Center, Engineering Systems.

"Kodak and Xerox offer prime examples of today's new business environment," explains John Meaney, Director of Sales and Marketing at TranscenData Europe. "It is imperative for organisations to become tightly integrated with their supply chain. DEXcenter adds value to our customers' data by extending its use throughout all phases of engineering and manufacturing."

## Interoperability hits the road

TranscenData Europe is delighted to be a member of a consortium of organisations mounting a series of DTI e-Engineering Roadshows. The Roadshows will be run at six locations across the UK from March 20 to April 30. See panel, right, for details.

The aim of the roadshows will be to provide a jargon free environment in which key issues can be demonstrated and discussed. It is hoped that visitors will come away with answers to questions such as can you really achieve 100 percent data accuracy for any transfers between system? Do you need special CAD/CAM software skills in engineering? Can you rent, buy, lease, go to a bureau? What will it cost? Can you quantify a return on investment? Who can you turn to for help and advice?

Aimed at senior engineering professionals and CAD/CAM practitioners, the Roadshows will take the form of a morning of presentations, which will outline the various interoperability problems that face industry and detail ways that these problems might be

addressed. The afternoon will be given over to an exhibition format during which delegates will be able to see at first hand a number of products and services that are currently on the market.

Please contact individual venues for more information.

### free guide in interoperability

TranscenData Europe has written a comprehensive guide to interoperability problems and their solutions. For your copy of this informative white paper, email us today.  
[euinfo@transcendata.com](mailto:euinfo@transcendata.com)

### forthcoming events

- Femsys Seminar**  
7 March, Bristol, UK
- Solid Modelling 2002**  
13 to 14 March, Birmingham, UK
- DTI Roadshow**  
20 March, Cranfield, UK  
[www.cranfield.ac.uk/sims/cim](http://www.cranfield.ac.uk/sims/cim)
- DTI Roadshow**  
21 March, Bridgend, UK  
[www.waterton.co.uk](http://www.waterton.co.uk)
- Micad 2002**  
26 to 28 March, Paris, France
- Aerospace PDE 2002**  
10 to 12 April, Noordwijk, The Netherlands
- DTI Roadshow**  
14 April, Belfast, Ireland  
[www.nitc.qub.ac.uk](http://www.nitc.qub.ac.uk)
- DTI Roadshow**  
24 April, Nelson, UK  
[www.northerntech.co.uk](http://www.northerntech.co.uk)
- NAFEMS Conference**  
24 to 25 April, Wiesbaden, Germany
- DTI Roadshow**  
25 April, Midlands, UK  
[www.wmg.warwick.ac.uk](http://www.wmg.warwick.ac.uk)
- DTI Roadshow**  
30th April, East Kilbride, UK  
[www.nel.uk](http://www.nel.uk)

**Don Hemmelgarn President of ITI's TranscendData business recently caught up with MCAD magazine's group editor Martyn Day. The following is an extract from a wide ranging interview that covered TranscendData's solutions and services as well as developments in the CAD/CAM/CAE industry in general.**

**MD Can you break down your revenue in terms of what you get out of data translation and the other sides of your business?**

**DH** It will help if I explain a bit about the rebranding exercise at ITI TranscendData. There are two major parts to ITI's business. One is a consulting business that's helping companies with the new product development process. We call that division the CPPD (Concurrent Product and Process Development) business. That involves large engagements with a relatively small number of customers. Typical clients are very large global manufacturing companies in Japan, Korea, Europe and North America. The consulting business represents about half of ITI's overall \$30 million turnover. The other half is the TranscendData business which is focused on Product Data Interoperability solutions and in turn breaks down into three major areas: CAD/CAM/CAE systems integration, which includes CADIQ, CADfix and the IGES and STEP translators; Engineering Supply Chain Integration; and PDM Systems Integration.

**MD Are you finding companies already have some form of translation solution installed?** Some companies have nothing. Some have a sprinkling of competitors tools.

**MD I guess people just use the best tools for the job – what ever works for them. So do most companies operate multiple translation strategies?**

**DH** That's where Engineering Supply Chain Integration and our DEXcenter solution comes in. The interesting thing about DEXcenter is that it removes all the competitive aspects. Essentially, DEXcenter provides a web based application that allows you to identify suppliers that you're going to send data to and what kind of data you'll be sending. And – because of profiles that are set up in the software – when you want to, say, send these four files to these eight suppliers, the DEXcenter will automate that process. It knows from the profiles that you're going from Pro/E to Catia, for example, and it automates that translation process.

**MD Can you talk me through the timeline for the TranscendData products?**

**DH** In the mid nineties we began to move from developing IGES and STEP translators and data exchange toolkits to offering end user applications. The first was IGESworks. We completed the acquisition of FECS in 1998 to help them build a marketplace for CADfix and it was about this time that CADIQ came in. DEXcenter is much more recent. We'd been doing services work for

companies to build customised data exchange centres. We found many manufacturing companies had engineers throughout the company who were all trying to deal



Don Hemmelgarn

with this data exchange problem. They were basically reinventing the wheel all over the place. So we were recommending that such data exchange capabilities be centralised; that's where the name DEXcenter came from. It is a way to capture information about data exchange partners and requirements in a central place and avoid wasted effort.

**MD How is the general awareness of data exchange issues now?**

**DH** It's still an educational problem. People still don't understand why they can't have a single 'black box' solution that works. But the whole interoperability problem has been raised and people are starting to realise just how much money they are spending simply getting data into the format where they can start working on it. That's why CADfix is so important to us. It has been a perfect addition to our product line. Boeing has identified \$100 million costs associated with getting models into their various analysis packages. So it's a major issue.

For a full transcript of this interview email [euinfo@transcendata.com](mailto:euinfo@transcendata.com).

## Ford Motor Company makes CADIQ available worldwide

**Ford Motor Company is expanding its CAD model quality initiative by making CADIQ available throughout its divisions worldwide.**

CADIQ analyses native CAD models to identify topological and geometric defects before models are released thus saving the time and expense associated with model rework.

The product is going to be available via the company's worldwide Central License Server (CLS). Now Ford, Mazda, Volvo, Land Rover, Jaguar and other divisions can begin implementing model quality into their design processes using CADIQ. In addition, Ford is encouraging suppliers to adopt CADIQ as a means to ensure the delivery of high quality, fully interoperable CAD models.

In 2000 Ford implemented a Six Sigma Model Quality programme with an objective to eliminate 70 percent of downstream customer

rework to related design data defects. CADIQ, a Six Sigma quality software tool, tracks the number of opportunities for each type of defect using the information to estimate Six Sigma quality levels.

"The automotive industry in particular stands to benefit tremendously from CAD model quality," explains Don Hemmelgarn, President of ITI's TranscendData business.

"Studies from the National Institute of Standards and Technology and others reveal that the US auto industry alone wastes more than \$1 billion each year due to downstream CAD model rework. Ensuring that models are free of hidden defects and interoperable with downstream applications at the design stage is the key to eliminating this waste."

To find out more about CADIQ email [euinfo@transcendata.com](mailto:euinfo@transcendata.com) today.



**TranscendData Europe Limited**  
Oakington House, Oakington,  
Cambridge CB4 5AF, UK

Tel: +44 (0)1223 237 111

Fax: +44 (0)1223 234 192

E-mail: [euinfo@transcendata.com](mailto:euinfo@transcendata.com)



**ITI TranscendData**  
5303 DuPont Circle, Milford,  
Ohio 45150, USA

Tel: +1 (513) 576-3900

Fax: +1 (513) 576-3994

E-mail: [info@transcendata.com](mailto:info@transcendata.com)

[www.transcendata.com](http://www.transcendata.com)