



TranscenData clears the picture for Loewe

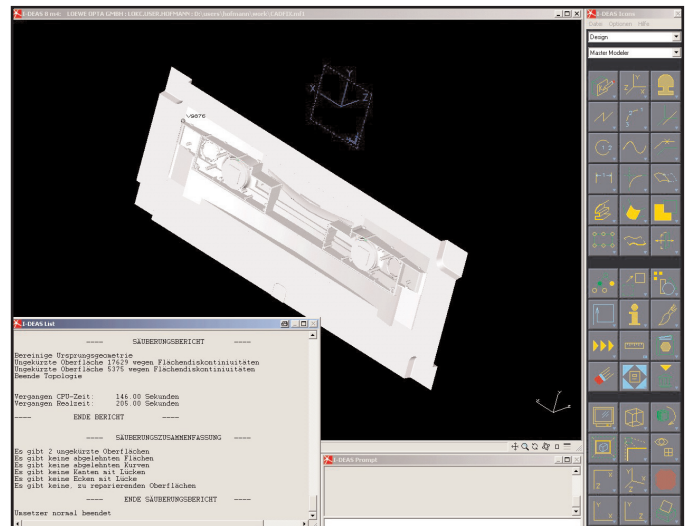
In this age of fashion, flat screens and Philippe Starck, electronic consumer products can no longer rely solely on advanced technology. To encourage sales a hi-fi has to look as good as it sounds and a TV must be fashionable as well as functional to meet consumers' demands for ever more inspiring designs. Loewe AG, one of Germany's most renowned TV and loudspeaker system manufacturers, knows only too well the importance of meeting this challenge and has been working with TranscenData Europe to create the perfect balance between bytes and beauty.

The company, based in Kronach, Germany, has a long tradition of innovative and inspiring designs. It does not consider its products to be just functional; each item is designed with the same attention to style and appearance as an item of furniture or even a sculpture. Loewe has proven so effective in creating design-led items that several of its products are being exhibited as artworks in New York's Museum of Modern Art.

Setting the standard in both design and technical quality, Loewe is a high-end market leader for television sets, video recorders, audio equipment and telephones. Consumers of Loewe electronics expect the best in terms of form, shape and technology, placing great value on the way in which Loewe products influence and complement their living environment.



The big picture: CADfix cleans up at Loewe



CAD models must be imported into I-deas

Exacting design standards

The look of Loewe's products is largely determined by the industrial design agencies employed to style them. Designers receive a data model containing the technical specifications for a new product, such as the cathode ray tube type and chassis for a TV.

The designers then create a shell around it using specialist surface modelling CAD systems to reflect the required style. Since Loewe employs the services of several design agencies, each using its own software system, the Loewe team at Kronach can expect to receive design models from a wide variety of systems in an even wider variety of formats.

Each model, be it a Catia, Solidworks, Rhino or IGES file, has to be imported into Loewe's own CAD system – I-deas – at the engineering design department. This process converts the designs into solid models. These are then checked to ensure that they meet the technical criteria by CAD specialists and the model is completed by adding the mechanical functional elements, such as the fixtures needed to screw in the cathode ray tube.

Interface-off

Translating the design data from a surface system into a solid modeller can cause considerable interfacing difficulties. In this case, interoperability problems were slowing down the design process at Loewe by several days while they ironed out the problems.

Harald Hofmann, manager of the CAD System Management Department, explains: "We were receiving some data models



Loewe equipment is the height of fashion in Germany

that we simply couldn't read while others caused error messages that seemed to make no sense. But at Loewe the design element is the key factor in our success. This means that the arduous process of transferring all the design models into our production systems while staying true to the original had to be carried out by our designers, even though it was taking up days of a designers' valuable time."

Loewe's CAD experts were devoting days of painstaking work in an effort to eliminate errors by repairing each individual error manually. They were sometimes left with no other choice but to import them as surface or partial models into Loewe's own system, inevitably compromising the original design intent. Until recently, the enormous amount of time spent trying to rectify these issues was an accepted part of the job because of Loewe's need to remain faithful to the original design.

Enter CADfix

When Hofmann heard about a possible solution to these problems in TranscenData's interoperability tool, CADfix, he was understandably very interested. He explains: "I wanted to meet with TranscenData in order to discuss the way in which CADfix solves translation errors. As a test, I took along a particularly tricky problem, the data model for the rear wall of a TV set. The transfer errors had caused such severe difficulties for our designers that surfaces had been superimposed twice – even three times – making the model almost impossible to work with. The test was successful: CADfix was able to filter out the duplicated surfaces and the model was quickly ready to be imported into I-deas."

Hofmann was impressed: "Until I saw CADfix I wasn't aware of anything that came close to this approach. We simply didn't feel it was necessary to test other systems because all of our trials in CADfix had gone so well. Our decision to buy the software was a quick and easy one." He also highlights the fact that CADfix is application-neutral: "For reading data from an unknown source, there is absolutely no alternative to CADfix."

One of the major factors when choosing CADfix is its ease of use. Users simply have to specify the type of file they wish to convert and the systems concerned, finally inputting the tolerance settings in each. The data transfer process is then completely automated with CADfix highlighting potential

errors and immediately repairing them. While completing this step CADfix is able simultaneously to even out any tolerance differentials, superimpose any tightly juxtaposed lines and stitch any remaining outer contours.

The software can also generate new surfaces and edges, incorporating them intelligently into the model. Should the automatic repairs be insufficient or multiple solutions to the problem exist, the user is able to take interactive action to manage the repairs. In this case CADfix highlights and describes the error, offering the user alternative suggestions for solving them. In serious cases TranscenData's support services can even step in to repair damaged models – a service that has been required only once so far at Loewe – which highlights the quality of the data transfer solution.

"Using CADfix the data transfer often only takes ten minutes. If there is a problem that requires interactive input, it can still be solved within three to four hours. The painstaking hours of manual reworking and tedious querying with the designers have been consigned to the past," Says Hofmann. "We can now read surfaces into I-deas that previously had to be extensively remodelled, allowing us to get to grips with models we can work with very quickly. The deadlines for introducing new products are decided by Loewe Marketing. In the past the CAD system interface problems would often create bottlenecks. Now that CADfix reduces the quality risk of input data, the transfer process is speeded up and the entire project can progress smoothly."

Once CADfix has transferred the data model into I-deas, removing all the errors, Hofmann can build a shell and complete it with the rest of the function elements. The designers need to first approve a sample of this model before handing it to the production engineers to begin work. Loewe outsources this task to a team of toolmakers who can use the finished CAD model to build an individual mould for each production part. Once finished, these parts are returned to Loewe to be assembled.

Conclusion

Loewe demands excellence in both the design and the technology of its products. In order to maintain this level of perfection, the highest standards must be maintained at every stage of the manufacturing process. CADfix has provided the company with an important tool in this process, alleviating the previously time consuming task of fixing interface problems between CAD systems, helping Loewe to meet product deadlines and speeding up its overall time-to-market.



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