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# BOOTHROYD DEWHURST **dfma**<sup>®</sup> Insights

News from the Frontlines of **DESIGN FOR MANUFACTURE AND ASSEMBLY**

## BDI: In Touch with Insights

Fresh energy and novel perspectives always seem to characterize the coming of autumn. At Boothroyd Dewhurst, we're celebrating the change of seasons by introducing this new online version of the DFMA Insights quarterly newsletter. Packed with useful information, news, and updates, each issue also describes up close how your colleagues in product design all over the world are using DFMA software to obtain great results.

We'd be delighted to hear from you, so please send feedback to [dfmanews@dfma.com](mailto:dfmanews@dfma.com). Best wishes for a productive fall, and welcome to the new DFMA Insights.

*Sincerely yours,*

John Gilligan, President

## DFMA in Practice

### Dell Transforms a Computer Chassis with DFA

When Dell Inc. proposed a new chassis design for its desktop and workstation families a few years ago, the company set ambitious goals. It wanted one family of chassis to serve its Optiplex, Precision, and Dimension product lines. It wanted 25 percent less assembly time than the previous chassis, the Optiframe. And it wanted increased ease of service.

The trouble was, the design for the original Optiframe chassis had already reduced assembly time an average of 32 percent. "If you're starting from a design that good, you won't get striking gains from minor revisions," explains Bradley Keup, Senior Technical Strategist for Desktop DFX Engineering. "We knew that to reach our goal for the new product, we had to completely transform the chassis design."

Transform it they did. The new chassis, called the Transformer, cut assembly times by an additional 25 to 40 percent, depending on the PC configuration. The Dell team scored their success by employing a multidisciplinary design process they call DFX, or Design for Excellence. Dell DFX explores every facet of product life, from manufacturing methods through warranty service, to assess the cost impact of new product designs. Boothroyd Dewhurst DFA software is integral to the process.

"The mechanical engineers on the DFX team faced some of the toughest challenges on the Transformer design," says Dwight Stimson, senior DFX engineer. "They had to reconcile innovative flashy market requirements, customer preferences, service needs, and a tight tooling budget. On top of that, they still had to meet strict goals for time and cost reductions."

Because Dell relies on metrics to gauge design improvement, DFA analyses occur at the earliest stages of development and again later after design changes. "The more we optimize our design, the more we see potential for rethinking our processes radically," Keup says. "As our old products reach end-of-life, we have opportunities to change manufacturing processes for substantial innovation and even more assembly time reductions."

To read the full-length case study, Please **CLICK HERE**.



### Gain support for your DFMA initiatives

The DFMA Implementation Center offers tools that will help you communicate the benefits of DFMA to your top executives and quickly bring new users up to speed. Materials available include a DFMA Executive PowerPoint Presentation, a DFMA White Paper for Corporate Management, and Webex-based training sessions in DFA and DFM. Go to Boothroyd Dewhurst online support at <http://support.dfma.com>.





## DFMA Forum News

The International Forum on DFMA, sponsored by Boothroyd Dewhurst, is the foremost conference worldwide on early design analysis methodologies and implementation. More information about the forum, including a list of papers presented in 2005, is available by [CLICKING HERE](#).

We are accepting papers for presentation at the 2006 International Forum on DFMA, scheduled for June 20-21 at the Crowne Plaza Hotel, Providence-Warwick, Rhode Island. If you are interested in presenting a paper, please notify us by December 15, 2005. For a submission form and more information about submitting a paper, please [CLICK HERE](#).

## DFMA News Briefs

Editor David Wilson of The Engineer (UK) has an entertaining take on the design of lawn care products. In a column called "The Lawnmower Man" in May 2005, he describes a frustrating afternoon trying to disassemble and fix a friend's lawnmower. Wilson puts Boothroyd Dewhurst's white paper on Design for Manufacture and Assembly on a list of recommended reading for engineers. The white paper is available by [CLICKING HERE](#).

Does product lifecycle management (PLM) allow companies to do bad product design more efficiently? John Gilligan of Boothroyd Dewhurst weighs in on the PLM question in an opinion piece for the Rant section of Design News. Please [CLICK HERE](#) to read the article.

Nick Dewhurst of Boothroyd Dewhurst lays out the argument for why design is a cost issue. See his article called "Need to Cut Costs? Check Your Design First," in Desktop Engineering. Please [CLICK HERE](#) to read the article.

## Q&A with John Gilligan: Software Update

**Q:** What new features are in the latest version of DFMA?

**JG:** The two most important additions in DFMA 2005 are cost models for deep drawing and assembly fabrication. We've also added a number of new cost libraries, which we do with every software release.

**Q:** What's assembly fabrication?

**JG:** Product engineers have always been able to use DFMA to compare costs for making alternative versions of a single part. Now they can estimate the cost of a small subassembly and compare it with the cost of a single part. It's another way of quantifying decisions about part consolidation.

## Minimum Part Count

Nick Dewhurst is one of three featured speakers in a panel discussion on Smart Outsourcing at IndustryWeek's upcoming SMART/mfg 2005 conference (For more information Please [CLICK HERE](#)). The event runs September 19-21 at Indian Lakes Resort, Bloomingdale, Ill.

In case you hadn't heard, Boothroyd Dewhurst's DFM software received a Technology of the Year Award from IndustryWeek in 2002. To read the story, Please [CLICK HERE](#).



*George Valaitis (right) of MDS SCIEX receives the 2005 DFMA Supporter of the Year Award at the June 21-22 International Forum on DFMA. Nick Dewhurst (left) and John Gilligan of Boothroyd Dewhurst congratulate George on his company's outstanding achievements in DFMA and on his personal efforts at helping educate others in industry. At MDS SCIEX Valaitis has managed the mechanical engineering department since 1995, inspiring his teams of people to find new and creative ways of solving difficult engineering and scientific problems related to development of mass spectrometer systems.*