October 2008

BOOTHROYD DEWHURST dfma® Insights

News from the Frontlines of DESIGN FOR MANUFACTURE AND ASSEMBLY

Where are we?

There is an old brainteaser that asks: if you walk one mile south, then one mile east, then one mile north and end up in the same place you started from, what is the color of the bear that you saw on the way? The key to this question is knowing where you are. The key to your cost reduction activities is also knowing where you are. The first guidepost for reducing product expenses is to establish a solid cost estimation capability for your current products and proposed new designs.

Too often the design and customer target price are set in stone before anyone really knows what resources their new product is going to require. A common result: slim-to-no profit margins and a stressed organization. Yes, there were historical outlays to base the first assumptions on. But then design got a new supplier for key parts, features were added, and the geometry changed in small but expensive ways. We see this problem constantly.

Many in the DFMA user community are applying DFM analysis early to predict component cost and work with their supply chain productively to substitute materials or process steps and bring expenses in line with goals. With early knowledge of costs--starting with even rudimentary geometries--you can have choices and real direction. DFM Concurrent Costing software is a fast and easy tool for showing you where you are now, and making sure you're heading on the right path. By the way, the bear is white because you are at the North Pole.

Best Regards,

Nick Dewhurst

WEBINAR: Using DFMA to Rethink Your China Manufacturing Strategy

Is low-cost manufacturing overseas really the most cost-effective solution for your product, or could your company benefit more by making it here? Join our Webinar on Thursday, Oct. 16, from 11 a.m. to noon. For more info and to register, **click HERE.**

Better cost and assembly estimates bring design and engineering closer at Harris

Fostering a collaborative environment between designers and engineers in the early stages of concept development significantly increases opportunities for optimizing product cost and reducing time to market.

When Harris Corporation's RF Communications division introduced DFMA, it saw a noticeable increase in cooperation between design and manufacturing. A significant contributor to this effect was DFA validation of the company's assembly time metrics; Harris' own internal estimating tool was not accurate enough and had become a point of contention between engineering and manufacturing in the early design concept stage.

The DFA tool allowed for the objective comparison of design alternatives and became a stepping stone to closer collaboration, as did a standardization of minimum part criteria using DFM. Improved estimation of final product costs as well as assembly times helped Harris become more competitive in the global marketplace. For a PDF of the full 2008 Forum paper **click HERE.**

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DFMA Summer '08 Forum definitely did lead the way to results

The theme of this year's Providence, RI, Forum, "DFMA Today: Leading the Way to Results," was amply demonstrated by participants including Motorola, Hypertherm, The Genlyte Group, Gerber Scientific, Harris Corporation, Kulicke & Soffa Industries, The Raymond Corporation, UniRac, NH Precision Metal Fabricators and The Boeing Company. Many reported significant gains in profitability resulting from DFMA-based design engineering programs.

"DFMA is more than a design software tool," said presenter Mike Shipulski of Hypertherm, Inc. which saw a 600-percent increase in profit per square foot of factory floor space and a 75-percent decrease in warranty cost per unit. "It contains answers to most of the questions that need to be addressed to maximize the profitability of the entire supply chain."

"The messages we heard from this year's presentations were very powerful," said Nick Dewhurst. "The early use of DFMA creates benefits that reverberate downstream with lasting, measurable effects on profitability." If you are interested in delivering your message at the 24th DFMA Forum next summer, please **click HERE.**

Worth Reading

The June 19 issue of BusinessWeek included an article titled, "Can the U.S. Bring Jobs Back from China?" The article examines the challenges industry now faces in China—and the challenges of bringing manufacturing back to the United States. To read it, **click HERE.**

The TRIZ Journal is published monthly online. TRIZ is a Russian acronym for "Theory of Inventive Problem Solving." This site contains background on the history and methodology of TRIZ and has an archive of articles about TRIZ research and applications. **Click HERE.**

Click HERE for a review of *"The Engineering Design Revolution: The People, Companies, and Computer Systems That Changed Forever the Practice of Engineering."* The book is a detailed history of mechanical computer-aided design (CAD). The author, David Weisberg, has four decades of experience with computer technology for engineering applications. He is the founder and former publisher of Engineering Automation Report. The review includes a link to download the book for free. Weisberg requests that downloaders donate (via PayPal) to the Cancer League of Colorado.

Minimum Part Count

Parts consolidation: the critical first step in the device design process

By John Gilligan, President, Boothroyd Dewhurst, Wakefield, RI

Whether the device you are designing is for medical, aerospace, consumer goods or automotive use, it is critical to understand if the parts in that design are absolutely necessary for its function. To read the full article, **click HERE.**

DFMA News Briefs

Boothroyd Dewhurst and Hypertherm appeared in the August 2008 issue of IndustryWeek in a feature article titled "Allocating Responsibility for Manufacturing Cost," **click HERE.**

Hypertherm also was featured at Product Design & Development in an article describing how using DFMA as part of a five-year redesign program boosted factory floor profits 600 percent. **Click HERE.**

In June, Assembly magazine featured BDI and DFMA user John Deere in an article titled "DFMA Cuts Downstream Costs." The article includes a sidebar about the downstream costs survey by BDI. **Click HERE.**

You can read a web-exclusive article about the DFMA downstream survey. The article, on the Injection Molding magazine web site, is titled "Survey Shows DFMA Lowers Costs Seen and Unseen." **Click HERE.**

Click HERE for an article by Nick Dewhurst that appeared in Desktop Engineering. The article, titled "Reducing Product Costs Early On Reaps Savings," cites savings achieved through DFMA analyses.

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