March 2010

BOOTHROYD DEWHURST dfma® Insights

News from the Frontlines of DESIGN FOR MANUFACTURE AND ASSEMBLY

It's Becoming Clearer…

Hidden within the numbers of our recent economic uptick are increasing signs that some manufacturing is now returning to the U.S. from China. It's a complex picture, but quality shortcomings seem to be the driving cause.

One DFMA job shop is reporting significant growth in orders for precision-made parts, and they plan to break ground for a new plant in April. That business surge is tied to customers transferring work from China. Another full-service U.S. design house found that when one of its OEM customers took redesigns offshore, Chinese suppliers missed cost, schedule and quality targets. The work returned.

On the OEM side, a manufacturer of internationally marketed medical products will produce overseas but own and operate its Asian facility, rather than contract out the work. Machining tolerances and final assembly quality were its reasons. These are convincing first-hand accounts from DFMA users that show a path is opening.

It's time for American OEMs and suppliers to press the obvious domestic advantage: better communications, better security for your leading ideas, better logistics for reaching the world's biggest market (America), and a better development-based community for creating cost-efficient, high-quality products—from design to production.

We invite you to read more in this newsletter about how a DFMA network of people and ideas can help you. Starting from these pages, it's all here—the tools, the experience, the support of a willing community that encourages design success.

Sincerely Yours,
Nick Dewhurst

Attend the 2010 International DFMA Forum —for the Answers You Need Now!

This June 15 and 16, Boothroyd Dewhurst, Inc. will host its 25th annual conference on Design for Manufacturing and Assembly (DFMA) at the Crowne Plaza Hotel in Warwick/Providence, RI.

Are you looking for answers on how to emerge on top from the current manufacturing and business crisis? DFMA has played a role for three decades in helping companies survive and excel in downturns and in harsh competitive markets. It can help you understand your product challenges in measurable terms and set a profitable design strategy that reaches from concept to product manufacturing and beyond.

The Forum will highlight DFMA case study successes for new and existing products, along with the organizational approaches needed to quickly streamline your implementation. Speakers will also focus on lean topics as well as DFMA design practices that are a powerful enabler of lean manufacturing. As engineering teams are increasingly discovering, lean manufacturing starts in lean design! **Click HERE** for more info.

Worth Reading

IndustryWeek editor Peter Alpern tackles "Getting Leaner at the Design Stage," in an interview with DFMA users Matt Miles of Raymond Corp. and Mike Shipulski of Hypertherm. To read more **click HERE.**

China is caught up in real estate speculation and runaway ratios of housing cost to personal income reminiscent of the U.S. in 2007—and perhaps more dramatic—reports *BusinessWeek*. What are the parallels and differences? Is China on an unsustainable course? **Click HERE** to read more.

In an opinion article, "Problems with Offshore Production" from *Manufacturing Engineering*, author and CEO John Cheung of OMAX Corp. lays out the opportunities for domestic manufacturers. **Click HERE** to read more.

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The High Cost of Not Costing

By John Gilligan, President, Boothroyd Dewhurst, Inc. and Nick Dewhurst, Executive Vice President, Boothroyd Dewhurst, Inc.

Introduction

Advances in product development technology—ranging from CAD to CAM to CAE and finally PLM—are snowballing as a result of high-speed computing and new software architectures. Breakthroughs that often occurred first within individual disciplines, or silos, have now spread across more integrated sets of complementary tools. Take the tight interwoven performance of CAD and NC programs and the rapid and ever-expanding reach of CAD into factory simulation and even business planning, and back again to design.

Driving the development of such productivity-focused programs is recognition, by manufacturers and vendors alike, of the deep interrelationship of design and manufacturing and the importance of their concurrency as a business strategy. Design decisions impact manufacturing. Preparation for the realities of manufacturing are being pushed earlier and earlier into design.

A dialog between design and manufacturing that informs and facilitates profitable changes to product geometry, materials and processes, has been the twenty-year goal of the Concurrent Engineering movement. That same quest for concurrency propels the all-digital product development environment. Yet the ultimate value of a dialog between systems and between people is whether buyers have products they want at the right cost–and whether manufacturers receive a profit for making them. Consumer acceptance and profits are the final test of any manufacturing strategy. **Click HERE** to read more.

A Level-Headed Approach to Costing and Machining

Aztalan Engineering uses DFMA to quote costs, analyze designs, implement process controls, and communicate with customers and the supply chain

The shop floor at Aztalan Engineering, Inc. (AEI—Lake Mills, WI) looks to have nearly everything a CNC machinist could want: Multi-axis horizontal milling centers with automatic tool changers and chip removal systems. Four vertical machining centers with 10,000 RPM spindles. Single spindle/single turret and twin spindle/twin turret lathes; equipment with live tooling; equipment with robotic load/unload arms. To look at all this, you'd think that workers at AEI did nothing but cut and mill metal all day.

Not so, notes Jim Hale, general manager at AEI. "All this precision cutting and milling requires careful planning and tracking." During the course of a day's work, technicians assemble quotes for parts, analyze proposed designs for their manufacturability, establish process controls for parts being manufactured, and communicate with customers and the supply chain. **Click HERE** to read more.

Minimum Part Count

Join the DFMA Conversation on

LinkedIn

DFMA users now have their own group on LinkedIn, the business networking website with over 60 million members. The purpose of the DFMA Group, which was started recently by Boothroyd Dewhurst President John Gilligan, is to establish a forum for open conversations about what's going on in the manufacturing world and how to create successful manufacturing organizations.

While DFMA topics and questions are certainly part of that dialogue, the Group is also meant to be a place where manufacturing engineers and people at all levels in the manufacturing world can talk about virtually any topic or technique related to manufacturing success, such as Lean Manufacturing and responses to downsizing and outsourcing.

Recent Group postings include the announcement of an upcoming free DFMA webinar, "All Leaned Out But Where Did We Go?"as well as a discussion titled "If there were a DFMA Industrial Revolution, how would industry look different 20 years from now?"

The group is managed by Rosemary Gismondi, DFMA's customer relationship management expert, who says, "We are excited to be part of a two-way communication so we can get perspective from engineers and managers in the trenches, as well as share DFMA success stories. We're hoping that many will join and become active participants."

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