



September 2010

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

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

## Sharing Insights—What Happened at the 2010 DFMA Forum?

U.S. manufacturing technology consumption is up 35.8 percent from May, reports the USMTC. Each of the ten industries in the S&P 500 beat their best estimates for earnings, coming in 14% above historical averages for such projections. Germany emerged in August with solid export and productivity numbers. Yet vacillating news and opinions about the direction of the global economy are creating tremendous uncertainty. What's the answer for manufacturers? Well, we can all concentrate on what we do best, one by one, until the larger picture is clearer.

This year's June DFMA Forum, "Turning Point: Preparing for a New manufacturing Future," was one of the best Boothroyd Dewhurst events in recent memory. Why? Because company after company put their DFMA results on the table and revealed how they leaned-up, strengthened strategic approaches and invested in design excellence. It was an intent group of engineers that gathered behind and in front of the podium for 2010. And speakers reported strong and often remarkable progress despite the recession. Two companies, QSI and Southco, for example, showed how a relentless attention to customers and a commitment to retaining and building internal knowledge helped them turn a solid profit and keep manufacturing operations in the U.S.

Raymond Corp, a maker of material handling equipment, talked about the redesign of their families of backrests (See article on page 2). Using DFMA to optimize product modularity, they expect to see a five-year, 250% return on investment. That wasn't the only numerical lightning bolt at the Forum. Look at the Forum summary items just below for more evidence of success.

We have a lot of great companies using DFMA. But I wonder: What if more companies used DFMA with their lean and best practices programs? Is product simplification and cost analysis really the hardest thing about product development? I don't think the Forum presenters would say that running DFMA analysis was the biggest hurdle of 2010. As Matt Parkin, an engineer on the QSI team, noted about DFMA implementation, "Now that we've caught the vision... it's become almost a game to reduce parts and make assembly easier."

Let's continue to do what we do best and also use proven tools such as DFMA to fire up the manufacturing bottom-line and the larger turnaround.

*Sincerely Yours,*

*John Gilligan*



## Leading Manufacturers at DFMA Forum Reveal Strategies that Helped Them Thrive through Tough Times

### **Dramatic cost cuts and profit increases reported at DFMA Forum**

As rising industrial production drives improvements to the economy, leading manufacturers detailed their successful rebound strategies at the 25th annual International Forum on Design for Manufacture and Assembly (DFMA) in Providence, R.I.

DFMA results reported by ITT Aerospace, Hypertherm, IDEXX Laboratories, Boeing, Motorola, Pratt & Whitney, QSI, Raymond, Rockwell Automation, Southco and others strongly supported this year's theme—"Turning Point: Preparing for a New Manufacturing Future." The data, in many cases, showed significant cuts in material, labor and assembly costs that enabled companies to stay competitive, even highly profitable, despite the economic downturn. Several presentations also emphasized how DFMA helped generate manufacturing profits without moving production away from the U.S.

**Click [HERE](#)** to read more.





## Design for Modularity

Matthew Marcy

Value Engineer

*The Raymond Corporation*

Modular design is quickly becoming an “engineering household name,” as have lean and Toyota Production Systems (TPS). There are a multitude of possible benefits to incorporating this into a business; at the same time it can have its drawbacks. More often than not, the value of modularization greatly outweighs any possible issues that can be brought about by standardizing product lines. However, with all the obvious benefits it is often hard to fully capture the value of modular development. Standardizing parts and assemblies can seem to be a daunting task, but you have to start somewhere. [Click HERE](#) to read more.

## Hitting the Jackpot with DFMA

**Design analysis software helps engineers score 40 percent total savings on slot machine part and assembly costs**

Long before the lights start flickering in the video slot machine corner of a casino, a light bulb has to go on over a design engineer's head.

And over the heads of an electrical engineer, a mechanical engineer, and a manufacturing engineer as well. “The simple part of a gaming machine is putting in your money and pushing a button,” says Sam Mikhail, Engineering Manager at International Game Technology (IGT). “The difficult part is keeping every other task relating to the machine nearly as simple. Our customers aren't only the brand-name operators—it's everyone who touches the machine.” That includes installation personnel, casino employees reloading the cash system, service technicians, players, and others. [Click HERE](#) to read more.



## Worth Reading

In the July 5, 2010 issue of *Bloomberg Businessweek*, Andy Grove, Intel's chief executive officer from 1987 until 2005, presents a bold and fresh analysis in “How to Make an American Job.” He argues that while startups are important to expanding the economy, America needs to learn once again how to scale startups into factories that stay on American shores. This process, grounded in domestic manufacturing, is critical, Grove says, to fueling an ecosystem in which knowledge accumulates, leading to more innovations, more jobs and more capital for growth. To read more [click HERE](#).

Re-shoring! Harry Moser, chairman emeritus for precision machining and toolmaker AgieCharmilles, is making his case nationwide for bringing important segments of manufacturing back to the U.S. To read, or view a clip, of his argument for producing close to where you sell, follow these links: [Click HERE](#) for a print article, and [click HERE](#) for a video interview.

## Rethinking Your China Manufacturing Strategy?

Nicholas Dewhurst will speak on Thursday, September 30, at SME's Innovative Manufacturing Summit about the important topic of offshoring and the option of using DFMA to reduce labor rates in home markets.



Lower foreign labor rates are still enticing many companies to move manufacturing and assembly offshore. These companies seem very interested in reducing manufacturing costs, but they rarely take the time to understand the total cost of this strategy.

Is sending a product design overseas for manufacture really the best option after all the costs are tallied? What if you could manufacture a similar product design locally, and yet have savings equal to what you believe you will achieve through sourcing to a distant cheap labor market? This presentation will try to answer these and other questions by showing you how DFMA can be used throughout the product development cycle to understand costs as critical design and manufacturing decisions are being made.

For more details please [click HERE](#) to visit the Innovative Manufacturing Summit website.

## Call for Papers!

It's not too early to think about gathering your data and presenting a DFMA-related topic at the June 13-15, 2011 DFMA Forum in Providence, RI. This year's Forum was a terrific success and a key learning experience for those who attended. Recognize your team's recent design and manufacturing efforts through delivery of a Forum paper—and at the same time build valuable consensus for future projects! [Click HERE](#) for more information.