

## **Let's Get the Lead Out**

*by Marc Peo, President, Heller Industries*

*“The talk you hear about adapting to change is not only foolish, it’s dangerous. The only way you can manage change is to create it. By the time you catch up to the change, the competition is far ahead of you” — Peter Drucker*

This statement is clearly a solid axiom for business management. But when I came across this quote on a recent overseas flight, it struck me that Drucker could just as easily have been talking about the lead-free issue in our industry, particularly in the United States. It seems as though we have been spending a significant amount of time and money trying to show why lead-free alternatives won’t work or are harmful to the environment instead of using these resources to further the implementation of lead-free processing and pursuing environmentally sound solutions.

In fact, I think we all heard the industry’s virtual sigh of relief when the European WEEE Directive deadline was pushed out to 2008. As Marcos Karnezos, Chief Technology Officer of ChipPac, put it, “the U.S. is being dragged in, kicking and screaming.”

Recently, I have read articles by our colleagues saying that “banning lead is not based on good science” and “it has never been proven that electronics assemblies contribute to landfill toxicity.” There is no question that both leaded and lead-free products have environmental impacts. However, I agree with Dr. Jenny Hwang when she says “using the equipment and processes that have the least impact is always the best science...to wait until there is enough toxicity evidence is too late. Good prevention is always the right approach.”

Not only are we not *initiating* this change, we are barely trying to adapt to it. We must embrace the lead-free process and move as quickly as we can to implement it in ways that are both businesslike and environmentally responsible. Not to do so is, as Drucker says, both foolish and dangerous.

In light of the current slowdown in the economic cycle, it is especially important to focus on lead-free implementation now. Those companies that make positive moves now to employ lead-free technologies are likely to emerge from this trough earlier, with their business levels accelerating faster, than those who have not.

We must push to begin utilizing lead-free pastes, spur vendors on to increase the availability of lead-free components and begin adapting the assembly process. Recycling programs for both leaded and lead-free assemblies need to be addressed simultaneously with, but not to the exclusion of, lead-free implementation.

As in the past, with issues such as ISO 9000 certification and the current ISO 14000 guidelines, the Japanese have led the way. Through a combination of legislative moves and voluntary actions by Japanese manufacturers, several products are currently being offered with a “Green Leaf” sticker signifying lead-free manufacture. The price for many of these items is the same as — or even less than — an equivalent product without the green leaf. In the case of Panasonic, the result was an 11% increase in market share for Mini Disc players bearing that environmentally-friendly label.

It should be noted that this change was not initiated by the Japanese manufacturers themselves, or by legislation, but rather by the market. Our industry’s ultimate customers — consumers of electronics products around the world — are highly sensitized to environmental issues and will gravitate toward products that emulate their sensitivity.

In other words, the lead-free movement is as much about marketing as it is about the environment. As suppliers of electronic products, or of the equipment that assembles those products, we must listen to consumers in order to remain competitive in the global marketplace.

Our motivation may be strictly to generate more business (“Lead-free sells more product, so we should do it”), to be a good global citizen (“Any effort that removes even a portion of lead from the waste stream is worth pursuing”) or to find a balance between the two. No matter what the motivation, it’s high time we stopped paying lip service to lead-free assembly, and embraced it.

Yes, this process is challenging. Yes, change is uncomfortable. Yes, we may all face a learning curve. But there are numerous resources available to help navigate the transition successfully. Among all the published articles discussing lead-free processing,



there are many technical studies exploring the characteristics of the various lead-free alloys and the process revisions required to implement them. It's time to do some homework.

The IPC, ITRI (The International Tin Research Institute) and NEMI (National Electronics Manufacturing Initiative) have done extensive work on lead-free processing that can help reduce the learning curve associated with implementation. The IPC ([www.leadfree.org](http://www.leadfree.org)), NEMI ([www.nemi.org](http://www.nemi.org)) and ITRI ([www.lead-free.org](http://www.lead-free.org)) websites are all terrific resources.

Additionally, the interactive message board at [SMTNET.com](http://SMTNET.com) is a great place to ask process questions of industry experts. For recycling, the Electronics Recycling Initiative (ERI) offers continuing updates on activities at both state and county levels ([www.NRC-recycle.org/Programs/electronics/policy.htm](http://www.NRC-recycle.org/Programs/electronics/policy.htm)).

Another valuable resource for electronics manufacturers resides in the worldwide vendor base. Suppliers of capital equipment, assembly materials and related software are themselves multi-national companies. They have worked with the Asian manufacturers who are at the forefront of the lead-free movement.

These vendors know what the impact of lead-free assembly is on components, PCBs, screen printers, placement machines and reflow ovens. In most cases, they have already adapted their existing products, or developed new systems, to optimize lead-free assembly.

Best of all, this information is readily available, and it's free. Call in your current vendors, call in their competitors, ask them what they know about lead-free assembly and take everything they have to give. That's what vendors live for: to give you as much information as possible, so you can make an informed choice.

Of course, each vendor wants you to select his or her product, so you will have to weed out some "propaganda." But, in general, the machines and processes themselves tell the truth, so talk to the vendors' customer references. From them, you will likely find ways in which implementation can be greatly accelerated.

As you pursue this process, you may be faced with some difficult decisions. But having to choose between competing lead-free technologies will identify your company as a forward thinking one that is initiating change. Your company will benefit, your cus-



tomers will benefit and the environment will benefit. Considering the alternatives, can we afford not to do it? It's time to get the lead out!

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